

Package: AMCP (via r-universe)

July 22, 2026

Type Package

Title Data Sets to Accompany Designing Experiments and Analyzing Data:
A Model Comparison Perspective (Maxwell, Delaney, and Kelley,
2027, 4th Edition)

Version 2.0.0

Date 2026-07-21

Description Data sets that accompany the book ``Designing experiments and analyzing data: A model comparison perspective" (4th ed.) by Maxwell, Delaney, and Kelley (2027; ISBN 978-1-041-25384-6; Routledge). Contains all of the data sets in the book's chapters and end-of-chapter exercises. Beginning with version 2.0, the package is tailored to the 4th edition of the book; for the data as distributed with the 3rd edition (2018), install the archived version 1.0.2 from CRAN. We recommend the 'DMAR' package as the companion for carrying out the book's analyses; these analyses are illustrated in the book itself using the 'MBESS' package, which may be used as well. The book's companion website is available at <https://designingexperiments.com/> and its publisher page at <https://www.routledge.com/Designing-Experiments-and-Analyzing-Data-A-Model-Comparison-Perspective/Maxwell-Delaney-Kelley/p/book/9781041253846>.

URL <https://designingexperiments.com/>, <https://kenkelley.org/>,
<https://github.com/yelleKneK/AMCP>

BugReports <https://github.com/yelleKneK/AMCP/issues>

License GPL (>= 3)

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AMCP-package

A Model Comparison Perspective (AMCP)

Description

AMCP contains all of the data sets used in Maxwell, Delaney, & Kelley's (2027) *Designing experiments and analyzing data: A model comparison perspective* (4th edition). Information about the book is available at its companion website, <https://designingexperiments.com>.

Details

Beginning with AMCP version 2.0, the package is tailored to the **4th edition** of the book. If you want the data as distributed with the **3rd edition** (Maxwell, Delaney, & Kelley, 2018), install the archived version (1.0.2) from CRAN, for example with `remotes::install_version("AMCP", version = "1.0.2")`.

The general strategy is to have chapter data (e.g., from numeric examples) denoted by the chapter and table number, such as `chapter_1_table_1` (for Table 1 from Chapter 1). Alternatively, a

chapter and table can be accessed by capital "C" followed by the chapter number and capital "T" followed by the table number, as in C1T1 (for Table 1 from Chapter 1).

For the exercises at the end of the chapter, the general strategy is to denote the data sets as chapter_1_exercise_18 (for Exercise 18 from Chapter 1). Also, an uppercase "C" and "E" can be used, as in Chapter_1_Exercise_18.

Alternatively, the data from an exercise can be accessed by capital "C" followed by the chapter number and capital "E" followed by the exercise number, as in C1E18 (for Exercise 18 from Chapter 1).

For a data set of interest to be loaded into the workspace, it must be loaded using the `data()` function as: `data(chapter_1_table_1)`.

There are a few "one-off" naming conventions for non-standard data, such as raw data to produce the output shown in the book (e.g., `data(chapter_3_table_7_raw)`), for the data from the Chapter 9 extension used in Exercise 1 (e.g., `data("chapter_9_extension_exercise_1")` or `data("C9ExtE1")`), data for the tutorial (e.g., `data(tutorial_1_table_1)` or `data(T1T1)`), or the Chapter 15 Exercise 18 data in the "univariate" format (long, not wide; e.g., `data("chapter_15_exercise_18_univariate")` or `data(C15E18U)`).

A list of the available data sets from AMCP can be obtained with the following code: `data(package="AMCP")`

Note that, for many data sets the coding for factors is numeric. Correspondingly, those variables may need to be identified as factors (e.g., `C16E9$Room <- as.factor(C16E9$Room)`). Further, the data sets are not always in the most convenient form for analysis, as they are generally entered to match the style in the book. Thus, for some analyses the data may benefit from being parsed, wrangled, or tidied. See `vignette("factors-and-coding", package = "AMCP")` for recipes that add factor labels without changing the canonical data, and a worked example showing that relabeling reproduces the book's results.

We recommend the **DMAR** package as the companion for carrying out the book's analyses; install it with `install.packages("DMAR")`. The book itself illustrates these analyses using the **MBESS** package, which may be used as well.

Note that <https://designingexperiments.com/computing/> shows R code (via R Markdown) for implementing many of the analyses in the book, by chapter.

Author(s)

Ken Kelley <kkelley@nd.edu>

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge. ISBN 978-1-041-25384-6.

See the web page that accompanies the book here: <https://designingexperiments.com>. The book is published by Routledge; its publisher page is <https://www.routledge.com/Designing-Experiments-and-Analyzing-Maxwell-Delaney-Kelley/p/book/9781041253846>.

For suggested updates, please email Ken Kelley (<kkelley@nd.edu>); see also <https://kenkelley.org>.

See Also

Useful links:

- <https://designingexperiments.com/>

- <https://kenkelley.org/>
- <https://github.com/yelleKneK/AMCP>
- Report bugs at <https://github.com/yelleKneK/AMCP/issues>

chapter_1_exercise_18 *The data used in Chapter 1, Exercise 18*

Description

Data from Chapter 1 Exercise 18 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_1_exercise_18)
```

Format

An object of class `data.frame` with 4 rows and 3 columns.

Details

- Promoted.
- Minority.
- Freq. Frequency

Synonym

C1E18

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_1_exercise_18)

# Or, alternatively load the data as
data(C1E18)

# View the structure
str(chapter_1_exercise_18)

# Brief summary of the data.
summary(chapter_1_exercise_18)
```

chapter_1_exercise_19 *The data used in Chapter 1, Exercise 19*

Description

Data from Chapter 1 Exercise 19 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_1_exercise_19)
```

Format

An object of class `data.frame` with 30 rows and 2 columns.

Details

- Convicted.
- Monozygotic.

Synonym

C1E19

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_1_exercise_19)

# Or, alternatively load the data as
data(C1E19)

# View the structure
str(chapter_1_exercise_19)

# Brief summary of the data.
summary(chapter_1_exercise_19)
```

chapter_1_exercise_21 *The data used in Chapter 1, Exercise 21*

Description

Data from Chapter 1 Exercise 21 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_1_exercise_21)
```

Format

An object of class `data.frame` with 12 rows and 2 columns.

Details

- Experimental.
- Control.

Synonym

C1E21

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_1_exercise_21)

# Or, alternatively load the data as
data(C1E21)

# View the structure
str(chapter_1_exercise_21)

# Brief summary of the data.
summary(chapter_1_exercise_21)
```

chapter_1_exercise_22 *The data used in Chapter 1, Exercise 22*

Description

Data from Chapter 1 Exercise 22 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_1_exercise_22)
```

Format

An object of class `data.frame` with 15 rows and 3 columns.

Details

- Pot.
- Crossed.
- SelfFertilized.

Synonym

C1E22

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_1_exercise_22)

# Or, alternatively load the data as
data(C1E22)

# View the structure
str(chapter_1_exercise_22)

# Brief summary of the data.
summary(chapter_1_exercise_22)
```

chapter_1_exercise_23 *The data used in Chapter 1, Exercise 23*

Description

Data from Chapter 1 Exercise 23 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_1_exercise_23)
```

Format

An object of class `data.frame` with 12 rows and 3 columns.

Details

- Group.
- Cholesterol.
- Cholesterol_Category_MedianSplit.

Synonym

C1E23

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_1_exercise_23)

# Or, alternatively load the data as
data(C1E23)

# View the structure
str(chapter_1_exercise_23)

# Brief summary of the data.
summary(chapter_1_exercise_23)
```

Description

Assume that a developmental psychologist is interested in whether brief training can improve performance of 2-year-old children on a test of mental abilities. The test selected is the Mental Scale of the Bayley Scales of Infant Development, which yields a mental age in months. To increase the sensitivity of the experiment, the psychologist decides to recruit sets of twins and randomly assigns one member of each pair to the treatment condition. The treatment consists of simply watching a videotape of another child attempting to perform tasks similar to those making up the Bayley Mental Scale. The other member of each pair plays in a waiting area as a time-filling activity while the first is viewing the videotape. Then both children are individually given the Bayley by a tester who is blind to their assigned conditions. A different set of twins takes part in the experiment each day, Monday through Friday, and the experiment extends over a 2-week period. Table 1.1 shows the data for the study in the middle columns.

Usage

```
data(chapter_1_table_1)
```

Format

An object of class `data.frame` with 10 rows and 3 columns.

Variables

treat scores for the treatment group
control scores for the control group
week identifies the week

Synonym

C1T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_1_table_1)

# Or, alternatively load the data as
data(C1T1)

# View the structure
str(chapter_1_table_1)

chapter_1_table_1$Difference <- chapter_1_table_1$treat - chapter_1_table_1$control

# Summaries by week.
summary(chapter_1_table_1[chapter_1_table_1$week==1,])
summary(chapter_1_table_1[chapter_1_table_1$week==2,])
```

chapter_10_exercise_14

The data used in Chapter 10, Exercise 14

Description

Data from Chapter 10 Exercise 14 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_10_exercise_14)
```

Format

An object of class `data.frame` with 63 rows and 4 columns.

Details

- Composite.
- Therapist.
- Modality.
- Therapist_w_Modality

Synonym

C10E14

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_10_exercise_14)

# Or, alternatively load the data as
data(C10E14)

# View the structure
str(chapter_10_exercise_14)

# Brief summary of the data.
summary(chapter_10_exercise_14)
```

chapter_10_exercise_7 *The data used in Chapter 10, Exercise 7*

Description

Data from Chapter 10 Exercise 7 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_10_exercise_7)
```

Format

An object of class `data.frame` with 45 rows and 3 columns.

Details

- Ratings.
- Therapist.
- Method.

Synonym

C10E7

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_10_exercise_7)

# Or, alternatively load the data as
data(C10E7)

# View the structure
str(chapter_10_exercise_7)

# Brief summary of the data.
summary(chapter_10_exercise_7)
```

chapter_10_exercise_9 *The data used in Chapter 10, Exercise 9*

Description

Data from Chapter 10 Exercise 9 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_10_exercise_9)
```

Format

An object of class `data.frame` with 72 rows and 4 columns.

Details

- BP.
- ResearchAssistant.
- Biofeedback.
- Diet.

Synonym

C10E9

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_10_exercise_9)

# Or, alternatively load the data as
data(C10E9)

# View the structure
str(chapter_10_exercise_9)

# Brief summary of the data.
summary(chapter_10_exercise_9)
```

chapter_10_table_5 *The data used in Chapter 10, Table 5*

Description

The data used in Chapter 10, Table 5

Usage

```
data(chapter_10_table_5)
```

Format

An object of class `data.frame` with 40 rows and 3 columns.

Details

Assume that an educational products firm markets study programs to help high school students prepare for college entrance exams such as the ACT, and wants to compare a new computer-based training program with their standard packet of printed materials. The firm would like to be able to generalize to all American high schools but only has the resources to conduct a study in a few schools. Thus, assume four high schools are selected at random from a listing of all public schools in the country. Volunteers from the junior class at these schools are solicited to take part in an eight-session after-school study program. Ten students from each school are permitted to take part, and equal numbers from each school are assigned randomly to the two study programs. Designating the type of study program as factor A (a1 designates the computer-based program and a2 designates the standard paper-and-pencil program) and the particular school as factor B, assume the data in Table 10.5 are obtained.

The data consists of simulated ACT scores from 40 participants where 10 participants were selected from each of four schools. It is assumed that the schools are randomly selected from a population of schools in America in order to generalize the results found. Two schools (and thus, 20 participants) are randomly assigned to the computer-based ACT training program, while the other two schools are randomly assigned to the standard paper-and-pencil program in order to assess the effectiveness of these different types of programs.

The primary hypothesis of interest is whether the standard paper-and-pencil and computer-based ACT training programs differ in effectiveness.

Variables

A type of study program

B the particular school

ACT the individual's ACT score

Synonym

C10T5

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_10_table_5)

# Or, alternatively load the data as
data(C10T5)

# View the structure
str(chapter_10_table_5)

# -----
# Optional: a factor-coded copy for model-comparison analyses / plotting.
# A (program) and B (school) are stored as numeric codes so the book's
# examples reproduce exactly. Build a *copy* (suffix "_factors") so the
# canonical data set is left unchanged; ACT stays numeric. The narrative
# defines a1 = computer-based and a2 = standard paper-and-pencil; the
# schools (B) are not named, so their numeric codes are kept as levels.
C10T5_factors <- chapter_10_table_5
C10T5_factors$A <- factor(C10T5_factors$A, levels = 1:2,
  labels = c("Computer-Based", "Standard Paper-and-Pencil"))
C10T5_factors$B <- factor(C10T5_factors$B)

# Here school (B) is a RANDOM factor, so the book fits a mixed /
# random-effects model rather than a fixed-effects ANOVA. Build the factor
# copy, then follow the book's procedure.
str(C10T5_factors)
```

chapter_10_table_9

The data used in Chapter 10, Table 9

Description

The data used in Chapter 10, Table 9

Usage

```
data(chapter_10_table_9)
```

Format

An object of class `data.frame` with 24 rows and 3 columns.

Details

The data in Table 10.9 is based upon the information from the student therapist example of the random-effects section. Assume that the director of the clinic decides to test for a difference across genders in the general severity ratings that graduate students assign to clients. If three male and three female clinical students are randomly selected to participate, and each is randomly assigned four clients with whom to do an intake interview, then we might obtain data like that shown in Table 10.9. Three of the trainees are males while the other three trainees are females. The trainees are nested within their particular gender.

Variables

Gender gender of the clinical-student trainee (two levels: male and female)

Trainee trainee, nested within gender (three trainees per gender)

Severity general severity rating assigned by the trainee to a client

Synonym

C10T9

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_10_table_9)

# Or, alternatively load the data as
data(C10T9)
```

```
# View the structure  
str(chapter_10_table_9)
```

chapter_11_exercise_17

The data used in Chapter 11, Exercise 17

Description

Data from Chapter 11 Exercise 17 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_11_exercise_17)
```

Format

An object of class `data.frame` with 14 rows and 4 columns.

Details

- Day1.
- Day2.
- Day3.
- Day4.

Synonym

C11E17

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_exercise_17)

# Or, alternatively load the data as
data(C11E17)

# View the structure
str(chapter_11_exercise_17)

# Brief summary of the data.
summary(chapter_11_exercise_17)
```

chapter_11_exercise_18

The data used in Chapter 11, Exercise 18

Description

Data from Chapter 11 Exercise 18 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_11_exercise_18)
```

Format

An object of class `data.frame` with 12 rows and 3 columns.

Details

- Strong.
- Medium.
- Weak.

Synonym

C11E18

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_exercise_18)

# Or, alternatively load the data as
data(C11E18)

# View the structure
str(chapter_11_exercise_18)

# Brief summary of the data.
summary(chapter_11_exercise_18)
```

chapter_11_exercise_19

The data used in Chapter 11, Exercise 19

Description

Data from Chapter 11 Exercise 19 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_11_exercise_19)
```

Format

An object of class `data.frame` with 14 rows and 4 columns.

Details

- Face.
- Circle.
- Paper.
- White.

Synonym

C11E19

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_exercise_19)

# Or, alternatively load the data as
data(C11E19)

# View the structure
str(chapter_11_exercise_19)

# Brief summary of the data.
summary(chapter_11_exercise_19)
```

chapter_11_exercise_21*The data used in Chapter 11, Exercise 21*

Description

Data from Chapter 11 Exercise 21 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_11_exercise_21)
```

Format

An object of class `data.frame` with 42 rows and 3 columns.

Details

- Mother.
- Rater.
- Warmth.

Synonym

C11E21

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_exercise_21)

# Or, alternatively load the data as
data(C11E21)

# View the structure
str(chapter_11_exercise_21)

# Brief summary of the data.
summary(chapter_11_exercise_21)
```

chapter_11_exercise_22

The data used in Chapter 11, Exercise 22

Description

Data from Chapter 11 Exercise 22 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_11_exercise_22)
```

Format

An object of class `data.frame` with 19 rows and 7 columns.

Details

- `AgeNumeric`.
- `GenderNum`.
- `AVGMeetMonkey`.
- `AVGChildRecTreats`.
- `AVGExpGivesCommon`.
- `AVGChildGivesCommon`.
- `AVGChildGivesOwn`.

Synonym

C11E22

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_exercise_22)

# Or, alternatively load the data as
data(C11E22)

# View the structure
str(chapter_11_exercise_22)

# Brief summary of the data.
```

```
summary(chapter_11_exercise_22)
```

```
chapter_11_exercise_23
```

The data used in Chapter 11, Exercise 23

Description

Data from Chapter 11 Exercise 23 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_11_exercise_23)
```

Format

An object of class `data.frame` with 183 rows and 3 columns.

Details

- `id`.
- `position`.
- `meanz`.

Synonym

C11E23

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_exercise_23)

# Or, alternatively load the data as
data(C11E23)

# View the structure
str(chapter_11_exercise_23)

# Brief summary of the data.
summary(chapter_11_exercise_23)
```

chapter_11_exercise_24

The data used in Chapter 11, Exercise 24

Description

Data from Chapter 11 Exercise 24 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_11_exercise_24)
```

Format

An object of class `data.frame` with 90 rows and 3 columns.

Details

- `id`.
- `judgement`.
- `activity`.

Synonym

C11E24

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_exercise_24)

# Or, alternatively load the data as
data(C11E24)

# View the structure
str(chapter_11_exercise_24)

# Brief summary of the data.
summary(chapter_11_exercise_24)
```

chapter_11_exercise_3 *The data used in Chapter 11, Exercise 3*

Description

Data from Chapter 11 Exercise 3 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_11_exercise_3)
```

Format

An object of class `data.frame` with 5 rows and 4 columns.

