

Package ‘metalabr’

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Title Access MetaLab Community-Augmented Meta-Analysis Data

Version 1.0.0

Description Read released, versioned data from MetaLab ([\(<https://metalab.stanford.edu>\)](https://metalab.stanford.edu)), a database of community-augmented meta-analyses of language acquisition and cognitive development; validate candidate datasets against the MetaLab field specification; compute standardized effect sizes; and draw the standard MetaLab visualizations (scatter, violin, forest, and funnel plots) backed by multilevel random-effects models.

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URL <https://github.com/langcog/metalabr>, <https://metalab.stanford.edu>

BugReports <https://github.com/langcog/metalabr/issues>

Encoding UTF-8

Imports assertthat, dplyr, ggplot2, Hmisc, httr, jsonlite, magrittr, metafor, purrr, rlang, stringr, tibble, yaml

Suggests knitr, readr, redivis, rmarkdown, testthat (>= 3.0.0)

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Author Erik Iverson [aut],
Sara El-Shawa [aut],
Michael C. Frank [aut, cre] (ORCID:
[<https://orcid.org/0000-0002-7551-4378>](https://orcid.org/0000-0002-7551-4378)),
MetaLab contributors [cph]

Maintainer Michael C. Frank <mcf Frank@stanford.edu>

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get_current_metalab_data
<i>Get the current MetaLab data release</i>

Description

Downloads the current release’s effect-size data from the MetaLab site (no account or extra packages needed) and returns it as a data frame, one row per effect size across all datasets. The release name is announced with a message and attached as the metalab_release attribute.

Usage

```
get_current_metalab_data(rdata_file = get_current_data_url())
```

Arguments

rdata_file	URL or path of the data bundle; defaults to the bundle served by the MetaLab site.
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Details

For versioned, pinnable access use [get_metalab_data](#); for the dataset registry use [get_metalab_metadata](#).

Value

A data frame (tibble) of effect sizes, or NULL (with a message) if the bundle could not be downloaded.

Examples

```
metalab_data <- get_current_metalab_data()
if (!is.null(metalab_data)) dim(metalab_data)
```

get_metalab_data	<i>Get MetaLab effect-size data</i>
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Description

By default, reads a released version of the MetaLab database from Redivis (<https://stanford.redivis.com/datasets/81tq-8dp5ge6b9>) — one row per effect size across all datasets, with all coded and derived columns. Releases are versioned and citable; the release used is announced with a message.

Usage

```
get_metalab_data(
  metalab_metadata = NULL,
  short_names = NULL,
  domains = NULL,
  specs = NULL,
  perform_validation = TRUE,
  version = "current",
  imputation_seed = 111
)
```

Arguments

metalab_metadata	Optional data frame of dataset metadata (from get_metalab_metadata with a key column) to fetch live from Google Sheets. If omitted, released data are read from Redivis.
short_names	Optional character vector of dataset short names to include.
domains	Optional character vector of domains to include (mutually exclusive with short_names).
specs	Field specification (live-sheets path only); defaults to the current spec.
perform_validation	Whether to validate sheets before inclusion (live-sheets path only).
version	A MetaLab release name (e.g. "2026.1"), or "current" (default) for the latest release (Redivis path only).
imputation_seed	Seed used when imputing missing within-participant correlations (live-sheets path only). The default (111) is the value used to produce every released MetaLab dataset, so effect sizes reproduce the releases exactly; set to NULL to draw from the session's random number stream instead. The session's RNG state is saved and restored around the imputation either way.

Details

Passing metalab_metadata instead selects the legacy curator path: fetch the live Google Sheets listed in the metadata, validate them against the field spec, and compute effect sizes. This is how new data releases are produced and is subject to change between calls as curators edit sheets.

Value

A data frame (tibble) of effect sizes, or NULL (with a message) if released data could not be fetched.

Examples

```
## Not run:
# released data (recommended)
metalab_data <- get_metalab_data()
metalab_data <- get_metalab_data(version = "2023.1")
mutex <- get_metalab_data(short_names = "mutex")

# live curator sheets (legacy path)
metadata <- get_metalab_metadata(dataset_file =
  "https://raw.githubusercontent.com/langcog/metalab/main/metadata/datasets.yaml")
metalab_data <- get_metalab_data(metadata)

## End(Not run)
```

get_metalab_metadata	<i>Get MetaLab dataset metadata</i>
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Description

By default, reads the dataset registry (one row per dataset: names, domains, citations, curators, summary counts, and data provenance) from the released MetaLab data on Redivis. Passing `dataset_file` instead parses a `datasets.yaml` registry file (the legacy curator path used to build releases).

Usage

```
get_metalab_metadata(dataset_file = NULL, version = "current")
```

Arguments

<code>dataset_file</code>	Optional path or URL of a <code>datasets.yaml</code> registry file; if provided, the registry is parsed from YAML instead of read from the released data.
<code>version</code>	A MetaLab release name (e.g. "2026.1"), or "current" (default) for the latest release (Redivis path only).

