# Package 'RCPA3'

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```
boxplotC
```

Generates box plots to compare interval-level dependent variable's distribution across categories of independent variable.

## Description

Generates box plots for visual comparison of interval-level dependent variable's distribution across categories of independent variable. Includes option for weighting observations, modifying colors, variable widths. Box plot can be used to compare values of interval-level dependent variable by categories of an independent variable (a factor).

## Usage

```
boxplotC(dv, iv, w, data, main, xlab, ylab, box.col, varwidth = TRUE, ivlabs,
    printC = FALSE, ...)
```

dv	Dependent variable, should be in dataset\$var form unless dataset specified in optional data argument.
iv	Independent variable, should be in dataset\$var form unless dataset specified in optional data argument.
W	(Optional) Sampling weights of variable, must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
data	(Optional) Name of dataset that contains dv, iv (and w) variables (optional).
main	(Optional) Supply custom main label for plot; default uses names of dv and iv.

## boxplotC

xlab	(Optional) Supply custom x-axis label for plot; default uses name of iv.
ylab	(Optional) Supply y-axis label for plot; default uses name of dv.
box.col	(Optional) The name of color to use for box colors. Default is "gray80".
varwidth	(Optional) Do you want the widths of boxes to be proportional to number of observations in each group? Default is TRUE; set varwidth=FALSE for equal-width boxes.
ivlabs	(Optional) A vector of labels for the iv values that are box lablels.
printC	(Optional) Do you want to print box plot to .html file in working directory? (Default: FALSE)
	Additional arguments passed to plotting functions, boxplot or bxp.

## Value

No return, creates a plot.

#### **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 5.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 53-55. ISBN-13: 978-1506379616; ISBN-10: 150637961.

## **Online Resources**

- R Tutorials & Resources for Graphing Relationships and Describing Patterns, compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site, find datasets for your own research and resources to help with political analysis.

#### Examples

```
library(RCPA3)
```

```
# basic usage with variables as vectors
boxplotC(dv=nes$ft.rep, iv=nes$partyid3)
```

```
# with w and data arguments
boxplotC(dv=ft.rep, iv=partyid3, w=wt, data=nes)
```

CImean

## Description

Reports the confidence interval of a sample mean in table and plot. Default is 95% CI but use can raise or lower confidence level.

## Usage

```
CImean(x, w, data, digits = 3, level = 95, pop.sd, printC = FALSE,
    plot = TRUE, main, xlab, xlim, ...)
```

## Arguments

x	A numeric variable, should be in dataset\$var form unless dataset specified in optional data argument.
W	(Optional) Sampling weights of variable (optional), must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
data	(Optional) Name of dataset that contains x (and w) variable (optional).
digits	(Optional) Number of decimal places reported in result (defaults to 3).
level	(Optional) A single number equal to the desired confidence level (i.e. 95, 99, 90, etc.). Default value is 95 percent confidence level.
pop.sd	(Optional) A single number equal to the known population standard deviation of x. This value is rarely know, but if it is, critical values for confidence interval are based on standard normal distribution.
printC	(Optional) Do you want results printed to .html file in your working directory? Default is FALSE. Set to TRUE to print results.
plot	(Optional) Do you want a plot of the confidence interval? Default is TRUE.
main	(Optional) Change the main title of plot. Default title generated from level, x, and w.
xlab	(Optional) Label for x-axis of confidence interval plot.
xlim	(Optional) Modify x-axis limits of confidence interval plot.
	(Optional) additional arguments passed to plot function.

## Value

Returns the confidence interval as a vector of numeric values (the lower and upper bounds).

## CIprop

#### **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 8.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 184-186. ISBN-13: 978-1506379616; ISBN-10: 150637961.

## **Online Resources**

- R Tutorials & Resources for Foundations of Inference, Compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

#### Examples

library(RCPA3)

CImean(nes\$age)

```
# using optional w, level, and data arguments
CImean(x=nes$age, w=nes$wt, level=90)
CImean(x=age, data=nes, level=95)
```

CIprop

Confidence intervals of a dataset variable's sample proportions in table and figure

## Description

Reports the confidence interval of sample proportions in table and plot. Default is 95% CI but use can raise or lower confidence level.

#### Usage

```
CIprop(x, w, data, digits = 3, level = 95, printC = FALSE, plot = TRUE,
main, xlab, xlim, ...)
```

## Arguments

x	A nominal or ordinal variable (factor), should be in dataset\$var form unless dataset specified in optional data argument.
W	(Optional) Sampling weights of variable, must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
data	(Optional) Name of dataset that contains x (and w) variable.
digits	(Optional) Number of decimal places reported in result (defaults to 3).
level	(Optional) A single number equal to the desired confidence level (i.e. 95, 99, 90, etc.). Default value is 95 percent confidence level.
printC	(Optional) Do you want results printed to .html file in your working directory? Default is FALSE. Set to TRUE to print results.
plot	(Optional) Do you want a plot of the confidence interval? Default is TRUE.
main	(Optional) Change the main title of plot. Default title generated from level, x, and w.
xlab	(Optional) Label for x-axis of confidence interval plot.
xlim	(Optional) Modify x-axis limits of confidence interval plot.
	(Optional) Additional arguments passed to plot function.

## Value

Returns a data frame that gives the lower bound, point estimate, and upper bounds of each value of x variable.

#### **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 8.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 184-186. ISBN-13: 978-1506379616; ISBN-10: 150637961.

## **Online Resources**

- R Tutorials & Resources for Foundations of Inference, Compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

## Examples

library(RCPA3)

CIprop(nes\$lifex.knowimmig)

```
# using optional w and data arguments
CIprop(x=nes$lifex.knowimmig, w=nes$wt)
CIprop(x=lifex.knowimmig, w=wt, data=nes)
```

compmeansC

Mean comparison analysis function, makes controlled comparisons, generates plots, performs ANOVA

## Description

Mean comparison analysis, options for weighted observations and control variable. Also supports several plotting options for basic mean comparisons and controlled mean comparisons. Can conduct single and two-factor analysis of variance (ANOVA) to test differences among multiple means.

#### Usage

```
compmeansC(dv, iv, w, z, data, digits = 2, compact = FALSE, ivlabs, zlabs,
anova = FALSE, printC = FALSE, plot = TRUE, main, xlab, ylab, ylim,
plot.ci = FALSE, z.palette, legend.title)
```

dv	Dependent variable, should be in dataset\$var form unless dataset specified in optional data argument.
iv	Independent variable, should be in dataset\$var form unless dataset specified in optional data argument.
W	(Optional) Sampling weights of variable (optional), must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
Z	(Optional) Control variable, must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
data	(Optional) Name of dataset that contains dv, iv (and w) variables (optional).
digits	(Optional) The number of decimal places reported in result (defaults to 2).
compact	(Optional) Do you want compact version of controlled mean comparison table with N and Std. Dev. values omitted? Default is FALSE. Compact display only available for controlled comparisons.
ivlabs	(Optional) A vector of names for the independent variable's values (to abbreviate the mean comparison table's row labels and iv labels on plots)
zlabs	(Optional) A vector of names for the control variable's values (to abbreviate a controlled mean comparison table's column labels and z variable's labels on plots)
anova	(Optional) Do you want to conduct analysis of variance (ANOVA)? Default is FALSE.

printC	(Optional) Do you want results printed to .html file in your working directory? Default is FALSE. Set to TRUE to print results.
plot	(Optional) Do you want a plot of the means? Default is TRUE (makes a bar plot). Additional options:
	<ul> <li>"line" to make a line plot</li> <li>"bar", TRUE, or T for bar plot (default plot)</li> <li>"points" to show means as points without connecting lines,</li> <li>FALSE or F to suppress plot.</li> </ul>
main	(Optional) Main label for plot, if missing, default main title generated.
xlab	(Optional) x-axis label for plot, if missing, default label generated using iv name.
ylab	(Optional) y-axis label for plot, if missing, default label generated using dv name.
ylim	(Optional) Range of y-axis values on plot.
plot.ci	(Optional) Do you want vertical 95 percent confidence intervals added to line plot of means? Default is FALSE. Only works when plot="line" or plot="points"
z.palette	(Optional) For bar and line charts with control variables (z), the name of HCL color palette to use. Default is "LightGrays". See grDevices::hcl.pals for palette names and more information. Also see https://developer.r-project.org/Blog/public/2019/04/01/hcl-based-color-palettes-in-grdevices/ to view color palettes.
legend.title	(Optional) Customize title of legend on plot used for controlling comparisons.

#### Value

Returns a mean comparison table as a matrix of values.

## **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapters 4, 5, 7, 10.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp.85-97, 150-156. ISBN-13: 978-1506379616; ISBN-10: 150637961.

#### **Online Resources**

- R Tutorials & Resources for Making Comparisons, Graphing Relationships and Describing Patterns, Making Controlled Comparisons, and Chi-Square Test and Analysis of Variance, compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

## correlateC

## Examples

library(RCPA3)

```
# basic usage: dv and iv, variables are vectors
compmeansC(dv=nes$ft.rep, iv=nes$partyid7)
compmeansC(dv=nes$ft.rep, iv=nes$partyid7, w=nes$wt, plot=TRUE)
# basic usage: data argument used
compmeansC(dv=infant.mortality, iv=region, data=world, plot=FALSE)
# with weights and z variable
compmeansC(dv=nes$ft.rep, iv=nes$partyid7, w=nes$wt, z=nes$gender, plot="line")
compmeansC(dv=nes$ft.gay, iv=nes$gender, z=nes$partyid3, compact=TRUE, plot=TRUE)
```

correlateC

Correlation analysis for two or more numeric variables, with options for scatterplots, weighted observations, and inferential statistics.

#### Description

Given two or more numeric variables, correlateC reports correlation coefficients, along with inferential statistics (if requested), works with sampling weights. If more than two x variables are supplied, the function calculates correlation coefficients using pairwise complete observations (as opposed to limiting analysis to observations complete on all variables). The wtd.cor function is imported from the weights package. See wtd.cor documentation for details.

## Usage

```
correlateC(x, w, data, digits = 3, stats = FALSE, printC = FALSE,
    plot = FALSE, jitter = FALSE, ...)
```

x	A list of variables for correlation analysis, variables must be numeric. Should be entered as list(dataset\$var1, dataset\$var2, dataset\$var3 ) form unless dataset specified in optional data argument.
W	(Optional) Sampling weights variable, must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
data	(Optional) Name of dataset that contains x (and w) variable (optional).
digits	(Optional) Number of decimal places reported in result (defaults to 3).
stats	(Optional) Do you want the inferential statistics (standard errors, t-statistics, and p-values)? Default is FALSE. Set to TRUE for inferential statistics.
printC	(Optional) Do you want results printed to .html file in your working directory? Default is FALSE. Set to TRUE to print results.

plot	(Optional) Do you want scatterplot(s)? Default is FALSE.
jitter	(Optional) Do you want scatterplot pointed jittered? By default, points jittered when there are more than 500 observations, but you can set this arguments to TRUE/FALSE to override the default.
•••	(Optional) Additional arguments passed to weights::wtd.cor function.

#### Details

Makes use of the wtd.cor function, part of the weights package.

## Value

Returns the coefficients of correlation among x variables; if stats=TRUE, inferential statistics returned in tables as well.

## **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 11.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 240-244. ISBN-13: 978-1506379616; ISBN-10: 150637961.

## **Online Resources**

- R Tutorials & Resources for Correlation and Bivariate Regression, compiled by Barry C. Edwards.
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

#### Examples