Details

- Location1.
- Location2.
- Location3.
- Location4.

Synonym

C11E3

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_exercise_3)

# Or, alternatively load the data as
data(C11E3)

# View the structure
str(chapter_11_exercise_3)

# Brief summary of the data.
summary(chapter_11_exercise_3)
```

chapter_11_exercise_5 *The data used in Chapter 11, Exercise 5*

Description

Data from Chapter 11 Exercise 5 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_11_exercise_5)
```

Format

An object of class `data.frame` with 5 rows and 3 columns.

Details

- cond1.
- cond2.
- cond3.

Synonym

C11E5

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_exercise_5)

# Or, alternatively load the data as
data(C11E5)

# View the structure
str(chapter_11_exercise_5)

# Brief summary of the data.
summary(chapter_11_exercise_5)
```

chapter_11_table_1	<i>The data used in Chapter 11, Table 1</i>
--------------------	---

Description

The data used in Chapter 11, Table 1

Usage

```
data(chapter_11_table_1)
```

Format

An object of class `data.frame` with 6 rows and 2 columns.

Details

Table 11.1 displays the data from the observation of six subjects under two treatment conditions, yielding 12 scores in all on the dependent variable.

For the data set, six individuals were observed under two different conditions. The question of interest is: "does the mean of the scores in Condition 1 differ from the mean of the scores in Condition 2?"

Variables

YCondition1 data from the six subjects under treatment condition 1

YCondition2 data from the six subjects under treatment condition 2

Synonym

C11T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_table_1)

# Or, alternatively load the data as
data(C11T1)

# View the structure
str(chapter_11_table_1)
```

chapter_11_table_19 *The data used in Chapter 11, Table 19*

Description

The data used in Chapter 11, Table 19

Usage

```
data(chapter_11_table_19)
```

Format

An object of class `data.frame` with 24 rows and 3 columns.

Details

Table 11.19 duplicates a table from Shrout and Fleiss showing hypothetical data obtained from four judges, each of whom has rated six targets (i.e., subjects). For the present (hypothetical) data set (taken from Shrout and Fleiss, 1979) consists of six participants who are ranked by four judges.

As is pointed out in the book, the structure of Table 11.19 is analogous to that of Table 11.5 (repeated measures). However, notice that in the data file that the data are entered differently. For the repeated measures design (e.g., Table 11.5), each row corresponded to a different participant, while each column corresponded with another measurement. The main reason for the difference in how the data was entered is mainly because of the procedures used to analyze the data. Repeated measures data are often entered in a "participants by occasions" fashion, whereas in order to get the appropriate mean squares to carry out the intraclass correlations for the data given in Table 11.19, a mixed-effects (one fixed factor and one random factor) ANOVA needs to be performed.

Variables

Subject a numeric vector

Judge judge number; of 3

Rating a numeric vector

Synonym

C11T19

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_table_19)

# Or, alternatively load the data as
data(C11T19)

# View the structure
str(chapter_11_table_19)
```

chapter_11_table_20	<i>The data used in Chapter 11, Table 20</i>
---------------------	--

Description

The data used in Chapter 11, Table 20

Usage

```
data(chapter_11_table_20)
```

Format

An object of class `data.frame` with 15 rows and 3 columns.

Details

Table 11.20 shows hypothetical data obtained from three judges, each of whom has rated five targets (i.e., subjects). This data will be important in determining if our reliability measure should reflect consistency or agreement. Notice that the rank order of targets is identical for each of the three judges (in fact, not only are the ranks identical, but the scores are also perfectly linearly related to one another in this example). However, in an absolute sense, the ratings provided by Judge 2 are clearly very different from the ratings of the other two judges... Consistency is relatively low in these data, because the columns of scores do not closely resemble one another. However, agreement is high in these data because the relative position of any target in the distribution of scores is identical for each and every judge.

The analysis of the data contained in Table 11.20 is carried out in exactly the same manner as was the data contained in Table 11.19. Thus, a mixed effects ANOVA model is performed in order to obtain the mean squares which are then used in the formulas give towards the end of Chapter 11.

Variables

- Subject** target being rated (five targets, i.e., subjects)
- Judge** judge providing the rating (three judges)
- Rating** rating assigned by the judge to the target

Synonym

C11T20

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>
Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_table_20)

# Or, alternatively load the data as
data(C11T20)

# View the structure
str(chapter_11_table_20)
```

chapter_11_table_4	The data used in Chapter 11, Table 4
--------------------	--------------------------------------

Description

The data used in Chapter 11, Table 4

Usage

```
data(chapter_11_table_4)
```

Format

An object of class `data.frame` with 10 rows and 4 columns.

Details

No analyses are conducted for this data set. The traditional view of a repeated-measures design is to regard it as a two-factor design. Specifically, one factor represents the repeated condition (e.g., time, drug, subtest), whereas the second factor represents subjects. The rationale for this conceptualization can be understood by considering the data in Table 11.4. When the data are displayed this way, the design looks very much like other factorial designs we've already encountered.

Variables

YCondition1 a numeric vector

YCondition2 a numeric vector

YCondition3 a numeric vector

YCondition4 a numeric vector

Synonym

C11T4

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_table_4)

# Or, alternatively load the data as
data(C11T4)

# View the structure
str(chapter_11_table_4)
```

chapter_11_table_5	<i>The data used in Chapter 11, Table 5</i>
--------------------	---

Description

The data used in Chapter 11, Table 5

Usage

```
data(chapter_11_table_5)
```

Format

An object of class `data.frame` with 12 rows and 4 columns.

Details

The data show that 12 participants have been observed in each of 4 conditions. To make the example easier to discuss, let's suppose that the 12 subjects are children who have been observed at 30, 36, 42, and 48 months of age. Essentially, for the present data set, 12 children were each observed four times over an 18 month period. The dependent variable is the age-normed general cognitive score on the McCarthy Scales of Children's Abilities. Interest is to determine if the children were sampled from a population where growth in cognitive ability is more rapid or less rapid than average.

Variables

Months30 age-normed general cognitive score for 30-month-old

Months36 age-normed general cognitive score for 36-month-old

Months42 age-normed general cognitive score for 42-month-old

Months48 age-normed general cognitive score for 48-month-old

Synonym

C11T5

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_11_table_5)

# Or, alternatively load the data as
data(C11T5)

# View the structure
str(chapter_11_table_5)
```

chapter_12_exercise_17

The data used in Chapter 12, Exercise 17

Description

Data from Chapter 12 Exercise 17 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_12_exercise_17)
```

Format

An object of class `data.frame` with 14 rows and 5 columns.

Details

- Day1.
- Day2.
- Day3.
- Day4.
- Group

Synonym

C12E17

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_17)

# Or, alternatively load the data as
data(C12E17)

# View the structure
str(chapter_12_exercise_17)

# Brief summary of the data.
summary(chapter_12_exercise_17)
```

chapter_12_exercise_18

The data used in Chapter 12, Exercise 18

Description

Data from Chapter 12 Exercise 18 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_12_exercise_18)
```

Format

An object of class `data.frame` with 10 rows and 3 columns.

Details

- Baseline.
- Feedback.
- Group.

Synonym

C12E18

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_18)

# Or, alternatively load the data as
data(C12E18)

# View the structure
str(chapter_12_exercise_18)

# Brief summary of the data.
summary(chapter_12_exercise_18)
```

chapter_12_exercise_19*The data used in Chapter 12, Exercise 19*

Description

Data from Chapter 12 Exercise 19 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_12_exercise_19)
```

Format

An object of class `data.frame` with 47 rows and 6 columns.

Details

- September.
- November.
- April.
- June.
- July.
- Group.

Synonym

C12E19

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_19)

# Or, alternatively load the data as
data(C12E19)

# View the structure
str(chapter_12_exercise_19)

# Brief summary of the data.
summary(chapter_12_exercise_19)
```

chapter_12_exercise_21

The data used in Chapter 12, Exercise 21

Description

Data from Chapter 12 Exercise 21 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_12_exercise_21)
```

Format

An object of class `data.frame` with 36 rows and 4 columns.

Details

- Recall.
- Subject.
- Passage.
- DifficultyCondition.

Synonym

C12E21

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_21)

# Or, alternatively load the data as
data(C12E21)

# View the structure
str(chapter_12_exercise_21)

# Brief summary of the data.
summary(chapter_12_exercise_21)
```

chapter_12_exercise_22

The data used in Chapter 12, Exercise 22

Description

Data from Chapter 12 Exercise 22 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). The Hu, Antony, Creery, Vargas, Bodenhausen, and Paller (2015) study of whether implicit social biases can be reduced during sleep. Forty participants were measured on implicit gender bias and implicit racial bias; during a nap, an auditory cue reactivated the counter-bias training for one of the two biases (the cued bias) but not the other (the uncued bias). The exercise analyzes the four bias scores as a 2 (cuing: cued, uncued) by 2 (time: prenap, postnap) fully within-subjects design; higher (more positive) scores reflect more bias.

Usage

```
data(chapter_12_exercise_22)
```

Format

An object of class `data.frame` with 40 rows and 8 columns.

Variables

Sample data collection: 1 = original sample, 2 = replication sample

CuedBiasType the bias that was cued during the nap for this participant: Gender or Race (a between-subjects factor the exercise sets aside)

Cued_Baseline cued-bias score at baseline

Uncued_Baseline uncued-bias score at baseline

Cued_Prenap cued-bias score before the nap

Cued_Postnap cued-bias score after the nap

Uncued_Prenap uncued-bias score before the nap

Uncued_Postnap uncued-bias score after the nap

Synonym

C12E22

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Hu, X., Antony, J. W., Creery, J. D., Vargas, I. M., Bodenhausen, G. V., & Paller, K. A. (2015). Unlearning implicit social biases during sleep. *Science*, 348, 1013–1015.

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_22)

# Or, alternatively load the data as
data(C12E22)

# View the structure
str(chapter_12_exercise_22)

# Brief summary of the data.
summary(chapter_12_exercise_22)
```

chapter_12_exercise_23*The data used in Chapter 12, Exercise 23*

Description

Data from Chapter 12 Exercise 23 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). The one-week follow-up to the Hu et al. (2015) sleep study of Exercise 22, adding a delayed measurement so that each participant now has six bias scores (cued and uncued, at prenap, postnap, and one-week delayed). Two of the 40 participants lacked delayed scores, so this data set has 38 rows. The exercise analyzes the scores as a 2 (cuing) by 3 (time) fully within-subjects design; lower scores indicate less bias.

Usage

```
data(chapter_12_exercise_23)
```

Format

An object of class `data.frame` with 38 rows and 10 columns.

Variables

Sample data collection: 1 = original sample, 2 = replication sample

CuedBiasType the bias that was cued during the nap: Gender or Race

Cued_Baseline cued-bias score at baseline

Uncued_Baseline uncued-bias score at baseline

Cued_Prenap cued-bias score before the nap

Cued_Postnap cued-bias score after the nap

Cued_Delayed cued-bias score at the one-week follow-up

Uncued_Prenap uncued-bias score before the nap

Uncued_Postnap uncued-bias score after the nap

Uncued_Delayed uncued-bias score at the one-week follow-up

Synonym

C12E23

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Hu, X., Antony, J. W., Creery, J. D., Vargas, I. M., Bodenhausen, G. V., & Paller, K. A. (2015). Unlearning implicit social biases during sleep. *Science*, 348, 1013–1015.

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_23)

# Or, alternatively load the data as
data(C12E23)

# View the structure
str(chapter_12_exercise_23)

# Brief summary of the data.
summary(chapter_12_exercise_23)
```

chapter_12_exercise_24

The data used in Chapter 12, Exercise 24

Description

Data from Chapter 12 Exercise 24 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). The Carnes, Lickel, and Janoff-Bulman (2015) study of how social contexts shape beliefs about moral principles. Each of 118 participants rated the importance of six moral principles in each of four social contexts, giving 24 ratings per participant, each on a scale from 1 (not at all important) to 9 (extremely important). Variables are named PRINCIPLE_CONTEXT, where the principle is CARE, FAIR, LOYA, AUTH, PURE, or JUST and the context is SOC (social category), TAS (task group), INT (intimacy group), or LOO (loose association).

Usage

```
data(chapter_12_exercise_24)
```

Format

An object of class `data.frame` with 118 rows and 25 columns.

Variables

ID participant identifier
CARE_SOC Care, rated in the social category context
CARE_TAS Care, rated in the task group context
CARE_INT Care, rated in the intimacy group context
CARE_LOO Care, rated in the loose association context
FAIR_SOC Fairness, rated in the social category context
FAIR_TAS Fairness, rated in the task group context

FAIR_INT Fairness, rated in the intimacy group context
FAIR_LOO Fairness, rated in the loose association context
LOYA_SOC Loyalty, rated in the social category context
LOYA_TAS Loyalty, rated in the task group context
LOYA_INT Loyalty, rated in the intimacy group context
LOYA_LOO Loyalty, rated in the loose association context
AUTH_SOC Authority, rated in the social category context
AUTH_TAS Authority, rated in the task group context
AUTH_INT Authority, rated in the intimacy group context
AUTH_LOO Authority, rated in the loose association context
PURE_SOC Purity, rated in the social category context
PURE_TAS Purity, rated in the task group context
PURE_INT Purity, rated in the intimacy group context
PURE_LOO Purity, rated in the loose association context
JUST_SOC Justice, rated in the social category context
JUST_TAS Justice, rated in the task group context
JUST_INT Justice, rated in the intimacy group context
JUST_LOO Justice, rated in the loose association context

Synonym

C12E24

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Carnes, N. C., Lickel, B., & Janoff-Bulman, R. (2015). Shared perceptions: Morality is embedded in social contexts. *Personality and Social Psychology Bulletin*, 41, 351–362.

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_24)

# Or, alternatively load the data as
data(C12E24)

# View the structure
str(chapter_12_exercise_24)

# Brief summary of the data.
summary(chapter_12_exercise_24)
```

chapter_12_exercise_25

The data used in Chapter 12, Exercise 25

Description

Data from Chapter 12 Exercise 25 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). The Kroes, Tendolkar, van Wingen, van Waarde, Strange, and Fernandez (2014) study of electroconvulsive therapy (ECT) and memory reconsolidation. Patients were shown two emotionally aversive slide-show stories; a week later one story was reactivated before three groups were formed (Group A: ECT, tested 24 hours later; Group B: ECT, tested immediately; Group C: no ECT). Each participant then received a multiple-choice memory test for both the reactivated and the non-reactivated story, giving a 3 (group) by 2 (reactivation) design with group between subjects and reactivation within subjects. Scores are percentage correct. The same study also provides the one-way data of chapter_4_exercise_21; the reactivated scores here are those Chapter 4 memory scores.

Usage

```
data(chapter_12_exercise_25)
```

Format

An object of class `data.frame` with 39 rows and 3 columns.

Variables

cond group: 1 = Group A (ECT, tested 24 hours later), 2 = Group B (ECT, tested immediately), 3 = Group C (no ECT)

reactivated percentage correct on the story that was reactivated for the participant

nonreactivated percentage correct on the story that was not reactivated

Synonym

C12E25

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Kroes, M. C. W., Tendolkar, I., van Wingen, G. A., van Waarde, J. A., Strange, B. A., & Fernandez, G. (2014). An electroconvulsive therapy procedure impairs reconsolidation of episodic memories in humans. *Nature Neuroscience*, 17, 204–206.

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_25)

# Or, alternatively load the data as
data(C12E25)

# View the structure
str(chapter_12_exercise_25)

# Brief summary of the data.
summary(chapter_12_exercise_25)
```

chapter_12_exercise_26*The data used in Chapter 12, Exercise 26*

Description

Data from Chapter 12 Exercise 26 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). The Gibson, Radvansky, Johnson, and McNerney (2012) study of whether grapheme-color synesthetes have better memory for word lists than nonsynesthetes. Lists of high-frequency or low-frequency words were presented to 48 nonsynesthetes and 10 synesthetes, and two dependent variables were measured for each word frequency: input-output (IO) correspondence and recall accuracy.

Usage

```
data(chapter_12_exercise_26)
```

Format

An object of class `data.frame` with 58 rows and 6 columns.

Variables

ID participant identifier

Group 0 = nonsynesthete (control), 1 = grapheme-color synesthete

HFcorr input-output correspondence for high-frequency words, a proportion measuring the extent to which temporal order was preserved in recall (higher scores reflect greater use of relational cues)

LFcorr input-output correspondence for low-frequency words

HFrecall recall accuracy for high-frequency words (higher scores reflect higher accuracy)

LFrecall recall accuracy for low-frequency words

Synonym

C12E26

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Gibson, B. S., Radvansky, G. A., Johnson, A. C., & McNerney, M. W. (2012). Grapheme-color synesthesia can enhance immediate memory without disrupting the encoding of relational cues. *Psychonomic Bulletin & Review*, 19, 1172–1177.

