PV2003 Replication

Load Packages

```
library(tidyverse)
library(lme4)
library(lmerTest)
```

Custom Functions

```
#Easy standardisation function
z <- function(x,remove.outliers = FALSE,winsorise = FALSE){
    out <- (x - mean(x,na.rm = TRUE))/sd(x,na.rm = TRUE)
    if (remove.outliers == TRUE){
      out <- ifelse(out >3,NA,ifelse(out < -3,NA,out))
    }
    if (winsorise == TRUE){
      out <- ifelse(out > 3,3,ifelse(out < -3,-3,out))
    }
    return(out)
}

#Easy descriptive statistics function
descriptives <- function(data,variables){
    output <- data.frame("variable"=variables,"N"=NA,"min"=NA,"max"=NA,"mean"=NA,"sd"=NA)
    d <- as.data.frame(data[variables])
    for (v in 1:NROW(variables)){
        output[v,"N"] <- sum(!is.na(d[v]))
        output[v,"min"] <- min(d[,v],na.rm=TRUE)
        output[v,"max"] <- max(d[,v],na.rm=TRUE)
        output[v,"mean"] <- mean(d[,v],na.rm=TRUE)
        output[v,"sd"] <- sd(d[,v],na.rm=TRUE)
    }
    print(output)
    return(data)
}

se <- function(x,na.rm = TRUE){
        out <- sd(x,na.rm = na.rm)/sqrt(length(x))
        return(out)
}
```

Load Data

Participant Level Data

```
##Select ratings of male faces on sexual dimorphism
data1 <- read.csv("OCMATE_facepref.csv",stringsAsFactors = FALSE) %>%
```

```
    filter(block == 1) %>%
    filter(manip == "sexdim") %>%
    filter(face_sex == "men") %>%
    select(oc_id,age,sexpref,context,manip,face_id,rating)

##Select age at first test session.
data.l2 <- group_by(data1,oc_id) %>%
    filter(row_number() == 1) %>%
    select(oc_id,age,sexpref)

data2 <- read.csv("OCMATE Block 1 Week 1 Attractiveness Ratings.csv",stringsAsFactors = FALSE) %>%
    mutate( oc_id = as.numeric(substr(trial,4,nchar(trial)))) %>%
    group_by(oc_id) %>%
    summarise(rater.attr = mean(dv)) %>%
    left_join(data.l2,by = "oc_id") %>%
  descriptives(c("age","rater.attr")) %>%
    mutate(age = z(age),
           rater.attr = z(rater.attr))
```

```
##     variable   N      min    max      mean        sd
## 1        age 454 17.90000 35.500 21.428855 3.1838694
## 2 rater.attr 594  1.34375  5.125  2.976484 0.7073194
```

Rating Level Data

```
data.l1 <- data1 %>%
    select(oc_id,manip,face_id,context,rating) %>%
    mutate(context = recode(context,"LT" = .5,"ST" = -.5),
           rating = recode(rating,`0` = -3.5,`1` = -2.5,`2` = -1.5,`3` = -.5,`4` = .5,`5` = 1.5,`6` = 2
```

Join Datasets

```
analysis.data <- left_join(data.l1,data2,by = "oc_id")
```

Linear Mixed Effect Model

```
model <- lmer(rating ~ context*rater.attr +
                        (1 + context | oc_id) +
                        (1 + context*rater.attr |face_id),analysis.data)
```

```
## boundary (singular) fit: see ?isSingular
```

```
summary(model)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: rating ~ context * rater.attr + (1 + context | oc_id) + (1 +
##     context * rater.attr | face_id)
##    Data: analysis.data
##
```

