

Package: causalpie (via r-universe)

October 4, 2026

Type Package

Title Causal Pies for Sufficient Causes

Version 0.1.0

Description Causal pies are a way of visualizing the sufficient causes framework. Sufficient causes are what must occur before some event happens. The components of what causes the event may be in any or all sufficient causes, and those that are in all are called necessary causes. The sufficient cause framework was developed by Kenneth 'Rothman' as a way of thinking about causes of disease in epidemiology ('Rothman' (1976) <[doi:10.1093/oxfordjournals.aje.a112335](https://doi.org/10.1093/oxfordjournals.aje.a112335)>).

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Depends R (>= 4.2.0)

Imports dplyr, ggplot2 (>= 3.4.0), purrr, tibble, tidyr

Suggests rlang, testthat (>= 3.0.0), vdiff

Config/testthat/edition 3

Encoding UTF-8

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RoxygenNote 7.3.3

URL <https://r-causal.github.io/causalpie/>,
<https://github.com/r-causal/causalpie>

BugReports <https://github.com/r-causal/causalpie/issues>

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Repository <https://r-causal.r-universe.dev>

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causes	<i>Create sufficient causes</i>
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Description

Create sufficient causes

Usage

```
sc(...)  
  
causify(..., add_u = TRUE)
```

Arguments

...	components of the cause
add_u	logical. Should component "U" be added to the sufficient cause? Default is TRUE.

Value

sc(): a named vector; causify(): a tibble with sufficient causes.

Examples

```
causify(sc(A = 1, B = 0), sc(A = 1, E = 1, C = 0))  
  
causify(sc(F = 1, Q = 0), sc(A = 1), add_u = FALSE)
```

components	<i>Identify components of a set of sufficient causes</i>
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Description

`components()` identifies the unique components across all sufficient causes. `necessary_causes()` identifies the components that appear in all sufficient causes. `sufficient_causes()` identifies all the components of a sufficient cause.

Usage

```
components(causes)

necessary_causes(causes)

sufficient_causes(causes)
```

Arguments

`causes` a data frame, the result of `causify()`

Value

a character vector

Examples

```
causes <- causify(sc(A = 1, B = 0), sc(A = 1, E = 1, C = 0))

components(causes)
necessary_causes(causes)
sufficient_causes(causes)
```

pies	<i>Causal Pies</i>
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Description

Causal pies are visual representations of sufficient causes. `causal_pie()` plots all sufficient causes and highlights the unique components. `causal_pie_necessary()` does the same but highlights necessary causes (those components that appear in every sufficient cause).

Usage

```
causal_pie(causes, text_col = "black")

causal_pie_necessary(causes, text_col = "black")
```

Arguments

`causes` a data frame, the result of `causify()`
`text_col` color of the text. Default is "black".

Value

a `ggplot`

Examples

```
causes <- causify(sc(A = 1, B = 0), sc(A = 1, E = 1, C = 0))

causes |>
  causal_pie() +
  theme_causal_pie()

causes |>
  causal_pie_necessary() +
  theme_causal_pie_grid()
```

 themes

Minimalist themes for causal pies

Description

Minimalist themes for causal pies

Usage

```
theme_causal_pie(base_size = 12, base_family = "", ...)

theme_causal_pie_grid(base_size = 12, base_family = "", ...)
```

Arguments

`base_size` base font size, given in pts.
`base_family` base font family
`...` additional arguments passed to `theme()`

Value

A `ggplot2::theme` object

Examples

```
causify(sc(A = 1, B = 0), sc(A = 1, E = 1, C = 0)) |>
  causal_pie_necessary() +
  theme_causal_pie()
```

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