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_26)

# Or, alternatively load the data as
data(C12E26)
```

```
# View the structure
str(chapter_12_exercise_26)

# Brief summary of the data.
summary(chapter_12_exercise_26)
```

chapter_12_exercise_27

The data used in Chapter 12, Exercise 27

Description

Data from Chapter 12 Exercise 27 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). Reports of the number of negative life events collected from three members (mother, father, and child) of 95 first-marriage nuclear families and 98 stepfamilies, as described by Bray and Maxwell (1995). Family member is a within-subjects factor and type of family is a between-subjects factor.

Usage

```
data(chapter_12_exercise_27)
```

Format

An object of class `data.frame` with 193 rows and 6 columns.

Variables

id family identifier
grp type of family: 1 = nuclear family, 2 = stepfamily
sex sex of the child: 1 = boy, 2 = girl
mtb number of negative life events reported by the mother
ftb number of negative life events reported by the father
ctb number of negative life events reported by the child

Synonym

C12E27

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Bray, J. H., & Maxwell, S. E. (1995). Multivariate statistics for family psychology research. *Journal of Family Psychology*, 9, 144–160.

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_27)

# Or, alternatively load the data as
data(C12E27)

# View the structure
str(chapter_12_exercise_27)

# Brief summary of the data.
summary(chapter_12_exercise_27)
```

chapter_12_exercise_9 *The data used in Chapter 12, Exercise 9*

Description

Data from Chapter 12 Exercise 9 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_12_exercise_9)
```

Format

An object of class `data.frame` with 10 rows and 4 columns.

Details

- `GridLeft`.
- `GridRight`.
- `BraceLeft`.
- `BraceRight`.

Synonym

C12E9

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_exercise_9)

# Or, alternatively load the data as
data(C12E9)

# View the structure
str(chapter_12_exercise_9)

# Brief summary of the data.
summary(chapter_12_exercise_9)
```

chapter_12_table_1	<i>The data used in Chapter 12, Table 1</i>
--------------------	---

Description

The data used in Chapter 12, Table 1

Usage

```
data(chapter_12_table_1)
```

Format

An object of class `data.frame` with 10 rows and 6 columns.

Details

Suppose that a psychologist studying the visual system was interested in determining the extent to which interfering visual stimuli slow the ability to recognize letters. Subjects are brought into a laboratory and seated in front of a tachistoscope. Subjects are told that they will see either the letter T or the letter I displayed on the screen. In some trials, the letter appears by itself, but in other trials, the target letter is embedded in a group of other letters. This variation in the display constitutes the first factor, which is referred to as noise. The noise factor has two levels – absent and present. The other factor varied by the experimenter is where in the display the target letter appears. This factor, which is called angle, has three levels. The target letter is either shown at the center of the screen (0 degrees off-center, where the subject has been instructed to fixate), 4 degrees off-center or 8 degrees off-center (in each case, the deviation from the center varies randomly between left and right). The data in Table 12.1 consist of reaction time scores for 10 participants where each participant contributes 6 scores to the analysis. In particular, each participant is exposed to each of 6 experimental conditions, which are obtained by factorially combining angle (0, 4, and 8) with noise (absent and present). The tests of interest are the omnibus tests within the two-factor within-subjects ANOVA. The dependent measure is reaction time (latency), measured in milliseconds (ms), required by the subject to identify the correct target letter. Each subject has six scores.

Variables

Absent0 reaction time w/ noise absent, angle 0

Absent4 reaction time w/ noise absent, angle 4

Absent8 reaction time w/ noise absent, angle 8

Present0 reaction time w/ noise present, angle 0

Present4 reaction time w/ noise present, angle 4

Present8 reaction time w/ noise present, angle 8

Synonym

C12T1

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_table_1)

# Or, alternatively load the data as
data(C12T1)

# View the structure
str(chapter_12_table_1)
```

chapter_12_table_11 *The data used in Chapter 12, Table 11*

Description

The data used in Chapter 12, Table 11

Usage

```
data(chapter_12_table_11)
```

Format

An object of class `data.frame` with 10 rows and 3 columns.

Details

A third covariance matrix is relevant for the AB interaction because this effect does not average over either A or B. Instead, the interaction assesses whether the B difference is the same at each level of A. Table 12.11 presents scores that address this question. For each subject, a given score represents the noise effect (i.e., reaction time when noise is present minus reaction time when noise is absent) at a particular level of the angle factor.

Variables

Angle0 reaction time when noise is present minus reaction time when noise is absent at angle 0

Angle4 reaction time when noise is present minus reaction time when noise is absent at angle 4

Angle8 reaction time when noise is present minus reaction time when noise is absent at angle 8

Synonym

C12T11

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_table_11)

# Or, alternatively load the data as
data(C12T11)

# View the structure
str(chapter_12_table_11)
```

chapter_12_table_15	<i>The data used in Chapter 12, Table 15</i>
---------------------	--

Description

The data used in Chapter 12, Table 15

Usage

```
data(chapter_12_table_15)
```

Format

An object of class `data.frame` with 10 rows and 3 columns.

Details

The data in Table 12.15 consist of reaction time scores for 10 young participants where each participant contributes 3 scores to the analysis. In particular, each participant is exposed to each of 3 experimental conditions, angle (0, 4, and 8). For the current analyses Table 12.15 is appended to Table 12.7, which contains reaction time scores for 10 old participants for angles of 0, 4, and 8. Thus, it is necessary to perform some data management before analyzing the data.

Variables

Angle0 reaction time when noise is present minus reaction time when noise is absent at angle 0

Angle4 reaction time when noise is present minus reaction time when noise is absent at angle 4

Angle8 reaction time when noise is present minus reaction time when noise is absent at angle 8

Synonym

C12T15

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_table_15)

# Or, alternatively load the data as
data(C12T15)

# View the structure
str(chapter_12_table_15)
```

chapter_12_table_29 *The data used in Chapter 12, Table 29*

Description

The data used in Chapter 12, Table 29

Usage

```
data(chapter_12_table_29)
```

Format

An object of class `data.frame` with 18 rows and 5 columns.

Details

Suppose that we are interested in comparing the effects of three drugs (A, B, and C) on aggressiveness on monkeys. To control for possible order effects, we use a Latin square design. Specifically, we suppose that six subjects are available (as we discussed in Chapter 11, a subject is actually a pair of monkeys in this design). Following the design principles outlined at the end of Chapter 11, we use a replicated Latin square design with two randomly constituted squares. Subjects are then randomly assigned to rows of the squares. The dependent measure can be thought of as the number of aggressive behaviors engaged in during a fixed time period. Notice that each score is a function of three possible influences: subject, time period, and treatment condition (where here is drug, with three levels, either A, B, or C).

To summarize, the data in Table 12.29 consists of hypothetical aggressiveness scores for 6 monkeys who have been exposed to three types of drugs (A, B, and C). In order to control for potential order effects, a Latin square design is utilized. In particular, two randomly constituted squares are formed with three monkeys randomly assigned to each square and also randomly assigned to the particular row of the square that assigns the order that they are exposed to treatment.

Variables

DV dependent variable; the number of aggressive behaviors in a time period

Subject one pair of monkeys (6 total)

Time time period

Condition treatment condition

Square a numeric vector

Synonym

C12T29

Note

Renumbered for the 4th edition: in the 3rd edition (AMCP 1.x) these data were Table 12.21 (chapter_12_table_21 / C12T21). The data are unchanged.

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_table_29)

# Or, alternatively load the data as
data(C12T29)

# View the structure
str(chapter_12_table_29)
```

chapter_12_table_7	<i>The data used in Chapter 12, Table 7</i>
--------------------	---

Description

The data used in Chapter 12, Table 7

Usage

```
data(chapter_12_table_7)
```

Format

An object of class `data.frame` with 10 rows and 3 columns.

Details

Table 12.7 presents scores for the individual subjects for the A effect for the data in Table 12.1. Notice that each score for a given subject is simply that subject’s mean response time for that angle, where the mean is the average of the noise-absent and the noise-present scores.

Variables

- Angle0** mean reaction time for subject at angle factor 0, averaging over noise
- Angle4** mean reaction time for subject at angle factor 4, averaging over noise
- Angle8** mean reaction time for subject at angle factor 8, averaging over noise

Synonym

C12T7

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>
Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_table_7)

# Or, alternatively load the data as
data(C12T7)

# View the structure
str(chapter_12_table_7)
```

chapter_12_table_9	<i>The data used in Chapter 12, Table 9</i>
--------------------	---

Description

The data used in Chapter 12, Table 9

Usage

```
data(chapter_12_table_9)
```

Format

An object of class `data.frame` with 10 rows and 2 columns.

Details

A different covariance matrix is relevant for the B main effect because the B effect averages over levels of A, whereas the A effect averages over levels of B. Table 12.9 presents each subject’s mean score for noise absent and noise present, where the mean is the average of the three angle scores at that particular level of noise.

Variables

NoiseAbsent mean reaction time for subject without noise, averaging over angle

NoisePresent mean reaction time for subject with noise, averaging over angle

Synonym

C12T9

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_table_9)

# Or, alternatively load the data as
data(C12T9)

# View the structure
str(chapter_12_table_9)
```

chapter_13_exercise_10

The data used in Chapter 13, Exercise 10

Description

Data from Chapter 13 Exercise 10 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_13_exercise_10)
```

Format

An object of class `data.frame` with 14 rows and 4 columns.

Details

- Face.
- Circle.
- Paper.
- White.

Synonym

C13E10

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_exercise_10)

# Or, alternatively load the data as
data(C13E10)

# View the structure
str(chapter_13_exercise_10)

# Brief summary of the data.
summary(chapter_13_exercise_10)
```

chapter_13_exercise_13*The data used in Chapter 13, Exercise 13*

Description

Data from Chapter 13 Exercise 13 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_13_exercise_13)
```

Format

An object of class `data.frame` with 14 rows and 4 columns.

Details

- Day1.
- Day2.
- Day3.
- Day4.

Synonym

C13E13

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_exercise_13)

# Or, alternatively load the data as
data(C13E13)

# View the structure
str(chapter_13_exercise_13)

# Brief summary of the data.
summary(chapter_13_exercise_13)
```

chapter_13_exercise_14

The data used in Chapter 13, Exercise 14

Description

Data from Chapter 13 Exercise 14 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_13_exercise_14)
```

Format

An object of class `data.frame` with 13 rows and 3 columns.

Details

- Time1.
- Time2.
- Time3.

Synonym

C13E14

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_exercise_14)

# Or, alternatively load the data as
data(C13E14)

# View the structure
str(chapter_13_exercise_14)

# Brief summary of the data.
summary(chapter_13_exercise_14)
```

chapter_13_exercise_22

The data used in Chapter 13, Exercise 22

Description

Data from Chapter 13 Exercise 22 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_13_exercise_22)
```

Format

An object of class `data.frame` with 5 rows and 3 columns.

Details

- Condition1.
- Condition2.
- Condition3.

Synonym

C13E22

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_exercise_22)

# Or, alternatively load the data as
data(C13E22)

# View the structure
str(chapter_13_exercise_22)

# Brief summary of the data.
summary(chapter_13_exercise_22)
```

chapter_13_exercise_23*The data used in Chapter 13, Exercise 23*

Description

Data from Chapter 13 Exercise 23 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_13_exercise_23)
```

Format

An object of class `data.frame` with 19 rows and 7 columns.

Details

- AgeNumeric.
- GenderNum.
- AVGMeetMonkey.
- AVGChildRecTreats.
- AVGExpGivesCommon.
- AVGChildGivesCommon.
- AVGChildGivesOwn.

Synonym

C13E23

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_exercise_23)

# Or, alternatively load the data as
data(C13E23)

# View the structure
str(chapter_13_exercise_23)

# Brief summary of the data.
summary(chapter_13_exercise_23)
```

chapter_13_exercise_24

The data used in Chapter 13, Exercise 24

Description

Data from Chapter 13 Exercise 24 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_13_exercise_24)
```

Format

An object of class `data.frame` with 183 rows and 3 columns.

Details

- `id`.
- `position`.
- `meanz`.

Synonym

C13E24

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_exercise_24)

# Or, alternatively load the data as
data(C13E24)

# View the structure
str(chapter_13_exercise_24)

# Brief summary of the data.
summary(chapter_13_exercise_24)
```

chapter_13_exercise_25

The data used in Chapter 13, Exercise 25

Description

Data from Chapter 13 Exercise 25 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_13_exercise_25)
```

Format

An object of class `data.frame` with 30 rows and 3 columns.

Details

- `self`.
- `friend`.
- `case`.

Synonym

C13E25

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_exercise_25)

# Or, alternatively load the data as
data(C13E25)

# View the structure
str(chapter_13_exercise_25)

# Brief summary of the data.
summary(chapter_13_exercise_25)
```

chapter_13_exercise_7 *The data used in Chapter 13, Exercise 7*

Description

Data from Chapter 13 Exercise 7 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_13_exercise_7)
```

Format

An object of class `data.frame` with 5 rows and 4 columns.

Details

- Location1.
- Location2.
- Location3.
- Location4.

Synonym

C13E7

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_exercise_7)

# Or, alternatively load the data as
data(C13E7)

# View the structure
str(chapter_13_exercise_7)

# Brief summary of the data.
summary(chapter_13_exercise_7)
```

chapter_13_table_1	<i>The data used in Chapter 13, Table 1</i>
--------------------	---

Description

The data used in Chapter 13, Table 1

Usage

```
data(chapter_13_table_1)
```

Format

An object of class `data.frame` with 5 rows and 2 columns.

Details

For the hypothetical data contained in Table 13.1, five participants were measured at two occasions. The question of interest is: "is there a difference between Time 1 and Time 2 scores?"

Table 13.1 presents hypothetical data. The null hypothesis to be tested is that population means of Time 1 and Time 2 are equal to one another. This will be tested by forming a difference score. The right-most column of Table 13.1 shows such a difference score, Time 2 score minus Time 1 score, for each subject.

Variables

Time1 participant score at time 1

Time2 participant score at time 2

Synonym

C13T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_table_1)

# Or, alternatively load the data as
data(C13T1)

# View the structure
str(chapter_13_table_1)
```

chapter_13_table_10	<i>The data used in Chapter 13, Table 10</i>
---------------------	--

Description

The data used in Chapter 13, Table 10

Usage

```
data(chapter_13_table_10)
```

Format

An object of class `data.frame` with 8 rows and 2 columns.

Details

For the hypothetical data contained in Table 13.2, the linear and quadratic D variables were formed by making use of the appropriate coefficients from Appendix Table A.10. Because the eight participants were measured at three occasions, both a linear and a quadratic effect can be tested. The question of interest in this instance is: "is there a linear and/or quadratic trend exhibited by the group over time?" Recall that in the book it was shown that the D variables for linear and quadratic effects led to an omnibus F test of 19.148, which was a value previously obtained for the omnibus effect. Because the particular values chosen for the D variables do not matter (unless it leads to a linear combination of columns), we will focus only on the tests of the individual contrasts when analyzing the data given in Table 13.10. Because columns one and two already represent the linear and quadratic effect respectively, all that needs to be done is to test the mean of the column in order to determine if it differs from zero.

Variables

Linear linear-trend D variable: the linear contrast applied to each participant's repeated measures, using coefficients from Appendix Table A.10

Quadratic quadratic-trend D variable: the quadratic contrast applied to each participant's repeated measures, using coefficients from Appendix Table A.10

Synonym

C13T10

Note

Renumbered for the 4th edition: in the 3rd edition (AMCP 1.x) these data were Table 13.12 (chapter_13_table_12 / C13T12). The data are unchanged.

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_table_10)

# Or, alternatively load the data as
data(C13T10)

# View the structure
str(chapter_13_table_10)

# The Linear and Quadratic D variables are formed from the raw three-level
# data of Table 13.2 (chapter_13_table_2) using the orthogonal-polynomial
# coefficients for three equally spaced levels given in Appendix Table A.10:
#   Linear,   coefficients (-1, 0, 1): Time3 - Time1
#   Quadratic, coefficients (1, -2, 1): Time1 - 2 * Time2 + Time3
# Because a contrast is unchanged by its sign, Table 13.10 reports the
# quadratic with the equally valid coefficients (-1, 2, -1), that is,
# 2 * Time2 - Time1 - Time3, so that is what is used here.
data(chapter_13_table_2)
derived <- data.frame(
  Linear    = chapter_13_table_2$Time3 - chapter_13_table_2$Time1,
  Quadratic = 2 * chapter_13_table_2$Time2 -
    chapter_13_table_2$Time1 - chapter_13_table_2$Time3
)

# The derived variables reproduce Table 13.10 exactly
all.equal(derived, chapter_13_table_10)
```

chapter_13_table_2 *The data used in Chapter 13, Table 2*

Description

The data used in Chapter 13, Table 2

Usage

```
data(chapter_13_table_2)
```

Format

An object of class `data.frame` with 8 rows and 3 columns.

Details

For the hypothetical data contained in Table 13.2, eight participants were measured at three occasions. The question of interest is: "Is there a population mean difference between across Time 1, Time 2, and Time 3 measurement occasions?" Table 13.2 presents hypothetical data for a three-level design. The null hypothesis to be tested is that the population means of scores at all three time points are equal to each.

