MEND_FDA_Graphs

2025-11-13

R Markdown

This document shows the code used to generate side by side regression plots from awakening count data for sleep. The same code was used to generate WASO graphs.

```
library(ggplot2)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
awakening_data <- read.csv("FDA_Awakening_Counts - FDA_Awakening_Counts.csv")
#import cleaned data from sheets (filtered for valid days)
awakening_data <- awakening_data %>%
#check that column names align
  mutate(
    Subject = as.factor(Subject),
    Nights = as.numeric(Nights),
    AwakeningCount = as.numeric(AwakeningCount)
  )
#create data plot for awakening counts between two subjects
ggplot(awakening_data, aes(x= Nights, y= AwakeningCount, color= Subject))+
  geom_point()+
  geom_smooth(method = "lm", se = TRUE, linewidth = 1, linetype = "solid", fill= "grey")+
  # set SE as TRUE to have standard error shadow on graph
  facet_wrap(~Subject)+ #group graphs by subject
  scale_x_continuous(
    limits = c(1, max(awakening_data$Night)),
    breaks = seq(1, max(awakening_data$Night), 1)
  ) +
  scale_color_brewer(palette = "Dark2")+
  #add colors and axis names
  labs(
    title= "Awakening Count Trends Over 2 Weeks By Subject",
    x= "Nights",
    y= "Awakening Count",
    color= "Subject"
  )+
  theme_minimal() +
```

```
theme(
    axis.line = element_line(color = "grey40", linewidth = 0.8),# bold axis lines
    axis.ticks = element_line(color = "grey40", linewidth = 0.8), # bold tick marks
    theme(panel.grid.major.x = element_blank()),
    strip.background = element_blank(),
    panel.spacing = unit(1, "lines"),
    panel.border = element_rect(color = "grey40", fill = NA),
    text = element_text(size = 15),
    plot.title = element_text(hjust = 0.5, face= "bold"),
    legend.position = "right"
  ) #orient the graph and clean up the look for the axes, legend, and colors
```

```
## `geom_smooth()` using formula = 'y ~ x'
```

Awakening Count Trends Over 2 Weeks By Subject