```
library(RCPA3)
```

crosstabC

Cross-tabulation analysis, option for weighting observations, makes controlled comparisons, generates plots, performs Chi-Square test, measures strength of association

## Description

This is a workhorse function for analyzing the relationship between two variables measured at the nominal or ordinal-level (factors). Basic output is a cross-tabulation with column percentages and counts. Options include weighting observations, adding control variable for controlled cross-tabulation, several plotting options, conducting Chi-Square test of independence, and measuring strength of association.

## Usage

```
crosstabC(dv, iv, w, z, data, digits = 2, compact = FALSE, dvlabs, ivlabs,
zlabs, chisq = FALSE, lambda = FALSE, somers = FALSE,
cramers = FALSE, printC = FALSE, plot = TRUE, plot.response, main,
xlab, ylab, z.palette, legend.title)
```

dv	Dependent variable, should be in dataset\$var form unless dataset specified in optional data argument. Should be a nominal or ordinal-level variable.
iv	Independent variable, should be in dataset\$var form unless dataset specified in optional data argument. Should be a nominal or ordinal-level variable.
W	(Optional) Sampling weights of variable, must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
Z	(Optional) Control variable, must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
data	(Optional) Name of dataset that contains dv, iv (and w) variables.
digits	(Optional) Number of decimal places reported in result (defaults to 2).
compact	(Optional) Do you want compact display of cross-tabulation with row subtotals omitted? Default is FALSE.
dvlabs	(Optional) A vector of names for the dependent variable's values (to abbreviate the cross-tabulation's row labels and dv labels on plots)
ivlabs	(Optional) A vector of names for the independent variable's values (to abbreviate the cross-tabulation's column labels and iv labels on plots)
zlabs	(Optional) A vector of names for the control variable's values (to abbreviate the controlled cross-tabulation's column labels and z variable labels on plots)
chisq	(Optional) Do you want to conduct Chi-Square Test? If z argument specific, Chi-Square Test conducted on dv-iv relationship for each value of z.
lambda	(Optional) Do you want Lambda reported? If z argument specified, Lambda reported for dv-iv relationship for each value of z.

somers	(Optional) Do you want Somers' d reported? If z argument specific, Somers' D reported for dv-iv relationship for each value of z.
cramers	(Optional) Do you want Cramer's V reported? If z argument specific, Cramer's V reported for dv-iv relationship for each value of z.
printC	(Optional) Do you want to print cross-tabulation and plot (if plot is used) to .html file in working directory? (default: FALSE)
plot	(Optional) Do you want a plot of the cross-tabulation? Default is TRUE (and makes a bar plot). Other plot options:
	• "line" for a line plot,
	• "mosaic" for a mosaic plot,
	• "bar", TRUE, or T for a bar plot (default plot)
	• FALSE or F to suppress plot.
plot.response	(Optional) Set plot.response="all" to plot all DV values (for uncontrolled comparisons only).
main	(Optional) Main label for plot
xlab	(Optional) x-axislabel for plot
ylab	(Optional) y-axis label for plot
z.palette	(Optional) For bar and line plots with control variables (z).
legend.title	(Optional) Title for legend shown if plot used with z argument.

#### Value

Returns a cross-tabulation

## **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapters 4, 5, 7, 10.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp.85-97, 150-156, 215-231. ISBN-13: 978-1506379616; ISBN-10: 150637961.

## **Online Resources**

- Tutorials & Resources for Making Comparisons, Graphing Relationships and Describing Patterns, Making Controlled Comparisons, and Chi-Square Test and Analysis of Variance, compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

## debate

## Examples

library(RCPA3)
crosstabC(dv=nes\$death.penalty, iv=nes\$partyid3)
# with optional w, data, chisq, somers arguments
crosstabC(dv=death.penalty, iv=partyid3, w=wt, data=nes, chisq=TRUE, somers=TRUE)
# example with optional w, data, z, and plot="line" arguments
crosstabC(dv=death.penalty, iv=partyid3, w=wt, data=nes, z=gender, plot="line")

debate

Debate Experiment dataset for R Companion to Political Analysis, Third Edition

## Description

A dataset with variables about students who participated in an experiment. This dataset is used to demonstrate application of R to political analysis. See book Appendix for variable names and descriptions.

#### Usage

debate

#### Format

A data frame with 171 rows and 14 variables.

obs Unique identification number for each subject
assignment Name of condition subject was assigned to
tv Did subject watch debate on TV? 1 = yes, 0 = no
debinfo Number correct answers on five question quiz about the debate.
catholic Is subject Catholic? 1 = yes, 0 = no
issues Which candidate do you agree with on policy issues?
integrity Which candidate has more integrity?
leadership Which candidate has more effective leader?
empathy Which candidate has more empathy?
sophdum Is respondent a sophomore? 1 = yes, 0 = no.
won Which candidate won the debate? 1 = Kennedy ... 4 = Tie ... 7 = Nixon
pid Self-reported partisan identification on standard 1-7 scale
ideology Self-reported political ideology on standard 1-7 scale
gender Subject's gender, 0 = male, 1 = female.

## Source

Jamie Druckman. See Appendix of printed textbook for further information.

describeC	Generates table of descriptive statistics for one or more variables in a
	dataset

#### Description

Prints a table of descriptive statistics for variable(s) specified with x argument. Works with variables measures at any level but output varies with level of measurement (e.g. you won't get standard deviation for a nominal variable). Option for weighting observations.

## Usage

describeC(x, w, data, digits = 3, printC = FALSE)

## Arguments

x	A variable or list of variables, should be in dataset\$var form unless dataset spec- ified in optional data argument.
W	(Optional) Sampling weights of variable, must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
data	(Optional) Name of dataset that contains x (and w) variable.
digits	(Optional) Number of decimal places reported in result (defaults to 3).
printC	(Optional) Do you want to print table of descriptive statistics to .html file in working directory? (default: FALSE)

#### Value

Table of descriptive statistics

#### **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 2.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 39-55. ISBN-13: 978-1506379616; ISBN-10: 150637961.

#### **Online Resources**

- Tutorials & Resources for Descriptive Statistics, Compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

## freqC

## Examples

library(RCPA3)

```
# descriptive statistics for qualitative variables
describeC(x=world$region)
```

```
# descriptive statistics for numeric variable
describeC(x=world$infant.mortality)
```

```
# describe multiple variables in list, with optional w argument
describeC(x=list(angry.about.things, approve.cong), w=wt, data=nes)
```

freqC

*Reports the frequency distribution of dataset variable with table and bar chart* 

## Description

Generates frequency distribution table and bar chart to describe distribution of variable values. Based on freq function in descr package.

#### Usage

The variable to be analyzed. If dataset not specified with data argument, should be a vector in form dataset\$var.
(Optional) Sample weights (must be numeric if used), If dataset not specified with data argument, should be in form dataset\$weighvar
(Optional) Name of dataset that contains x (and w) variable.
(Optional) Number of digits to display after decimal point (default=2).
(Optional) Vector specifying custom text for labeling table rows and chart bars. The rowlabs vector must correspond to x variable's levels (if the variable has five levels, rowlabs must be length 5). Useful when default value labels are too long.
(Optional) Do you want to print frequency distribution table and bar chart (if plot is used) to .html file in working directory? (default: FALSE)
(Optional) Do you want a bar chart? (default set to TRUE)
(Optional) Main title of bar chart.

xlab	(Optional) The x-axis label of bar chart.
ylab	(Optional) The y-axis label of bar chart.
bar.col	(Optional) The name of color to use for bars. Default is "gray80".
	(Optional) Additional arguments passed to descr::freq function.

#### Value

A frequency distribution table.

#### **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 2.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 39-55. ISBN-13: 978-1506379616; ISBN-10: 150637961.

#### **Online Resources**

- R Tutorials & Resources for Descriptive Statistics, compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

#### Examples

```
library(RCPA3)
```

```
# unordered factors
freqC(x=region, data=world)
```

# ordered factors
freqC(x=threat.from.china, data=nes)

getC

Imports common dataset file types into R environment

## Description

If you don't complete file argument, you will be prompted to select file. Supports dataset file format like Stata, SPSS, Rdata, and csv files. It previews imported data and asks you to confirm before returning a data frame. You must assign the returned data frame to an object to work with it. If getC doesn't support a file type, it may suggest other functions and packages for importing that type of file.

## getC

## Usage

getC(file, confirm = TRUE, ...)

#### Arguments

file	(Optional) Path to file you want to get and load in your R session; if you do not specify file you will be prompted to select one.
confirm	(Optional) Do you want to confirm getting file before function results returned? (default: TRUE)
	(Optional) Additional arguments passed to loading function

## Value

Dataset specified in file argument as a data frame. You must assign this returned data frame to an object to work with it.

## **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 15.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 321-327. ISBN-13: 978-1506379616; ISBN-10: 150637961.

## **Online Resources**

- R Tutorials & Resources for Doing Your Own Political Analysis, Compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

#### Examples

```
library(RCPA3)
```

```
# basic call will prompt user to choose file
## Not run:
getC()
```

## End(Not run)

histC

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## Description

Generates frequency distribution table of binned values and a histogram to describe distribution of variable values.

## Usage

## Arguments

х	The variable to be analyzed. If dataset not specified with data argument, should be a vector in form dataset\$var.
W	(Optional) Sample weights (must be numeric if used), If dataset not specified with data argument, should be in form dataset\$weighvar
data	(Optional) Name of dataset that contains x (and w) variable.
breaks	(Optional) Specify how to break the x variable into bins. Options include the number of breaks, a vector specifying the breakpoints, or the name of an algorithm that generates breakpoints. Default value is "Sturges" (other algorithms are "Scott" and "FD", see details in wtd.hist documentation).
digits	(Optional) Number of digits to display after decimal points (default is 2).
printC	(Optional) Do you want the histogram and binned frequencies table printed to working directory? (default: FALSE)
plot	(Optional) Do you want the histogram graphic? (default: TRUE)
main	(Optional) Customize main title for histogram.
xlab	(Optional) Custom label for x-axis of histogram.
ylab	(Optional) Custom label for y-axis of histogram.
bar.col	(Optional) Color for histogram bars; default is "gray80".
•••	(Optional) Additional arguments passed to weights::wtd.hist function.

## Value

A frequency distribution table of binned x variable values.

## **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 2.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 39-55. ISBN-13: 978-1506379616; ISBN-10: 150637961.

## logregC

#### **Online Resources**

- R Tutorials & Resources for Descriptive Statistics, Compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

#### Examples

library(RCPA3)

histC(x=states\$covid.cases.per1000)

logregC

Logistic regression analysis with options for weighted observations, odds ratio reports, model fit statistics, and plots of residuals

#### Description

Logistic regression analysis function with many useful features. Its standard output included a table of coefficients, table of deviance residuals, and summary of additional model information. Options include weighting observations, additional reports on odds ratios, ANOVA, multiple measures of model fit, proportional reduction in error, and diagnostic plots of residuals.

#### Usage