Variables

Time1 participant score at time 1

Time2 participant score at time 2

Time3 participant score at time 3

Synonym

C13T2

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_table_2)

# Or, alternatively load the data as
data(C13T2)

# View the structure
str(chapter_13_table_2)
```

chapter_13_table_5 *The data used in Chapter 13, Table 5*

Description

Data from Table 13.5 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). Two sets of hypothetical data, each consisting of two D (difference) variables, used to illustrate how a determinant reflects generalized variance.

Usage

```
data(chapter_13_table_5)
```

Format

An object of class `data.frame` with 14 rows and 4 columns.

Variables

SetA_D1 first D variable for data set (a)

SetA_D2 second D variable for data set (a)

SetB_D1 first D variable for data set (b); identical to SetA_D1

SetB_D2 second D variable for data set (b); the same values as SetA_D2 but paired with different D1 scores

Note

The D_1 and D_2 variables are **derived** scores (difference scores). The book presents only these D values, not the raw data from which they were computed, so this data set contains only the D1 and D2 values and no underlying observations. Data sets (a) and (b) share identical D1 and D2 values, but paired differently: each variable by itself has the same sum (0) and sum of squares (56.00 for D1, 56.38 for D2) in both sets, yet the two sets differ in generalized variance. The determinant of the 2×2 matrix of D1 and D2 sums of squares and cross-products is 21.28 for data set (a) and 3157.03 for data set (b).

In the 4th edition the 3rd-edition Table 13.5 (the McCarthy repeated-measures data) was renumbered to Table 13.6, which is shipped as `chapter_13_table_6`.

Synonym

C13T5

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_table_5)

# Or, alternatively load the data as
data(C13T5)

# View the structure
str(chapter_13_table_5)

# Brief summary of the data.
summary(chapter_13_table_5)
```

chapter_13_table_6	<i>The data used in Chapter 13, Table 6</i>
--------------------	---

Description

The data used in Chapter 13, Table 6

Usage

```
data(chapter_13_table_6)
```

Format

An object of class `data.frame` with 12 rows and 4 columns.

Details

Table 13.6 presents the hypothetical McCarthy IQ scores for 12 subjects (ages 30, 36, 42, or 48 months). The McCarthy data contained in Table 13.6, which was previously analyzed in Table 11.5, is now analyzed using the multivariate approach to repeated measures.

Variables

Months30 hypothetical McCarthy IQ for 30-month-old individuals

Months36 hypothetical McCarthy IQ for 36-month-old individuals

Months42 hypothetical McCarthy IQ for 42-month-old individuals

Months48 hypothetical McCarthy IQ for 48-month-old individuals

Synonym

C13T6

Note

Renumbered for the 4th edition: in the 3rd edition (AMCP 1.x) these data were Table 13.5 (chapter_13_table_5 / C13T5). The data are unchanged.

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_table_6)

# Or, alternatively load the data as
data(C13T6)

# View the structure
str(chapter_13_table_6)
```

chapter_14_exercise_10*The data used in Chapter 14, Exercise 10*

Description

Data from Chapter 14 Exercise 10 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_14_exercise_10)
```

Format

An object of class `data.frame` with 10 rows and 4 columns.

Details

- `GridLeft`.
- `GridRight`.
- `BraceLeft`.
- `BraceRight`.

Synonym

C14E10

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_exercise_10)

# Or, alternatively load the data as
data(C14E10)

# View the structure
str(chapter_14_exercise_10)

# Brief summary of the data.
summary(chapter_14_exercise_10)
```

chapter_14_exercise_14

The data used in Chapter 14, Exercise 14

Description

Data from Chapter 14 Exercise 14 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_14_exercise_14)
```

Format

An object of class `data.frame` with 30 rows and 5 columns.

Details

- Gender.
- MaleFriend.
- FemaleFriend.
- Same.
- Opposite.

Synonym

C14E14

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_exercise_14)

# Or, alternatively load the data as
data(C14E14)

# View the structure
str(chapter_14_exercise_14)

# Brief summary of the data.
summary(chapter_14_exercise_14)
```

chapter_14_exercise_15

The data used in Chapter 14, Exercise 15

Description

Data from Chapter 14 Exercise 15 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_14_exercise_15)
```

Format

An object of class `data.frame` with 10 rows and 3 columns.

Details

- Baseline.
- Feedback.
- Group.

Synonym

C14E15

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_exercise_15)

# Or, alternatively load the data as
data(C14E15)

# View the structure
str(chapter_14_exercise_15)

# Brief summary of the data.
summary(chapter_14_exercise_15)
```

chapter_14_exercise_21*The data used in Chapter 14, Exercise 21*

Description

Data from Chapter 14 Exercise 21 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_14_exercise_21)
```

Format

An object of class `data.frame` with 14 rows and 5 columns.

Details

- Day1.
- Day2.
- Day3.
- Day4.
- Group.

Synonym

C14E21

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_exercise_21)

# Or, alternatively load the data as
data(C14E21)

# View the structure
str(chapter_14_exercise_21)

# Brief summary of the data.
summary(chapter_14_exercise_21)
```

chapter_14_exercise_22

The data used in Chapter 14, Exercise 22

Description

Data from Chapter 14 Exercise 22 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_14_exercise_22)
```

Format

An object of class `data.frame` with 47 rows and 6 columns.

Details

- September.
- November.
- April.
- June.
- July.
- Group.

Synonym

C14E22

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_exercise_22)

# Or, alternatively load the data as
data(C14E22)

# View the structure
str(chapter_14_exercise_22)

# Brief summary of the data.
summary(chapter_14_exercise_22)
```

chapter_14_table_1	<i>The data used in Chapter 14, Table 1</i>
--------------------	---

Description

The data used in Chapter 14, Table 1

Usage

```
data(chapter_14_table_1)
```

Format

An object of class `data.frame` with 10 rows and 4 columns.

Details

Suppose that a perceptual psychologist studying the visual system was interested in determining the extent to which interfering visual stimuli slow the ability to recognize letters. Participants are brought into a laboratory and seated in front of a tachistoscope. They are told that they will see either the letter T or the letter I displayed on the screen. In some trials, the letter appears by itself, but in other trials the target letter is embedded in a group of other letters. This variation in the display constitutes the first factor, which is referred to as noise. The noise factor has two levels - absent and present. The other factor varied by the experimenter is where in the display the target letter appears. This factor, which is called angle, also has two levels. The target letter is either shown at the center of the screen (where the participant has been told to fixate), or 8 degrees off center (with the deviation from the center randomly varying between left and right). Table 14.1 presents hypothetical data for 10 participants. As usual, the sample size is kept small to minimize the computational burden. The dependent measure is reaction time (or latency) measured in milliseconds. Each participant has four scores, one for each combination of the 2x2 design. In an actual perceptual experiment, each of these four scores would itself be the mean score for that individual across a number of trials in the particular condition.

Variables

Absent0 reaction time for participant without noise and at angle 0

Absent8 reaction time for participant without noise and at angle 8

Present0 reaction time for participant with noise and at angle 0

Present8 reaction time for participant with noise and at angle 8

Synonym

C14T1

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_table_1)

# Or, alternatively load the data as
data(C14T1)

# View the structure
str(chapter_14_table_1)
```

chapter_14_table_10 *The data used in Chapter 14, Table 10*

Description

The data used in Chapter 14, Table 10

Usage

```
data(chapter_14_table_10)
```

Format

An object of class `data.frame` with 20 rows and 4 columns.

Details

Table 14.10 presents the *M*, *D1*, and *D2* transformed scores formed from the three-angle reaction-time data of Table 14.9. For each participant, *M* is the mean reaction time across the 0-degree, 4-degree, and 8-degree angle conditions; *D1* is the linear trend across angle (8 degrees minus 0 degrees); and *D2* is the quadratic trend across angle (0 degrees minus twice 4 degrees plus 8 degrees). These transformed variables support the multivariate approach to the design: *D1* and *D2* are used to test the main effect of angle and the age-by-angle interaction, while *M* carries the between-subjects information used to test the main effect of age. The young-participant means are *M* = 569, *D1* = 168, and *D2* = -48; the old-participant means are *M* = 663, *D1* = 249, and *D2* = 27; and the grand means are *M* = 616, *D1* = 208.5, and *D2* = -10.5.

Variables

M participant mean reaction time across the 0, 4, and 8 degree angle conditions

D1 linear trend across angle, 8 degrees minus 0 degrees

D2 quadratic trend across angle, 0 degrees minus twice 4 degrees plus 8 degrees

Group participant age (young or old)

Synonym

C14T10

Note

New in the 4th edition. In the 3rd edition (AMCP 1.x) the name `chapter_14_table_10` referred to the reaction-time data now in `chapter_14_table_9`; it now holds the *M*, *D1*, and *D2* transformed scores of the 4th edition's Table 14.10.

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_table_10)

# Or, alternatively load the data as
data(C14T10)

# View the structure
str(chapter_14_table_10)
```

chapter_14_table_13 *The data used in Chapter 14, Table 13*

Description

The data used in Chapter 14, Table 13

Usage

```
data(chapter_14_table_13)
```

Format

An object of class `data.frame` with 300 rows and 5 columns.

Details

Chapter 14 introduces longitudinal randomized designs with a hypothetical study of 100 participants, 44 of whom were randomly assigned to an active treatment condition and 56 of whom were assigned to a control group. The outcome variable is measured at baseline (time 0) and at two post-intervention occasions (times 4 and 8). Table 14.13 presents the sample means by group and time, and Table 14.14 presents the tests of the omnibus effects for these data. The same data set is analyzed with mixed-effects models in Chapter 15 (see Tables 15.15 and 15.16). The data are stored in the long ("univariate") format expected by the mixed-effects code shown in Chapter 15, with one row per participant per measurement occasion.

Variables

id1 Participant identification number (1 to 100)
treatment Condition indicator (0 = treatment, 1 = control)
Index1 Measurement occasion index (1, 2, or 3)
time Time of measurement (0 = baseline, 4, or 8)
Y Outcome score

Synonym

C14T13

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_table_13)

# Or, alternatively load the data as
data(C14T13)

# View the structure
str(chapter_14_table_13)
```

chapter_14_table_3	<i>The data used in Chapter 14, Table 3</i>
--------------------	---

Description

The data used in Chapter 14, Table 3

Usage

```
data(chapter_14_table_3)
```

Format

An object of class `data.frame` with 10 rows and 3 columns.

Details

Using the data in Table 14.1, we could average scores for each participant individually because the noise factor we need to average over is a within-subjects factor. For example, participant 1's average 0 degree score is 450, whereas his or her 8 degree score is 630. This participant's reaction time averages 180 msec longer (630 vs 450) for the 8 degree condition than the 0 degree condition. If the other 9 participants' data show a similar pattern, we would infer that there is indeed a main effect due to angle.

For the hypothetical data contained in Table 14.1, Table 14.3 gives the set of D variables. The D variables are subsequently used to analyze the data given in Table 14.1. Recall that we analyzed the data contained in Table 14.1 directly without (explicitly) forming D variables. Although obtaining the results of the main effects is easily accomplished using the data directly, forming and then analyzing D variables directly also has its benefits (which are delineated in the chapter). Below we analyze the D variables contained in Table 14.3. As expected, our results will match those previously obtained when we analyzed the raw data (i.e., skipping the step of explicitly forming D variables). However, the method to be outlined here provides a different way to accomplish the same goal. We will soon see that analyzing the data by explicitly forming D variables has its advantages. The first column of Table 14.3 (D1) shows these scores for all 10 participants. Indeed, all 10 participants have an average 8 degree reaction time that is slower than their average 0 degree reaction time. Such consistency strongly supports the existence of an angle main effect.

Variables

- D1** participant D1 difference score averaged over noise
- D2** participant D2 difference score averaged over noise
- D3** participant D3 difference score averaged over noise

Synonym

C14T3

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_table_3)

# Or, alternatively load the data as
data(C14T3)

# View the structure
str(chapter_14_table_3)
```

chapter_14_table_4	<i>The data used in Chapter 14, Table 4</i>
--------------------	---

Description

The data used in Chapter 14, Table 4

Usage

```
data(chapter_14_table_4)
```

Format

An object of class `data.frame` with 10 rows and 6 columns.

Details

Suppose a perceptual psychologist studying the visual system was interested in determining the extent to which interfering visual stimuli slow the ability to recognize letters. Participants are brought into a laboratory where they are seated in front of a tachistoscope. Variations in the presentations of letters is examined with interest being on the reaction time for target letters presented either in the center of the screen or off centered with and without "noise" accompanying the target letters.

Variables

Absent0 participant reaction time without noise and with angle 0
Absent4 participant reaction time without noise and with angle 4
Absent8 participant reaction time without noise and with angle 8
Present0 participant reaction time with noise and with angle 0
Present4 participant reaction time with noise and with angle 4
Present8 participant reaction time with noise and with angle 8

Synonym

C14T4

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_table_4)

# Or, alternatively load the data as
data(C14T4)

# View the structure
str(chapter_14_table_4)
```

chapter_14_table_5	<i>The data used in Chapter 14, Table 5</i>
--------------------	---

Description

The data used in Chapter 14, Table 5

Usage

```
data(chapter_14_table_5)
```

Format

An object of class `data.frame` with 10 rows and 5 columns.

Details

In terms of symbols, let $D(i)$ represent the linear trend for a given angle. For the hypothetical data contained in Table 14.4, Table 14.5 gives an appropriate and substantively interesting set of D variables. The D variables (rather than the raw data itself) is used because of the benefits and flexibility gained from analyzing the D variables directly (rather than indirectly as we did with the Table 14.4 data).

Variables

D1 participant D1 variable

D2 participant D2 variable

D3 participant D3 variable

D4 participant D4 variable

D5 participant D5 variable

Synonym

C14T5

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_table_5)

# Or, alternatively load the data as
data(C14T5)

# View the structure
str(chapter_14_table_5)
```

chapter_14_table_7 *The data used in Chapter 14, Table 7*

Description

The data used in Chapter 14, Table 7

Usage

```
data(chapter_14_table_7)
```

Format

An object of class `data.frame` with 20 rows and 3 columns.

Details

For the hypothetical data contained in Table 14.7, a perceptual psychologist is interested in age differences ("young" and "old") in reaction time on a perceptual task. In addition, the psychologist is also interested in the effect of angle (zero degrees off center and eight degrees off center). The question of interest is to see if there are a main effect of age, a main effect of angle, and an interaction between the two. Table 14.7 presents the same data that we analyzed in chapter 12 for 10 young participants and 10 old participants, except that for the moment we are only analyzing data from the 0 degree and 8 degree conditions of the angle factor.

In any two factor design, the effects to be tested are typically the two main effects and the two-way interaction. In our example, then, we test the main effect of age (designated A), the main effect of angle (designated B), and the interaction of age and angle.

Variables

Angle0 participant reaction time at angle 0

Angle8 participant reaction time at angle 8

Group participant age (young or old)

Synonym

C14T7

Note

Renumbered for the 4th edition: in the 3rd edition (AMCP 1.x) these reaction-time data were Table 14.8 (chapter_14_table_8 / C14T8). The data are unchanged, but note that chapter_14_table_8 now holds different (transformed-score) data.

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_table_7)

# Or, alternatively load the data as
data(C14T7)

# View the structure
str(chapter_14_table_7)
```

chapter_14_table_8	<i>The data used in Chapter 14, Table 8</i>
--------------------	---

Description

The data used in Chapter 14, Table 8

Usage

```
data(chapter_14_table_8)
```

Format

An object of class `data.frame` with 20 rows and 3 columns.

Details

Table 14.8 presents the M and D transformed scores formed from the two-angle reaction-time data of Table 14.7. For each participant, M is the mean reaction time across the 0-degree and 8-degree angle conditions, and D is the difference between the two conditions (8 degrees minus 0 degrees). In the multivariate (within-subjects) approach to this two-way design, the M scores carry the between-subjects information used to test the main effect of age, while the D scores carry the within-subjects information used to test the main effect of angle and the age-by-angle interaction. The mean M and D for the young participants are 561 and 168; the corresponding means for the old participants are 667.5 and 249.

Variables

- M** participant mean reaction time across the 0 and 8 degree angle conditions
- D** participant difference in reaction time, 8 degrees minus 0 degrees
- Group** participant age (young or old)

Synonym

C14T8

Note

New in the 4th edition. In the 3rd edition (AMCP 1.x) the name `chapter_14_table_8` referred to the reaction-time data now in `chapter_14_table_7`; it now holds the M and D transformed scores of the 4th edition's Table 14.8.

