# Package 'combinationpvalues'

September 3, 2021

**Type** Package

**Title** Combination of Independent P-Values

**Version** 0.1.4

**URL** https://github.com/StatsGirl/Master2021/tree/main/R

**BugReports** https://github.com/StatsGirl/Master2021/issues

**Description**
Provides access to six fundamental statistics that can be used for the purpose of combination p-values. All methods used can referenced here: Heard & Rubin-Delanchy (2017) <arXiv:1707.06897>.

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**Depends** R (>= 3.5.0)

**Imports** chi, utils, dplyr, spatstat.utils, stats

**Encoding** UTF-8

**RoxygenNote** 7.1.1

**Suggests** testthat (>= 3.0.0)

**Config/testthat/edition** 3

**NeedsCompilation** no

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**Repository** CRAN

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## R topics documented:

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`CombinedPValueMethod` *CombinedPValueMethod*

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## Description

#' Input is the test statistic of the previous method selected and it returns the combined p-value

## Usage

```
CombinedPValueMethod(x, name)
```

## Arguments

| | |
|---|---|
| `x` | #' test statistic of method used (i.e., Tippett, Stouffer, etc.) |
| `name` | # name of method using |

## Value

Combined P-value

## Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- TippettMethod(Output)
Combined <- CombinedPValueMethod(Final,"Tippett")
```

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`EdMethod` *Edgington Method*

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## Description

#' Combination p-value method that uses Edgington statistic Summation i=1 to n pi where p equals p-value

## Usage

```
EdMethod(x)
```

## Arguments

| | |
|---|---|
| `x` | #' SumOfPs |

## Value

Combined P-value

## Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- EdMethod(Output)
```

---

`FishersMethod` *FishersMethod*

---

## Description

#' Combination p-value method that uses Fishers statistic Summation i=1 to n log of pi where p equals p-value

## Usage

```
FishersMethod(x)
```

## Arguments

| | |
|---|---|
| x | #' SumOfPs |

## Value

Combined P-value

## Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- FishersMethod(Output)
```

---

`GeorgeMethod` *PearsonsMethod*

---

## Description

#' Combination p-value method that uses George statistic Summation i=1 to n log(pi/(1-pi)) where p equals p-value

## Usage

```
GeorgeMethod(x)
```

### Arguments

| | |
|---|---|
| x | #' SumOfPs |

### Value

Combined P-value

### Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- GeorgeMethod(Output)
```

---

## PearsonsMethod *PearsonsMethod*

---

### Description

#' Combination p-value method that uses Pearson statistic -Summation i= 1 to n log(1-pi) where p equals p value

### Usage

```
PearsonsMethod(x)
```

### Arguments

| | |
|---|---|
| x | #' InfinitePs |

### Value

Combined P-value

### Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- PearsonsMethod(Output)
```

StoufferMethod *StoufferMethod*

## Description

#' Combination p-value method that uses Stouffer statistic Summation i=1 to n inverse CDF of N(0,1)(pi) where p equals p-value

## Usage

```
StoufferMethod(x)
```

## Arguments

| | |
|---|---|
| x | #' SumOfPs |

## Value

Combined P-value

## Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- StoufferMethod(Output)
```

SumOfPs *SumOfPs*

## Description

Converts a list of p-values into a list, n= 2,3,...,k

## Usage

```
SumOfPs(x, ...)
```

## Arguments

| | |
|---|---|
| x | #' Input n p-values n = 2,3,...,k |
| ... | #list of p values |

## Value

List of p-values

## Examples

```
Output <- SumOfPs(0.1,0.3,.7)
```

TippettMethod *TippettMethod*

## Description

#' Combination p-value method that uses Tippett statistic min(p1,...,pn), n= 2,3,...,k where p equals p-value

## Usage

```
TippettMethod(x)
```

## Arguments

| | |
|---|---|
| x | #' SumOfPs |

## Value

Combined P-value

## Examples

```
Output <- SumOfPs(0.1,0.3,.7)
Final <- TippettMethod(Output)
```

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