```
logregC(formula, w, data, digits = 3, orci = FALSE, fit.stats = FALSE,
anova = FALSE, pre = FALSE, printC = FALSE, res.plots = FALSE, ...)
```

formula	should be in dataset\$dv ~ datatset\$iv1 + dataset\$iv2 unless dataset specified in optional data argument.
W	(Optional) Sampling weights of variable, must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
data	(Optional) Name of dataset that contains dv, iv (and w) variables.
digits	(Optional) Number of decimal places reported in result (defaults to 2).
orci	(Optional) Do you want table reporting odds ratios for coefficients with confi- dence intervals? (default: FALSE)
fit.stats	(Optional) Do you want a table of assorted model fit statistics? (default: FALSE)
anova	(Optional) Do you want ANOVA table reported? (default: FALSE)
pre	(Optional) Do you want table reporting proportion reduction in error achieved by model? This is a Lambda-style measure of model fit. (default: FALSE)

printC	(Optional) Do you want results printed to .html file in your working directory? Default is FALSE. Set to TRUE to print results.
res.plots	(Optional) Do you want a set of diagnostic plots of model residuals? (default: FALSE)
	(Optional) Additional arguments passed to glm function (unweighted models) or svyglm function (weighted models).

## Value

Returns a glm (unweighted models) or svyglm (weighted models) object.

## **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 14.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), Chapter 9. ISBN-13: 978-1506379616; ISBN-10: 150637961.

#### **Online Resources**

- R Tutorials & Resources for Logistic Regression, compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

#### Examples

library(RCPA3)

