

Shedding new light on ovulatory cycle shifts in women's mate attraction and preferences

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```
library(tidyverse)
```

```
## -- Attaching packages -----  
- tidyverse 1.2.1 --
```

```
## v ggplot2 3.2.1      v purrr   0.3.2  
## v tibble  2.1.3      v dplyr   0.8.3  
## v tidyr   1.0.0      v stringr 1.4.0  
## v readr   1.3.1      v forcats 0.4.0
```

```
## -- Conflicts ----- tidy  
verse_conflicts() --  
## x dplyr::filter() masks stats::filter()  
## x dplyr::lag()     masks stats::lag()
```

```
library(lme4)
```

```
## Loading required package: Matrix
```

```
##  
## Attaching package: 'Matrix'
```

```
## The following objects are masked from 'package:tidyr':  
##  
## expand, pack, unpack
```

```
library(lmerTest)
```

```
##  
## Attaching package: 'lmerTest'
```

```
## The following object is masked from 'package:lme4':  
##  
## lmer
```

```
## The following object is masked from 'package:stats':  
##  
## step
```

```
library(knitr)  
library(psych)
```

```
##  
## Attaching package: 'psych'
```

```
## The following objects are masked from 'package:ggplot2':  
##  
## %+%, alpha
```

```
library(dplyr)  
library(GPArotation)  
library(sjPlot)
```

```
## Learn more about sjPlot with 'browseVignettes("sjPlot")'.
```

```
library(sjmisc)
```

```
##  
## Attaching package: 'sjmisc'
```

```
## The following object is masked from 'package:purrr':  
##  
## is_empty
```

```
## The following object is masked from 'package:tidyr':  
##  
## replace_na
```

```
## The following object is masked from 'package:tibble':  
##  
## add_case
```

Load raw Data

Data from N = 257 heterosexual, naturally cycling women. Each row is the data from a single session. See variable names below:

```
setwd("C:/Users/jjunge/Desktop/data")
#rating raw data
data_raw <- read.csv("cycle2_rating_male_bodies.csv", sep = ";", dec = ",", header=TRUE)

#numbers as numeric, factors as factor
for(i in c(2, 4:9, 11:52)){
  data_raw[, i] <- as.numeric(as.character(data_raw[, i]))
}

for(i in c(1, 3, 10)){
  data_raw[, i] <- as.factor(unlist(data_raw[, i]))
}

#male body measures
male_bodies <- read.csv("male_body_characteristics_full.csv", sep = ";", dec = ",", header=TRUE)

for(i in c(2:14)){
  male_bodies[, i] <- as.numeric(as.character(male_bodies[, i]))
}
```

Load cleaned combined long-format data

Please check the OSF
(<https://osf.io/4jcuf/> (<https://osf.io/4jcuf/>))
for description of variables and their
names

```
#this dataset is used for all analyses!

setwd("C:/Users/jjuenge/Desktop/data")
#data <- read.csv("data_cycle2_male_bodies_cleaned.csv", sep = ";", dec = ",", header=TRUE)
data <- read.csv("data_male_female_bodies_objects.csv", sep = ";", dec = ",", header=TRUE)

##numbers as numeric, categories as factor variables
for(i in c(3, 5, 9, 11, 26, 28, 29, 31)){
  data[, i] <- as.numeric(as.character(data[, i]))
}

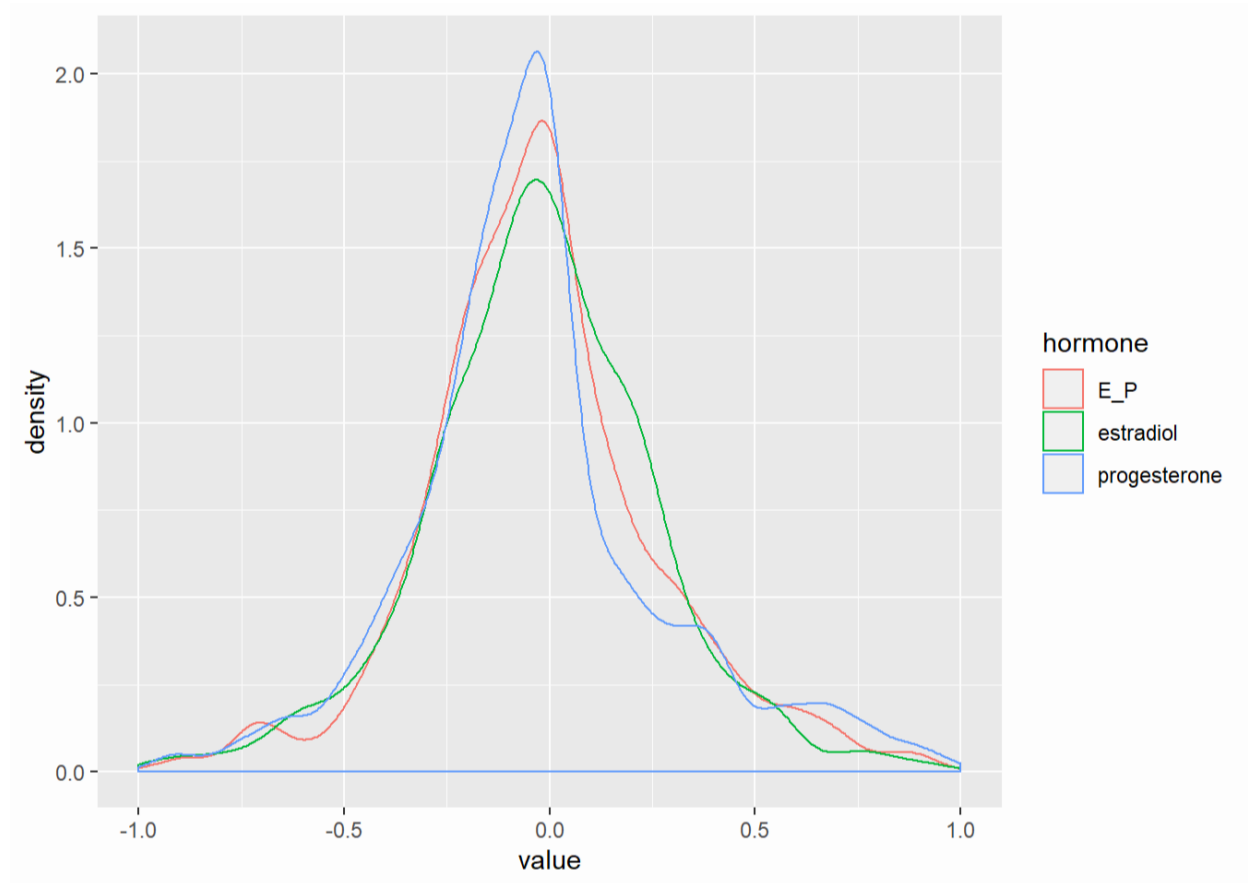
for(i in c(1, 2, 4, 10, 27, 30)){
  data[, i] <- as.factor(data[, i])
}

