Package ‘mod2rm’

May 19, 2022

Type Package
Title Moderation Analysis for Two-Instance Repeated Measures Designs
Description Multiple moderation analysis for two-instance repeated measures designs, with up to three simultaneous moderators (dichotomous and/or continuous) with additive or multiplicative relationship. Includes analyses of simple slopes and conditional effects at (automatically determined or manually set) values of the moderator(s). Based on Montoya, A. K. (2018) “Moderation analysis in two-instance repeated measures designs: Probing methods and multiple moderator models” <doi:10.3758/s13428-018-1088-6>.
Version 0.1.0
Date 2022-05-19
Encoding UTF-8
RoxygenNote 7.1.2
License GPL (>= 2)
Imports stats, utils, methods
NeedsCompilation no
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Repository CRAN
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Date/Publication 2022-05-19 19:20:02 UTC

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Moderation Analysis for Two-Instance Repeated Measures Designs

Description

Multiple moderation analysis for two-instance repeated measures designs, including analyses of simple slopes and conditional effects at values of the moderator(s).

Currently supports both single- and multi-moderator models, with up to three simultaneous moderators (continuous and/or binary). Multi-moderator models support both additive (method = 1) and multiplicative (method = 2) moderation.

Moderator values at which to test for conditional effects are determined automatically (at -1, 0, and +1 SD of the mean if the moderator is continuous, and at both values of the moderator if it is binary), but two test values can also be set manually for each moderator.


Usage

```r
mod2rm(
  data,
  Y1,
  Y2,
  MOD1,
  MOD2 = NULL,
  MOD3 = NULL,
  MOD1val = NULL,
  MOD2val = NULL,
  MOD3val = NULL,
  method = 1,
  standardize = FALSE
)
```

Arguments

- **data**: A data frame
- **Y1**: Name of the first outcome variable
- **Y2**: Name of the second outcome variable
- **MOD1**: Name of moderator1 variable
- **MOD2**: Name of moderator2 variable (optional)
**mod2rm**

<table>
<thead>
<tr>
<th>MOD3</th>
<th>Name of moderator3 variable (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOD1val</td>
<td>A vector containing two values of moderator1 at which to test for conditional effects (even when variables have been standardized) (optional)</td>
</tr>
<tr>
<td>MOD2val</td>
<td>A vector containing two values of moderator2 at which to test for conditional effects (even when variables have been standardized) (optional)</td>
</tr>
<tr>
<td>MOD3val</td>
<td>A vector containing two values of moderator3 at which to test for conditional effects (even when variables have been standardized) (optional)</td>
</tr>
<tr>
<td>method</td>
<td>Method for dealing with two or more moderators (1 = additive, 2 = multiplicative) (default: additive)</td>
</tr>
<tr>
<td>standardize</td>
<td>boolean variable indicating whether all variables should be standardized prior to the analyses (default: FALSE)</td>
</tr>
</tbody>
</table>

**Value**

<table>
<thead>
<tr>
<th>total</th>
<th>A list of class &quot;mod2rm&quot; containing:</th>
</tr>
</thead>
<tbody>
<tr>
<td>info</td>
<td>A named number vector containing values for the number of moderators in the model (num_mods), the number of binary moderators (num_binary_mods), the sample size (sample_size), and the method of moderation (method; 1 = additive, 2 = multiplicative)</td>
</tr>
<tr>
<td>var_names</td>
<td>A named character vector containing the name of the original dataframe (dataframe), the two outcome variables (y1,y2), and up to three moderators (mod1,mod2,mod3)</td>
</tr>
<tr>
<td>res_mod</td>
<td>A list including the results of a simple regression, regressing the difference between y1 and y2 on the moderator</td>
</tr>
<tr>
<td>res_simple_y1</td>
<td>A list including the results of a simple regression, regressing the y1 on the moderator</td>
</tr>
<tr>
<td>res_simple_y2</td>
<td>A list including the results of a simple regression, regressing the y2 on the moderator</td>
</tr>
<tr>
<td>res_cond_eff</td>
<td>A list including the results of an analysis of conditional effects at different levels of the moderator(s)</td>
</tr>
<tr>
<td>res_y1y2_diff</td>
<td>A list including the results of a repeated measures t-test for y1 and y2</td>
</tr>
</tbody>
</table>

**Examples**

```r
df = data.frame(out1 = c(2, 4, 5, 6, 6), out2 = c(7, 4, 5, 1, 1), w1 = c(9, 4, 4, 2, 3), w2 = c(7, 4, 1, 2))
res = mod2rm(df, out1, out2, w1)
res = mod2rm(df, out1, out2, w1, MOD1val = c(2, 5))
res = mod2rm(df, out1, out2, w1, w2, method = 2, standardize = TRUE)
summary.mod2rm(res)
```
summary.mod2rm  
*Print and summary function for objects of class "mod2rm"*

**Description**

Prints a summary of a list object of class "mod2rm"

**Usage**

```r
## S3 method for class 'mod2rm'
summary(object, ...)
```

**Arguments**

- `object` An object of class "mod2rm"
- `...` Additional parameters

**Value**

Prints summary of the object, then returns NULL

**Examples**

```r
df = data.frame(out1 = c(2,4,5,6,6), out2 = c(7,4,5,1,1), w1 = c(9,4,4,2,3), w2 = c(7,4,1,1,2))
res = mod2rm(df, out1, out2, w1)
res = mod2rm(df, out1, out2, w1, MOD1val = c(2,5))
res = mod2rm(df, out1, out2, w1, w2, method = 2, standardize = TRUE)
summary.mod2rm(res)
summary.mod2rm(res)
```
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