```
# basic usage with variable vectors
logregC(states$battleground2020 ~ states$vep16.turnout)
# with post-estimation analysis
logregC(states$battleground2020 ~ states$vep16_turnout_proj=TPUE_fit_s
```

nes

NES dataset for R Companion to Political Analysis, Third Edition

#### Description

The American National Election Survey polls individuals about their political beliefs and behavior. This dataset is used to demonstrate application of R to political analysis. See book Appendix for variable names and descriptions.

nes

#### Usage

nes

#### Format

A data frame with 8280 rows and 429 variables.

abortion.imp PRE: Importance of abortion issue to R abortion.legal PRE: STD Abortion: self-placement abortion.scotus PRE: SUMMARY: Abortion rights Supreme Court active.duty.mil PRE: Armed forces active duty address.yrs PRE: Years R lived at address age PRE: SUMMARY: Respondent age **agree.facts** PRE: How important that people agree on basic facts allow.refugees POST: SUMMARY: Favor/oppose allowing refugees to come to US american.id.import POST: How important is being American to R's identity angry.about.things PRE: How angry R feels about how things are going in the country approve.aca POST: SUMMARY: Approve/disapprove Affordable Care Act approve.cong PRE: SUMMARY: Approval of Congress handling its job approve.gov.covid PRE: SUMMARY: Approve or disapprove R's governor handling COVID-19 approve.local.covid PRE: SUMMARY: Approve or disapprove local government handling COVID-19 approve.pres.covid PRE: SUMMARY: Approve or disapprove President handling COVID-19 approve.pres.econ PRE: SUMMARY: Approve or disapprove President handling economy approve.pres.hc PRE: SUMMARY: Approve or disapprove President handling health care approve.pres.imm PRE: SUMMARY: Approve or dissaprove President handling immigration approve.pres.ir PRE: SUMMARY: Approve or disapprove President handling foreign relations approve.pres.job PRE: SUMMARY: Approve or disapprove President handling job **ban.assault.rif** POST: SUMMARY: Favor/oppose banning 'assault-style' rifles been.arrested POST: Has R ever been arrested bible.god.man PRE: Is Bible word of God or men biden.cares PRE: Democratic Presidential candidate trait: really cares biden.honest PRE: Democratic Presidential candidate trait: honest biden.knowledge PRE: Democratic Presidential candidate trait: knowledgeable biden.libcon7 PRE: 7pt scale liberal-conservative: Democratic Presidential candidate biden.strlead PRE: Democratic Presidential candidate trait: strong leadership birthright.citizens PRE: SUMMARY: Favor or oppose ending birthright citizenship blacks.gotless POST: Agree/disagree: blacks have gotten less than they deserve blacks.pastdiff POST: Agree/disagree: past slavery & discrimination make it difficult for blacks

blacks.tryharder POST: Agree/disagree: if blacks tried harder they'd be as well off as whites blacks.workforit POST: Agree/disagree: blacks should work their way up without special favors border.wall PRE: SUMMARY: Favor or oppose building a wall on border with Mexico born.in.usa PRE: Rs: born US, Puerto Rico, or some other country buy.back.rifles POST: Favor/oppose government buy back of 'assault-style' rifles campaign.news.carlson PRE: Mention: TV PROG - Tucker Carlson Tonight (Fox) campaign.news.colbert PRE: Mention: TV PROG - The Late Show with Stephen Colbert campaign.news.hannity PRE: Mention: TV PROG - Hannity (Fox) campaign.news.maddow PRE: Mention: TV PROG - The Rachel Maddow Show (MSNBC) campaign.news.none PRE: Media sources R used to follow presidential campaign: none campaign.news.papers PRE: Media sources R used to follow presidential campaign: newspapers campaign.news.radio PRE: Media sources R used to follow presidential campaign: radio news campaign.news.tv PRE: Media sources R used to follow presidential campaign: tv programs campaign.news.web PRE: Media sources R used to follow presidential campaign: internet sites campaign.spendlim POST: Limits on campaign spending campaigns.interest PRE: How interested in following campaigns cant.get.ahead POST: Because of rich and powerful it's difficult for the rest to get ahead care.who.wins PRE: How much R cares who wins Presidential Election [revised] case.id 2020 Case ID censor.self PRE: How often self censor changed.names PRE: R name ever changed child.behave POST: Which child trait more important: considerate or well-behaved child.manners POST: Which child trait more important: curiosity or good manners child.obey POST: Which child trait more important: obedience or self-reliance child.respect POST: Which child trait more important: independence or respect citizenship.path POST: SUMMARY: Favor/oppose providing path to citizeship civ12.argue POST: Has R in past 12 months: gotten into a political argument civ12.comment POST: Has R in past 12 months: posted comment online about political issue civ12.community POST: Has R in past 12 months: worked w/others to deal w/issue facing community civ12.cong POST: Has R in past 12 months: contacted member of US Senate or House of Rep civ12.fedoff POST: Has R in past 12 months: contacted non-elected official in federal govt civ12.fedpol POST: Has R in past 12 months: contacted federal elected official civ12.giveorg POST: Has R in past 12 months: given money to other organization civ12.giverelig POST: Has R in past 12 months: given money to religious organization

civ12.march POST: Has R in past 12 months: joined a protest march, rally, or demonstration

civ12.meeting POST: Has R in past 12 months: attend mtg about issue facing community/schools

- civ12.petition POST: Has R in past 12 months: sign internet or paper petition
- civ12.stateoff POST: Has R in past 12 months: contacted non-elected official in state/local gov
- civ12.statepol POST: Has R in past 12 months: contacted elected official on state/local level
- civ12.vol POST: Has R in past 12 months: done any volunteer work
- climate.ch.weather POST: How much is climate change affecting severe weather/temperatures in US
- climate.import POST: How important is issue of climate change to R
- community.yrs PRE: How long lived in this community YRS
- **consumer.politics** POST: How often bought or boycotted product/service for social/political reasons
- contacted.gotv POST: Anyone talk to R about registering or getting out to vote
- covid.election PRE: Options for election if COVID-19 continues
- covid.fed PRE: SUMMARY: Federal government response to COVID-19
- **covid.made.lab** POST: Was the coronavirus (COVID-19) was developed intentionally in a lab or not
- covid.reopening PRE: SUMMARY: Re-opening too quickly or too slowly
- covid.restrictions PRE: Limits placed on public activity due to COVID-19 too strict or not
- covid.science.help POST: How important should science be for decisions about COVID-19
- death.penalty PRE: SUMMARY: R favor/oppose death penalty
- def.spend.7pt PRE: 7pt scale defense spending: self-placement
- deficit.reduce POST: Importance of reducing deficit
- dem.libcon7 PRE: 7pt scale liberal-conservative: Democratic party
- **deport.children** PRE: SUMMARY: Should children brought illegally be sent back or allowed to stay
- **deport.unauth** POST: SUMMARY: Favor/oppose returning unauthorize immigrants to native country
- discrim.vs.asians POST: Discrimination in the US against Asians
- discrim.vs.blacks POST: Discrimination in the US against blacks
- discrim.vs.christians POST: Discrimination in the US against Christians
- discrim.vs.glb POST: Discrimination in the US against Gays and Lesbians
- discrim.vs.hispanics POST: Discrimination in the US against Hispanics
- discrim.vs.men POST: Discrimination in the US against men
- discrim.vs.muslims POST: Discrimination in the US against Muslims
- discrim.vs.trans POST: Discrimination in the US against transgender people
- discrim.vs.whites POST: Discrimination in the US against whites
- discrim.vs.women POST: Discrimination in the US against women
- diversity.good.usa POST: SUMMARY: Increasing diversity made US better/worse place to live
- divided.govt PRE: Party Control or split government

donations.change.votes POST: Congress change votes because of donation to campaign econ.current PRE: Current economy good or bad econ.lastyear PRE: SUMMARY: National economy better or worse in last year econ.mobility.now POST: SUMMARY: Economic mobility econ.nextyear PRE: SUMMARY: Economy better or worse in next 12 months econ.worry PRE: How worried about national economy educ.5cat PRE: SUMMARY: Respondent 5 Category level of education education PRE: Highest level of Education elect.asians POST: How important that more Asians get elected to political office elect.blacks POST: How important that more blacks get elected to political office elect.hispanics POST: How important that more Hispanics get elected to political office elect.lgbt POST: How important that more LGBT people get elected to political office elect.women POST: How important that more women get elected to political office elections.govt.attn PRE: Elections make government pay attention envir.or.biz PRE: 7pt scale environment-business tradeoff: self-placement equal.opp POST: Society should make sure everyone has equal opportunity facebook.polpost POST: How often post political content on Facebook facebook.use POST: How often use Facebook faced.gender.discrim POST: How much discrimination has R faced because of gender faced.race.discrim POST: How much discrimination has R faced personally because or race/ethnicity fed.bw.better POST: SUMMARY: Federal government treats blacks or whites better fedspend.aidpoor PRE: SUMMARY: Federal Budget Spending: aid to the poor fedspend.border PRE: SUMMARY: Federal Budget Spending: Tightening border security fedspend.crime PRE: SUMMARY: Federal Budget Spending: dealing with crime fedspend.environ PRE: SUMMARY: Federal Budget Spending: protecting the environment fedspend.highways PRE: SUMMARY: Federal Budget Spending: building and repairing highways fedspend.schools PRE: SUMMARY: Federal Budget Spending: public schools fedspend.socsec PRE: SUMMARY: Federal Budget Spending: Social Security fedspend.welfare PRE: SUMMARY: Federal Budget Spending: welfare programs feminist POST: Does R consider themself a feminist or anti-feminist feminist.import POST: How important is being a feminist **finance.lastyear** PRE: R how much better or worse off financially than 1 year ago finance.nextyear PRE: R how much better or worse off financially next year financial.worried PRE: How worried is R about current financial situation ft.asian.am POST: Feeling thermometer: Asian-Americans ft.asians POST: Feeling thermometer: Asians

ft.bigbiz POST: Feeling thermometer: big business

ft.blacks POST: Feeling thermometer: blacks

ft.blm POST: Feeling thermometer: Black Lives Matter

ft.capitalists POST: Feeling thermometer: capitalists

ft.cdc POST: Feeling thermometer: Center for Disease Control (CDC)

ft.christian.fund POST: Feeling thermometer: Christian fundamentalists

ft.christians POST: Feeling thermometer: Christians

ft.congress POST: Feeling thermometer: congress

ft.conservatives POST: Feeling thermometer: conservatives

ft.dem PRE: Feeling Thermometer: Democratic Party

ft.fauci POST: Feeling thermometer: Dr. Anthony Fauci

ft.fbi POST: Feeling thermometer: Federal Bureau of Investigation (FBI)

ft.feminists POST: Feeling thermometer: feminists

ft.gays.lesbians POST: Feeling thermometer: gay men and lesbians

ft.harris.post POST: Feeling thermometer: Democratic Vice Presidential candidate: Kamala Harris

ft.harris.pre PRE: Feeling Thermometer: Kamala Harris, Democratic Vice-Presidential candidate

ft.hispanics POST: Feeling thermometer: Hispanics

ft.ice POST: Feeling thermometer: Immigration and Customs Enforcement (ICE) agency

ft.illegal.imm POST: Feeling thermometer: illegal immigrants

ft.jews POST: Feeling thermometer: Jews

ft.journalists POST: Feeling thermometer: journalists

ft.liberals POST: Feeling thermometer: liberals

ft.metoo POST: Feeling thermometer: #MeToo movement

ft.muslims POST: Feeling thermometer: Muslims

ft.nato POST: Feeling thermometer: North Atlantic Treaty Organization (NATO)

ft.nra POST: Feeling thermometer: National Rifle Association (NRA)

ft.obama PRE: Feeling Thermometer: Barack Obama

ft.pence.post POST: Feeling thermometer: Republican Vice Presidential candidate: Mike Pence

ft.pence.pre PRE: Feeling Thermometer: Mike Pence, Republican Vice-Presidential candidate

ft.police POST: Feeling thermometer: police

ft.pp POST: Feeling thermometer: Planned Parenthood

ft.rep PRE: Feeling Thermometer: Republican Party

ft.rural POST: Feeling thermometer: rural Americans

ft.scientists POST: Feeling thermometer: scientists

- **ft.socialists** POST: Feeling thermometer: socialists
- ft.transgender POST: Feeling thermometer: transgender people
- ft.trump.post POST: Feeling thermometer: Republican Presidential candidate: Donald Trump
- ft.trump.pre PRE: Feeling Thermometer: Donald Trump, Republican Presidential candidate
- ft.un POST: Feeling thermometer: United Nations (UN)
- ft.unions POST: Feeling thermometer: labor unions
- ft.whites POST: Feeling thermometer: whites
- ft.who POST: Feeling thermometer: World Health Organization (WHO)
- gay.adopt PRE: Should gay and lesbian couples be allowed to adopt
- gay.job.discrim PRE: SUMMARY: Favor/oppose laws protect gays lesbians against job discrimination
- gay.marriage PRE: R position on gay marriage
- gay.req.service PRE: SUMMARY: Services to same sex couples
- gender PRE: What is your (R) sex? [revised]
- gov.asst.blacks PRE: 7pt scale gov assistance to blacks scale: self-placement
- govt.act.ineq POST: SUMMARY: Favor/oppose government trying to reduce income inequality
- govt.act.warm.str PRE: Government action about rising temperatures (STRENGTH)
- govt.act.warming PRE: Government action about rising temperatures
- govt.corrupt PRE: How many in government are corrupt
- govt.guar.job PRE: 7pt scale guaranteed job-income scale: self-placement
- govt.hc.7pt PRE: 7pt scale gov-private medical insurance scale: self-placement
- govt.help.hc POST: SUMMARY: Increase/decrease government spending to help pay for health care
- govt.run.byfew PRE: Government run by a few big interests or for benefit of all
- govt.services.7pt PRE: 7pt scale spending & services: self-placement
- govt.under.media PRE: How concerned government might undermine media
- govt.wastes.money PRE: Does government waste much tax money
- govtreg.moreless POST: Would it be good for society to have more or less government regulation
- grand.born.usa PRE: How many grandparents born outside the US
- grew.up.where PRE: Where R grew up
- gun.bg.checks POST: SUMMARY: Favor/oppose background checks for gun puchases
- gun.buying POST: Should federal government make it more difficult or easier to buy a gun
- gun.issue.imp POST: How important is issue of gun access to R
- guns.owned PRE: How many Guns owned
- happy.about.things PRE: How happy R feels about how things are going in the country
- hardvote2020 POST: How difficult was it for R to vote
- harrassed.work POST: Has R experienced harrassment at work

- harrassed.work.oft POST: How often has R experienced harrassment at work
- has.daughter POST: Does R have any sons or daughters one or more daughters
- has.nokids POST: Does R have any sons or daughters no sons and no daughters
- has.son POST: Does R have any sons or daughters one or more sons
- have.health.ins PRE: Does R have health insurance
- hc.pay.bills PRE: How likely R able to pay all health care costs in next 12 months
- health PRE: Health of R
- health.lose.ins PRE: R concerned about losing health insurance
- health.pay.costs PRE: R concerned about paying for health care
- help.with.science POST: How much do people need help from experts to understand science
- hh.covid.symp PRE: Anyone in household COVID-19 based on symptoms
- hh.covid.test PRE: Anyone in household tested pos for COVID-19
- hh.family.mem PRE: R living with how many family members
- hh.income PRE-POST: SUMMARY: Total (family) income
- hh.income.pre PRE: SUMMARY: Total (family) income
