PSY 3393

2024-03-20

```
knitr::opts_chunk$set(echo = TRUE)

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
```

```
library(ggplot2)

qualtrics <- read.csv(file = "/Users/mihuynh/Downloads/Fashion Trends and Marketing_March 20, 2024_12.33
qualtrics_sub <- subset(qualtrics, qualtrics$DistributionChannel != "preview")
qualtrics_sub <- qualtrics_sub %>% slice(-(1:3))
qualtrics_sub <- select(qualtrics_sub, -(1:18))
# The first one said to not use their data in deception form

qualtrics_sub$ParticipantID <- row.names(qualtrics_sub)
str(qualtrics_sub)
```

```
## 'data.frame':    51 obs. of  106 variables:
##  $ Masc_fem               : chr  "2" "2" "1" "1" ...
##  $ Fem_Thin_Purchase_1_1  : chr  "4" "4" "" "" ...
##  $ Fem_Thin_Attract_1_1   : chr  "3" "2" "" "" ...
##  $ Fem_Plus_Purchase_1_1  : chr  "2" "4" "" "" ...
##  $ Fem_Plus_Attract_1_1   : chr  "3" "4" "" "" ...
##  $ Fem_Plus_Purchase_2_1  : chr  "4" "4" "" "" ...
##  $ Fem_Plus_Attract_2_1   : chr  "3" "4" "" "" ...
##  $ Fem_Thin_Purchase_2_1  : chr  "5" "2" "" "" ...
##  $ Fem_Thin_Attract_2_1   : chr  "4" "1" "" "" ...
##  $ Fem_Thin_Purchase_3_1  : chr  "5" "5" "" "" ...
##  $ Fem_Thin_Attract_3_1   : chr  "4" "5" "" "" ...
##  $ Fem_Plus_Purchase_3_1  : chr  "4" "4" "" "" ...
##  $ Fem_Plus_Attract_3_1   : chr  "4" "4" "" "" ...
##  $ Fem_Plus_Purchase_4_1  : chr  "2" "5" "" "" ...
##  $ Fem_Plus_Attract_4_1   : chr  "3" "4" "" "" ...
##  $ Fem_Thin_Purchase_4_1  : chr  "1" "4" "" "" ...
##  $ Fem_Thin_Attract_4_1   : chr  "4" "4" "" "" ...
##  $ Fem_Thin_Purchase_5_1  : chr  "3" "4" "" "" ...
##  $ Fem_Thin_Attract_5_1   : chr  "5" "2" "" "" ...
##  $ Fem_Plus_Purchase_5_1  : chr  "1" "5" "" "" ...
```