Author(s)

Ken Kelley <kkelley@end.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_table_8)

# Or, alternatively load the data as
data(C14T8)

# View the structure
str(chapter_14_table_8)
```

chapter_14_table_9	<i>The data used in Chapter 14, Table 9</i>
--------------------	---

Description

The data used in Chapter 14, Table 9

Usage`data(chapter_14_table_9)`

Format

An object of class `data.frame` with 20 rows and 4 columns.

Details

These data are identical to those analyzed in chapter 12 (see Tables 12.7 and 12.15) to facilitate comparisons of the multivariate approach and the mixed-model approach. The hypothetical data contained in Table 14.9 contains an additional level of angle (four degrees) that was not considered in Table 14.7.

Variables

Angle0 participant reaction time at angle 0

Angle4 participant reaction time at angle 4

Angle8 participant reaction time at angle 8

Group participant age (young or old)

Synonym

C14T9

Note

Renumbered for the 4th edition: in the 3rd edition (AMCP 1.x) these reaction-time data were Table 14.10 (chapter_14_table_10 / C14T10). The data are unchanged, but note that chapter_14_table_10 now holds different (transformed-score) data.

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_14_table_9)

# Or, alternatively load the data as
data(C14T9)
```

```
# View the structure  
str(chapter_14_table_9)
```

chapter_15_exercise_16

The data used in Chapter 15, Exercise 16

Description

Data from Chapter 15 Exercise 16 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_15_exercise_16)
```

Format

An object of class `data.frame` with 14 rows and 4 columns.

Details

- Day1.
- Day2.
- Day3.
- Day4.

Synonym

C15E16

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_15_exercise_16)

# Or, alternatively load the data as
data(C15E16)

# View the structure
str(chapter_15_exercise_16)

# Brief summary of the data.
summary(chapter_15_exercise_16)
```

chapter_15_exercise_17

The data used in Chapter 15, Exercise 17

Description

Data from Chapter 15 Exercise 17 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_15_exercise_17)
```

Format

An object of class `data.frame` with 56 rows and 4 columns.

Details

- ID.
- Group.
- Day.
- Weight.

Synonym

C15E17

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_15_exercise_17)

# Or, alternatively load the data as
data(C15E17)

# View the structure
str(chapter_15_exercise_17)

# Brief summary of the data.
summary(chapter_15_exercise_17)
```

chapter_15_exercise_18

The data used in Chapter 15, Exercise 18

Description

Data from Chapter 15 Exercise 18 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_15_exercise_18)
```

Format

An object of class `data.frame` with 24 rows and 4 columns.

Details

- Subject.
- September.
- October.
- November.

Synonym

C15E18

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_15_exercise_18)

# Or, alternatively load the data as
data(C15E18)

# View the structure
str(chapter_15_exercise_18)

# Brief summary of the data.
summary(chapter_15_exercise_18)
```

chapter_15_exercise_18_univariate

The data used in Chapter 15, Exercise 18 (Univariate)

Description

Data from Chapter 15 Exercise 18 (Univariate) of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_15_exercise_18_univariate)
```

Format

An object of class `data.frame` with 72 rows and 3 columns.

Details

- ID.
- Time.
- Y.

Synonym

C15E18U

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_15_exercise_18_univariate)

# Or, alternatively load the data as
data(C15E18U)

# View the structure
str(chapter_15_exercise_18_univariate)

# Brief summary of the data.
summary(chapter_15_exercise_18_univariate)
```

chapter_15_exercise_19

The data used in Chapter 15, Exercise 19

Description

Data from Chapter 15 Exercise 19 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_15_exercise_19)
```

Format

An object of class `data.frame` with 24 rows and 4 columns.

Details

- Subject.
- Cognitive70.
- Cognitive72.
- Cognitive74.

Synonym

C15E19

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_15_exercise_19)

# Or, alternatively load the data as
data(C15E19)

# View the structure
str(chapter_15_exercise_19)

# Brief summary of the data.
summary(chapter_15_exercise_19)
```

`chapter_15_exercise_19_univariate`*The data used in Chapter 15, Exercise 19 (Univariate)*

Description

Data from Chapter 15 Exercise 19 (Univariate) of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_15_exercise_19_univariate)
```

Format

An object of class `data.frame` with 72 rows and 3 columns.

Details

- Subject.
- Age.
- Ability.

Synonym

C15E19U

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_15_exercise_19_univariate)

# Or, alternatively load the data as
data(C15E19U)

# View the structure
str(chapter_15_exercise_19_univariate)

# Brief summary of the data.
summary(chapter_15_exercise_19_univariate)
```

chapter_15_table_1	<i>The data used in Chapter 15, Table 1</i>
--------------------	---

Description

The data used in Chapter 15, Table 1

Usage

```
data(chapter_15_table_1)
```

Format

An object of class `data.frame` with 12 rows and 4 columns.

Details

The first table in Chapter 15 presents the Hypothetical McCarthy data again (originally shown in Table 11.5). This data set is used throughout the chapter to illustrate the discussion given on the mixed model.

Variables

Months30 McCarthy IQ score for 30-month-old
Months36 McCarthy IQ score for 36-month-old
Months42 McCarthy IQ score for 42-month-old
Months48 McCarthy IQ score for 48-month-old

Synonym

C15T1

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_15_table_1)

# Or, alternatively load the data as
data(C15T1)

# View the structure
str(chapter_15_table_1)
```

chapter_16_exercise_5 *The data used in Chapter 16, Exercise 5*

Description

Data from Chapter 16 Exercise 5 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). Exercise 5 analyzes the severity ratings presented in Table 16.1, so these data are the same as chapter_16_table_1.

Usage

```
data(chapter_16_exercise_5)
```

Format

An object of class `data.frame` with 24 rows and 3 columns.

Details

- Trainee.
- Gender.
- Severity.

Synonym

C16E5

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_16_exercise_5)

# Or, alternatively load the data as
data(C16E5)

# View the structure
str(chapter_16_exercise_5)

# Brief summary of the data.
summary(chapter_16_exercise_5)
```

chapter_16_exercise_7 *The data used in Chapter 16, Exercise 7*

Description

Data from Chapter 16 Exercise 7 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_16_exercise_7)
```

Format

An object of class `data.frame` with 29 rows and 6 columns.

Details

- Observation.
- Room.
- Condition.
- Cognition.
- Skill.
- Inductive.

Synonym

C16E7

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_16_exercise_7)

# Or, alternatively load the data as
data(C16E7)

# View the structure
str(chapter_16_exercise_7)

# Brief summary of the data.
summary(chapter_16_exercise_7)
```

chapter_16_exercise_9 *The data used in Chapter 16, Exercise 9*

Description

Data from Chapter 16 Exercise 9 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_16_exercise_9)
```

Format

An object of class `data.frame` with 29 rows and 6 columns.

Details

- Observation.
- Room.
- Condition.
- Cognition.
- Skill
- Inductive.

Synonym

C16E9

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_16_exercise_9)

# Or, alternatively load the data as
data(C16E9)

# View the structure
str(chapter_16_exercise_9)

# Brief summary of the data.
summary(chapter_16_exercise_9)
```

chapter_16_table_1	<i>The data used in Chapter 16, Table 1</i>
--------------------	---

Description

The data used in Chapter 16, Table 1

Usage

```
data(chapter_16_table_1)
```

Format

An object of class `data.frame` with 24 rows and 3 columns.

Details

The first table in Chapter 16 presents the Severity Ratings by Clinical Trainees, which was originally given in Table 10.9. The data set is analyzed again using the multilevel model approach and the results are compared with those obtained in Chapter 10. As a brief background, the goal of the study here is to examine the extent to which female and male clinical psychology graduate student trainees may assign different severity ratings to clients at initial intake. Three female and three male graduate students are randomly selected to participate and each is randomly assigned four clients with whom to do an intake interview, after which each clinical trainee assigns a severity rating to each client, producing the data shown in Table 16.1.

Variables

- Trainee** trainee, nested within gender
- Gender** gender of trainee
- Severity** severity rating assigned to client by trainee

Synonym

C16T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_16_table_1)

# Or, alternatively load the data as
data(C16T1)

# View the structure
str(chapter_16_table_1)
```

chapter_16_table_4	<i>The data used in Chapter 16, Table 4</i>
--------------------	---

Description

The data used in Chapter 16, Table 4

Usage

```
data(chapter_16_table_4)
```

Format

An object of class `data.frame` with 29 rows and 6 columns.

Details

The hypothetical data contained in Table 16.4 is supposed to represent the data from 29 children who participated in a study to evaluate the effectiveness of an intervention designed to increase inductive reasoning skills. The data consists of children who are nested within one of six classrooms, where each classroom contained students from both the control and the experimental condition. The question of interest is whether or not the children who participated in the experimental group actually improved their cognitive reasoning ability.

The children with condition values of 0 received the control, whereas the 14 children with condition values of 1 received the treatment. 4 of the children in the control condition were students in control Classroom 1, 6 of them were students in control Classroom 2, and 5 were students in control Classroom 3. Similarly, 3 of the students in the treatment condition were students in treatment Classroom 1, 5 were students in treatment Classroom 2, and 6 were students in treatment Classroom 3. It is also important to note that scores on the dependent variable appear in the rightmost column under the variable label "induct". The variable labeled "cog" in Table 16.4 represents cognitive ability scores that have been obtained for each student sometime prior to assigning classrooms to treatment conditions. The variable labeled "skill" represents a global measure of each teacher's teaching skill, once again assigned prior to assigning classrooms to treatment conditions.

Variables

Observation observation/participant number
Room participant classroom placement
Condition participant condition (0=control, 1=treatment)
Cognition participant cognitive ability score
Skill participant's teacher's teaching skill
Inductive induction; scores on the dependent variable

Synonym

C16T4

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_16_table_4)

# Or, alternatively load the data as
data(C16T4)

# View the structure
str(chapter_16_table_4)

# -----
# Optional: a factor-coded copy for model-comparison analyses / plotting.
# Condition and Room are stored as numeric codes so the book's examples
# reproduce exactly. Build a *copy* (suffix "_factors") so the canonical
# data set is left unchanged; Cognition, Skill, and Inductive stay
# numeric. Labels for Condition are taken from the description above
# (0 = control, 1 = treatment); Room (classroom) is a nesting id, so its
# numeric codes are kept as levels.
C16T4_factors <- chapter_16_table_4
C16T4_factors$Condition <- factor(C16T4_factors$Condition, levels = 0:1,
  labels = c("Control", "Treatment"))
C16T4_factors$Room <- factor(C16T4_factors$Room)

# These data come from a nested / mixed-effects design (children within
# classrooms); the book fits the appropriate multilevel model. Build the
# factor copy, then follow the book's procedure.
str(C16T4_factors)
```

chapter_3_exercise_10 *The data used in Chapter 3, Exercise 10*

Description

Data from Chapter 3 Exercise 10 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_3_exercise_10)
```

Format

An object of class `data.frame` with 36 rows and 3 columns.

Details

- Experiment.
- Experimental.
- Control.

Synonym

C3E10

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_3_exercise_10)

# Or, alternatively load the data as
data(C3E10)

# View the structure
str(chapter_3_exercise_10)

# Brief summary of the data.
summary(chapter_3_exercise_10)
```

chapter_3_exercise_11 *The data used in Chapter 3, Exercise 11*

Description

Data from Chapter 3 Exercise 11 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_3_exercise_11)
```

Format

An object of class `data.frame` with 24 rows and 2 columns.

Details

- Condition.
- Score.

Synonym

C3E11

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_3_exercise_11)

# Or, alternatively load the data as
data(C3E11)

# View the structure
str(chapter_3_exercise_11)

# Brief summary of the data.
summary(chapter_3_exercise_11)
```

chapter_3_exercise_19 *The data used in Chapter 3, Exercise 19*

Description

Data from Chapter 3 Exercise 19 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_3_exercise_19)
```

Format

An object of class `data.frame` with 155 rows and 3 columns.

Details

- ID.
- Condition.
- Anger.

Synonym

C3E19

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_3_exercise_19)

# Or, alternatively load the data as
data(C3E19)

# View the structure
str(chapter_3_exercise_19)

# Brief summary of the data.
summary(chapter_3_exercise_19)
```

chapter_3_exercise_20 *The data used in Chapter 3, Exercise 20*

Description

Data from Chapter 3 Exercise 20 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_3_exercise_20)
```

Format

An object of class `data.frame` with 72 rows and 2 columns.

Details

- Condition.
- ImageBasedIntrusions.

Synonym

C3E20

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_3_exercise_20)

# Or, alternatively load the data as
data(C3E20)
```

```
# View the structure
str(chapter_3_exercise_20)

# Brief summary of the data.
summary(chapter_3_exercise_20)
```

chapter_3_exercise_21 *The data used in Chapter 3, Exercise 21*

Description

Data from Chapter 3 Exercise 21 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_3_exercise_21)
```

Format

An object of class `data.frame` with 192 rows and 2 columns.

Details

- Condition.
- Exercise.

Synonym

C3E21

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_3_exercise_21)

# Or, alternatively load the data as
data(C3E21)

# View the structure
str(chapter_3_exercise_21)

# Brief summary of the data.
summary(chapter_3_exercise_21)
```

chapter_3_exercise_22 *The data used in Chapter 3, Exercise 22*

Description

Data from Chapter 3 Exercise 22 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_3_exercise_22)
```

Format

An object of class `data.frame` with 310 rows and 5 columns.

Details

- Grade.
- Treatment.
- IQPre.
- IQ4.
- IQ8.

Synonym

C3E22

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_3_exercise_22)

# Or, alternatively load the data as
data(C3E22)

# View the structure
str(chapter_3_exercise_22)

# Brief summary of the data.
summary(chapter_3_exercise_22)
```

chapter_3_exercise_9 *The data used in Chapter 3, Exercise 9*

Description

Data from Chapter 3 Exercise 9 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_3_exercise_9)
```

Format

An object of class `data.frame` with 12 rows and 2 columns.

Details

- Group.
- Scores.

Synonym

C3E9

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_3_exercise_9)

# Or, alternatively load the data as
data(C3E9)

# View the structure
str(chapter_3_exercise_9)

# Brief summary of the data.
summary(chapter_3_exercise_9)
```

chapter_3_table_1*The data used in Chapter 3, Table 1*

Description

Hyperactive children's IQ scores from the WISC-R

Usage`data(chapter_3_table_1)`**Format**An object of class `data.frame` with 6 rows and 1 columns.

Details

Assume that you work in the research office of a large school system. For the last several years, the mean score on the WISC-R, which is administered to all elementary school children in your district, has been holding fairly steady at about 98. A parent of a hyperactive child in one of your special education programs maintains that the hyperactive children in the district are actually brighter than this average. To investigate this assertion, you randomly select the files of six hyperactive children and examine their WISC-R scores. The data set analyzed to replicate Chapter 3 Table 1 consists of IQ (WISC-R) measurements on six hyperactive children. The question of interest is: "are hyperactive children in the school district brighter than the average student?" The mean IQ among the students is known to be 98. Thus, the null hypothesis in this situation is that the population mean for the hyperactive students is also 98. To answer such a question we perform a one sample *t*-test specifying the value of the null hypothesis as 98. Because a *t*-value squared with *df* degrees of freedom is equivalent to an *F*-value with one numerator and *df* denominator degrees of freedom. Recall that the observed *F*-value (with 1 and 5 degrees of freedom) in the book is 9, whereas our *t*-value (with 5 degrees of freedom) is 3.

Variables

IQ IQ score from the WISC-R

Synonym

C3T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_3_table_1)

# Or, alternatively load the data as
data(C3T1)

# View the structure
str(chapter_3_table_1)
```

chapter_3_table_3

*The data used in Chapter 3, Table 3***Description**

The data used in Chapter 3, Table 3.

Usage

```
data(chapter_3_table_3)
```

Format

An object of class `data.frame` with 30 rows and 2 columns.

Details

Although different mood states have, of course, always been of interest to clinicians, recent years have seen a profusion of studies attempting to manipulate mood states in controlled laboratory studies. In such induced-mood research, participants typically are randomly assigned to one of three groups: a depressed-mood induction, a neutral-mood induction, or an elated-mood induction. One study (Pruitt, 1988) used selected video clips from several movies and public television programs as the mood-induction treatments. After viewing the video for her assigned condition, each participant was asked to indicate her mood on various scales. In addition, each subject was herself videotaped, and her facial expressions of emotion were rated on a scale of 1 to 7 (1 indicating sad; 4, neutral; and 7, happy) by an assistant who viewed the videotapes but was kept "blind" regarding the subjects' assigned conditions.

Variables

Condition assigned Condition: a numeric vector (1=Pleasant/elated, 2=Neutral, 3=Unpleasant/depressed)

Rating a numeric vector between 1 and 7

Synonym

C3T3

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_3_table_3)

# Or, alternatively load the data as
data(C3T3)

# View the structure
str(chapter_3_table_3)

# -----
# Optional: a factor-coded copy for ANOVA / model-comparison analyses.
# Condition is stored as a numeric code so the book's contrast and
# model-comparison examples reproduce exactly. For a one-way ANOVA you
# generally want it as a factor; otherwise the code enters the model as a
# single linear (1 df) term. Build a *copy* (suffix "_factors") so the
# canonical data set is left unchanged. Labels are taken from the
# "Variables" section above.
C3T3_factors <- chapter_3_table_3
C3T3_factors$Condition <- factor(C3T3_factors$Condition, levels = 1:3,
  labels = c("Pleasant/Elated", "Neutral", "Unpleasant/Depressed"))

# The coding matters: numeric code (1 df) versus factor (2 df).
anova(lm(Rating ~ Condition, data = chapter_3_table_3))
anova(lm(Rating ~ Condition, data = C3T3_factors))
```

chapter_3_table_7_raw *The data used for Chapter 3, Table 7 (raw data to produce the summary measures)*

Description

Raw data on the number of drinks per day (and log of the number of drinks)

Usage

```
data(chapter_3_table_7_raw)
```

Format

An object of class `data.frame` with 88 rows and 3 columns.

Details

Average number of standard drinks per week at intake for a sample of homeless alcoholics at nine-month follow-up (Smith, Meyers, & Delaney, 1988). Note that the groups, 1-5, are, respectively, "T1 CRA-D", "T1 CRA+D", "T1Std", "T2 CRA-D", and "T2 Std," where CRA is "Community Reinforcement Approach (with or without Disulfiram)" and where "Std" is standard therapy. Note that this is the same data as `data(chapter_3_table_9_raw)`.

Variables

Group randomly assigned group membership (see details)

Drinks number of standard drinks, on average, per week

LgDrinks log of the number of standard drinks, on average, per week

Synonym

C3T7R

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Smith, J. E., Meyers, R. J. & Delaney, H. D. (1998). The community reinforcement approach with homeless alcohol-dependent individuals. *Journal of Consulting and Clinical Psychology*, 66, 541–548.