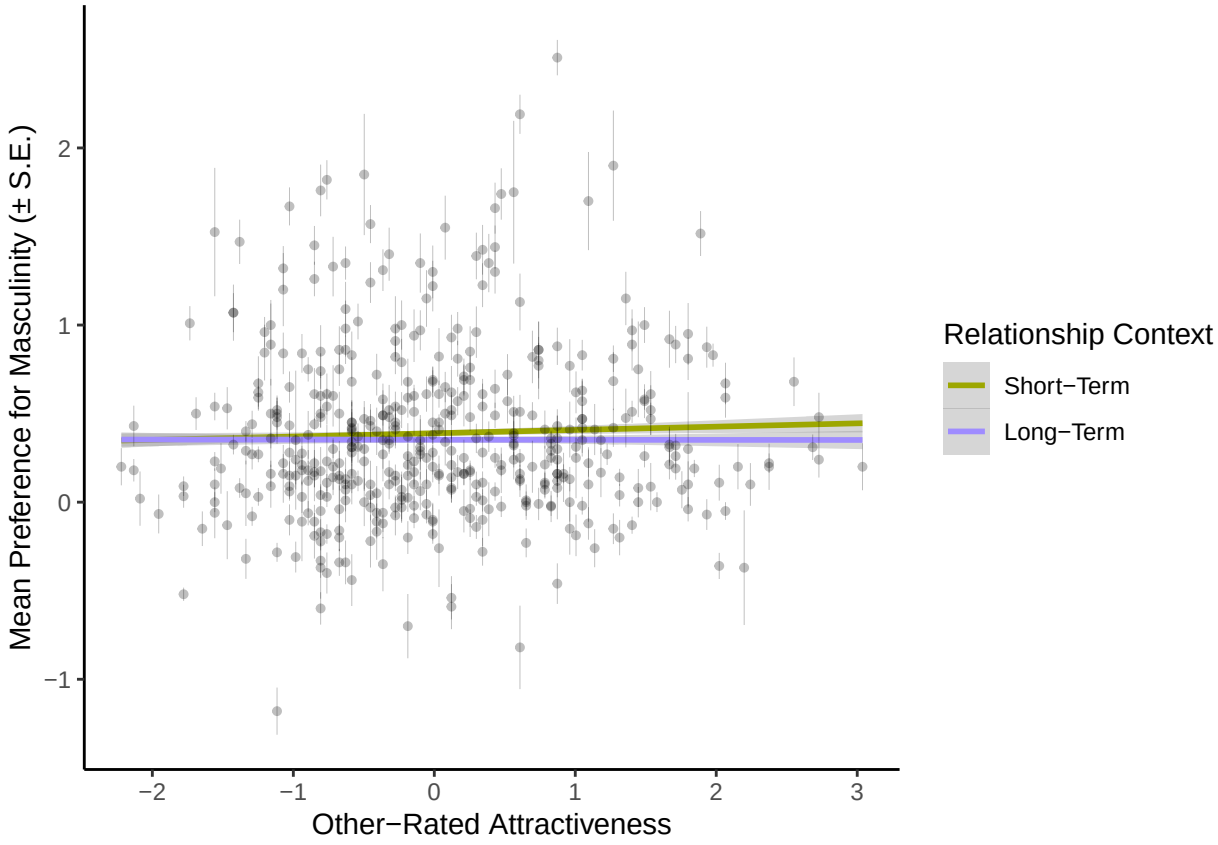
```
## REML criterion at convergence: 124125.5
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -4.8093 -0.5563  0.0114  0.5845  4.4419
##
## Random effects:
##  Groups   Name               Variance  Std.Dev. Corr
##  oc_id    (Intercept)        0.2174501 0.46632
##           context            0.0783125 0.27984  -0.04
##  face_id  (Intercept)        0.1686499 0.41067
##           context            0.0004251 0.02062   0.87
##           rater.attr         0.0001545 0.01243  -0.17  0.14
##           context:rater.attr 0.0001565 0.01251   0.15  0.62  0.44
##  Residual                    1.0452970 1.02240
## Number of obs: 42410, groups:  oc_id, 455; face_id, 10
##
## Fixed effects:
##                     Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)          0.37880    0.13180   9.48266   2.874   0.0174 *
## context             -0.03757    0.01785  63.76338  -2.105   0.0392 *
## rater.attr           0.01728    0.02318 363.40984   0.745   0.4565
## context:rater.attr  -0.02017    0.01736  80.53835  -1.162   0.2486
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##             (Intr) contxt rtr.tt
## context      0.306
## rater.attr  -0.034  0.010
## cntxt:rtr.t  0.034  0.023 -0.016
## convergence code: 0
## boundary (singular) fit: see ?isSingular
```

Plot Data

```
plot.data <- analysis.data %>%
    group_by(oc_id) %>%
    summarise(  rater.attr = mean(rater.attr),
                se.rating = se(rating,na.rm = TRUE),
                rating = mean(rating,na.rm = TRUE)
                ) %>%
    mutate(ymax = rating + se.rating,
            ymin = rating - se.rating)

ggplot(analysis.data,aes(x = rater.attr,y = rating)) +
    geom_smooth(aes(colour = as.factor(context),group = as.factor(context)),method = "lm") +
    geom_pointrange(data = plot.data,aes(ymax = ymax, ymin = ymin),size = .1,alpha = .25) +
    xlab("Other-Rated Attractiveness") +
    ylab("Mean Preference for Masculinity (± S.E.)") +
  scale_colour_discrete(name = "Relationship Context",labels = c("Short-Term","Long-Term"),h.start = 75)
  theme_classic()
```

```
## Warning: Removed 12780 rows containing non-finite values (stat_smooth).
## Warning: Removed 136 rows containing missing values (geom_pointrange).
```




```
#ggsave("Figure 1.png")
```