- hh.landline PRE: Is there a working HH landline phone
- hh.num.child PRE: How many children in HH age 0-17
- hh.partner.status PRE: Domestic partnership status
- **hh.union.mem** PRE: Anyone in HH belong to labor union
- housing.payments PRE: How likely R able to make all housing payments in next 12 months
- hydrox.treat.covid POST: Evidence that hydroxychloroquine is effective treatment for COVID-19 or no
- immig.crime POST: SUMMARY: effect of illegal immiration on crime rate
- immig.levels POST: What should immigration levels be
- immig.policy PRE: US government policy toward unauthorized immigrants
- immig.take.jobs POST: How likely immigration will take away jobs
- **imp.govt.checks** PRE: How important branches of government keep one another from too much power
- imp.media.crit PRE: How important that news organizations free to criticize
- imp.off.conseq PRE: How important elected officials face serious consequences for misconduct
- imports.limit POST: SUMMARY: Favor/oppose new limits on imports
- income.gap.change PRE: SUMMARY: How much larger is income gap today
- income.gap.today PRE: Income gap today more or less than 20 years ago
- ineq.worryless POST: We'd be better off if worried less about equality
- intl.force PRE: Force to solve international problems
- invest.stocks PRE: Money invested in Stock Market
- laws.contrib.indiv POST: Congress pass laws that benefit contributor individuals
- laws.contrib.org POST: Congress pass laws that benefit contributor organization

- leader.compromise PRE: Prefer government official who compromises or sticks to principles
- libcon3 PRE: 3pt scale liberal-conservative self-placement
- libcon7 PRE: 7pt scale liberal-conservative self-placement
- life.sat PRE: How satisfied is R with life
- lifex.buyusa POST: Life experience: does R choose products because they are made in America
- lifex.flyflag POST: Life experience: has R displayed American flag on house in past year
- lifex.foodstamps POST: Life experience: has R ever received food stamps or other public assistanc
- lifex.huntfish POST: Life experience: has R gone hunting or fishing in past year
- lifex.knowimmig POST: Life experience: does R know someone moved to U.S. from another country
- lifex.oweloans POST: Life experience: does R currently owe money on student loans
- lifex.retireacct POST: Life experience: does R a have pension or retirement account
- lifex.ridebus POST: Life experience: has R used public transportation in past year
- lifex.sharkbite POST: Life experience: has R ever been bitten by a shark
- **lqb.friendfam** POST: R has family/neighbors/coworkers/friends who are gay, lesbian or bisexual **marital** PRE: Marital status
- medical.putoff PRE: Put off checkup and vaccines
- metoo.toofar POST: SUMMARY: Attention to sexual harrassment as gone too far/not far enough middle.class.ext POST: Is R lower middle class, middle class, upper middle class? [EGSS]
  min.wage.change POST: Should the minimum wage be raised, kept the same, or lowered morals.adjust POST: The world is changing & we should adjust view of moral behavior morechance.okay POST: Not a big problem if some have more chance in life
- moreless.govt POST:SUMMARY: Less or more government
- opioid.addiction POST: SUMMARY Should federal govt do more/less about opioid drug addiction
- **oth.race.concern** POST: How often does R have concerned feelings for other racial/ethnic groups **oth.race.feel** POST: How often R imagines how they would feel before criticizing other groups
- oth.race.persp POST: How often does R try to understand perpective of other racial/ethnic group
- oth.race.protect POST: How often R feels protective of someone due to race or ethnicity
- paid.parent.leave PRE: SUMMARY: Require employers to offer paid leave to parents of new children
- parents.born.usa PRE: Native status of parents
- party.register PRE-POST: SUMMARY: Party of registration
- partyid3 PRE: Party ID, 3 categories
- partyid7 PRE: SUMMARY: Party ID
- partyid.importance PRE: Party identity importance
- **people.fed.lies** POST: Much of what people hear in schools and media are lies by those in power **people.too.sens** PRE: Need to be more sensitive talking or people too easily offended

person.get.ahead POST: How much opportunity in America for average person to get ahead pol.asian.infl POST: How much influence do Asians have in US politics pol.black.infl POST: How much influence do blacks have in US politics

pol.dontcare POST: [STD] Public officials don't care what people think **pol.for.insiders** POST: Our political system only works for insiders with money and power **pol.hispanic.infl** POST: How much influence do Hispanics have in US politics **pol.hurt.fam** POST: How much have political differences hurt relationships w/family pol.nosay POST: [STD] Have no say about what goverment does **pol.oligarchy** POST: Business and politics controlled by few powerful people pol.toocomplex POST: [REV] Politics/government too complicated to understand pol.understand POST: [REV] How well does R understand important political issues pol.white.infl POST: How much influence do whites have in US politics polact.givecand POST: R contribute money to individual candidate running for public office **polact.giveoth** POST: R contribute to any other group that supported or opposed candidates **polact.giveparty** POST: R contribute money to political party during this election year **polact.meetings** POST: R go to any political meetings, rallies, speeches, dinners **polact.onlinemeet** POST: R attend online political meetings, rallies, speeches, fundraisers polact.othwork POST: R do any (other) work for party or candidate polact.postsign POST: R wear campaign button or post sign or bumper sticker polact.talkpol POST: R ever discuss politics with family or friends polact.talkvote POST: R talk to anyone about voting for or against a party or candidate police.bw.better POST: SUMMARY: Police treat blacks or whites better **police.stop.lastyr** POST: During past 12 months, R or any family members stopped by police police.useforce POST: How often do police officers use more force than necessary political.violence PRE: SUMMARY: Political violence compared to 4 yrs ago **politics.attention** PRE: How often does R pay attention to politics and elections polquiz.fedspend PRE: On which program does Federal government spend the least polquiz.german POST: Office recall: German Chancellor - Angela Merkel [coded/scheme 1] polquiz.housemaj PRE: Party with most members in House before election polquiz.russian POST: Office recall: Russian President - Vladimir Putin [coded/scheme 1] polquiz.scotus POST: Office recall: SCOTUS Chief Justice - John Roberts [coded/scheme 1] polquiz.sen.term PRE: How many years in full term for US Senator polquiz.senatemaj PRE: Party with most members in Senate before election polquiz.speaker POST: Office recall: Speaker of the House - Nancy Pelosi [coded/scheme 1] polquiz.vp POST: Office recall: Vice-President - Mike Pence [coded] postmat.1a POST: Post materialism most important 1A

postmat.1b POST: Post materialism next most important 1B

- postmat.2a POST: Post materialism most important 2A
- postmat.2b POST: Post materialism next most important 2B
- pref.hiring.blacks POST: SUMMARY: Favor/oppose preferential hiring/promotion of blacks
- pres.ask.foreign PRE: Appropriate/inappropriate Pres ask foreign countries to investigate rivals
- pres.nochecks PRE: SUMMARY: Helpful/harmful if Pres didn't have to worry about congress/courts
- presvote2020 PRE-POST: SUMMARY: 2020 Presidential vote
- primary.voter PRE: Did R vote in a Presidential primary or caucus
- protestors.conduct PRE: SUMMARY: Protestors actions been mostly violent or peaceful
- race.ethnicity PRE: SUMMARY: R self-identified race/ethnicity
- reddit.polpost POST: How often post political content on Reddit
- reddit.use POST: How often use Reddit
- reg.greenhouse POST: SUMMARY: Favor/oppose increased regulation on greenhouse emissions
- region SAMPLE: Census region
- relig.ever.attend PRE: Ever attend church or religious services
- relig.how.often PRE: Attend religious services how often
- religion PRE: What is present religion of R
- religion.group PRE: SUMMARY: Major group religion summary
- religion.imp PRE: Is religion important part of R life [revised]
- religious.id PRE: Religious identification
- rep.libcon7 PRE: 7pt scale liberal-conservative: Republican party
- restrict.journalists PRE: SUMMARY: Favor or oppose restricting journalist access
- rural.getmore POST: SUMMARY: People in rural areas get more/less from government
- rural.influence POST: SUMMARY: People in rural areas have too much/too little influence
- rural.respect POST: SUMMARY: People in rural areas get too much/too little respect
- rural.urban POST: Does R currently live in a rural or urban area
- rural.urban.id POST: How important is urban or rural to R's identity
- russia.int.election PRE: Likelihood of Russian interference in upcoming election
- russia.interfere POST: Did Russia try to interfere in 2016 presidential election or not
- separate.children POST: SUMMARY: Favor/oppose separating children of detained immigrants
- sexual.orient PRE: Sexual orientation of R [revised]
- smoke.cig.life POST: R smoked 100 cigarettes in life
- smoke.cig.now POST: R currently smoking
- social.class POST: How would R describe social class [EGSS]
- speak.english PRE: How important to speak English in US
- split.ticket PRE: Split-ticket voting
- state SAMPLE: Sample location FIPS state
- stateabbr SAMPLE: Sample location state postal abbreviation

survey.serious PRE: How often took survey seriously talkpol.week POST: How many days in past week discussed politics with family or friends tax.rich POST: Favor or oppose tax on millionaires terrorism.worry POST: DHS: How worried about terrorist attack in near future threat.from.china POST: How much is China a threat to the United States threat.from.germany POST: How much is Germany a threat to the United States threat.from.iran POST: How much is Iran a threat to the United States threat.from.japan POST: How much is Japan a threat to the United States threat.from.mexico POST: How much is Mexico a threat to the United States threat.from.russia POST: How much is Russia a threat to the United States trad.fam.values POST: Fewer problems if there was more emphasis on traditional family values trade.agreements POST: SUMMARY: Favor/oppose free trade agreements trade.good.ir POST: SUMMARY: Increasing trade good/bad for international relationships trade.jobs.abroad POST: SUMMARY: International trade increaded/decreased jobs abroad

trade.jobs.usa POST: SUMMARY: International trade increased/decreased jobs in US trans.friendfam POST: R has family/neighbors/coworkers/friends who are transgender trans.military POST: SUMMARY: Favor/oppose transender people serve in military trans.policy PRE: SUMMARY: Transgender policy

treat.people.fair POST: If people were treated more fairly we would have fewer problems trump.acquittal PRE: SUMMARY: Favor or oppose Senate acquittal decision trump.cares PRE: Republican Presidential Candidate trait: really cares

trump.corruption PRE: SUMMARY: Corruption increased or decreased since Trump trump.deport.more POST: Did Trump administration deport more immigrants or did Obama trump.honest PRE: Republican Presidential Candidate trait: honest

trump.impeachment PRE: SUMMARY: Favor or oppose House impeachment decision

trump.knowledge PRE: Republican Presidential Candidate trait: knowledgeable

trump.libcon7 PRE: 7pt scale liberal-conservative: Republican Presidential candidate

trump.strlead PRE: Republican Presidential Candidate trait: strong leadership

trump.ukraine PRE: Did Trump ask Ukraine to investigate rivals

trust.dc PRE: How often trust government in Washington to do what is right [revised] trust.election.off PRE: Trust election officials

trust.experts POST: SUMMARY: Trust ordinary people/experts for public policy

trust.media PRE: How much trust in news media

trust.people PRE: How often can people be trusted

turnout2020 PRE-POST: SUMMARY: Voter turnout in 2020

twitter.polpost POST: How often post political content on Twitter

twitter.use POST: How often use Twitter

unemploy.lastyear PRE: SUMMARY: Unemployment better or worse in last year unemploy.nextyear PRE: More or less unemployment in next year **unemploy.rate.now** POST: What is the current unemployment rate univ.basic.income POST: SUMMARY: Favor/oppose federal program giving citizens \$12K/year urban.unrest PRE: Best way to deal with urban unrest usa.better POST: SUMMARY: US better or wose than most other countries usa.on.track PRE: Are things in the country on right track usa.stay.home PRE: SUMMARY: Country would be better off if we just stayed home usa.stronger PRE: During last year, US position in world weaker or stronger vaccine.schools POST: SUMMARY: Favor/oppose requiring vaccines in schools vaccines.autism POST: Does most scientific evidence show vaccines cause autism or not vaccines.risk POST: SUMMARY: Health benefits of vaccinations outweigh risks violence.justified PRE: Justified to use violence vote.pres.str POST: Preference strong for Presidential candidate for whom R vote vote.when.decide POST: How long before election R made decision Presidential vote [coded] votes.accurate PRE: Votes counted accurately votes.faircount POST: How often are votes counted fairly voting.duty.choice PRE: SUMMARY: Voting as duty or choice voting.felons PRE: SUMMARY: Favor/oppose allowing felons to vote voting.id PRE: SUMMARY: Favor/oppose requiring ID when voting voting.mail PRE: SUMMARY: Favor/oppose vote by mail voting.rts.denied PRE: How often people denied right to vote waitvote2020 POST: How long was wait time at polling place whenvote2020 POST: When R voted in 2020 election whites.revdiscrim POST: How likely whites unable to find jobs because employers hiring minorities wom.complain.prob POST: Do women complaining about discrimination cause more problems wom.control.men PRE: Women seek to gain power by getting control over men wom.equal.spfav POST: Do women demanding equality seek special favors wom.interp.sexist PRE: Women interpret innocent remarks as sexist women.stay.honme POST: SUMMARY: Better/worse if man works and woman takes care of home work.employer PRE: Describe R's employment work.hoursweek PRE: How many hours R worked per week work.lastweek PRE: R worked for pay last week work.mom.bond POST: SUMMARY: Easier/harder for working mother to bond with child work.status PRE: SUMMARY: R occupation status 1 digit world.like.usa POST: Better if rest of world more like America world.temp.rising POST: Have world temperatuers have risen on average or last 100 years or not wt Full sample pre-election weight wt.post Full sample post-election weight

## printC

## Source

2020 American National Election Survey. See Appendix of printed textbook for further information

printC

Prints table of results to a .html file in local working directory

## Description

Prints table or summary of results to a .html file in local working directory. Converting Console format tables to .html tables helps users quickly create publication- and presentation-ready tables. The .html file's name is displayed as Console message. Current date added to Table.Output.html file name to keep output organized. You can print output directly from Companion functions using printC=TRUE argument (where available).

## Usage

printC(objx, file)

#### Arguments

objx	A table or data frame. The table must be html-ready, not all Console output is
	organized in tables. If objx is not a html-ready table, printC will write it as
	preformatted text to the .html file in the working directory.
file	(Optional) The path/file name for .html output. If not specified, function will output to .html file in your working directory.

## Value

No return to R. The formatted objx is outputted to a .html file in working directory.

## **Textbook Reference**

• Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 1.

#### Examples

