Package 'AMCP'

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Type Package

Title A Model Comparison Perspective

Version 1.0.2

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Description Accompanies the book ``Designing experiments and
analyzing data: A model comparison perspective'' (3rd ed.) by
Maxwell, Delaney, & Kelley (2018; Routledge).
Contains all of the data sets in the book's chapters and
end-of-chapter exercises. Information about the book is available at
<https://designingexperiments.com/>.

License GPL (>= 3)

Encoding UTF-8

Depends R (>= 3.0.0)

RoxygenNote 7.3.1

LazyData true

NeedsCompilation no

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Repository CRAN

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Contents

AMCP-package   *A Model Comparison Perspective (AMCP)*

Description

AMCP contains all of the data sets used in Maxwell, Delaney, & Kelley's (2018) *Designing experiments and analyzing data: A model comparison perspective* (3rd edition). Information about the book is available at <http://www.DesigningExperiments.com>.

Details

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 the 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 the 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 data the Chapter 15 Exercise 18 data in the "univariate" format (long, not wide; e.g., `data("chapter_15_exercise_18_univ` or `data(C15E18U)`).

A list of the available data sets from AMCP can be obtained with the following code: `ta(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 need benefit from being parsed, wrangled, or tidied.

Note that https://designingexperiments.com/computing/ shows R code (via R Markdown), SPSS syntax and graphical user interface approaches, along with SAS code 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. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY. Routledge.

See the web page that accompanies the book here: https://designingexperiments.com/.

For suggested updates, please email Ken Kelley <kkelley@nd.edu>.

---

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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

---

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

a type of study program

b the particular school

act the individual's ACT score

Synonym

C10T9

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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 *The data used in Chapter 11, Table 1*

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

ycond1 data from the six subjects under treatment condition 1

ycond2 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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. SPSS and SAS allow repeated measures data to be entered in a "participants by occasions" fashion, whereas in order to get the appropriate mean squares to carryout 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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 *The data used in Chapter 11, Table 20*

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

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

C11T20

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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 repreated-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

ycond1 a numeric vector

ycond2 a numeric vector

ycond3 a numeric vector

ycond4 a numeric vector

Synonym

C11T4

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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 *The data used in Chapter 11, Table 5*

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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Chapter 12, Table 1*

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 consitutes 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

abs0 reaction time w/ noise absent, angle 0

abs4 reaction time w/ noise absent, angle 4

abs8 reaction time w/ noise absent, angle 8

pres0 reaction time w/ noise present, angle 0

pres4 reaction time w/ noise present, angle 4

pres8 reaction time w/ noise present, angle 8

Synonym

C12T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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.

#' @section 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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Chapter 12, Table 15*

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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_21   *The data used in Chapter 12, Table 21*

Description

The data used in Chapter 12, Table 21

Usage

```
data(chapter_12_table_21)
```

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 consituted squares. Subjects are then randomly assigned to rows of the squares. The dependent measure can be thought of as the number of aggressive behvaiors engaged in during a fixed time period. Notice that each sore 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 12.21 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

cond treatment condition

square a numeric vector

Synonym

C12T21

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_12_table_21)

# Or, alternatively load the data as
data(C12T21)

# View the structure
str(chapter_12_table_21)
```

---

chapter_12_table_7 *The data used in Chapter 12, Table 7*

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@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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 *The data used in Chapter 12, Table 9*

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

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

noiseprs 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Chapter 13, Table 1*

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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_12   *The data used in Chapter 13, Table 12*

Description

The data used in Chapter 13, Table 12

The data used in Chapter 13, Table 12

Usage

```
data(chapter_13_table_12)
```

```
data(chapter_13_table_12)
```

Format

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

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 (pages 646-647) 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 12. Because columns one and two already represent the linear and quadratic effect respectively, all that needs to be done is to test mean of the column in order to determine if it differs from zero.

Table 13.14 shows the slope of the least-squares regression line for each of the eight subjects, as well as the score on the linear D variable, reproduced from Table 13.12. There is a strikin relationship between the numbers in the two columns of Table 13.14. Every subject's score on D is 24 times his or her slope.

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

slope slope of the least-squares regression line for data in Table 13.2

linear Linear D variable for data in Table 13.2

Synonym

C13T12

C13T12

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_table_12)

# Or, alternatively load the data as
data(C13T12)

# View the structure
str(chapter_13_table_12)

# Load the data
data(chapter_13_table_12)

# Or, alternatively load the data as
data(C13T12)

# View the structure
str(chapter_13_table_12)
```

---

chapter_13_table_14 *The data used in Chapter 13, Table 14*

Description

The data used in Chapter 13, Table 14

Usage

data(chapter_13_table_14)

Format

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

Details

Table 13.14 shows the slope of the least-squares regression line for each of the eight subjects, as well as the score on the linear D variable, reproduced from Table 13.14. There is a strikin relationship between the numbers in the two columns of Table 13.14. Every subject's score on D is 24 times his or her slope.