#Scale sexual desire, self-reported stress and all male variables
data$ronney_desire <- scale(data$ronney_desire)
data$stress <- scale(data$stress)
data$strength <- scale(data$strength)
data$height <- scale(data$height)
data$upperarmgirth_mean_leftright <- scale(data$upperarmgirth_mean_leftright)
data$SHR <- scale(data$SHR)
data$SCR <- scale(data$SCR)
data$rel_torso_vol <- scale(data$rel_torso_vol)
data$testosterone_men <- scale(data$testosterone_men)
data$dominance <- scale(data$dominance)
data$Muscularity <- scale(data$Muscularity)
data$BMI <- scale(data$BMI)
data$WHtR <- scale(data$WHtR)
data$WHR <- scale(data$WHR)
data$Male_Age <- scale(data$Male_Age)
```

Add mean hormone levels for between-
women hormone analyses

And subject-mean-centred the hormone values for within-women analyses

```
#####  
#####  
#add between-women values  
  
#for mean non-transformed hormone values  
data<-data%>% group_by(Person) %>% mutate(estradiol_mean = mean(estradiol, na.rm=TRUE),  
                                           progesterone_mean = mean(progesterone, na.rm=TRUE),  
                                           E_P_mean = mean(E_P, na.rm=TRUE))  
  
#Scale untransformed mean hormones  
data$estradiol_mean <- scale(data$estradiol_mean)  
data$progesterone_mean <- scale(data$progesterone_mean)  
data$E_P_mean <- scale(data$E_P_mean)  
  
#subject-mean-centre hormones  
# and divide by a constant to put all hormones on ~ -0.5 to +0.5 scale  
  
data <- data %>%  
  group_by(Person) %>%  
  mutate(progesterone = (progesterone - mean(progesterone, na.rm=TRUE))/90,  
         estradiol = (estradiol - mean(estradiol, na.rm=TRUE))/4,  
         E_P = (E_P-mean(E_P, na.rm=TRUE))/3) %>%  
  ungroup() %>%  
  as.data.frame()  
data %>%  
  group_by(Person, progesterone, estradiol, E_P) %>%  
  summarise(n = n()) %>%  
  ungroup() %>%  
  gather("hormone", "value", progesterone:E_P) %>%  
  ggplot(aes(value, colour=hormone)) +  
  geom_density(alpha=.5) +  
  scale_x_continuous(limits = c(-1,1))
```



#Factor analysis for body measures and correlation matrix

```
names(male_bodies)
```

```
## [1] "MaleID"           "Age"
## [3] "strength"         "height"
## [5] "BMI"              "upperarmgirth_mean_leftright"
## [7] "WhtR"             "SHR"
## [9] "SCR"              "rel_torso_vol"
## [11] "dominance"        "testosterone_men"
## [13] "WHR"              "Muscularity"
```

```

male_bodies$strength <- scale(male_bodies$strength)
male_bodies$height <- scale(male_bodies$height)
male_bodies$upperarmgirh_mean_leftiright <- scale(male_bodies$upperarmgirh_mean_leftiright)
male_bodies$SHR <- scale(male_bodies$SHR)
male_bodies$SCR <- scale(male_bodies$SCR)
male_bodies$rel_torso_vol <- scale(male_bodies$rel_torso_vol)
male_bodies$testosterone_men <- scale(male_bodies$testosterone_men)
male_bodies$dominance <- scale(male_bodies$dominance)
male_bodies$Muscularity <- scale(male_bodies$Muscularity)
male_bodies$BMI <- scale(male_bodies$BMI)
male_bodies$WHtR <- scale(male_bodies$WHtR)
male_bodies$WHR <- scale(male_bodies$WHR)
male_bodies$Age <- scale(male_bodies$Age)

measures <- male_bodies[, c("strength", "height", "upperarmgirh_mean_leftiright", "SHR", "SCR", "rel_torso_vol", "testosterone_men")]

