

# Package ‘bayeslincom’

March 11, 2021

**Type** Package

**Title** Linear Combinations of Bayesian Posterior Samples

**Version** 1.1.0

**Description** Computes point estimates, standard deviations, and credible intervals for linear combinations of posterior samples. Optionally performs region practical equivalence (ROPE) tests as described in Kruschke and Liddell (2018) <doi:10.3758/s13423-016-1221-4>.

**Depends** R (>= 3.6.0)

**License** GPL-2

**Encoding** UTF-8

**LazyData** true

**Imports** ggplot2 (>= 3.3.2), methods, stats

**Suggests** BBcor (>= 1.0.0), BGGM (>= 2.0.2), testthat

**RoxygenNote** 7.1.1

**BugReports** <https://github.com/josue-rodriquez/bayeslincom/issues>

**NeedsCompilation** no

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**Repository** CRAN

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lin\_comb                      *Perform a linear combination of posterior samples*

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### Description

Perform a linear combination of posterior samples

### Usage

```
lin_comb(lin_comb, obj, ci = 0.9, rope = NULL, contrast = NULL)
```

### Arguments

lin_comb	A string specifying a linear combination of variables, or a list of variable names if using contrast.
obj	An object of class BGGM, bbcor, or a data.frame of posterior samples.
ci	The level for which a credible interval should be computed.
rope	Specify a ROPE. Optional.
contrast	A contrast matrix specifying which combinations to test.

### Value

An object of class lin\_comb

### Examples

```
# data
Y <- BGGM::ptsd

# names
colnames(Y) <- letters[1:20]

# estimate model
est <- BGGM::estimate(Y)

# test
bggm_comb <- lin_comb("a--c + a--d > b--c + b--d",
                     obj = est,
                     ci = 0.90,
                     rope = c(-0.1, 0.1))

# print
bggm_comb

# Using a contrast matrix to test pairwise differences
vars <- c("a--c", "a--d", "b--c")

contrast_mat <- matrix(c(1, -1, 0,
```

```

      1, 0, -1,
      0, 1, -1), nrow = 3, byrow = TRUE)

bggm_comb <- lin_comb(vars,
                     obj = est,
                     ci = 0.90,
                     contrast = contrast_mat)

# print
bggm_comb

```

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plot.bayeslincom	<i>Perform a linear combination of posterior samples</i>
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### Description

Perform a linear combination of posterior samples

### Usage

```

## S3 method for class 'bayeslincom'
plot(
  x,
  point_col = "black",
  hist_col = "black",
  hist_fill = "gray",
  bar_col = "steelblue",
  bins = 30,
  display_comb_strings = TRUE,
  ...
)

```

### Arguments

x	An object of class bayeslincom
point_col	Color for point indicating mean of posterior
hist_col	Color for histogram edges
hist_fill	Color for histogram bars
bar_col	Color of bar for credible interval
bins	Number of bins
display_comb_strings	If TRUE, displays full strings for combinations in ggplot facets when there is more than one combination in x
...	Currently ignored

**Value**

An object of class ggplot

**Examples**

```
Y <- BGM::ptsd
colnames(Y) <- letters[1:20]
est <- BGM::estimate(Y)
bggm_comb <- lin_comb("a--c + a--d > b--c + b--d",
                      obj = est,
                      ci = 0.90,
                      rope = c(-0.1, 0.1))
plot(bggm_comb)
```

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print.bayeslincom      *Print formatted summary of a bayeslincom object*

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**Description**

Print formatted summary of a bayeslincom object

**Usage**

```
## S3 method for class 'bayeslincom'
print(x, ...)
```

**Arguments**

x                      An object of class bayeslincom  
 ...                    Other arguments to be passed to print

**Value**

A formatted summary of posterior samples

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