```
##  $ Fem_Plus_Attract_5_1   : chr  "3" "4" "" "" ...
##  $ Fem_Thin_Purchase_6_1  : chr  "4" "4" "" "" ...
##  $ Fem_Thin_Attract_6_1   : chr  "3" "2" "" "" ...
##  $ Fem_Plus_Purchase_6_1  : chr  "4" "4" "" "" ...
##  $ Fem_Plus_Attract_6_1   : chr  "5" "4" "" "" ...
##  $ Fem_Thin_Purchase_7_1  : chr  "1" "2" "" "" ...
##  $ Fem_Plus_Attract_7_1   : chr  "4" "2" "" "" ...
##  $ Fem_Plus_Purchase_7_1  : chr  "1" "4" "" "" ...
##  $ Fem_Plus_Attract_7_1.1 : chr  "3" "4" "" "" ...
##  $ Fem_Plus_Purchase_8_1  : chr  "1" "4" "" "" ...
##  $ Fem_Plus_Attract_8_1   : chr  "3" "4" "" "" ...
##  $ Fem_Thin_Purchase_8_1  : chr  "4" "4" "" "" ...
##  $ Fem_Thin_Purchase_8_1.1: chr  "4" "4" "" "" ...
##  $ Fem_Plus_Purchase_9_1  : chr  "5" "5" "" "" ...
##  $ Fem_Plus_Attract_9_1   : chr  "3" "4" "" "" ...
##  $ Fem_Thin_Purchase_9_1  : chr  "5" "4" "" "" ...
##  $ Fem_Thin_Attract_9_1   : chr  "3" "4" "" "" ...
##  $ Fem_Thin_Purchase_10_1 : chr  "4" "4" "" "" ...
##  $ Fem_Thin_Attract_10_1  : chr  "3" "4" "" "" ...
##  $ Fem_Plus_Purchase_10_1 : chr  "3" "4" "" "" ...
##  $ Fem_Plus_Attract_10_1  : chr  "3" "4" "" "" ...
##  $ Masc_Thin_Purchase_1_1 : chr  "" "" "4" "2" ...
##  $ Masc_Thin_Attract_1_1  : chr  "" "" "5" "5" ...
##  $ Masc_Plus_Purchase_1_1 : chr  "" "" "2" "2" ...
##  $ Masc_Plus_Attract_1_1  : chr  "" "" "2" "4" ...
##  $ Masc_Thin_Purchase_2_1 : chr  "" "" "4" "1" ...
##  $ Masc_Thin_Attract_2_1  : chr  "" "" "4" "4" ...
##  $ Masc_Plus_Purchase_2_1 : chr  "" "" "5" "1" ...
##  $ Masc_Plus_Attract_2_1  : chr  "" "" "1" "3" ...
##  $ Masc_Thin_Purchase_3_1 : chr  "" "" "1" "1" ...
##  $ Masc_Thin_Attract_3_1  : chr  "" "" "5" "3" ...
##  $ Masc_Plus_Purchase_3_1 : chr  "" "" "4" "1" ...
##  $ Masc_Plus_Attract_3_1  : chr  "" "" "1" "2" ...
##  $ Masc_Thin_Purchase_4_1 : chr  "" "" "1" "4" ...
##  $ Masc_Thin_Attract_4_1  : chr  "" "" "4" "2" ...
##  $ Masc_Plus_Purchase_4_1 : chr  "" "" "1" "1" ...
##  $ Masc_Plus_Attract_4_1  : chr  "" "" "2" "2" ...
##  $ Masc_Thin_Purchase_5_1 : chr  "" "" "5" "2" ...
##  $ Masc_Thin_Attract_5_1  : chr  "" "" "4" "4" ...
##  $ Masc_Plus_Purchase_5_1 : chr  "" "" "5" "1" ...
##  $ Masc_Plus_Attract_5_1  : chr  "" "" "2" "2" ...
##  $ Masc_Thin_Purchase_6_1 : chr  "" "" "4" "1" ...
##  $ Masc_Thin_Attract_6_1  : chr  "" "" "4" "4" ...
##  $ Masc_Plus_Purchase_6_1 : chr  "" "" "5" "2" ...
##  $ Masc_Plus_Attract_6_1  : chr  "" "" "2" "3" ...
##  $ Masc_Thin_Purchase_7_1 : chr  "" "" "5" "4" ...
##  $ Masc_Thin_Attract_7_1  : chr  "" "" "3" "3" ...
##  $ Masc_Plus_Purchase_7_1 : chr  "" "" "1" "1" ...
##  $ Masc_Plus_Attract_7_1  : chr  "" "" "2" "3" ...
##  $ Masc_Plus_Purchase_8_1 : chr  "" "" "4" "1" ...
##  $ Masc_Plus_Attract_8_1  : chr  "" "" "1" "3" ...
##  $ Masc_Thin_Purchase_8_1 : chr  "" "" "5" "1" ...
##  $ Masc_Thin_Attract_8_1  : chr  "" "" "5" "4" ...
##  $ Masc_Plus_Purchase_9_1 : chr  "" "" "4" "2" ...
```