```
library(RCPA3)
```

```
example.table <- freqC(x=world$vdem.4cat, plot=FALSE)
# running printC will generate a .html file in your working directory</pre>
```

```
printC(example.table, file=tempfile(fileext = ".html"))
```

regC

## Description

Linear regression analysis function with many useful features. Standard output of results includes table of coefficients, table of residuals, and additional model information. Options for weighting observations, analysis of variance (ANOVA), performing post-estimation diagnostic tests, including testing normality of residuals and constant variance, and generating diagnostic plots of residuals.

## Usage

```
regC(formula, w, data, digits = 3, anova = FALSE, norm.test = FALSE,
ncv.test = FALSE, linear.test = FALSE, reset.test = FALSE,
outlier.test = FALSE, vif = FALSE, printC = FALSE, res.plots = FALSE,
...)
```

formula	should be in dataset\$dv ~ datatset\$iv1 + dataset\$iv2 unless dataset specified in optional data argument. If weights are specified using w argument, the formula cannot contain functions or logical statements (all variables in the function must be named in the dataset).
W	(Optional) Sampling weights of variable, must be numeric; should be in dataset\$weightvar form unless dataset specified in optional data argument.
data	(Optional) Name of dataset that contains dv, iv (and w) variables.
digits	(Optional) Number of decimal places reported in result (defaults to 2).
anova	(Optional) Do you want ANOVA table reporting F-test for all predictors? (default: FALSE)
norm.test	(Optional) Test assumption that regression residuals follow normal distribution (default: FALSE)
ncv.test	(Optional) Test assumption that regression residuals have constant variance (de- fault: FALSE)
linear.test	(Optional) Report results of linearity test? (default: FALSE)
reset.test	(Optional) Report results of model specification test? (default: FALSE)
outlier.test	(Optional) Test whether outlier observations have outsized leverage on results (default: FALSE)
vif	(Optional) Report variance inflation factors to assess multicollinearity? (default: FALSE)
printC	(Optional) Do you want to print tables of results (and residuals plots if res.plots=TRUE) to .html file in working directory? (default: FALSE)
res.plots	(Optional)
	(Optional) Additional arguments passed to 1m function (unweighted models) or svyglm function (weighted models).

#### sampdistC

#### Value

Returns a lm or svyglm object.

#### **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapters 11, 12, 13.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 244-271. ISBN-13: 978-1506379616; ISBN-10: 150637961.

#### **Online Resources**

- R Tutorials & Resources for Correlation and Bivariate Regression, Multiple Regression, and Analyzing Regression Residuals, compiled by Barry C. Edwards.
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

#### Examples

library(RCPA3)

```
# basic usage
regC(states$vep20.turnout ~ states$hs.or.more)
# with w and data arguments
regC(nes$ft.unions ~ nes$ft.dem, w=nes$wt)
# multiple IV with some post-estimation tests
regC(peace.index ~ vdem.edi.score + hdi, data=world, norm.test=TRUE, ncv.test=TRUE)
```

sampdistC

*Plots probability and cumulative density functions (PDFs and CDFs) of sample statistics* 

## Description

Visualize expected sampling distributions for sample statistics. You can plot the probability and cumulative density functions for statistics based on either the normal distribution or a t-distribution. The sampdistC function also generates the confidence interval (default 95%) for a sample statistic which is useful for obtaining the CI of a summary statistic (when you're not estimating it from the dataset yourself).

#### Usage

```
sampdistC(stat, se, t.df, plot.cdf = FALSE, ci = 95, digits = 3,
printC = FALSE)
```

#### Arguments

stat	A numeric statistic, the point estimate of a parameter based on a sample of observations, like a sample mean or a sample proportion.
se	The standard error of the statistic, must be a positive number.
t.df	(Optional) If critical values for sampling distribution should be based on t- distribution (generally true when statistic is a mean), set t.df to the number of degrees of freedom (typically n-1).
plot.cdf	(Optional) Do you want to plot the cumulative density function? Default = FALSE (for probability density function).
ci	(Optional) Specify desired confidence level for confidence interval as a percent- age. Set ci=FALSE to suppress CI table (default: 95)
digits	(Optional) Number of digits after decimal to display in CI table (default: 3)
printC	(Optional) Do you want to sampling distribution plot to .html file in working directory? (default: FALSE)

#### Value

None (makes a plot)

#### **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 8.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), Chapter 6. ISBN-13: 978-1506379616; ISBN-10: 150637961.

#### **Online Resources**

- R Tutorials & Resources for Foundations of Inference, Compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

## Examples

library(RCPA3)

# based on normal distributions

# sortC

```
sampdistC(stat=10, se=1)
sampdistC(stat=10, se=1, plot.cdf=TRUE)
# based on t-distribution with 15 degrees of freedom
sampdistC(stat=8, se=2, t.df=15)
sampdistC(stat=8, se=2, t.df=15, plot.cdf=TRUE)
```

sortC

Sorts dataset observations by user-defined criteria to return case-level information

# Description

Returns case-level information in order specified by user. You can sort by additional criteria to break ties. Useful for learning about units of analysis and selecting cases for qualitative research designs.

# Usage

sortC(id, by, data, thenby, descending = TRUE, limit, confirm = TRUE, printC = FALSE)

# Arguments

id	A variable in the dataset (data) that identifies individual cases, typically the name of states, countries, etc.
by	Variable the cases should be sorted by.
data	(Optional) Dataset to be sorted.
thenby	(Optional) Criteria for sorting cases after sorting with the "by" variable. Useful if many cases tied on first criteria.
descending	(Optional) Should the cases be sorted in descending order? By default, set to TRUE. When sorting ordered factors, check that the levels higher numerically correspond to the sort order you have in mind.
limit	(Optional) The number of rows to report. If there are many observations to be sorted, you may want to limit output to 5, 10, etc. rows.
confirm	(Optional) If function is going to return long table of results (more than 20 rows), you'll be asked for confirmation (use confirm=F to bypass).
printC	(Optional) Do you want to print table of sorted observations to to .html file in working directory? (default: FALSE)

## Value

A data frame of sorted observations.

## **Textbook References**

- Philip H. Pollock and Barry C. Edwards, An R Companion to Political Analysis, 3rd Edition (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapters 2, 6.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 122-123. ISBN-13: 978-1506379616; ISBN-10: 150637961.

# **Online Resources**

- R Tutorials & Resources for Descriptive Statistics, compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

## Examples

library(RCPA3)

states

States dataset for R Companion to Political Analysis, Third Edition

#### Description

A dataset with variables about the 50 states. This dataset is used to demonstrate application of R to political analysis. See book Appendix for variable names and descriptions.

## Usage

states

## states

## Format

A data frame with 50 rows and 149 variables. abortion.rate Number of abortions per 1000 women 15-44, 2008 abortlaws Number of restrictions on abortion abortlaws.3cat Restrictiveness of state abortion laws, 3 ordinal categories adv.or.more Percentage of 25+ population with graduate or professional degree alcohol Alcohol consumption (gal/capita) 2007 attend.pct Percentage freq attend relig serv (Pew) **ba.or.more** Percentage of 25+ population with bachelor's degree or more battleground2020 Battleground in 2020 election? biden2020 Two-party vote share for Biden in 2020 election biden2020.ev Electoral College votes for Biden in 2020 election biz.tax.rank State business tax climate ranking biz.tax.score State business tax climate rating black.percent Percentage of population black or African American black.stateleg Percent of state legislators who are African American brady.rank Brady Campaign ranking brady.score Brady Campaign score broadband Percentage of households with broadband Internet subscription **carfatal** Motor vehicle fatalities (per 100,000 pop) carfatal07 Motor vehicle fatalities per 100,000 pop (2007) cig.tax Cigarette tax per pack cig.tax.3cat Cigarette tax per pack, 3 ordinal categories cigarettes Packs bimonthly per adult pop citizen.ideology Citizen ideology index clinton2016 Vote share for Clinton in 2016 election cong.dem Percentage of state's 2020 congressional delegation that is Democratic cook.index Higher scores more Dem cook.index3 3 quantiles of cook\_index corrections.incarc.rate Population incarcerated per 100,000 state residents corrections.total.rate Population under correctional supervision per 100,000 state residents covid.cases COVID cases (as of June 2021) covid.cases.per1000 COVID cases per 1,000 persons (as of June 2021) covid.deaths COVID deaths (as of June 2021) covid.deaths.per1000 COVID deaths per 1,000 persons (as of June 2021) covid.response.max Maximum of COVID response stringency index covid.response.mean Mean of COVID response stringency index

covid.vaccinated Percentage of population fully vaccinated against COVID (as of June 2021) crime.rate.burglary Burglary rate, per 100,000 population crime.rate.murder Murder and non-negligent manslaughter rate, per 100,000 population crime.rate.property Property crime rates, per 100,000 population crime.rate.violent Violent crime rate, per 100,000 population deathpen.executions Executions since 1976 deathpen.exonerations Death penalty exonerations since 1973 deathpen.status Does state retain death penalty? defexpen Federal defense expenditures per capita dem.stateleg Percent of state legislators who are Democrats density Population per square mile division Census division drug.death.rate Drug overdose death rate per 100,000 adults earmarks.pcap Earmarks per capita (in dollars) foreign.born Percentage of population born outside the United States gay.policy Billman's policy scale gay.policy2 RECODE of gay\_policy (Billman's policy scale) gay.policy.con Does state have 'most conservative' gay policies? gay.support Lax-Phillips opinion index gay.support3 Gay rights: public support giffords.grade Letter grade of state's gun control laws, from Giffords Law Center giffords.rank Ranking of state's gun control laws, from Giffords Law Center gini.2016 GINI index score gini.rank.2016 Income equality ranking govt.worker Precentage workforce government workers (2012) gun.bgchecks Background checks per 100,000 pop (2012) gun.dealers Gun dealers per 100,000 pop gun.deaths.100k Gun deaths per 100k gun.murders Gun murder rate (2010) gunlaws Number of state gun control laws gunlaws.3cat Number of state gun control laws, 3 ordinal categories gunsammo.rank Ranking of best states for gun owners **hh.income** Median household income (dollars) hispanic.percent Percentage of poulation Hispanic or Latino (of any race) hispanic.stateleg Percent of state legislators who are Hispanic/Latino hr.nominate.mean Mean NOMINATE score of state's House delegation hs.or.more Percentage of 25+ population attained at least high school diploma or equivalent

40

## states

hs.yrs.ss Years of social studies required to graduate high school infant.mortality Number of infant deaths per 1,000 live births judge.selection Method used to select appellate court judges judges.elected Does state elect appellate court judges? land.area Size of state in square miles legalclimate State legal climate rating 2015 legalclimate.rank State legal climate ranking 2015 legis.conservatism Rating of conservatism of state legislature legis.prof.rank State legislative professionalism rank for 2015 legis.prof.score State legislative professionalism score for 2015 lgbtq.equality.3cat Ordinal ranking of state policies for LQBTQ equality lgbtq.equality.laws Number of laws passed that advance LQBTQ equality median.age Median age (years) medicaid.expansion State action on Medicaid expansion pursuant to ACA min.wage State minimum wage obesity.percent Percentage of adults with a body mass index of 30.0 or higher opioid.rx.rate Retail opioid prescriptions dispensed per 100 persons over64 Percentage of population 65 years and over polarization.house Polarization in State Legislatures, Lower chambers polarization.senate Polarization in State Legislatures, Upper chambers policy.innovation.rate Policy adoption rate score pop2016 State population, 2016 (in 100k) pop.18.24 Percentage of population 18 to 24 years old population State population in 2020 **population.change** Percentage increase/decrease in population from 2010 to 2020 **pot.policy** State marijuana laws in 2017 poverty.rate Percentage of people in poverty prcapinc Per capita income preg.teen.rate Number of pregnancies per 1,000 women aged 15-19 preg.uninten.rate Unintended pregnancy rate per 1,000 women 15-44 prochoice.percent Percentage of adults who say abortion should be legal in all/most cases public.conservative Percentage adults self-identifying as conservative public.liberal Percentage adults self-identifying as liberal public.moderate Percentage adults self-identifying as moderate region Census region relig.Cath Percentage Catholic (2012) relig.Prot Percentage Protestant (2012)

relig.high Percentage high religiosity (2012) relig.import Percent religion "A great deal of guidance" relig.import.2016 Overall index of religiosity relig.low Percentage low religiosity (2012) religiosity Relig observance-belief scale (Pew) religiosity3 Religiosity rtw Right to work state? schools.avg.salary Average salary of public school teachers schools.spend Expenditure per student in average daily attendance schools.st.ratio Students enrolled per teacher secularism Secularism scale (Pew) secularism3 3 quantiles of secularism smokers Data\_Value south Southern state? speak.english.only Percentage of population that only speaks English state State Name state.govt.rank Overall quality of state government administrative functions **stateid** Two-letter abbreviation of state name suicide.rate Number of deaths due to intentional self-harm per 100,000 population tax.source State's primary revenue source term.limits Does state have term limits for legislators? trump2016 Vote share for Trump in 2016 election trump2016.ev Electoral College votes for Trump in 2016 election trump2020 Two-party vote share for Trump in 2020 election trump2020.ev Electoral college votes for Trump in 2020 election turnout.20vs16 Difference in voter turnout in 2020 compared to 2016 under18 Percentage of population under age 18 unemployment State unemployment rate **uninsured** No health insurance coverage unionized Percent of workers who are union members unionized.4cat Ordinal-level measurement of state's percentage union membership urban Percent urban population vep16.turnout Percent turnout of voting eligible population in 2016 vep18.turnout Percent turnout of voting eligible population in 2018 vep20.turnout Percent turnout of voting eligible population in 2020 volunteer.hrs.pc Volunteer hours per resident volunteer.rate Volunteer rate voter.id.law Voter identification law in effect in 2017 white.percent Percentage of population white women.stateleg Percent of state legislators who are women

## testmeansC

# Source

Data sources vary. See Appendix of printed textbook for further information.

testmeansC	One and two-sample difference of means tests (t-tests) with confidence
	intervals.

# Description

Conducts one and two-sample difference of means tests (t-tests). Options for weighting observations, known population standard deviation, equal or unequal variances, paired observations.

# Usage

testmeansC(x1, x2, w, data, dv, iv, digits = 2, var.equal = FALSE, paired = FALSE, pop.sd = FALSE, var.test = FALSE, printC = FALSE, ci.table = TRUE, ci.level = 95, ci.plot = TRUE, main, xlab, xlim, ...)

# Arguments

x1	The first variable to be compared (mean of x1 will be compared to mean of x2). Must be numeric variable. Should be in the form dataset\$var, unless dataset specified with data argument.
x2	The variable (or number) to which x1 is compared. Should be in the form dataset\$var, unless dataset specified with data argument. You can set x2 equal to a number to conduct a one sample means test. For example, to test whether x1 could have population mean of 50, you'd set $x2 = 50$ .
W	(Optional) Weights variable (optional). Should be in the form dataset\$var, unless dataset specified with data argument.
data	(Optional) The dataset that contains x1, x1 and x2, or dv and iv.
dv	The dependent variable. Must be numeric variable. Should be in the form dataset\$var, unless dataset specified with data argument.
iv	The independent variable. Should have two distinct values (like treatment and control). Should be in the form dataset\$var, unless dataset specified with data argument.
digits	(Optional) Number of digits to report after decimal place, optional (default: 3).
var.equal	(Optional) With two-sample tests, do you want to assume equal variances? (default: FALSE)
paired	(Optional) With two-sample tests, are the observations paired? (default: FALSE)
pop.sd	(Optional) If the population standard deviation is known, you can specify it.
var.test	(Optional) If set to TRUE, will test the assumption that two sample variance are equal using an F test. Default is FALSE. The var.test option implemented for both weighted and unweighted analysis. If you are not using sample weights, you can supplement this F test with additional tests such as stats::bartlett.test and car::leveneTest.

printC	(Optional) Do you want results printed to .html file in your working directory? Default is FALSE. Set to TRUE to print results.
ci.table	(Optional) Confidence level for calculating the confidence interval of the differ- ence of means, defaults to 95. Set to F or FALSE to omit confidence interval from results.
ci.level	(Optional) Desired confidence level, as percentage (default: 95)
ci.plot	(Optional) Do you want a plot of the confidence interval of the difference of means? (default: TRUE)
main	(Optional) Main title for plot of confidence interval of difference
xlab	(Optional) Label for x-axis of plot of confidence interval of difference
xlim	(Optional) A vector (of length 2) specifying the range of the x-axis, useful to zoom in on CI.
	(Optional) Additional arguments passed to plot function for the CI plot

# Value

No return

# **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 9.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp.201-215. ISBN-13: 978-1506379616; ISBN-10: 150637961.

# **Online Resources**

- R Tutorials & Resources for Hypothesis Tests with One and Two Samples, Compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site, find datasets for your own research and resources to help with the analysis.

# Examples