Examples

```
# Load the data
data(chapter_3_table_7_raw)

# Or, alternatively load the data as
data(C3T7R)

# View the structure
str(chapter_3_table_7_raw)

# -----
# Optional: a factor-coded copy for model-comparison analyses / plotting.
# Group is stored as a numeric code so the book's examples reproduce
```

```
# exactly. To treat it as a grouping factor, build a *copy* (suffix
# "_factors") so the canonical data set is left unchanged. Labels are
# taken from the description above (CRA = Community Reinforcement
# Approach, with [+D] or without [-D] Disulfiram; Std = standard therapy).
C3T7R_factors <- chapter_3_table_7_raw
C3T7R_factors$Group <- factor(C3T7R_factors$Group, levels = 1:5,
  labels = c("T1 CRA-D", "T1 CRA+D", "T1 Std", "T2 CRA-D", "T2 Std"))

# These are the raw scores behind the chapter's summary measures, so the
# factor copy is mainly for grouping/plotting; Drinks and LgDrinks stay
# numeric.
str(C3T7R_factors)
```

chapter_3_table_9_raw *The data used for Chapter 3, Table 9 (raw data to produce the summary measures)*

Description

Raw data on the number of drinks per day (and log of the number of drinks)

Usage

```
data(chapter_3_table_9_raw)
```

Format

An object of class `data.frame` with 88 rows and 3 columns.

Details

Average number of standard drinks per week at intake for a sample of homeless alcoholics at nine-month follow-up (Smith, Meyers, & Delaney, 1988). Note that the groups, 1-5, are, respectively, "T1 CRA-D", "T1 CRA+D", "T1Std", "T2 CRA-D", and "T2 Std," where CRA is "Community Reinforcement Approach (with or without Disulfiram) and where "Std" is standard therapy. Note that this is the same data as `data(chapter_3_table_9_raw)`.

Variables

Group randomly assigned group membership (see details)

Drinks number of standard drinks, on average, per week

LgDrinks log of the number of standard drinks, on average, per week

Synonym

C3T9R

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Smith, J. E., Meyers, R. J. & Delaney, H. D. (1998). The community reinforcement approach with homeless alcohol-dependent individuals. *Journal of Consulting and Clinical Psychology*, 66, 541–548.

Examples

```
# Load the data
data(chapter_3_table_9_raw)

# Or, alternatively load the data as
data(C3T9R)

# View the structure
str(chapter_3_table_9_raw)

# -----
# Optional: a factor-coded copy for model-comparison analyses / plotting.
# Group is stored as a numeric code so the book's examples reproduce
# exactly. To treat it as a grouping factor, build a *copy* (suffix
# "_factors") so the canonical data set is left unchanged. Labels are
# taken from the description above (CRA = Community Reinforcement
# Approach, with [+D] or without [-D] Disulfiram; Std = standard therapy).
C3T9R_factors <- chapter_3_table_9_raw
C3T9R_factors$Group <- factor(C3T9R_factors$Group, levels = 1:5,
  labels = c("T1 CRA-D", "T1 CRA+D", "T1 Std", "T2 CRA-D", "T2 Std"))

# These are the raw scores behind the chapter's summary measures, so the
# factor copy is mainly for grouping/plotting; Drinks and LgDrinks stay
# numeric.
str(C3T9R_factors)
```

chapter_4_exercise_11 *The data used in Chapter 4, Exercise 11*

Description

Data from Chapter 4 Exercise 11 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_4_exercise_11)
```

Format

An object of class `data.frame` with 24 rows and 2 columns.

Details

- `dv`.
- `cond`.

Synonym

C4E11

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_4_exercise_11)

# Or, alternatively load the data as
data(C4E11)
```

```
# View the structure
str(chapter_4_exercise_11)

# Brief summary of the data.
summary(chapter_4_exercise_11)
```

chapter_4_exercise_12 *The data used in Chapter 4, Exercise 12*

Description

Data from Chapter 4 Exercise 12 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_4_exercise_12)
```

Format

An object of class `data.frame` with 18 rows and 2 columns.

Details

- `group`.
- `y`.

Synonym

C4E12

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_4_exercise_12)

# Or, alternatively load the data as
data(C4E12)

# View the structure
str(chapter_4_exercise_12)

# Brief summary of the data.
summary(chapter_4_exercise_12)
```

chapter_4_exercise_13 *The data used in Chapter 4, Exercise 13*

Description

Data from Chapter 4 Exercise 13 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_4_exercise_13)
```

Format

An object of class `data.frame` with 20 rows and 2 columns.

Details

- `dv`.
- `cond`.

Synonym

C4E13

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_4_exercise_13)

# Or, alternatively load the data as
data(C4E13)

# View the structure
str(chapter_4_exercise_13)

# Brief summary of the data.
summary(chapter_4_exercise_13)
```

chapter_4_exercise_18 *The data used in Chapter 4, Exercise 18*

Description

Data from Chapter 4 Exercise 18 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). Posttest scores on a fear scale for four treatments for agoraphobia, with three subjects randomly assigned to each therapy; higher scores indicate more severe phobia.

Usage

```
data(chapter_4_exercise_18)
```

Format

An object of class `data.frame` with 12 rows and 2 columns.

Variables

dv posttest score on a fear scale (higher scores indicate more severe phobia)
cond treatment: 1 = rational-emotive (R-E), 2 = psychoanalytic (P), 3 = client-centered (C-C), 4 = behavioral (B)

Synonym

C4E18

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_4_exercise_18)

# Or, alternatively load the data as
data(C4E18)

# View the structure
str(chapter_4_exercise_18)

# Brief summary of the data.
summary(chapter_4_exercise_18)
```

chapter_4_exercise_21 *The data used in Chapter 4, Exercise 21*

Description

Data from Chapter 4 Exercise 21 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). Scores on a multiple-choice memory test from the Kroes and colleagues (2014) study of electroconvulsive therapy (ECT) and memory reconsolidation; higher scores reflect more accurate memory. Participants were randomly assigned to three groups.

Usage

```
data(chapter_4_exercise_21)
```

Format

An object of class `data.frame` with 39 rows and 2 columns.

Variables

dv memory-test score (higher scores reflect more accurate memory)

cond group: 1 = Group A (ECT, tested 24 hours later), 2 = Group B (ECT, tested immediately after the procedure), 3 = Group C (control, no ECT, tested 24 hours later)

Synonym

C4E21

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_4_exercise_21)

# Or, alternatively load the data as
data(C4E21)

# View the structure
str(chapter_4_exercise_21)

# Brief summary of the data.
summary(chapter_4_exercise_21)
```

chapter_4_table_1

The data used in Chapter 4, Table 1

Description

The data used in Chapter 4, Table 1

Usage

```
data(chapter_4_table_1)
```

Format

An object of class `data.frame` with 20 rows and 2 columns.

Details

This is hypothetical data for four groups of participants, corresponding to treatments for hypertension. The context is 24 mild hypertensives that have been independently and randomly assigned to one of the four treatments. The scores are the systolic blood pressure values two-weeks after the termination of treatment.

Variables

`bloodpr` systolic blood pressure (hypothetical data)

`cond` identifies group membership (1=drug therapy; 2=biofeedback; 3=diet; 4=combination)

Synonym

C4T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_4_table_1)
```

```
# Or, alternatively load the data as
data(C4T1)
```

```
# View the structure
str(chapter_4_table_1)
```

```
# -----
```

```
# Optional: a factor-coded copy for ANOVA / model-comparison analyses.
# Group membership is stored as a numeric code so the book's contrast and
# model-comparison examples reproduce exactly. For a one-way ANOVA you
# generally want it as a factor; otherwise the code enters the model as a
# single linear (1 df) term. Build a *copy* (suffix "_factors") so the
# canonical data set is left unchanged. Labels are taken from the
# "Variables" section above.
C4T1_factors <- chapter_4_table_1
C4T1_factors$cond <- factor(C4T1_factors$cond, levels = 1:4,
  labels = c("Drug Therapy", "Biofeedback", "Diet", "Combination"))

# The coding matters: numeric code (1 df) versus factor (3 df).
anova(lm(bloodpr ~ cond, data = chapter_4_table_1))
anova(lm(bloodpr ~ cond, data = C4T1_factors))
```

chapter_5_exercise_10 *The data used in Chapter 5, Exercise 10*

Description

Data from Chapter 5 Exercise 10 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_5_exercise_10)
```

Format

An object of class `data.frame` with 24 rows and 2 columns.

Details

- `cond`.
- `score`.

Synonym

C5E10

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_5_exercise_10)

# Or, alternatively load the data as
data(C5E10)

# View the structure
str(chapter_5_exercise_10)

# Brief summary of the data.
summary(chapter_5_exercise_10)
```

chapter_5_exercise_16 *The data used in Chapter 5, Exercise 16*

Description

Data from Chapter 5 Exercise 16 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_5_exercise_16)
```

Format

An object of class `data.frame` with 18 rows and 2 columns.

Details

- `cond.`
- `scores.`

Synonym

C5E16

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_5_exercise_16)

# Or, alternatively load the data as
data(C5E16)

# View the structure
str(chapter_5_exercise_16)

# Brief summary of the data.
summary(chapter_5_exercise_16)
```

chapter_5_exercise_5 *The data used in Chapter 5, Exercise 5*

Description

Data from Chapter 5 Exercise 5 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_5_exercise_5)
```

Format

An object of class `data.frame` with 20 rows and 2 columns.

Details

- `cond.`
- `score.`

Synonym

C5E5

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>
Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_5_exercise_5)

# Or, alternatively load the data as
data(C5E5)

# View the structure
str(chapter_5_exercise_5)

# Brief summary of the data.
summary(chapter_5_exercise_5)
```

chapter_5_table_4	<i>The data used in Chapter 5, Table 4</i>
-------------------	--

Description

The data used in Chapter 5, Table 4

Usage

```
data(chapter_5_table_4)
```

Format

An object of class `data.frame` with 24 rows and 2 columns.

Details

The following data consists of blood pressure measurements for six individuals randomly assigned to one of four groups. Our purpose here is to perform four planned contrasts in order to discern if group differences exist for the selected contrasts of interests.

Variables

group a numeric vector between 1 and 4; group number

sbp systolic blood pressure of a patient within one of the four groups

Synonym

C5T4

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_5_table_4)

# Or, alternatively load the data as
data(C5T4)

# View the structure
str(chapter_5_table_4)

# -----
# Optional: a factor-coded copy for ANOVA / model-comparison analyses.
# group is stored as a numeric code so the book's contrast and
# model-comparison examples reproduce exactly. For a one-way ANOVA you
# generally want it as a factor; otherwise the code enters the model as a
# single linear (1 df) term. The "Variables" section does not give level
# labels, so the numeric codes are kept as the factor levels. Build a
# *copy* (suffix "_factors") so the canonical data set is left unchanged.
C5T4_factors <- chapter_5_table_4
C5T4_factors$group <- factor(C5T4_factors$group)
```

```
# The coding matters: numeric code (1 df) versus factor (3 df).
anova(lm(sbp ~ group, data = chapter_5_table_4))
anova(lm(sbp ~ group, data = C5T4_factors))
# (Chapter 5 analyzes these data with planned contrasts, which use numeric
# contrast codes; the factor copy is for the omnibus test and plotting.)
```

chapter_6_exercise_10 *The data used in Chapter 6, Exercise 10*

Description

Data from Chapter 6 Exercise 10 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_6_exercise_10)
```

Format

An object of class `data.frame` with 45 rows and 2 columns.

Details

- Rating.
- Grade.

Synonym

C6E10

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_6_exercise_10)

# Or, alternatively load the data as
data(C6E10)

# View the structure
str(chapter_6_exercise_10)

# Brief summary of the data.
summary(chapter_6_exercise_10)
```

chapter_6_exercise_11 *The data used in Chapter 6, Exercise 11*

Description

Data from Chapter 6 Exercise 11 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). The mean number of incorrect turns made by rats learning a maze after exposure to one of four equally spaced dosage levels of a drug, with five animals per level. Because drug dosage is quantitative, these data are suited to trend analysis.

Usage

```
data(chapter_6_exercise_11)
```

Format

An object of class `data.frame` with 20 rows and 2 columns.

Variables

Errors mean number of incorrect turns made over five trials

Dosage drug dosage level, equally spaced in units of size 1 (1, 2, 3, 4)

Synonym

C6E11

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_6_exercise_11)

# Or, alternatively load the data as
data(C6E11)

# View the structure
str(chapter_6_exercise_11)

# Brief summary of the data.
summary(chapter_6_exercise_11)
```

chapter_6_exercise_14 *The data used in Chapter 6, Exercise 14*

Description

Data from Chapter 6 Exercise 14 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_6_exercise_14)
```

Format

An object of class `data.frame` with 48 rows and 2 columns.

Details

- Proportion.
- Months.

Synonym

C6E14

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_6_exercise_14)

# Or, alternatively load the data as
data(C6E14)

# View the structure
str(chapter_6_exercise_14)

# Brief summary of the data.
summary(chapter_6_exercise_14)
```

chapter_6_exercise_16 *The data used in Chapter 6, Exercise 16*

Description

Data from Chapter 6 Exercise 16 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_6_exercise_16)
```

Format

An object of class `data.frame` with 91 rows and 5 columns.

Details

- id.
- group.
- y.
- latency.
- latency_2.

Synonym

C6E16

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_6_exercise_16)

# Or, alternatively load the data as
data(C6E16)

# View the structure
str(chapter_6_exercise_16)

# Brief summary of the data.
summary(chapter_6_exercise_16)
```

chapter_6_table_1

*The data used in Chapter 6, Table 1***Description**

The data used in Chapter 6, Table 1

Usage

```
data(chapter_6_table_1)
```

Format

An object of class `data.frame` with 24 rows and 2 columns.

Details

Recall scores for 24 children who have been randomly assigned to one of four experimental conditions where there are 6 children in each condition. The experimental conditions of interest are 1, 2, 3, and 4 minutes where the number of minutes is the amount of time the child is allotted to study a list of words before attempting to recall the words. The dependent variable (i.e., the recall scores) are the number of words the child is able to recall after a brief interference task. The first hypothesis of interest is whether the number of words recalled is linearly related to the number of minutes spent studying.

Variables

Recall the number of words recalled by the child after the study time expires

Minutes the amount of time, in minutes, the child was permitted to study

Synonym

C6T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_6_table_1)

# Or, alternatively load the data as
data(C6T1)

# View the structure
str(chapter_6_table_1)
```

chapter_7_exercise_12 *The data used in Chapter 7, Exercise 12*

Description

Data from Chapter 7 Exercise 12 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_12)
```

Format

An object of class `data.frame` with 32 rows and 3 columns.

Details

- ALevel.
- BLevel.
- Score.

Synonym

C7E12

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_12)

# Or, alternatively load the data as
data(C7E12)

# View the structure
str(chapter_7_exercise_12)

# Brief summary of the data.
summary(chapter_7_exercise_12)
```

chapter_7_exercise_13 *The data used in Chapter 7, Exercise 13*

Description

Data from Chapter 7 Exercise 13 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_13)
```

Format

An object of class `data.frame` with 48 rows and 3 columns.

Details

- Age.
- Gender.
- Score.

Synonym

C7E13

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_13)

# Or, alternatively load the data as
data(C7E13)

# View the structure
str(chapter_7_exercise_13)

# Brief summary of the data.
summary(chapter_7_exercise_13)
```

chapter_7_exercise_14 *The data used in Chapter 7, Exercise 14*

Description

Data from Chapter 7 Exercise 14 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_14)
```

Format

An object of class `data.frame` with 28 rows and 3 columns.

Details

- `cond.`
- `status.`
- `score.`

Synonym

C7E14

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_14)

# Or, alternatively load the data as
data(C7E14)

# View the structure
str(chapter_7_exercise_14)

# Brief summary of the data.
summary(chapter_7_exercise_14)
```

chapter_7_exercise_15 *The data used in Chapter 7, Exercise 15*

Description

Data from Chapter 7 Exercise 15 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_15)
```

Format

An object of class `data.frame` with 36 rows and 3 columns.

Details

- Gender.
- Cond.
- Score.

Synonym

C7E15

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_15)

# Or, alternatively load the data as
data(C7E15)

# View the structure
str(chapter_7_exercise_15)

# Brief summary of the data.
summary(chapter_7_exercise_15)
```

chapter_7_exercise_18 *The data used in Chapter 7, Exercise 18*

Description

Data from Chapter 7 Exercise 18 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_18)
```

Format

An object of class `data.frame` with 22 rows and 3 columns.

Details

- level.
- gender.
- salary.

Synonym

C7E18

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_18)

# Or, alternatively load the data as
data(C7E18)

# View the structure
str(chapter_7_exercise_18)

# Brief summary of the data.
summary(chapter_7_exercise_18)
```

chapter_7_exercise_19 *The data used in Chapter 7, Exercise 19*

Description

Data from Chapter 7 Exercise 19 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_19)
```

Format

An object of class `data.frame` with 40 rows and 3 columns.

Details

- `race`.
- `courses`.
- `scores`.

Synonym

C7E19

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_19)

# Or, alternatively load the data as
data(C7E19)

# View the structure
str(chapter_7_exercise_19)

# Brief summary of the data.
summary(chapter_7_exercise_19)
```

chapter_7_exercise_21 *The data used in Chapter 7, Exercise 21*

Description

Data from Chapter 7 Exercise 21 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). Trust scores in a 2 (gender) by 2 (drug) between-subjects factorial design in which 20 females and 20 males were randomly assigned to receive either oxytocin or a placebo; trust was measured in a variation of the prisoner's dilemma, and higher scores indicate more trust.

Usage

```
data(chapter_7_exercise_21)
```

Format

An object of class `data.frame` with 40 rows and 3 columns.