```
##  $ Masc_Plus_Attract_9_1  : chr  "" "" "2" "4" ...
##  $ Masc_Thin_Purchase_9_1 : chr  "" "" "4" "1" ...
##  $ Masc_Thin_Attract_9_1  : chr  "" "" "4" "4" ...
##  $ Masc_Thin_Purchase_0_1 : chr  "" "" "5" "1" ...
##  $ Masc_Thin_Attract_0_1  : chr  "" "" "4" "2" ...
##  $ Masc_Plus_Purchase_0_1 : chr  "" "" "2" "2" ...
##  $ Masc_Plus_Attract_0_1  : chr  "" "" "2" "2" ...
##  $ Questionnaire_1        : chr  "1" "0" "1" "2" ...
##  $ Questionnaire_2        : chr  "2" "1" "3" "3" ...
##  $ Questionnaire_3        : chr  "2" "0" "2" "2" ...
##  $ Questionnaire_4        : chr  "1" "0" "3" "2" ...
##  $ Questionnaire_5        : chr  "2" "3" "2" "1" ...
##  $ Questionnaire_6        : chr  "2" "1" "3" "3" ...
##  $ Questionnaire_7        : chr  "2" "4" "2" "1" ...
##  $ Questionnaire_8        : chr  "1" "0" "2" "2" ...
##  $ Questionnaire_9        : chr  "3" "4" "3" "1" ...
##  $ Questionnaire_10       : chr  "3" "0" "2" "2" ...
##  $ Questionnaire_11       : chr  "2" "3" "1" "0" ...
##  $ Questionnaire_12       : chr  "2" "1" "3" "3" ...
##  $ Questionnaire_13       : chr  "1" "4" "1" "1" ...
##  $ Questionnaire_14       : chr  "3" "1" "2" "4" ...
##  $ Questionnaire_15       : chr  "2" "1" "3" "3" ...
##  $ Questionnaire_16       : chr  "4" "0" "3" "3" ...
##  $ Questionnaire_17       : chr  "1" "3" "0" "0" ...
##  $ Questionnaire_18       : chr  "0" "4" "0" "0" ...
##    [list output truncated]
```

```r
# QUESTIONNAIRE
questionnaires <- subset(qualtrics_sub, select = grepl("Questionnaire|Masc_fem", colnames(qualtrics_sub)
questionnaires[] <- lapply(questionnaires, as.numeric)
columns_to_inverse <- c("Questionnaire_4", "Questionnaire_7", "Questionnaire_9", "Questionnaire_11", "Qu

questionnaires <- questionnaires %>%
  mutate(across(all_of(columns_to_inverse), ~ 4 - .))
questionnaires$Masc_fem <- ifelse(questionnaires$Masc_fem == 1, "Masculine", "Feminine")

questionnaires <- questionnaires %>%
  rowwise() %>%
  mutate(Sum = sum(c_across(where(is.numeric))))
questionnaires$Participant <- row.names(questionnaires)

# median
median <- median(questionnaires$Sum, na.rm = TRUE)
questionnaires$median_group <- cut(questionnaires$Sum, breaks = c(-Inf, median, Inf), labels = c("Below
print(questionnaires)
```

```
## # A tibble: 51 x 27
## # Rowwise:
##    Masc_fem  Questionnaire_1 Questionnaire_2 Questionnaire_3 Questionnaire_4
##    <chr>               <dbl>           <dbl>           <dbl>           <dbl>
##  1 Feminine                1               2               2               3
##  2 Feminine                0               1               0               4
##  3 Masculine               1               3               2               1
##  4 Masculine               2               3               2               2
##  5 Masculine               3               2               2               1
```

```
##  6 Feminine               3               4               3               1
##  7 Feminine               1               3               0               2
##  8 Feminine               1               0               0               0
##  9 Feminine               1               1               2               2
## 10 Masculine              3               3               2               2
## # i 41 more rows
## # i 22 more variables: Questionnaire_5 <dbl>, Questionnaire_6 <dbl>,
## #   Questionnaire_7 <dbl>, Questionnaire_8 <dbl>, Questionnaire_9 <dbl>,
## #   Questionnaire_10 <dbl>, Questionnaire_11 <dbl>, Questionnaire_12 <dbl>,
## #   Questionnaire_13 <dbl>, Questionnaire_14 <dbl>, Questionnaire_15 <dbl>,
## #   Questionnaire_16 <dbl>, Questionnaire_17 <dbl>, Questionnaire_18 <dbl>,
## #   Questionnaire_19 <dbl>, Questionnaire_20 <dbl>, Questionnaire_21 <dbl>, ...
```

```r
# Scatter plot to show Participant vs. Their Sum
ggplot(data = questionnaires, mapping = aes(x = as.numeric(Participant), y = Sum)) +
  geom_point(mapping = aes(color = Masc_fem)) +
  geom_smooth(mapping = aes(y = median), method = "lm", size = 0.5, se = FALSE, show.legend = TRUE)
```

```
## Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
## i Please use `linewidth` instead.
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```

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

```
## Warning: Removed 4 rows containing missing values or values outside the scale range
## (`geom_point()`).
```