#correlation matrix
cor(measures)

```

```

##              strength      height
## strength      1.0000000  0.07905639
## height        0.07905639  1.00000000
## upperarmgirh_mean_leftiright 0.43153812  0.12468048
## SHR           0.19388835 -0.02737165
## SCR           0.01212320  0.17379122
## rel_torso_vol  0.40210877 -0.04849792
## testosterone_men 0.13847732  0.20110776
##              upperarmgirh_mean_leftiright      SHR
## strength                                0.43153812  0.19388835
## height                                0.12468048 -0.02737165
## upperarmgirh_mean_leftiright          1.00000000 -0.28780846
## SHR                                -0.28780846  1.00000000
## SCR                                -0.36013231  0.61588411
## rel_torso_vol                        -0.16829590  0.34996766
## testosterone_men                    -0.01195724  0.20914971
##              SCR rel_torso_vol testosterone_men
## strength      0.0121232  0.40210877      0.13847732
## height        0.1737912 -0.04849792      0.20110776
## upperarmgirh_mean_leftiright -0.3601323 -0.16829590 -0.01195724
## SHR           0.6158841  0.34996766      0.20914971
## SCR           1.0000000  0.11523953     -0.13801153
## rel_torso_vol  0.1152395  1.00000000      0.16914862
## testosterone_men -0.1380115  0.16914862      1.00000000

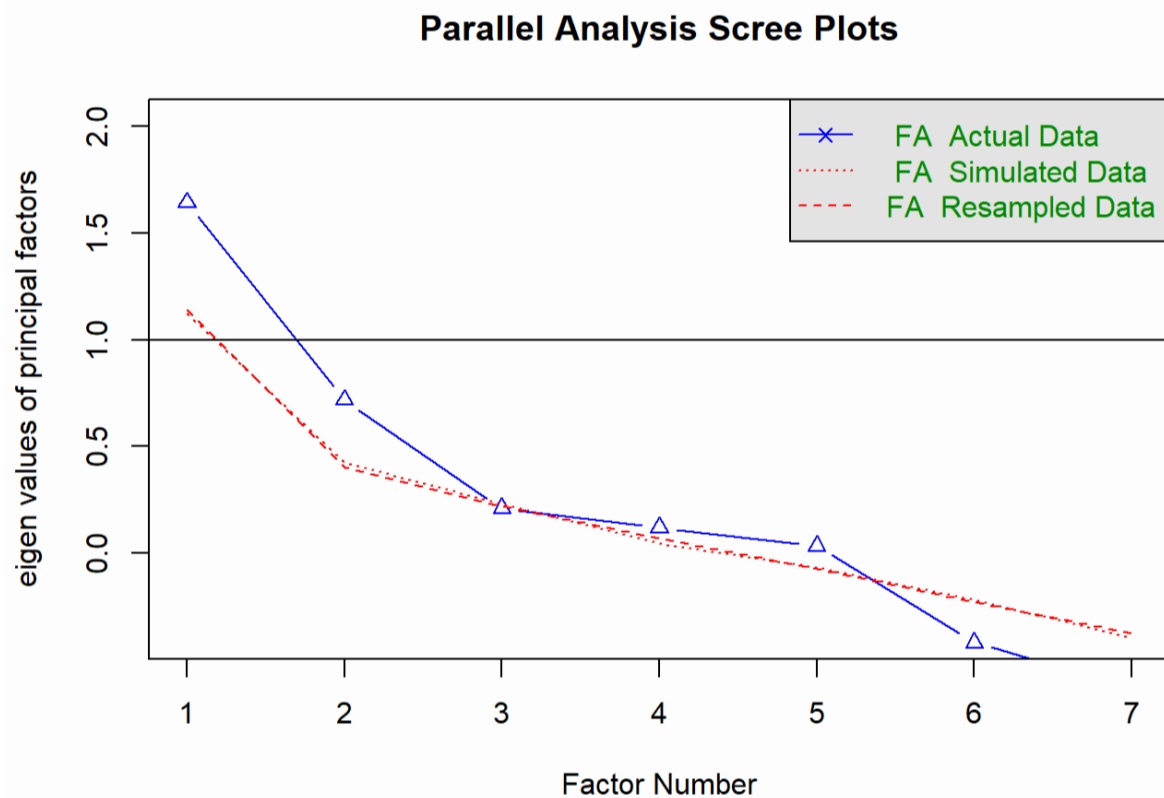
```

?fa.parallel

```
## starting httpd help server ... done
```

```
#How many factors for exploratory factor analysis?
```

```
parallel <- fa.parallel(measures, fm = 'ml', fa = 'fa')
```



```
## Parallel analysis suggests that the number of factors = 2 and the number of components = NA
```

```
#test revealed 2 factors.
```

```
EFA <- fa(measures, nfactors = 2, fm="ml", rotate="oblimin", scores = "regression",  
use="complete.obs", max.iter=50)
```

```
#Show factor loadings (Table S9)
```

```
loadings(EFA)
```



```
##
## Loadings:
##               ML2    ML1
## strength                0.994
## height
## upperarmgirth_mean_left:right -0.457  0.485
## SHR                0.867
## SCR                0.701
## rel_torso_vol        0.337  0.364
## testosterone_men      0.134  0.124
##
##               ML2    ML1
## SS Loadings    1.585  1.391
## Proportion Var 0.226  0.199
## Cumulative Var 0.226  0.425
```