Variables

slope slope of the least-squares regression line for data in Table 13.2

linear Linear D variable for data in Table 13.2

Synonym

C13T14

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_13_table_14)

# Or, alternatively load the data as
data(C13T14)

# View the structure
str(chapter_13_table_14)
```

---

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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_6   *The data used in Chapter 13, Table 6*

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

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_14_exercise_10)
```

Format

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

Details

- Angle0.

- Angle4.

- Angle8.

- Group.

Synonym

C14E10

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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.
- FaleFriend.
- 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Chapter 14, Table 1*

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 consitutes 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 same 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

abs0 reaction time for participant without noise and at angle 0

abs8 reaction time for participant without noise and at angle 8

pres0 reaction time for participant with noise and at angle 0

pres8 reaction time for participant with noise and at angle 8

Synonym

C14T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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

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 14.10 contains an additional level of angle (four degrees) that was not considered in Table 14.8.

Variables

angle0 participant reaction time at angle 0

angle4 participant reaction time at angle 4

angle8 participant reaction time at angle 8

group participant group number

Synonym

C14T10

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_3   *The data used in Chapter 14, Table 3*

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 using SPSS 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@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Chapter 14, Table 4*

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

abs0 participant reaction time without noise and with angle 0

abs4 participant reaction time without noise and with angle 4

abs8 participant reaction time without noise and with angle 8

pres0 participant reaction time with noise and with angle 0

pres4 participant reaction time with noise and with angle 4

pres8 participant reaction time with noise and with angle 8

Synonym

C14T4

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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 *The data used in Chapter 14, Table 5*

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(1i) 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_8   *The data used in Chapter 14, Table 8*

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

For the hypothetical data contained in Table 14.8, 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 is a main effect of age, a main effect of angle, and an interaction between the two. Table 14.8 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

C14T8

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_15_exercise_16)
```

Format

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

Details

- ID.
- Time.
- Y.

Synonym

C15E16

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_15_exercise_17)
```

Format

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

Details

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

Synonym

C15E17

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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.
- Cognitive73.
- Cognitive74.

Synonym

C15E19

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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 *The data used in Chapter 15, Table 1*

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 as the to illustrate the discussion given
on the mixed model. At the time of this writing the mixed model procedure is SPSS is not as fully
developed the SAS analog PROC MIXED. For this reason no analyses using SPSS are provided to
replicate the analyses given in Chapter 15.

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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data:
A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data:
A model comparison perspective* (3rd 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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_16_exercise_5)
```

Format

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

Details

- Severity.
- Trainee.
- Gender.

Synonym

C16E5

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Chapter 16, Table 1*

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

severity severity rating assigned to client by trainee

trainee trainee

gender gender of trainee

Synonym

C16T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Chapter 16, Table 4*

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

obs observation/participant number

room participant classroom placement

cond participant condition (0=control, 1=treatment)

cog participant cognitive ability score

skill participant's teacher's teaching skill

induct 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. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

---

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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_1_exercise_22)
```

Format

An object of class data.frame with 11 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

---

chapter_1_table_1   *The data used in Chapter 1, Table 1*

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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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.
- Scores.

Synonym

C3E11

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_3_exercise_20)
```

Format

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

Details

- ID.
- Condition.
- Anger.

Synonym

C3E20

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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 edication 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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 videoslips 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

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

mood 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

---

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 therepy. 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

---

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 therepy. 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

---

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* (3rd 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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_4_exercise_12)
```

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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_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=biofeedbacbk; 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

chapter_4_table_7 *The data used in Chapter 4, Table 7*

Description

The data used in Chapter 4, Table 7

Usage

```
data(chapter_4_table_7)
```

Format

An object of class data.frame with 15 rows and 2 columns.

Details

Data used to demonstrate another property of orthogonal contrasts. The demonstrated principle is that the sums of squares of nonorthogonal contrasts are not additive, yet the sums of squares of orthogonal contrasts can be added to determine the magnitude of the sum of squares they jointly account for.

Variables

dv dependent variable

group Group number: 1, 2, or 3

Synonym

C4T7

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_4_table_7)

# Or, alternatively load the data as
data(C4T7)

# View the structure
str(chapter_4_table_7)
```

---

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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_5_exercise_5)
```

Format

An object of class data.frame with 20 rows and 2 columns.

Details

- dv.
- cond.

Synonym

C5E5

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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 *The data used in Chapter 5, Table 4*

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 planed 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

---

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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_6_exercise_10)
```

Format

An object of class data.frame with 45 rows and 2 columns.

Details

- cond.
- score.

Synonym

C6E10

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Chapter 7, Table 11*

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. The procedure SPSS syntax procedure MANOVA is very general and can handle many types of analyses. Interaction contrasts are easily performed in this procedure.

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

score blood pressure

feedback the likelihood of there being a biofeedback or drug main effect

drug the level of the drug factor

Synonym

C7T11

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

---

chapter_7_table_15 *The data used in Chapter 7, Table 15*

Description

The data used in Chapter 7, Table 15

The data used in Chapter 7, Table 15

Usage