Variables

Gender 1 = female, 2 = male

Drug 1 = oxytocin, 2 = placebo

Trust trust score (higher scores indicate more trust)

Synonym

C7E21

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_21)

# Or, alternatively load the data as
data(C7E21)

# View the structure
str(chapter_7_exercise_21)

# Brief summary of the data.
summary(chapter_7_exercise_21)
```

chapter_7_exercise_22 *The data used in Chapter 7, Exercise 22*

Description

Data from Chapter 7 Exercise 22 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_22)
```

Format

An object of class `data.frame` with 28 rows and 4 columns.

Details

- `id`.
- `bpd`.
- `drug`.
- `trust`.

Synonym

C7E22

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_22)

# Or, alternatively load the data as
data(C7E22)

# View the structure
str(chapter_7_exercise_22)

# Brief summary of the data.
summary(chapter_7_exercise_22)
```

chapter_7_exercise_23 *The data used in Chapter 7, Exercise 23*

Description

Data from Chapter 7 Exercise 23 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_23)
```

Format

An object of class `data.frame` with 68 rows and 4 columns.

Details

- id.
- esteem.
- cond.
- mood.

Synonym

C7E23

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_23)

# Or, alternatively load the data as
data(C7E23)

# View the structure
str(chapter_7_exercise_23)

# Brief summary of the data.
summary(chapter_7_exercise_23)
```

chapter_7_exercise_24 *The data used in Chapter 7, Exercise 24*

Description

Data from Chapter 7 Exercise 24 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_24)
```

Format

An object of class `data.frame` with 56 rows and 4 columns.

Details

- `id`.
- `thought`.
- `complexity`.
- `attitude`.

Synonym

C7E24

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_24)

# Or, alternatively load the data as
data(C7E24)

# View the structure
str(chapter_7_exercise_24)

# Brief summary of the data.
summary(chapter_7_exercise_24)
```

chapter_7_exercise_25 *The data used in Chapter 7, Exercise 25*

Description

Data from Chapter 7 Exercise 25 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_25)
```

Format

An object of class `data.frame` with 60 rows and 4 columns.

Details

- `id`.
- `switch`.
- `cond`.
- `change`.

Synonym

C7E25

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_25)

# Or, alternatively load the data as
data(C7E25)

# View the structure
str(chapter_7_exercise_25)

# Brief summary of the data.
summary(chapter_7_exercise_25)
```

chapter_7_exercise_6 *The data used in Chapter 7, Exercise 6*

Description

Data from Chapter 7 Exercise 6 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_6)
```

Format

An object of class `data.frame` with 45 rows and 3 columns.

Details

- Treatment.
- Level.
- Score.

Synonym

C7E6

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_6)

# Or, alternatively load the data as
data(C7E6)

# View the structure
str(chapter_7_exercise_6)

# Brief summary of the data.
summary(chapter_7_exercise_6)
```

chapter_7_exercise_9 *The data used in Chapter 7, Exercise 9*

Description

Data from Chapter 7 Exercise 9 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_7_exercise_9)
```

Format

An object of class `data.frame` with 48 rows and 3 columns.

Details

- Treatment.
- Level.
- Score.

Synonym

C7E9

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_exercise_9)

# Or, alternatively load the data as
data(C7E9)

# View the structure
str(chapter_7_exercise_9)

# Brief summary of the data.
summary(chapter_7_exercise_9)
```

chapter_7_table_1

The data used in Chapter 7, Table 1

Description

The data used in Chapter 7, Table 1

Usage

```
data(chapter_7_table_1)
```

Format

An object of class `data.frame` with 20 rows and 2 columns.

Details

This data is the hypothetical data from a psychologist's evaluation of the effectiveness of biofeedback and drug therapy for treating hypertension (lowering blood pressure). There are four groups: both biofeedback training and drug therapy, biofeedback but not drug therapy, drug therapy but no biofeedback, and neither biofeedback nor drug therapy... As usual, in this data set, the number of subjects is kept small to minimize the computational burden. We assume that the scores in the table represent systolic blood pressure readings taken at the end of the treatment period.

The following data consists specifically of blood pressure measurements taken after the end of treatment for five individuals that were randomly assigned to one of four groups. The initial question of interest is whether there is a significant difference between any of the group means, that is, are all of the population group means equal or is there a difference somewhere.

As before, we can perform a one-way ANOVA via the One-Way ANOVA procedure to replicate the results given in Table 7.2.

Variables

Group a numeric vector between 1 and 4 equal to the drug therapy group

Score the blood pressure of one of the individuals in the study

Synonym

C7T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_table_1)

# Or, alternatively load the data as
data(C7T1)

# View the structure
str(chapter_7_table_1)
```

chapter_7_table_11	<i>The data used in Chapter 7, Table 11</i>
--------------------	---

Description

The data used in Chapter 7, Table 11

Usage

```
data(chapter_7_table_11)
```

Format

An object of class `data.frame` with 45 rows and 3 columns.

Details

Table 7.11 presents this hypothetical data for 15 amnesiacs, 15 Huntington individuals, and 15 controls. The data represents a two way factorial design where diagnosis and task are fully crossed, each with three levels. Of interest for the results displayed in Table 7.12 is whether the interaction contrast specified in Figure 7.3 and 7.4 is statistically significant. Namely the question pertains to whether the relationship of the mean of grammar and classification versus recognition differs for those in the amnesic and Huntington's group. Interaction contrasts of this kind are readily specified and tested within the model comparison framework.

Consider an example of a cognitive neuroscience study of patient groups. Specifically, suppose that a certain theory implies that amnesic patients will have a deficit in explicit memory but not in implicit memory. According to this theory, Huntington patients, on the other hand, will be just the opposite: They will have no deficit in explicit memory, but will have a deficit in implicit memory. Further suppose that a study is designed yielding a 3x3 factorial design to test this theory. The rows of this study will represent three types of individuals: amnesic patients, Huntington patients, and a control group of individuals with no known neurological disorder. Each research participant will be randomly assigned to one of three tasks: (1) artificial grammar task, which consists of classifying letter sequences as either following or not following grammatical rules; (2) classification learning task, which consists of classifying hypothetical patients as either having or not having a certain disease based on symptoms probabilistically related to the disease; and (3) recognition memory task, which consists of recognizing particular stimuli as stimuli that have previously been presented during the task.

Variables

Diagnosis diagnostic group: amnesic, Huntington's disease, or control (three levels)

Task task type (1 = artificial grammar, 2 = classification learning, 3 = recognition memory)

Y the dependent variable: the task performance score

Synonym

C7T11

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_table_11)

# Or, alternatively load the data as
data(C7T11)

# View the structure
str(chapter_7_table_11)

# -----
# Optional: a factor-coded copy for factorial ANOVA / model comparison.
# Diagnosis and Task are stored as numeric codes so the book's contrast
# and model-comparison examples reproduce exactly. For a factorial ANOVA
# you want them as factors; otherwise a code enters the model as a single
# linear (1 df) term. Build a *copy* (suffix "_factors") so the canonical
# data set is left unchanged. Labels (and their order) are taken from the
# "Variables" section / description above.
C7T11_factors <- chapter_7_table_11
C7T11_factors$Diagnosis <- factor(C7T11_factors$Diagnosis, levels = 1:3,
  labels = c("Amnesic", "Huntington's Disease", "Control"))
C7T11_factors$Task <- factor(C7T11_factors$Task, levels = 1:3,
  labels = c("Artificial Grammar", "Classification Learning",
    "Recognition Memory"))
```

```
# This design is balanced, so the factorial ANOVA is order-invariant.
anova(lm(Y ~ Diagnosis * Task, data = C7T11_factors))
# (The book then tests a specific interaction contrast; see Table 7.12.)
```

chapter_7_table_16 *The data used in Chapter 7, Table 16*

Description

The data used in Chapter 7, Table 16

Usage

```
data(chapter_7_table_16)
```

Format

An object of class `data.frame` with 22 rows and 3 columns.

Details

The following hypothetical salary data represents a nonorthogonal two-by-two factorial design. The first factor (sex) is crossed with college (degree or no degree). The primary question of interest is whether or not there is sex discrimination in terms of salary.

The data in Table 7.16 presents hypothetical data (in thousands) for 12 females and 10 males who have just been hired by the organization. The mean salary for the 12 females is \$22,333, whereas the mean for the 10 males is \$22,100. The data in Table 7.16 also contains information about an additional characteristic of employees, namely whether they received a college degree. It is clear from the data that a majority of the new female employees are college graduates, whereas a majority of the males are not.

Variables

Sex gender (male vs female)

Education education level (degree vs no degree)

Salary salary (in thousands)

Synonym

C7T16

Note

Renumbered for the 4th edition: in the 3rd edition (AMCP 1.x) these data were Table 7.15 (chapter_7_table_15 / C7T15). The data are unchanged.

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_table_16)

# Or, alternatively load the data as
data(C7T16)

# View the structure
str(chapter_7_table_16)

# -----
# Optional: a factor-coded copy for model-comparison analyses / plotting.
# Sex and Education are stored as numeric codes so the book's examples
# reproduce exactly. Build a *copy* (suffix "_factors") so the canonical
# data set is left unchanged; Salary stays numeric. The level order is
# fixed by the counts in the narrative: the data have 12 cases in Sex == 1
# and 10 in Sex == 2, matching the "12 females and 10 males", and the
# female majority are graduates, so Education == 1 is the degree group.
C7T16_factors <- chapter_7_table_16
C7T16_factors$Sex <- factor(C7T16_factors$Sex, levels = 1:2,
  labels = c("Female", "Male"))
C7T16_factors$Education <- factor(C7T16_factors$Education, levels = 1:2,
  labels = c("Degree", "No Degree"))

# This is a NONORTHOGONAL (unbalanced) two-way design, so the sums of
# squares are order-dependent; the book reports the appropriate tests.
# Build the factor copy, then follow the book's procedure (e.g.,
# car::Anova() for Type II/III) rather than the default anova(lm()).
str(C7T16_factors)
```

chapter_7_table_24	<i>The data used in Chapter 7, Table 24</i>
--------------------	---

Description

The data used in Chapter 7, Table 24

Usage

`data(chapter_7_table_24)`

Format

An object of class `data.frame` with 45 rows and 3 columns.

Details

Suppose that a clinical psychologist is interested in comparing the relative effectiveness of three forms of psychotherapy for alleviating depression. Fifteen individuals are randomly assigned to one of each of three treatment groups: cognitive-behavioral, Rogerian, and assertiveness training. The Depression Scale of the MMPI serves as the dependent variable. After the fact, these individuals were placed into one of three categories based on the severity of their depression. Thus, this data set represents a 3 by 3 nonorthogonal factorial design with post hoc blocking. Table 7.24 shows hypothetical MMPI scores for 45 participants, each of whom is placed in one cell of a 3x3 design. One factor (A, the row factor) is type of therapy. The other factor (B, the column factor) is degree of severity.

The data represents the relative effectiveness of three forms of psychotherapy for alleviating depression. Fifteen individuals were randomly assigned to one of three groups. After the fact, these individuals were placed into one of three categories based on the severity of their depression. Thus, this data set represents a 3 by 3 nonorthogonal factorial design with post hoc blocking.

Variables

- Therapy** the type of therapy
- Severity** the severity of the therapy
- Score** the score of the individual

Synonym

C7T24

Note

Renumbered for the 4th edition: in the 3rd edition (AMCP 1.x) these data were Table 7.23 (chapter_7_table_23 / C7T23). The data are unchanged.

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_table_24)

# Or, alternatively load the data as
data(C7T24)

# View the structure
str(chapter_7_table_24)

# -----
# Optional: a factor-coded copy for model-comparison analyses / plotting.
# Therapy and Severity are stored as numeric codes so the book's examples
# reproduce exactly. The "Variables" section does not give level labels,
# so the numeric codes are kept as the factor levels. Build a *copy*
# (suffix "_factors") so the canonical data set is left unchanged; Score
# stays numeric.
C7T24_factors <- chapter_7_table_24
C7T24_factors$Therapy <- factor(C7T24_factors$Therapy)
C7T24_factors$Severity <- factor(C7T24_factors$Severity)

# This is a NONORTHOGONAL (unbalanced) two-way design with post hoc
# blocking, so the sums of squares are order-dependent; the book reports
# the appropriate tests. Build the factor copy, then follow the book's
# procedure (e.g., car::Anova() for Type II/III).
str(C7T24_factors)
```

chapter_7_table_5

The data used in Chapter 7, Table 5

Description

The data used in Chapter 7, Table 5

Usage

```
data(chapter_7_table_5)
```

Format

An object of class `data.frame` with 30 rows and 3 columns.

Details

This table represents hypothetical data from a study investigating the effects of biofeedback and drug therapy on hypertension. We (arbitrarily) refer to the presence or absence of biofeedback as factor A and to the type of drug as factor B.

The following data is a generalization of the blood pressure data given in Table 7.1 (as there are now three, rather than two, levels of the drug factor). In addition to assessing the likelihood of there being a biofeedback or a drug main effect, the interaction is explicitly taken into consideration.

Variables

Score blood pressure

Feedback biofeedback condition (1 = present, 2 = absent, that is, drug administered alone)

Drug drug administered (1 = drug X, 2 = drug Y, 3 = drug Z)

Synonym

C7T5

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_table_5)

# Or, alternatively load the data as
data(C7T5)
```

```
# View the structure
str(chapter_7_table_5)

# -----
# Optional: a factor-coded copy for factorial ANOVA / model comparison.
# Feedback and Drug are stored as numeric codes so the book's contrast and
# model-comparison examples reproduce exactly. For a factorial ANOVA you
# want them as factors; otherwise a code enters the model as a single
# linear (1 df) term. The "Variables" section does not give level labels,
# so the numeric codes are kept as the factor levels. Build a *copy*
# (suffix "_factors") so the canonical data set is left unchanged.
C7T5_factors <- chapter_7_table_5
C7T5_factors$Feedback <- factor(C7T5_factors$Feedback)
C7T5_factors$Drug      <- factor(C7T5_factors$Drug)

# This design is balanced, so the factorial ANOVA is order-invariant.
anova(lm(Score ~ Feedback * Drug, data = C7T5_factors))
```

chapter_7_table_9	<i>The data used in Chapter 7, Table 9</i>
-------------------	--

Description

The data used in Chapter 7, Table 9

Usage

data(chapter_7_table_9)

Format

An object of class `data.frame` with 6 rows and 3 columns.

Details

Table 7.9 gives one additional observation for each of the six cells of the 2 (biofeedback: present or absent) by 3 (drug: X, Y, or Z) blood pressure design whose first five observations per cell appear in Table 7.5 (chapter_7_table_5). The additional observations are listed in the same cell order as Table 7.5: biofeedback paired with drug X, Y, and Z, followed by drugs X, Y, and Z administered alone. Stacking these six values onto Table 7.5 yields six observations per cell, and the cell means and marginal means of the combined data are those reported in Table 7.10 (reproduced in the examples below).

Variables

- Score** blood pressure
- Feedback** biofeedback condition (1 = present, 2 = absent, that is, drug administered alone)
- Drug** drug administered (1 = drug X, 2 = drug Y, 3 = drug Z)

Synonym

C7T9

Note

This data set's content changed for the 4th edition. In AMCP 1.x (3rd edition) it held a 36-row combined data set; it now holds the six *additional* observations reported in the 4th edition's Table 7.9 (see Details).

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_table_9)

# Or, alternatively load the data as
data(C7T9)

# View the structure
str(chapter_7_table_9)

# -----
# Table 7.9 supplies one additional observation for each of the six cells
# of the 2 (Feedback) x 3 (Drug) design in Table 7.5 (chapter_7_table_5).
# Stacking it onto Table 7.5 gives six observations per cell; the cell and
# marginal means of the combined data are those reported in Table 7.10.
data(chapter_7_table_5)
combined <- rbind(chapter_7_table_5, chapter_7_table_9)

# Cell means: a 2 (Feedback) x 3 (Drug) table -- Table 7.10
# Feedback 1 = biofeedback present, 2 = absent; Drug 1 = X, 2 = Y, 3 = Z
tapply(combined$Score,
       list(Feedback = combined$Feedback, Drug = combined$Drug), mean)

# Marginal means and grand mean (also given in Table 7.10)
tapply(combined$Score, combined$Feedback, mean) # 187 (present), 199 (absent)
tapply(combined$Score, combined$Drug, mean)      # 178 (X), 202 (Y), 199 (Z)
```

```
mean(combined$Score) # 193 (grand mean)
```

chapter_8_exercise_15 *The data used in Chapter 8, Exercise 15*

Description

Data from Chapter 8 Exercise 15 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_8_exercise_15)
```

Format

An object of class `data.frame` with 48 rows and 4 columns.

Details

- `ProportionTime`.
- `Parent`.
- `Child`.
- `Months`.

Synonym

C8E15

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_8_exercise_15)

# Or, alternatively load the data as
data(C8E15)

# View the structure
str(chapter_8_exercise_15)

# Brief summary of the data.
summary(chapter_8_exercise_15)
```

chapter_8_exercise_16 *The data used in Chapter 8, Exercise 16*

Description

Data from Chapter 8 Exercise 16 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_8_exercise_16)
```

Format

An object of class `data.frame` with 96 rows and 4 columns.

Details

- Value.
- Monitors.
- Argument.
- Source.

Synonym

C8E16

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_8_exercise_16)

# Or, alternatively load the data as
data(C8E16)

# View the structure
str(chapter_8_exercise_16)

# Brief summary of the data.
summary(chapter_8_exercise_16)
```

chapter_8_exercise_17 *The data used in Chapter 8, Exercise 17*

Description

Data from Chapter 8 Exercise 17 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_8_exercise_17)
```

Format

An object of class `data.frame` with 54 rows and 4 columns.

Details

- BehavioralAvoidance.
- Condition.
- Phobia.
- Gender.