```
print.psych(EFA, cut=0.3, sort=T)
```

```

## Factor Analysis using method = ml
## Call: fa(r = measures, nfactors = 2, rotate = "oblimin", scores = "regression",
##       max.iter = 50, fm = "ml", use = "complete.obs")
## Standardized loadings (pattern matrix) based upon correlation matrix
##
##           item  ML2  ML1    h2    u2 com
## SHR           4  0.87    0.7725 0.227  1
## SCR           5  0.70    0.4895 0.510  1
## testosterone_men 7    0.0357 0.964  2
## strength        1    0.99 0.9950 0.005  1
## upperarmgirth_mean_left:right 3 -0.46 0.49 0.4118 0.588  2
## rel_torso_vol    6  0.34 0.36 0.2641 0.736  2
## height          2    0.0063 0.994  1
##
##
##           ML2  ML1
## SS Loadings    1.58 1.39
## Proportion Var  0.23 0.20
## Cumulative Var  0.23 0.42
## Proportion Explained 0.53 0.47
## Cumulative Proportion 0.53 1.00
##
## With factor correlations of
##           ML2  ML1
## ML2  1.00 0.07
## ML1  0.07 1.00
##
## Mean item complexity = 1.4
## Test of the hypothesis that 2 factors are sufficient.
##
## The degrees of freedom for the null model are 21 and the objective function was 1.8 with Chi Square of 64.39
## The degrees of freedom for the model are 8 and the objective function was 0.51
##
## The root mean square of the residuals (RMSR) is 0.1
## The df corrected root mean square of the residuals is 0.16
##
## The harmonic number of observations is 40 with the empirical chi square 15.78 with prob < 0.046
## The total number of observations was 40 with Likelihood Chi Square = 17.66 with prob < 0.024
##
## Tucker Lewis Index of factoring reliability = 0.381
## RMSEA index = 0.196 and the 90 % confidence intervals are 0.061 0.288
## BIC = -11.85
## Fit based upon off diagonal values = 0.85
## Measures of factor score adequacy
##
##           ML2  ML1
## Correlation of (regression) scores with factors 0.91 1.00
## Multiple R square of scores with factors 0.83 0.99
## Minimum correlation of possible factor scores 0.66 0.99

```

```
#Save new factors, rename them and merge to data and data2
EFA <- as.data.frame(cbind(EFA$scores))
measures2 <- cbind(male_bodies$MaleID, EFA)
colnames(measures2) <- c("MaleID", "shoulder_factor", "strength_factor")
data <- merge(data, measures2, by = "MaleID")

cor.test(measures2$shoulder_factor, measures2$strength_factor)
```

```
##
## Pearson's product-moment correlation
##
## data: measures2$shoulder_factor and measures2$strength_factor
## t = 0.55352, df = 38, p-value = 0.5831
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## -0.2284401 0.3900756
## sample estimates:
## cor
## 0.08943349
```

```
table(data$conception_risk)
```

```
##
##      0  0.01  0.02  0.06  0.1  0.16  0.2  0.24  0.25
## 17160 1400  2640  2360   800  2040 1720 1880 2000
```

Analyses

Cycle shifts in attractiveness ratings: Attraction

```
###Are there cycle shifts in women's attraction?
```

```
#Hypothesis 1a
```

```
model1a <- lmer(Rating ~ conception_risk + (1 | Person) + (1 | MaleID) + (1 + conc
eption_risk || Person), data = data)
```

```
tab_model(model1a, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating		CI	Statistic	p
	Estimates	std. Error			
(Intercept)	0.13	0.30	-0.47 – 0.72	0.42	0.678
conception_risk	0.54	0.21	0.13 – 0.95	2.59	0.009
ICC	0.56				

N_{Person} 200
 N_{MaleID} 40

Observations 32000
 Marginal R² / Conditional R² 0.000 / 0.564

```
#with E_P ratio, Hypothesis 1b
model1b <- lmer(Rating ~ E_P + (1 | Person) + (1 | MaleID) + (1 + E_P || Person), data = data)
tab_model(model1b, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.30	-0.46 – 0.72	0.43	0.667
E_P	-0.04	0.08	-0.20 – 0.13	-0.43	0.670
ICC	0.58				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.000 / 0.582				

```
#moderated by relationship status, Hypothesis 1c
#Table 1
model1c<- lmer(Rating ~ conception_risk * relationship_status + (1 | Person) + (1 | MaleID) + (1 + conception_risk*relationship_status || Person), data = data)
tab_model(model1c, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.20	0.31	-0.41 – 0.80	0.64	0.523
conception_risk	0.70	0.26	0.20 – 1.21	2.74	0.006
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.25	0.211
conception_risk * relationship_status [1]	-0.29	0.43	-1.13 – 0.54	-0.69	0.489
ICC	0.56				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.002 / 0.563				

#moderated by relationship status, but with E_P ratio, Hypothesis 1d

#Table 1

```
model1c2<- lmer(Rating ~ E_P * relationship_status + (1 | Person) + (1 | MaleID) +
(1+ E_P*relationship_status||Person), data = data)
tab_model(model1c2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.22	0.30	-0.38 – 0.81	0.71	0.478
E_P	-0.01	0.07	-0.14 – 0.13	-0.08	0.935
relationship_status [1]	-0.19	0.11	-0.40 – 0.03	-1.71	0.087
E_P * relationship_status [1]	-0.09	0.19	-0.45 – 0.28	-0.48	0.633
ICC	0.58				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.001 / 0.582				

#moderated by self-reported stress, Hypothesis 1d

#Table S4

