

Package ‘projectLSA’

August 22, 2026

Title Shiny Application for Latent Structure Analysis with a Graphical User Interface

Version 0.1.1

Description Provides an interactive Shiny-based toolkit for conducting latent structure analyses, including Latent Profile Analysis (LPA), Latent Class Analysis (LCA), Latent Trait Analysis (LTA/IRT), Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM). The implementation is grounded in established methodological frameworks: LPA is supported through 'tidyLPA' (Rosenberg et al., 2018) <doi:10.21105/joss.00978>, LCA through 'poLCA' (Linzer & Lewis, 2011) <doi:10.32614/CRAN.packag-elle, 2025>. SEM and CFA functionalities build upon the 'lavaan' framework (Rosseel, 2012) <doi:10.18637/jss.v048.i02>. The CFA/SEM module additionally supports multi-group invariance testing, latent growth modelling, modification indices, and path diagram visualisation. Every module can save and restore an analysis session, export an 'R Markdown' HTML report, and consult an optional AI assistant that interprets the current results through a user-supplied large language model API key. Users can upload datasets or use built-in examples, fit models, compare fit indices, visualize results, and export outputs without programming.

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Depends R (>= 4.0.0)

Encoding UTF-8

Imports shinyBS, colourpicker, data.table, dplyr, DT, flextable, ggiraph, ggplot2, glca, haven, http, jsonlite, kableExtra, knitr, lavaan, magick, mclust, mirt, officer, plotly, poLCA, psych, purrr, readr, readxl, rlang, rmarkdown, scales, semPlot, semptools, shiny, shinycssloaders, shinyWidgets, stats, stringr, tibble, tidyr, tidyLPA, viridisLite, writexl

Suggests pdftools, pkgdown, semTools, testthat (>= 3.0.0)

VignetteBuilder knitr

URL <https://github.com/hdmeasure/projectLSA>

BugReports <https://github.com/hdmeasure/projectLSA/issues>

Config/roxygen2/version 8.0.0

Config/testthat/edition 3

NeedsCompilation no

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run_projectLSA	<i>Launch the projectLSA Shiny Application</i>
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Description

This function starts the Shiny app included in the projectLSA package.

Usage

```
run_projectLSA()
```

Value

Launches a Shiny application (no return value)

Examples

```
if (interactive()) {
  projectLSA::run_projectLSA()
}
```

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