```
library(RCPA3)
```

```
# one sample test against hypothesized value
testmeansC(x1=world$literacy, x2=80)
# with x1 and x2
testmeansC(x1=ft.trump.post, x2=ft.pence.post, w=wt, data=nes)
# with paired x1 and x2
```

# testpropsC

```
testmeansC(x1=nes$ft.pence.post, x2=nes$ft.pence.pre, w=nes$wt, paired=TRUE)
# with dv and iv
testmeansC(dv=nes$ft.bigbiz, iv=nes$gender, w=nes$wt)
```

testpropsC	Tests the difference between two sample proportions, or difference
	between sample proportion and hypothesized value, with options for
	weighted observations, confidence intervals

# Description

Difference of proportions test with optional sample weights. Reports P-value of two-tailed significance test. Currently limited to testing one response from one dataset. If you want to compare x1 from dataset1 and x2 from dataset2, you can create new dataframe to test as  $dv \sim iv$  where dv is vector of x1 and x2 values and iv is vector identifying the source (i.e. dataset1 and dataset2). If you want to compare different responses, such as "Yes" value for x1 and "Agree" value for x2, you will need to transform one of the variables so they have comparable response values.

# Usage

```
testpropsC(x1, x2, w, data, dv, iv, digits = 3, response, printC = FALSE,
    ci.table = TRUE, ci.level = 95, ci.plot = TRUE, main, xlab, xlim, ...)
```

# Arguments

x1	A categorical variable
x2	Value or variable to compare x1 against.
W	(Optional) Weights variable.
data	(Optional) Specify name of dataset (data frame) with x1 and x2 variables (or dv and iv).
dv	Dependent variable
iv	Independent variable, should have only two unique values. For comparison pur- poses, group1 will be first level of iv and group2 will be the second level of iv. To change order of groups, you can modify levels(iv).
digits	(Optional) Number of digits to report after decimal place, optional (default: 3).
response	(Optional) Identify the response value you wish to compare. If not specified, the function will compare first value of the dv (or $x1$ variable). If you want to group multiple responses together, use transformC to make dummy variable.
printC	(Optional) Do you want results printed to .html file in your working directory? Default is FALSE. Set to TRUE to print results.
ci.table	(Optional) Do you want a table reporting confidence interval of the difference of proportions? (default: TRUE)

ci.level	(Optional) Desired confidence level, as percentage (default: 95)
ci.plot	(Optional) Do you want a plot of the confidence interval of the difference of proportions? (default: TRUE)
main	(Optional) Main title for plot of confidence interval of difference
xlab	(Optional) Label for x-axis of plot of confidence interval of difference
xlim	(Optional) A vector (of length 2) specifying the range of the x-axis, useful to zoom in on CI. By default, xlim=c(-1,1).
	(Optional) Additional arguments passed to plot function for the CI plot

# Value

No return

## **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 9.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp.201-215. ISBN-13: 978-1506379616; ISBN-10: 150637961.

## **Online Resources**

- R Tutorials & Resources for Hypothesis Tests with One and Two Samples, Compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

## Examples

library(RCPA3)

transformC

*Returns new variables by transforming existing dataset variables (e.g. dummy variables, standardized variables, rank orders)* 

# Description

Given a variable x, the transform C function generates and returns a tranformed version of x. For example, transform C can take a variable x and return standardized x, or the log of x.

## Usage

```
transformC(type, x, data, response, cutpoints, groups, confirm = TRUE, ...)
```

# Arguments

type	The type of transformation to be made to x. Options include: • "center"
	<ul> <li>"cut" use cutpoints or groups arguments to control cuts</li> </ul>
	• "dummy" use response argument to identify values of x which should be coded 1 (all other non-missing responses will be coded 0)
	• "dummy.set"
	• "ln"
	• "log10"
	• "percent.rank"
	• "rank"
	• "whole"
	• "Z"
x	The variable to be transformed, a variable that already exists, should be in dataset\$var form unless dataset specified in optional data argument.
data	(Optional) Name of dataset that contains x variable.
response	(Optional) For type="dummy", response is the value or vector of values to be coded 1.
cutpoints	(Optional) For type="cut", a vector of values to serve as lower bounds of ranked categories for transformed x variable.
groups	(Optional) For type="cut", the number of (approximately) same sized groups to create based on x values.
confirm	(Optional) By default, transformC will ask you to confirm you want trans- formed variable returned (to prevent data loss). Set confirm=FALSE to bypass this check.
•••	(Optional) Additional arguments pass to cut2 (for type="cut").

## Value

A transformed version of x variable, a vector with the same length as x, unless type="dummy.set" in which case transformC returns a data.frame.

## **Textbook References**

- Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 3.
- Philip H. Pollock and Barry C. Edwards, *The Essentials of Political Analysis, 6th Edition* (Thousand Oaks, CA: Sage Publications, 2020), pp. 55-64. ISBN-13: 978-1506379616; ISBN-10: 150637961.

## **Online Resources**

- R Tutorials & Resources for Creating and Transforming Variables, Compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.
- Political Science Data Web Site: Find datasets for your own research and resources to help with the analysis.

#### Examples

library(RCPA3)