```
model1d<- lmer(Rating ~ conception_risk * stress + (1 | Person) + (1 | MaleID) + (1+
conception_risk*stress||Person), data = data)
tab_model(model1d, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.30	-0.47 – 0.71	0.39	0.694
conception_risk	0.55	0.23	0.10 – 0.99	2.40	0.016
stress	-0.03	0.03	-0.08 – 0.02	-1.09	0.276
conception_risk * stress	-0.10	0.23	-0.56 – 0.35	-0.44	0.659
ICC	0.56				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.001 / 0.565				

```
#moderated by self-reported stress, but with E_P ratio, Hypothesis 1d
#Table S4
model1d2<- lmer(Rating ~ E_P * stress + (1 |Person) + (1 | MaleID) + (1+ E_P*stress||Person), data = data)
tab_model(model1d2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.30	-0.46 – 0.71	0.42	0.675
E_P	-0.06	0.10	-0.26 – 0.13	-0.65	0.518
stress	-0.05	0.03	-0.11 – 0.00	-1.89	0.059
E_P * stress	-0.03	0.09	-0.20 – 0.14	-0.33	0.741
ICC	0.58				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.001 / 0.577				

#shifts in mate attraction mediated by sexual desire? H1e

#Premises H1e:

#effect of mediator on outcome

```
model_p1_H1e1 <- lmer(Rating ~ roney_desire + (1 | Person) + (1 | MaleID) + (1 + roney_desire||Person), data = data)
tab_model(model_p1_H1e1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.12	0.30	-0.47 – 0.72	0.41	0.684
roney_desire	0.08	0.02	0.03 – 0.13	3.23	0.001
ICC	0.58				
N _{Person}	257				
N _{MaleID}	40				
Observations	41120				
Marginal R ² / Conditional R ²	0.001 / 0.583				

```
#effect of predictor on mediator
model_p2_H1e1 <- lmer(roney_desire ~ conception_risk + (1 | Person) + (1 | MaleID)
+ (1 + conception_risk||Person), data = data)
```

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

```
tab_model(model_p2_H1e1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

roney_desire					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.07	0.05	-0.17 – 0.04	-1.27	0.205
conception_risk	4.36	1.26	1.90 – 6.83	3.46	0.001
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.306 / NA				

```
#Test H1e:
model_H1e1<- lmer(Rating ~ conception_risk +roney_desire + (1 | Person) + (1 | MaleID)
+ (1 + conception_risk + roney_desire || Person), data = data)
tab_model(model_H1e1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.30	-0.46 – 0.72	0.43	0.669
conception_risk	0.50	0.22	0.07 – 0.93	2.30	0.022
roney_desire	0.04	0.03	-0.01 – 0.10	1.44	0.149
ICC	0.57				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.001 / 0.570				

```
#for E/P rather than conception risk
#premise: Effect of predictor on mediator
P2_model_H1e2<- lmer(roney_desire ~ E_P + (1 | Person) + (1 | MaleID) + (1+ E_P||Person), data = data)
```

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

```
tab_model(P2_modelH1e2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

roney_desire					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.03	0.05	-0.12 – 0.06	-0.69	0.488
E_P	0.45	0.98	-1.48 – 2.37	0.45	0.650
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.111 / NA				

```
#testing Hypothesis 1e for E/P
modelH1e2<- lmer(Rating ~ E_P + roney_desire + (1 | Person) + (1 | MaleID) + (1 + E_P + roney_desire||Person), data = data)
tab_model(modelH1e2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.30	-0.47 – 0.71	0.40	0.688
E_P	-0.04	0.09	-0.21 – 0.13	-0.44	0.658
roney_desire	0.12	0.03	0.06 – 0.17	4.26	<0.001
ICC	0.58				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.002 / 0.582				

```
#Hypothesis 1f: Attraction shift (of conception risk) mediated by E/P?
```

```
#Premise H1f:
P_modelH1f<- lmer(E_P ~ conception_risk + (1 | Person) + (1 | MaleID) + (1+conception_risk||Person), data = data)
```

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

```
tab_model(P_modelH1f, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```


E_P					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.09	0.01	-0.12 – -0.06	-6.37	<0.001
conception_risk	3.95	0.93	2.12 – 5.77	4.24	<0.001
N _{Person}	200				
N _{MaleID}	40				
Observations	27600				
Marginal R ² / Conditional R ²	0.572 / NA				

#Test H1f:

```
modelH1f<- lmer(Rating ~ conception_risk + E_P + (1 | Person) + (1 | MaleID) + (1+conception_risk+ E_P||Person), data = data)
tab_model(modelH1f, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.11	0.30	-0.47 – 0.70	0.38	0.702
conception_risk	0.48	0.25	-0.01 – 0.98	1.91	0.056
E_P	-0.13	0.10	-0.32 – 0.06	-1.30	0.192
ICC	0.57				
N _{Person}	200				
N _{MaleID}	40				
Observations	27600				
Marginal R ² / Conditional R ²	0.001 / 0.569				

Exploratory analyses: Attraction shifts

#repeat the analyses above with estradiol and progesterone separately rather than E/P

#names(data)

#main effect of estradiol and progesterone on men's attractiveness rating, Table S5

```
model_e1 <- lmer(Rating ~ estradiol + progesterone + (1 | Person) + (1 | MaleID) + (1 + estradiol + progesterone||Person), data = data)
tab_model(model_e1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating					
Predictors	Estimates	std. Error	CI	Statistic	p

(Intercept)	0.12	0.30	-0.47 – 0.71	0.41	0.681
estradiol	0.12	0.09	-0.05 – 0.29	1.38	0.167
progesterone	-0.02	0.07	-0.15 – 0.11	-0.34	0.731
ICC	0.58				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.000 / 0.582				