```
data(chapter_7_table_15)
```

```
data(chapter_7_table_15)
```

Format

An object of class data.frame with 22 rows and 3 columns.

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 7.15 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 7.15 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.

Table 7.23 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.

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 where 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.

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 where 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

sex gender (male vs female)

educ education level (degree vs no degree)

salary salary (in thousands)

therapy the type of therapy

severity the severity of the therapy

score the score of the individual

Synonym

C7T15

C7T15

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_table_15)

# Or, alternatively load the data as
data(C7T15)

# View the structure
str(chapter_7_table_15)

# Load the data
data(chapter_7_table_15)
```

```
# Or, alternatively load the data as
data(C7T15)

# View the structure
str(chapter_7_table_15)
```

---

chapter_7_table_23   *The data used in Chapter 7, Table 23*

Description

The data used in Chapter 7, Table 23

Usage

```
data(chapter_7_table_23)
```

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 where 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 7.23 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 where 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

C7T23

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_7_table_23)

# Or, alternatively load the data as
data(C7T23)

# View the structure
str(chapter_7_table_23)
```

---

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 the likelihood of there being a biofeedback or drug main effect

drug the level of the drug factor

Synonym

C7T5

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

---

chapter_7_table_9 *The data used in Chapter 7, Table 9*

Description

The data used in Chapter 7, Table 9

Usage

```
data(chapter_7_table_9)
```

Format

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

Details

The following data is a generalization of the blood pressure data given in Table 7.5 (which itself was a generalization of the data given in Table 7.1). After the interaction is found to be significant, a common recommendation is to examine simple main effects. Recall that a simple main effect is the main effect of one factor given a fixed level of another factor. In this case interest is in determining if there are any differences in drugs (a) given biofeedback and (b) given no biofeedback.

Variables

score blood pressure

feedback the likelihood of there being a biofeedback or drug main effect

drug the level of the drug factor

Synonym

C7T9

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Chapter 8, Table 12*

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)

biofeed presence or absence of biofeedback

diet presence of absence of a diet

Synonym

C8T12

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_9_exercise_15)
```

Format

An object of class data.frame with 310 rows and 6 columns.

Details

- ID.

- Condition.

- EmotClose.

- Anger.

Synonym

C9E15

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(chapter_9_exercise_16)
```

Format

An object of class data.frame with 310 rows and 6 columns.

Details

- ID.
- Condition.
- EmotClose.
- Anger.

Synonym

C9E16

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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* (3rd edition; Maxwell, Delaney, & Kelley).

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

Usage

```
data(chapter_9_extension_exercise_2)

data(chapter_9_extension_exercise_3)
```

Format

An object of class data.frame with 168 rows and 6 columns.

An object of class data.frame with 310 rows and 6 columns.

Details

- ParticipantNumber.
- Group.
- BaseHrsDrkTypWk.
- FolHrsDrkTypWk.
- DiffBaseFolHrsDrk.
- BaseHrsCtrd.

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

Synonym

C9ExtE2

C9ExtE3

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective.* (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)

# 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_2)
```

---

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* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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_11   *The data used in Chapter 9, Table 11*

Description

The data used in Chapter 9, Table 11

Usage

```
data(chapter_9_table_11)
```

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

C9T11

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Examples

```
# Load the data
data(chapter_9_table_11)

# Or, alternatively load the data as
data(C9T11)

# View the structure
str(chapter_9_table_11)
```

---

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

cond 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

tutorial_1_table_1 *The data used in Tutorial 1, Table 1*

Description

Data from Tutorial 1 Table 1 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(tutorial_1_table_1)
```

Format

An object of class data.frame with 102 rows and 1 columns.

Details

- Group.
- Score.

Synonym

T1T1

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Tutorial 2, Table 1*

Description

Data from Tutorial 2 Table 1 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (3rd edition; Maxwell, Delaney, & Kelley).

Data from Tutorial 2 Table 2 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (3rd edition; Maxwell, Delaney, & Kelley).

Usage

```
data(tutorial_2_table_1)

data(tutorial_2_table_2)
```

Format

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

An object of class data.frame with 8 rows and 4 columns.

Details

- Group.
- Score.

- Y.
- X1.
- X2.
- X3.

Synonym

T2T1

T2T2

Author(s)

Ken Kelley <kkelley@nd.edu>

Source

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

https://designingexperiments.com/data/

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd ed.). New York, NY: Routledge.

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)

# 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   *The data used in Tutorial 3A, Table 1*

Description

Data from Tutorial 3A Table 1 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Tutorial 3A, Table 2*

Description

Data from Tutorial 3A Table 2 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (3rd 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. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Tutorial 3A, Table 4*

Description

Data from Tutorial 3A Table 4 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (3rd 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

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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   *The data used in Tutorial 3A, Table 5*

Description

Data from Tutorial 3A Table 5 of *Designing Experiments and Analyzing Data: A Model Comparison Perspective* (3rd 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

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Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective*. (3rd ed.). New York, NY: Routledge.

References

Maxwell, S. E., Delaney, H. D., & Kelley, K. (2018). *Designing experiments and analyzing data: A model comparison perspective* (3rd 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)
```

Index