Synonym

C8E17

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_8_exercise_17)

# Or, alternatively load the data as
data(C8E17)

# View the structure
str(chapter_8_exercise_17)

# Brief summary of the data.
summary(chapter_8_exercise_17)
```

chapter_8_exercise_18 *The data used in Chapter 8, Exercise 18*

Description

Data from Chapter 8 Exercise 18 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_8_exercise_18)
```

Format

An object of class `data.frame` with 80 rows and 5 columns.

Details

- ID.
- Partner.
- Report.
- Focus.
- Negativity.

Synonym

C8E18

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_8_exercise_18)

# Or, alternatively load the data as
data(C8E18)

# View the structure
str(chapter_8_exercise_18)

# Brief summary of the data.
summary(chapter_8_exercise_18)
```

chapter_8_exercise_19 *The data used in Chapter 8, Exercise 19*

Description

Data from Chapter 8 Exercise 19 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_8_exercise_19)
```

Format

An object of class `data.frame` with 80 rows and 5 columns.

Details

- ID.
- Gender.
- Audience.
- Presentation.
- Persistence.

Synonym

C8E19

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_8_exercise_19)

# Or, alternatively load the data as
data(C8E19)

# View the structure
str(chapter_8_exercise_19)

# Brief summary of the data.
summary(chapter_8_exercise_19)
```

chapter_8_table_12	<i>The data used in Chapter 8, Table 12</i>
--------------------	---

Description

The data used in Chapter 8, Table 12

Usage

```
data(chapter_8_table_12)
```

Format

An object of class `data.frame` with 72 rows and 4 columns.

Details

This example builds from the hypertension example used in chapter 7 for the two-way design. The data in Table 8.12 consist of blood pressure scores for 72 participants. Three categorical independent variables: the presence and absence of biofeedback (biofeed), drug X, Y, or Z (drug), and diet absent or present (diet) have been factorially combined to form a 2 x 3 x 2 design where each person contributes one blood pressure score to one of the 12 different experimental conditions. For this example, there are 6 participants in each group.

Variables

BP patient blood pressure
Drug drug given (X,Y,or Z)
Biofeedback presence or absence of biofeedback
Diet presence or absence of a diet

Synonym

C8T12

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_8_table_12)

# Or, alternatively load the data as
data(C8T12)

# View the structure
str(chapter_8_table_12)
```

chapter_9_exercise_14 *The data used in Chapter 9, Exercise 14*

Description

Data from Chapter 9 Exercise 14 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_9_exercise_14)
```

Format

An object of class `data.frame` with 155 rows and 4 columns.

Details

- ID.
- Condition.
- EmotClose.
- Anger.

Synonym

C9E14

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_exercise_14)

# Or, alternatively load the data as
data(C9E14)

# View the structure
str(chapter_9_exercise_14)

# Brief summary of the data.
summary(chapter_9_exercise_14)
```

chapter_9_exercise_15 *The data used in Chapter 9, Exercise 15*

Description

Data from Chapter 9 Exercise 15 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_9_exercise_15)
```

Format

An object of class `data.frame` with 310 rows and 6 columns.

Details

- Grade.
- Treatment.
- IQPre.
- IQ4.
- IQ8.
- IQGain.

Synonym

C9E15

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_exercise_15)

# Or, alternatively load the data as
data(C9E15)

# View the structure
str(chapter_9_exercise_15)

# Brief summary of the data.
summary(chapter_9_exercise_15)
```

chapter_9_exercise_16 *The data used in Chapter 9, Exercise 16*

Description

Data from Chapter 9 Exercise 16 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_9_exercise_16)
```

Format

An object of class `data.frame` with 310 rows and 6 columns.

Details

- Grade.
- Treatment.
- IQPre.
- IQ4.
- IQ8.
- IQGain.

Synonym

C9E16

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_exercise_16)

# Or, alternatively load the data as
data(C9E16)

# View the structure
str(chapter_9_exercise_16)

# Brief summary of the data.
summary(chapter_9_exercise_16)
```

chapter_9_exercise_4 *The data used in Chapter 9, Exercise 4*

Description

Data from Chapter 9 Exercise 4 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_9_exercise_4)
```

Format

An object of class `data.frame` with 10 rows and 3 columns.

Details

- Group.
- Pre.
- Post.

Synonym

C9E4

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_exercise_4)

# Or, alternatively load the data as
data(C9E4)

# View the structure
str(chapter_9_exercise_4)

# Brief summary of the data.
summary(chapter_9_exercise_4)
```

chapter_9_extension_exercise_1

The data used in Chapter 9 Extension, Exercise 1

Description

Data from Chapter 9 Extension Exercise 1 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_9_extension_exercise_1)
```

Format

An object of class `data.frame` with 140 rows and 6 columns.

Details

- ID.
- RSA.
- Delay.
- SES_group.
- MaxDelay.
- RSAdev.

Synonym

C9ExtE1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

Sturge-Apple, M. L., Suor, J. H., Davies, P. T., Cicchetti, D., Skibo, M. A., & Rogosch, F. A. (2016). Vagal tone and children's delay of gratification: Differential sensitivity in resource-poor and resource-rich environments. *Psychological Science*, 27, 885–893.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_extension_exercise_1)

# Or, alternatively load the data as
data(C9ExtE1)

# View the structure
str(chapter_9_extension_exercise_1)

# Brief summary of the data.
summary(chapter_9_extension_exercise_1)
```

chapter_9_extension_exercise_2*The data used in Chapter 9 Extension, Exercise 2*

Description

Data from Chapter 9 Extension Exercise 2 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_9_extension_exercise_2)
```

Format

An object of class `data.frame` with 168 rows and 6 columns.

Details

- `ParticipantNumber`.
- `Group`.
- `BaseHrsDrkTypWk`.
- `FolHrsDrkTypWk`.
- `DiffBaseFolHrsDrk`.
- `BaseHrsCtrd`.

Synonym

`C9ExtE2`

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_extension_exercise_2)

# Or, alternatively load the data as
data(C9ExtE2)

# View the structure
str(chapter_9_extension_exercise_2)

# Brief summary of the data.
summary(chapter_9_extension_exercise_2)
```

chapter_9_extension_exercise_3*The data used in Chapter 9 Extension, Exercise 3*

Description

Data from Chapter 9 Extension Exercise 3 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_9_extension_exercise_3)
```

Format

An object of class `data.frame` with 310 rows and 6 columns.

Details

- Grade.
- Treatment.
- IQPre.
- IQ4.
- IQ8.
- IQGain.

Synonym

C9ExtE3

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_extension_exercise_3)

# Or, alternatively load the data as
data(C9ExtE3)

# View the structure
str(chapter_9_extension_exercise_3)

# Brief summary of the data.
summary(chapter_9_extension_exercise_3)
```

chapter_9_extension_figures_4_and_5

The data used in Chapter 9 Extension Figures 4 and 5

Description

Data used in the Chapter 9 Extension, Figures 4 and 5, of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_9_extension_figures_4_and_5)
```

Format

An object of class `data.frame` with 310 rows and 10 columns.

Details

- Grade
- Treatment
- IQPre
- IQ4
- IQ8
- AvPost
- IQPre_Mean
- IQPre_Centered
- TxX
- Constant1

Synonym

C9ExtE1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_extension_figures_4_and_5)

# Or, alternatively load the data as
data(C9ExtFigs4and5)

# View the structure
str(chapter_9_extension_figures_4_and_5)

# Brief summary of the data.
summary(chapter_9_extension_figures_4_and_5)
```

chapter_9_extension_table_1*The data used in Chapter 9, Extension Table 1*

Description

The data used in Chapter 9, Extension Table 1

Usage

```
data(chapter_9_extension_table_1)
```

Format

An object of class `data.frame` with 6 rows and 3 columns.

Details

Table 9E.1 shows the data from Table 9.1 after some minor modifications to reflect heterogeneity of regression. The data were altered in such a way that the means in both groups are the same as in the original example, as is the pooled within-group slope.

Variables

Group the group (treatment group vs wait-list control group)

X the weight lost by the control group

Y the weight lost by the treatment group

Synonym

C9ExtT1

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_extension_table_1)

# Or, alternatively load the data as
data(C9ExtT1)

# View the structure
str(chapter_9_extension_table_1)
```

chapter_9_table_1*The data used in Chapter 9, Table 1*

Description

The data used in Chapter 9, Table 1

Usage

```
data(chapter_9_table_1)
```

Format

An object of class `data.frame` with 6 rows and 3 columns.

Details

The data in Table 9.1 are the numerical values for the data that is presented in Figure 9.1, which presents a comparison of errors in ANOVA and ANCOVA restricted models.

The data represents a pre-post design, where a training program designed to assist people in losing weight is evaluated. An initial measure of weight is collected to use as a baseline measure (specifically as a covariate in the present analysis) and then participants are randomly assigned to one of two groups. At the end of the training program another measure of weight is obtained. The question of interest is: "did the participants who received the treatment lose more weight than those that were assigned to the wait-list control group?"

Variables

Group the group (treatment group vs wait-list control group)

X the weight lost by the control group

Y the weight lost by the treatment group

Synonym

C9T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_table_1)

# Or, alternatively load the data as
data(C9T1)

# View the structure
str(chapter_9_table_1)
```

chapter_9_table_12	<i>The data used in Chapter 9, Table 12</i>
--------------------	---

Description

The data used in Chapter 9, Table 12

Usage

```
data(chapter_9_table_12)
```

Format

An object of class `data.frame` with 18 rows and 4 columns.

Details

The question of interest in the present situation assumes that there are three blocks of elderly participants, six per block. The elderly participants are sorted into the three blocks as a function of their age. The purpose of the study was to assess the effect of age on motor control, measured by the number of errors on a certain task (where there were three tasks). The goal here is to replicate the results from the top portion of Table 9.12 (At this point performing the ANOVA and the ANCOVA also included in Table 9.12 should be straightforward.

Variables

- Block** a numeric vector between 1 and 3, equal to the block of elderly participants (6 per block)
- Task** the task given
- X** age
- Y** error scores

Synonym

C9T12

Note

Renumbered for the 4th edition: in the 3rd edition (AMCP 1.x) these data were Table 9.11 (chapter_9_table_11 / C9T11). The data are unchanged.

Author(s)

Ken Kelley <kkelley@end.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_table_12)

# Or, alternatively load the data as
data(C9T12)

# View the structure
str(chapter_9_table_12)

# -----
# Optional: a factor-coded copy for model-comparison analyses / plotting.
# Block and Task are stored as numeric codes so the book's examples
# reproduce exactly. The "Variables" section does not give level labels,
# so the numeric codes are kept as the factor levels. Build a *copy*
# (suffix "_factors") so the canonical data set is left unchanged. The
# covariate X (age) and the outcome Y stay numeric.
C9T12_factors <- chapter_9_table_12
C9T12_factors$Block <- factor(C9T12_factors$Block)
C9T12_factors$Task <- factor(C9T12_factors$Task)

# The book analyzes these data with ANOVA and ANCOVA (Table 9.12); build
# the factor copy, then follow the book's procedure (age, X, is the
# covariate, kept numeric).
str(C9T12_factors)
```

chapter_9_table_7	The data used in Chapter 9, Table 7
Description	
The data used in Chapter 9, Table 7	
Usage	
data(chapter_9_table_7)	
Format	
An object of class data.frame with 30 rows and 3 columns.	
Details	
The data shown in Table 9.7 represents a hypothetical three-group study assessing different interventions for depression. 30 depressive individuals have been randomly assigned to one of three conditions: (1) selective serotonin reuptake inhibitor (SSRI) antidepressant medication, (2) placebo, or (3) wait list control. The Beck Depression Inventory (BDI) has been administered to each individual prior to the study, and then later is administered a second time at the end of the study. The data represents a three group pre-post design, where the 30 depressives were randomly assigned to one of three conditions. The primary question of interest is: "do individuals in some groups change more on their measures of depression than do individuals in other groups?"	
Variables	
Condition the treatment condition (SSRI, Placebo, Wait List Control)	
Pre the measure of depression before the experiment	
Post the measure of depression after the experiment	
Synonym	
C9T7	
Author(s)	
Ken Kelley <kkelley@nd.edu>	
Source	
https://designingexperiments.com/data/	
Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). <i>Designing experiments and analyzing data: A model comparison perspective</i> . (4th ed.). New York, NY: Routledge.	

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_table_7)

# Or, alternatively load the data as
data(C9T7)

# View the structure
str(chapter_9_table_7)

# -----
# Optional: a factor-coded copy for ANCOVA / model-comparison analyses.
# Condition is stored as a numeric code so the book's contrast and
# model-comparison examples reproduce exactly. For ANCOVA you want it as a
# factor; otherwise the code enters the model as a single linear (1 df)
# term. The covariate (Pre) stays numeric. Build a *copy* (suffix
# "_factors") so the canonical data set is left unchanged. Labels are
# taken from the "Variables" section above.
C9T7_factors <- chapter_9_table_7
C9T7_factors$Condition <- factor(C9T7_factors$Condition, levels = 1:3,
  labels = c("SSRI", "Placebo", "Wait List Control"))

# ANCOVA: enter the covariate (Pre) first, then the (factor) Condition;
# the adjusted test of Condition appears in the Condition row.
anova(lm(Post ~ Pre + Condition, data = C9T7_factors))
```

tutorial_1_table_1	<i>The data used in Tutorial 1, Table 1</i>
--------------------	---

Description

Data from Tutorial 1 Table 1 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley). Beck Depression Inventory (BDI) scores for 103 adults (Smith, Meyers, & Delaney, 1998), used in Tutorial 1 to review basic descriptive statistics (the scores range from 0 to 43, with mean 15.748, median 13, and mode 9).

Usage

```
data(tutorial_1_table_1)
```

Format

An object of class `data.frame` with 103 rows and 1 columns.

Details

- BDI.

Synonym

T1T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>
Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(tutorial_1_table_1)

# Or, alternatively load the data as
data(T1T1)

# View the structure
str(tutorial_1_table_1)

# Brief summary of the data.
summary(tutorial_1_table_1)
```

tutorial_2_table_1	<i>The data used in Tutorial 2, Table 1</i>
--------------------	---

Description

Data from Tutorial 2 Table 1 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(tutorial_2_table_1)
```

Format

An object of class `data.frame` with 8 rows and 2 columns.

Details

- Group.
- Score.

Synonym

T2T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(tutorial_2_table_1)

# Or, alternatively load the data as
data(T2T1)

# View the structure
str(tutorial_2_table_1)

# Brief summary of the data.
summary(tutorial_2_table_1)
```

tutorial_2_table_2	<i>The data used in Tutorial 2, Table 2</i>
--------------------	---

Description

Data from Tutorial 2 Table 2 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(tutorial_2_table_2)
```

Format

An object of class `data.frame` with 8 rows and 4 columns.

Details

- Y.
- X1.
- X2.
- X3.

Synonym

T2T2

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(tutorial_2_table_2)

# Or, alternatively load the data as
data(T2T2)

# View the structure
str(tutorial_2_table_2)

# Brief summary of the data.
summary(tutorial_2_table_2)
```

tutorial_3a_table_1	<i>The data used in Tutorial 3A, Table 1</i>
---------------------	--

Description

Data from Tutorial 3A Table 1 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(tutorial_3a_table_1)
```

Format

An object of class `data.frame` with 8 rows and 2 columns.

Details

- Group.
- Score.

Synonym

T3AT1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(tutorial_3a_table_1)

# Or, alternatively load the data as
data(T3AT1)

# View the structure
str(tutorial_3a_table_1)

# Brief summary of the data.
summary(tutorial_3a_table_1)
```

tutorial_3a_table_2	<i>The data used in Tutorial 3A, Table 2</i>
---------------------	--

Description

Data from Tutorial 3A Table 2 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(tutorial_3a_table_2)
```

Format

An object of class `data.frame` with 8 rows and 4 columns.

Details

- Y.
- X1.
- X2.
- X3.

Synonym

T3AT2

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(tutorial_3a_table_2)

# Or, alternatively load the data as
data(T3AT2)

# View the structure
str(tutorial_3a_table_2)

# Brief summary of the data.
summary(tutorial_3a_table_2)
```

tutorial_3a_table_4	<i>The data used in Tutorial 3A, Table 4</i>
---------------------	--

Description

Data from Tutorial 3A Table 4 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(tutorial_3a_table_4)
```

Format

An object of class `data.frame` with 10 rows and 6 columns.

Details

- group.
- score.
- x0.
- x1.
- x2.
- x3.

Synonym

T3AT4

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(tutorial_3a_table_4)

# Or, alternatively load the data as
data(T3AT4)

# View the structure
str(tutorial_3a_table_4)

# Brief summary of the data.
summary(tutorial_3a_table_4)
```

tutorial_3a_table_5	<i>The data used in Tutorial 3A, Table 5</i>
---------------------	--

Description

Data from Tutorial 3A Table 5 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (4th edition; Maxwell, Delaney, & Kelley).

Usage

```
data(tutorial_3a_table_5)
```

Format

An object of class `data.frame` with 10 rows and 6 columns.

Details

- group.
- score.
- x0.
- x1.
- x2.
- x3.

Synonym

T3AT5

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

<https://designingexperiments.com/data/>

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective*. (4th ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2027). *Designing experiments and analyzing data: A model comparison perspective* (4th ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(tutorial_3a_table_5)

# Or, alternatively load the data as
data(T3AT5)

# View the structure
str(tutorial_3a_table_5)

# Brief summary of the data.
summary(tutorial_3a_table_5)
```

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