```
summary(model_e1)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Rating ~ estradiol + progesterone + (1 | Person) + (1 | MaleID) +
## (1 + estradiol + progesterone || Person)
## Data: data
##
## REML criterion at convergence: 133099.6
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.2017 -0.6242 -0.0022  0.6288  5.2671
##
## Random effects:
## Groups      Name                Variance Std.Dev.
## Person      progesterone 0.501070 0.70786
## Person.1     estradiol    1.053767 1.02653
## Person.2 (Intercept) 0.003653 0.06044
## Person.3 (Intercept) 0.818514 0.90472
## MaleID      (Intercept) 3.471778 1.86327
## Residual                    2.581054 1.60657
## Number of obs: 34680, groups: Person, 255; MaleID, 40
##
## Fixed effects:
##              Estimate Std. Error      df t value Pr(>|t|)
## (Intercept)    0.12336    0.30022  41.84844    0.411    0.683
## estradiol       0.11972    0.08666 114.85654    1.381    0.170
## progesterone   -0.02289    0.06661  91.55344   -0.344    0.732
##
## Correlation of Fixed Effects:
##              (Intr) estrdl
## estradiol    0.001
## progesteron 0.000 0.002
## convergence code: 0
## unable to evaluate scaled gradient
## Model failed to converge: degenerate Hessian with 1 negative eigenvalues
```

#moderated by relationship status, Table S6

```
model_e2 <- lmer(Rating ~ estradiol*relationship_status + progesterone*relationship
_status + (1 | Person) + (1 | MaleID) + (1 + estradiol*relationship_status + proge
sterone*relationship_status||Person), data = data)
```

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

```
tab_model(model_e2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

	Rating				
Predictors	Estimates	std. Error	CI	Statistic	p

(Intercept)	0.22	0.30	-0.38 – 0.81	0.72	0.471
estradiol	0.21	0.10	0.02 – 0.40	2.12	0.034
relationship_status [1]	-0.21	0.11	-0.43 – 0.01	-1.85	0.064
progesterone	0.03	0.07	-0.10 – 0.16	0.47	0.636
estradiol * relationship_status [1]	-0.24	0.19	-0.60 – 0.12	-1.29	0.198
relationship_status [1] * progesterone	-0.07	0.14	-0.34 – 0.19	-0.53	0.595
ICC	0.58				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.002 / 0.580				

```
summary(model_e2)
```

```

## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Rating ~ estradiol * relationship_status + progesterone * relationship_status +
## (1 | Person) + (1 | MaleID) + (1 + estradiol * relationship_status +
## progesterone * relationship_status || Person)
## Data: data
##
## REML criterion at convergence: 133063.5
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.2164 -0.6240 -0.0019  0.6289  5.2544
##
## Random effects:
##      Groups      Name                                Variance Std.Dev.  Corr
##      Person    relationship_status-1: progesterone  1.776e-01 0.4214042
##               relationship_status1: progesterone  9.220e-01 0.9602048 -1.00
##      Person.1   estradiol : relationship_status-1  6.447e-01 0.8029613
##               estradiol : relationship_status1    1.589e+00 1.2606343 -0.62
##      Person.2   progesterone                      1.912e-07 0.0004373
##      Person.3   relationship_status-1              1.865e-01 0.4318389
##               relationship_status1                3.328e-01 0.5768637 -0.73
##      Person.4   estradiol                          5.143e-02 0.2267848
##      Person.5   (Intercept)                        2.548e-03 0.0504797
##      Person.6   (Intercept)                        5.606e-01 0.7487056
##      MaleID     (Intercept)                        3.468e+00 1.8621225
##      Residual                                2.578e+00 1.6056641
## Number of obs: 34680, groups:  Person, 255; MaleID, 40
##
## Fixed effects:
##                                     Estimate Std. Error      df t value
## (Intercept)                   0.21884    0.30343  43.81521   0.721
## estradiol                     0.20766    0.09780  54.44578   2.123
## relationship_status1          -0.20784    0.11234 176.82372  -1.850
## progesterone                  0.03192    0.06735  39.37738   0.474
## estradiol : relationship_status1 -0.23833    0.18520  95.43935  -1.287
## relationship_status1: progesterone -0.07199    0.13539  80.88164  -0.532
##                                Pr(>|t|)
## (Intercept)                   0.4746
## estradiol                     0.0383 *
## relationship_status1          0.0660 .
## progesterone                  0.6382
## estradiol : relationship_status1 0.2013
## relationship_status1: progesterone 0.5964
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##              (Intr) estrdl rln_1 prgstr est:_1
## estradiol      0.000
## rlnshp_st1 -0.152  0.001

```

```
## progesteron 0.000 -0.009 0.016
## estrdi:rl_1 0.000 -0.529 0.007 0.009
## rlnshp_s1: 0.000 0.003 0.000 -0.542 0.000
## convergence code: 0
## boundary (singular) fit: see ?isSingular
```

#moderated by self-reported stress, Table S7

```
model_e3 <- lmer(Rating ~ estradiol*stress + progesterone*stress + (1 | Person) +
(1 | MaleID) + (1 + estradiol*stress + progesterone*stress||Person), data = data)
tab_model(model_e3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.12	0.30	-0.47 – 0.71	0.40	0.689
estradiol	0.11	0.08	-0.04 – 0.27	1.43	0.152
stress	-0.06	0.03	-0.12 – -0.01	-2.36	0.018
progesterone	0.00	0.07	-0.14 – 0.14	0.03	0.975
estradiol * stress	-0.11	0.09	-0.29 – 0.07	-1.21	0.227
stress * progesterone	-0.03	0.06	-0.15 – 0.09	-0.42	0.672
ICC	0.58				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.001 / 0.576				