Value

A data.frame of MetaLab dataset metadata (moderators and subset are list-columns), or NULL (with a message) if released data could not be fetched.

Examples

```
## Not run:
  metadata <- get_metalab_metadata()
  metalab_data <- get_metalab_data(metadata)

## End(Not run)
```

get_metalab_versions	<i>Get the mapping between MetaLab data releases and Redivis dataset versions</i>
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Description

Fetches the release registry served by the MetaLab site, falling back to a built-in copy if the site is unreachable.

Usage

```
get_metalab_versions()
```

Value

A list with elements `current` (release name) and `releases` (named list mapping release names to metadata including `redivis_version`).

Examples

```
versions <- get_metalab_versions()
versions$current
```

metalab_forest_plot	<i>Forest plot with multilevel model estimates</i>
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Description

Observed effect sizes (with CIs, sized by precision) alongside the fitted estimates of the canonical MetaLab multilevel model.

Usage

```
metalab_forest_plot(
  metalab_data,
  short_name,
  es_col = "g_calc",
  es_var_col = "g_var_calc",
  moderators = NULL,
  sort_order = "effects",
  alpha = 0.05
)
```

Arguments

metalab_data	MetaLab effect-size data (from get_metalab_data).
short_name	A dataset short name.
es_col, es_var_col	Effect size and variance columns (e.g. "g_calc", "g_var_calc").
moderators	Optional character vector of moderator columns.
sort_order	One of "effects", "variances", "estimate", "study_ID", "year".
alpha	CI level (default 0.05 for 95% CIs).

Value

A ggplot object.

metalab_funnel_plot	<i>Funnel plot of bias in effect sizes</i>
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Description

With no moderators, a classic funnel (effect size against standard error, with 95% and 99% pseudo-confidence regions around the mean). With moderators, a residual funnel around zero.

Usage

```
metalab_funnel_plot(
  metalab_data,
  short_names,
  es_col = "g_calc",
  es_var_col = "g_var_calc",
  moderators = NULL
)
```

Arguments

metalab_data	MetaLab effect-size data (from get_metalab_data).
short_names	One or more dataset short names.
es_col	Effect size column (e.g. "g_calc").
es_var_col	Effect size variance column.
moderators	Optional character vector of moderator columns.

Value

A ggplot object.

metalab_funnel_test	<i>Egger-style test for funnel-plot asymmetry</i>
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Description

Adds the square root of each effect size's variance as a fixed-effect moderator to the canonical multilevel model and reports its coefficient — the standard multilevel adaptation of Egger's regression test. (The legacy application attempted `metafor::regtest()`, which does not support multilevel models.)

Usage

```
metalab_funnel_test(
  metalab_data,
  short_names,
  es_col = "g_calc",
  es_var_col = "g_var_calc",
  moderators = NULL
)
```

Arguments

metalab_data	MetaLab effect-size data (from get_metalab_data).
short_names	One or more dataset short names.
es_col	Effect size column (e.g. "g_calc").
es_var_col	Effect size variance column.
moderators	Optional character vector of moderator columns.

Value

A one-row data.frame with columns z and p.

metalab_scatter_plot *Scatter plot of effect sizes across age*

Description

Effect sizes against mean participant age (months), with a weighted smoothing curve, colored by the selected categorical moderators.

Usage

```
metalab_scatter_plot(
  metalab_data,
  short_name,
  es_col = "g_calc",
  es_var_col = "g_var_calc",
  moderators = NULL,
  scatter_curve = "loess"
)
```

Arguments

metalab_data MetaLab effect-size data (from [get_metalab_data](#)).

short_name A dataset short name.

es_col, es_var_col Effect size and variance columns (e.g. "g_calc", "g_var_calc").

moderators Optional character vector of moderator columns.

scatter_curve "loess" (default) or "lm"; smoothing is weighted by inverse variance.

Value

A ggplot object.

metalab_violin_plot *Violin plot of effect-size density*

Description

Violin plot of effect-size density

Usage

```
metalab_violin_plot(
  metalab_data,
  short_names,
  es_col = "g_calc",
  moderators = NULL
)
```

Arguments

metalab_data	MetaLab effect-size data (from get_metalab_data).
short_names	One or more dataset short names.
es_col	Effect size column (e.g. "g_calc").
moderators	Optional character vector of moderator columns.

Value

A ggplot object.

viz_app	<i>Deprecated: interactive visualization app</i>
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Description

The Shiny applications formerly bundled with metalabr are superseded by the interactive visualizations on the MetaLab website, which run in the browser against released data.

Usage

```
viz_app(...)
```

Arguments

...	Ignored.
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Value

Called for its message; returns NULL invisibly.

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