```
# don't use confirm=FALSE until you've tested the function call
transformC("percent.rank", nes$ft.dem, confirm=FALSE)
transformC("rank", nes$ft.dem, confirm=FALSE)
transformC("whole", runif(min=0,max=100,n=20), confirm=FALSE)
```

welcome	Welcomes new users to package with basic information, option to reset
	user's working environment

# Description

Welcomes users to RCPA3 package for An R Companion to Political Analysis, 3rd Edition and provides basic information about using Companion functions and datasets.

## Usage

welcome(reset = FALSE)

## Arguments

reset (Optional) Do you want to remove objects from your workspace and restore default graphical parameters? Default is FALSE. Removing workspace objects and restoring default graphical parameters can help undo some unintended sideeffects of past work.

## Value

No value returned

## widgetFactory

## **Textbook Reference**

• Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 1.

# **Online Resources**

- R Tutorials & Resources for Getting Started with R, Compiled by Barry C. Edwards
- Sage Edge Resources for Political Analysis Series, for streaming videos, flashcards, and more student resources for textbooks by Pollock and Edwards, from Sage Publications.

## Examples

```
library(RCPA3)
# Welcome message from RCPA3 package.
## Not run:
welcome()
```

## End(Not run)

widgetFactory

```
An interactive game to practice using R functions.
```

## Description

A fun, interactive game to practice using R functions. Players must execute functions to make widgets per strict specifications to win the game. The Widget Factory needs your help!

## Usage

widgetFactory()

## Value

No value returned

## **Textbook Reference**

• Philip H. Pollock and Barry C. Edwards, *An R Companion to Political Analysis, 3rd Edition* (Thousand Oaks, CA: Sage Publications, Forthcoming 2022), Chapter 1.

## **Online Resource**

• Tutorials & Resources for Using R for Data Analysis, compiled by Barry C. Edwards

# Examples

library(RCPA3)

# Play the Widget Factory game
## Not run:
widgetFactory()

## End(Not run)

world

World dataset for R Companion to Political Analysis, Third Edition

# Description

A dataset with variables about countries in the world. This dataset is used to demonstrate application of R to political analysis. See book Appendix for variable names and descriptions.

# Usage

world

## Format

A data frame with 169 rows and 206 variables.

arda.code Country numerical code bribe.judge Prevalence of bribing judges bribe.police Prevalence of bribing police broadband Broadband subscription per 100 people business.starts Number of new corporations registered annually cabry Three-letter abbreviation of country name carbon.footprint National carbon footprint ccode Numeric country code based on the ISO-3166-1 standard ciaedex Percent of GDP spent on education ciagdpag Composition of GDP: Agricultural sector ciagdpin Composition of GDP: Industrial sector ciagdpsv Composition of GDP: Service sector civil.war Civil war intensity co2.percap Carbon dioxide emissions per capita **colony** Colony of what country? compulsory.voting Does country require citizens to vote? confidence Confidence in institutions scale

50

conflict.index Level of violent conflict in country conflict.internal Number of internal conflict without foreign invention conflict.internat Number of internal conflict with foreign invention corp.tax.rate Corporate tax rate corrupt.perception Corruption perception index country Country/territory name coup.attempts Number of attempted coups d'etat since 1950 coups Number of successful coups d'etat since 1950 covid.cases.permil Total COVID cases per million covid.deaths.per.million Total COVID deaths per million covid.response.max Maximum of COVID response stringency index covid.response.mean Mean of COVID response stringency index covid.vaccinated Percentage of population fully vaccinated against COVID death.penalty.status Legal status of death penalty debt.percent.gdp Public debt as a percentage of GDP dem.other Percentage of other democracies in region dem.other5 Percentage of other democracies in region district.size3 Average number of members per district dnpp.3 Effective number of parliamentary parties dpi.cemo Is chief executive a military officer? dpi.system National political system durable Number of years since the last regime transition eco.footprint Total ecological footprint econ.compete Global economic competitiveness econ.freedom Rating of overall economic freedom econ.freedom.5cat Rating of overall economic freedom, 5 ordinal categories educ.f.avgyrs Average Schooling Years, Female educ.f.none Percentage of Females with No Schooling educ.m.avgyrs Average Schooling Years, Male educ.m.none Percentage of Males with No Schooling educ.quality Average rating of quality of educational system effectiveness Government effectiveness scale eiu.democ.4cat Level of democracy, 4 ordinal categories eiu.democ.bin Is country a democracy? eiu.democ.score Rating of democracy election.integrity Integrity of country's electoral system election.violence.post Were there riots and protest after election?

election.violence.pre Were there riots and protest before election? energy.renew.percent Percentage of country's energy that is non-fossil fuel enpp3.democ Effective number of parliamentary parties enpp3.democ08 Effective number of parliamentary parties enpp.3 Effective number of parliamentary parties envir.treaty Number of environmental treaties agreed to eu EU member state fdi.inflow Inflow of foreign direct investment (in millions of US dollars) fertility Number children born per woman fh.democ.3cat Rating of democracy, 3 ordinal categories fh.democ.score Freedom House rating of democracy fh.internet.3cat Level of Internet freedom in country, 3 ordinal categories fh.internet.score Measure of Internet freedom frac.eth Ethnic factionalization frac.eth2 Ethnic factionalization frac.eth3 Ethnic factionalization frac.lang Language factionalization frac.relig Religious factionalization gas.production Gas production (in millions of barrels of oil equivalent) gdp.growth Annual economic growth rate gdp.percap Gross domestic product per capita (in U.S. dollars) gdp.percap.5cat Gross domestic product per person, 5 ordinal categories gender.equal3 Gender empowerment gender.inequality Index of gender inequality gini.index GINI index (of income inequality) global.social Social globalization govt.help.cap Capacity of state to provide for needy citizens govt.integrity Rating of government integrity govt.per.gdp Government spending (all types) as a percentage of GDP govt.quality The quality of government gri Index of government restrictions on religion grp.name Name of government preferred religion grp.score Index of government religious preference happiness Average happiness in country hdi Human development index hiv.percent Percentage of population aged 15-49 with HIV homicide.rate Intentional homicides per 100,000 persons

hospital.beds Number of hospital beds per thousand people human.flight Human flight and brain drain from country icc.treaty.ratified Has country ratified treaty for International Criminal Court? immigrants.percent Percentage of population born in another county imprisonment.rate Number incarcerated per 100,000 persons income.tax.rate Income tax rate indep.judiciary Does country have an independent judiciary? indy Year of independence infant.mortality Number infants dying before age one per 1,000 live births inflation Annual inflation rate internet.users Percentage of population that uses the Internet judicial.effectiveness Rating of effectiveness of country's judiciary judicial.indep.wef Average rating of judicial independence laws.protect.prop Legal protections for private property rights legal.origin Legal origin of commercial code of country legal.quality Measure of quality of country's legal institutions life.expectancy Life expectancy at birth lifeex.f Life expectancy at birth among females lifeex.m Life expectancy at birth among males literacy Literacy rate media.access.cand Does country provide free or subsidized media access for political candidates? media.access.parties Does country provide free or subsidized media access for political parties? median.age Median age in years migration.net Net migration muslim Are Muslims predominate religious group? ocean.health Measure of health of oceans adjacent to country oecd OECD member state? oil Oil production, in barrels per day oil.production Oil production, in metric tons organized.crime Impact of organized crime on the economy peace.5cat Peacefulness of country, 5 ordinal categories peace.index Peacefulness of country pmat12.3 Post-materialism pol.terror.scale.ai Political terror scale pol.terror.scale.hrw Political terror scale polity.score Rating of democracy pop.0.14 Percentage of population age 0-14

pop.15.64 Percentage of population age 15-64 pop.65.older Percent of population age 65 and older pop.growth Percentage population growth/decline annually pop.urban Percentage of the population living in urban areas **population** Size of national population population.3cat Size of national population, 3 ordinal categories population.density Number of people per square kilometer **poverty** Percentage of the population below the poverty line **pr.sys** Proportional representation system? press.freedom.fh Freedom of the country's press press.freedom.rsf Freedom of the country's press protact3 Protest activity refugees.from Refugees from the country who live in other countries refugees.impact Impact of population displacement on country refugees.in Refugees from other countries in the country regime.type3 Regime type region Region name regionun United Nations region religion Largest religion by proportion reserved.seats Does country reserve seats in national legislature for any group? rights.assn Freedom of assembly and association rights.dommov Freedom of domestic movement rights.formov Freedom of foreign movement **rights.injud** Independence of the judiciary rights.law.index Measure of violations of human right and rule of law rights.relfree Freedom of Religion rights.speech Freedom of speech rights.treaties Number of international human rights treaties ratified rights.wecon Women's economic rights rights.wopol Women's political rights rights.worker Worker's rights schools.internet Average rating of internet availability in schools self.employed Percentage of labor force that is self-employed sexratio Sex ratio at birth shi Social hostility toward religion soldiers.percent Percentage of labor force in the military soldiers.total Total number of people in the military

spendeduc Public expenditure on education as a percentage of GDP spendhealth Public expenditure on health as a percentage of GDP spendmil.wdi Public expenditure on the military as a percentage of GDP tariff.rate Tariff rate on imports taxes.percent.gdp Taxes (all forms) as a percentage of GDP terror.index.voh Impact of terrorism on the county trade.percent.gdp International trade as percentage of GDP typerel Predominant religion unemployment Percentage of labor force that is unemployed **unexp.rd** Public expenditure on research and development as a percentage of GDP **unfempf** Ratio of female to male formal employment rates unin.inc Inequality-adjusted income index unineduc Inequality-adjusted education index unions Union density unjourn Number of verified cases of journalists imprisoned unlit Adult literacy rate **unmobcov** Percentage covered by a mobile phone network **unmort.f** Number of adult female deaths per 1,000 females unmort.m Number of adult male deaths per 1,000 males **unnewsp** Daily newspapers per thousand people unnoncom Death rates from non-communicable diseases **unpop30** Projected 2030 population in millions **unremitp** Per capita remittance inflows in US dollars unremitt Remittance inflows as a percentage of GDP unsathlt Percentage satisfied with their personal health unsati Overall life satisfaction **unsatif** Overall life satisfaction among females unsatjob Percentage satisfied with their job unsatliv Percentage satisfied with their standard of living **unseced** Percentage with at least secondary education vdem.2cat Is country a democracy or autocracy? vdem.4cat Ordinal ranking of democracy, 4 categories vdem.edi.score Electoral democracy index vdem.ldi.score Liberall democracy index vi.rel3 Percent saying religion very important violence.cost Economic cost of violence on national economy votevap10s Turnout of voting age population in 2010s womenleg Percent women in lower house of legislature womyear Year women first enfranchised womyear2 Year women first enfranchised youngleg Percentage of lower house of legislature aged 40 years or younger

# Source

Sources vary. See Appendix of printed textbook for further information.

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