```
summary(model_e3)
```

```

## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Rating ~ estradiol * stress + progesterone * stress + (1 | Person) +
## (1 | MaleID) + (1 + estradiol * stress + progesterone * stress ||
## Person)
## Data: data
##
## REML criterion at convergence: 132937
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -4.8348 -0.6274 -0.0078  0.6299  5.6633
##
## Random effects:
## Groups   Name                Variance Std. Dev.
## Person   stress:progesterone 2.179e-02 0.147625
## Person.1 estradiol:stress    4.612e-01 0.679114
## Person.2 progesterone        4.885e-01 0.698908
## Person.3 stress              7.948e-02 0.281919
## Person.4 estradiol           5.229e-01 0.723134
## Person.5 (Intercept)         8.007e-01 0.894833
## Person.6 (Intercept)         2.366e-05 0.004864
## MaleID    (Intercept)         3.464e+00 1.861286
## Residual                    2.555e+00 1.598345
## Number of obs: 34680, groups:  Person, 255; MaleID, 40
##
## Fixed effects:
##              Estimate Std. Error      df t value Pr(>|t|)
## (Intercept)    0.119931   0.299990  42.032291   0.400   0.6913
## estradiol       0.114321   0.079895  92.004049   1.431   0.1558
## stress        -0.063830   0.027057 178.057425  -2.359   0.0194 *
## progesterone    0.002196   0.070349  76.016493   0.031   0.9752
## estradiol:stress -0.109479  0.090605  87.108314  -1.208   0.2302
## stress:progesterone -0.025908  0.061129  36.122070  -0.424   0.6742
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##              (Intr) estrdl stress prgstr estrd:
## estradiol      0.003
## stress         0.002  0.017
## progesterone   0.002 -0.003 -0.050
## estrdl:strs    0.002  0.055  0.068 -0.014
## strss:prgst   -0.003 -0.004  0.140 -0.080 -0.006
## convergence code: 0
## Model failed to converge with max|grad| = 0.00213349 (tol = 0.002, component 1)

```

```
#shifts in mate attraction mediated by sexual desire? H1e
```

```
#premise: Effect of predictors on mediator Table S8
```

```
model_e4 <- lmer(roney_desire ~ estradiol + progesterone + (1 | Person) + (1 | MaleID) + (1 + estradiol + progesterone || Person), data = data)
```

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

```
tab_model(model_e4, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

roney_desire					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.07	0.06	-0.18 – 0.05	-1.12	0.263
estradiol	-0.42	0.54	-1.48 – 0.65	-0.77	0.444
progesterone	-5.45	3.63	-12.56 – 1.66	-1.50	0.133
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.984 / NA				

```
summary(model_e4)
```



```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: roney_desire ~ estradiol + progesterone + (1 | Person) + (1 |
## MaleID) + (1 + estradiol + progesterone || Person)
## Data: data
##
## REML criterion at convergence: 28673.8
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -4.9310 -0.1768 -0.0005  0.1857  4.7691
##
## Random effects:
## Groups   Name                Variance Std.Dev.
## Person   progesterone 3117.0873 55.8309
## Person.1 estradiol      68.7512  8.2916
## Person.2 (Intercept)    0.5727  0.7568
## Person.3 (Intercept)    0.2539  0.5039
## MaleID    (Intercept)    0.0000  0.0000
## Residual                    0.1119  0.3346
## Number of obs: 34680, groups: Person, 255; MaleID, 40
##
## Fixed effects:
##              Estimate Std. Error      df t value Pr(>|t|)
## (Intercept)  -0.06631    0.05922 229.52690  -1.120    0.264
## estradiol    -0.41702    0.54463 220.34249  -0.766    0.445
## progesterone -5.45325    3.62793  70.57189  -1.503    0.137
##
## Correlation of Fixed Effects:
##              (Intr) estrdl
## estradiol      0.008
## progesteron -0.001  0.001
## convergence code: 0
## boundary (singular) fit: see ?isSingular
```

```
#testing Hypothesis 1e with estradiol and progesterone separately Table S9
model_e5 <- lmer(Rating ~ estradiol + progesterone + roney_desire + (1 | Person) +
(1 | MaleID) + (1 + estradiol + progesterone + roney_desire || Person), data = data)
tab_model(model_e5, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.30	-0.47 – 0.70	0.39	0.700
estradiol	0.13	0.08	-0.04 – 0.29	1.49	0.136
progesterone	-0.01	0.06	-0.13 – 0.12	-0.09	0.931
roney_desire	0.10	0.03	0.04 – 0.15	3.37	0.001

ICC	0.58
N _{Person}	255
N _{MaleID}	40
Observations	34680
Marginal R ² / Conditional R ²	0.002 / 0.582

