Package 'LCFdata'

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Type Package

Title Data sets for package ``LMERConvenienceFunctions"

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Description This package contains (1) event-related brain potential data recorded from 10 participants at electrodes Fz, Cz, Pz, and Oz (0--300 ms) in the context of Antoine Tremblay's PhD thesis (Tremblay, 2009); (2) ERP amplitudes at electrode Fz restricted to the 100 to 175 millisecond time window; and (3) plotting data generated from a linear mixed-effects model.

License GPL-2

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Contents

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Description

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Details

Package:	LCFdata
Type:	Package
Version:	2.0
Date:	2011-11-27
License:	GPL-2

Author(s)

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Source

Tremblay, Antoine. (2009). *Processing Advantages of Lexical Bundles: Evidence from Self-paced Reading, Word and Sentence Recall, and Free Recall with Event-related Brain Potential Recordings*. Ph.D. Dissertation. University of Alberta, Edmonton, Canada. Available for download at http://www.ualberta.ca/~antoinet/ThesisDraft_10_B.pdf.

See Also

eeg; erpFz; z

eeg	*ERP amplitudes at electrodes Fz, Cz, Pz, and Oz from 0 to 300 milliseconds.*

Description

Event-related brain potential data recorded from 10 participants at electrodes Fz, Cz, Pz, and Oz (0–300 ms) in the context of Antoine Tremblay's PhD thesis (Tremblay, 2009).

Usage

```
data(eeg)
```

Format

A data frame with 161880 observations on the following 10 variables.

`Subject` Subject identifiers (factor).

`Item` Item identifiers (factor).

`Time` Time from 100 to 175 milliseconds (numeric).

`WMC` Working memory capacity (numeric).

`FreqB` Log frequency of the second word of a four-word sequence (numeric).

`LengthB` Length (in number of characters) of the second word of a four-word sequence (numeric).

`Fz` Amplitude in microvolts at electrode Fz (numeric).

`Cz` Amplitude in microvolts at electrode Cz (numeric).

`Pz` Amplitude in microvolts at electrode Pz (numeric).

`Oz` Amplitude in microvolts at electrode Oz (numeric).

Source

Tremblay, Antoine. (2009). *Processing Advantages of Lexical Bundles: Evidence from Self-paced Reading, Word and Sentence Recall, and Free Recall with Event-related Brain Potential Recordings*. Ph.D. Dissertation. University of Alberta, Edmonton, Canada. Available for download at http://www.ualberta.ca/~antoinet/ThesisDraft_10_B.pdf.

See Also

erpFz; z

Examples

```
data(erpFz)
summary(erpFz)
```

erpFz *ERP amplitudes at electrode Fz restricted to the 100 to 175 millisecond time window.*

Description

Event-related brain potential data recorded from 10 participants at electrode Fz (100–175 ms) in the context of Antoine Tremblay's PhD thesis (Tremblay, 2009). The actual raw data was averaged over variables *LengthBc* and *WMCc*.

Usage

```
data(erpFz)
```

Format

A data frame with 120 observations on the following 3 variables.

`LengthBc` A numeric vector. The mean-centered length (in number of letters) of the second word of a four-word sequence.

`WMCc` A numeric vector. The mean-centered working memory capacity of the participants.

`Amplitude` A numeric vector. The avereaged amplitude of the recorded ERPs.

Source

Tremblay, Antoine. (2009). *Processing Advantages of Lexical Bundles: Evidence from Self-paced Reading, Word and Sentence Recall, and Free Recall with Event-related Brain Potential Recordings*. Ph.D. Dissertation. University of Alberta, Edmonton, Canada. Available for download at http://www.ualberta.ca/~antoinet/ThesisDraft_10_B.pdf.

See Also

eeg; z

Examples

```
data(erpFz)
summary(erpFz)
```

z *Plotting data generated from a linear mixed-effects model from Tremblay & Newman (In Preparation).*

Description

The model call is: lmer(formula = Amplitude ~ FreqBc * LengthBc * WMCc + (1 | Subject) + (1 | Item) + (0 + WMCc | Item), data = dat)

(see *details* for more).

The plotting data was generated from this model with function `plotLMER3d.fnc`.

Usage

```
data(z)
```

Format

The format is: num [1:30, 1:10] -1.83 -1.95 -2.07 -2.19 -2.32 ... - attr(*, "dimnames")=List of 2 ..$: chr [1:30] "-2.88262910798122" "-2.50331876315363" "-2.12400841832605" "-1.74469807349846" ... ..$: chr [1:10] "-0.1857142855" "-0.1410714285" "-0.0517857144999999" "-0.0428571424999999" ...

Details

The model includes a three-way interaction between *WMCc* (mean-centered working memory capacity), *FreqBc* (the frequency of use of the second word of a four-word sequence), and *LengthBc* (the length in number of letters of the second work of a four-word sequence) in addition to by-subject and by-item random intercepts and by-item random slopes for *WMCc*.

Source

The data is from:

Tremblay, Antoine. (2009). *Processing Advantages of Lexical Bundles: Evidence from Self-paced Reading, Word and Sentence Recall, and Free Recall with Event-related Brain Potential Recordings*. Ph.D. Dissertation. University of Alberta, Edmonton, Canada. Available for download at http://www.ualberta.ca/~antoinet/ThesisDraft_10_B.pdf.

The model is from:

Tremblay, Antoine, and Newman, Aaron J. (In Preparation). *The Analysis of Event-related Potentials using Linear Mixed-effects Models with Complex Random-effect Structures*.

See Also

eeg; erpFz

Examples

```
data(z)
str(z)
```

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