```
summary(model_e5)
```

```

## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Rating ~ estradiol + progesterone + roney_desire + (1 | Person) +
## (1 | MaleID) + (1 + estradiol + progesterone + roney_desire ||
## Person)
## Data: data
##
## REML criterion at convergence: 132949.4
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.2202 -0.6239 -0.0047  0.6277  5.2850
##
## Random effects:
## Groups      Name                Variance Std.Dev.
## Person     roney_desire  0.09278  0.3046
## Person.1    progesterone  0.39387  0.6276
## Person.2    estradiol     0.82495  0.9083
## Person.3    (Intercept)   0.57887  0.7608
## Person.4    (Intercept)   0.21134  0.4597
## MaleID      (Intercept)   3.46475  1.8614
## Residual                    2.56067  1.6002
## Number of obs: 34680, groups: Person, 255; MaleID, 40
##
## Fixed effects:
##              Estimate Std. Error      df t value Pr(>|t|)
## (Intercept)   0.115582   0.299931  41.983921    0.385 0.701916
## estradiol     0.125078   0.083846 100.920864    1.492 0.138885
## progesterone -0.005517   0.063873  82.768724   -0.086 0.931380
## roney_desire  0.096288   0.028532 153.149348    3.375 0.000936 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##              (Intr) estrdl prgstr
## estradiol     0.002
## progesteron -0.001  0.007
## roney_desir  0.006  0.012  0.033
## convergence code: 0
## Model failed to converge with max|grad| = 0.00387561 (tol = 0.002, component 1)
## Model is nearly unidentifiable: large eigenvalue ratio
## - Rescale variables?

```

#Hypothesis 1f: Attraction shift (of conception risk) mediated by estradiol or progesterone

#Premise H1f Table S10

```

model_e6 <- lmer(conception_risk ~ estradiol + progesterone + (1 | Person) + (1 |
MaleID) + (1 + estradiol + progesterone || Person), data = data)

```

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

```
tab_model(model_e6, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

conception_risk					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.05	0.01	0.04 – 0.06	9.42	<0.001
estradiol	-0.08	0.06	-0.20 – 0.03	-1.39	0.165
progesterone	-0.09	0.09	-0.26 – 0.08	-1.08	0.280
N _{Person}	200				
N _{MaleID}	40				
Observations	27600				
Marginal R ² / Conditional R ²	0.613 / NA				

```
#Test H1f Table S11
```

```
model_e7 <- lmer(Rating ~ estradiol + progesterone + conception_risk + (1 | Person) + (1 | MaleID) + (1 + estradiol + progesterone + conception_risk || Person), data = data)
```

```
tab_model(model_e7, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.30	-0.46 – 0.71	0.42	0.674
estradiol	0.17	0.10	-0.03 – 0.37	1.67	0.094
progesterone	0.00	0.08	-0.14 – 0.15	0.06	0.949
conception_risk	0.21	0.26	-0.31 – 0.72	0.78	0.437
ICC	0.56				
N _{Person}	200				
N _{MaleID}	40				
Observations	27600				
Marginal R ² / Conditional R ²	0.001 / 0.563				

```
###Are there cycle shifts in women's attraction to other women?
```

```
#Hypothesis 1a
```

```
f_model1a <- lmer(Rating_f ~ conception_risk + (1 | Person) + (1 | FemaleID) + (1 + conception_risk || Person), data = data)
```

```
tab_model(f_model1a, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating_f					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.01	0.27	-0.54 – 0.52	-0.04	0.969
conception_risk	-0.16	0.24	-0.63 – 0.30	-0.69	0.493
ICC	0.53				
N _{Person}	200				
N _{FemaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.000 / 0.532				

```
#with E_P ratio, Hypothesis 1b
#Table S12
f_model1b <- lmer(Rating_f ~ E_P + (1 | Person) + (1 | FemaleID) + (1 + E_P || Person), data = data)
tab_model(f_model1b, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating_f					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.06	0.27	-0.59 – 0.48	-0.20	0.840
E_P	0.04	0.12	-0.20 – 0.28	0.31	0.760
ICC	0.58				
N _{Person}	255				
N _{FemaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.000 / 0.584				

```
#moderated by relationship status, Hypothesis 1c
#Table S13
f_model1c <- lmer(Rating_f ~ conception_risk * relationship_status + (1 | Person) + (1 | FemaleID) + (1 + conception_risk*relationship_status || Person), data = data)
tab_model(f_model1c, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating_f					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.02	0.28	-0.57 – 0.53	-0.06	0.948
conception_risk	-0.03	0.36	-0.73 – 0.67	-0.09	0.926
relationship_status [1]	0.01	0.13	-0.24 – 0.26	0.09	0.932

conception_risk *	-0.15	0.48	-1.08 – 0.79	-0.31	0.754
relationship_status [1]					

ICC	0.53
-----	------

N _{Person}	200
---------------------	-----

N _{FemaleID}	40
-----------------------	----

Observations	32000
--------------	-------

Marginal R ² / Conditional R ²	0.000 / 0.526
--	---------------

```
#moderated by relationship status, but with E_P ratio, Hypothesis 1d
#Table S14
f_model1c2<- lmer(Rating_f ~ E_P * relationship_status + (1 |Person) + (1 | FemaleID) + (1+ E_P*relationship_status||Person), data = data)
tab_model(f_model1c2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating_f				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.10	0.28	-0.64 – 0.45	-0.35	0.725
E_P	0.28	0.23	-0.18 – 0.74	1.21	0.228
relationship_status [1]	0.10	0.11	-0.12 – 0.32	0.87	0.387
E_P * relationship_status [1]	-0.38	0.27	-0.90 – 0.15	-1.40	0.162
ICC	0.55				
N _{Person}	255				
N _{FemaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.002 / 0.552				

```
#moderated by self-reported stress, Hypothesis 1d
#Table S15
f_model1d<- lmer(Rating_f ~ conception_risk * stress + (1 |Person) + (1 | FemaleID) + (1+ conception_risk*stress||Person), data = data)
tab_model(f_model1d, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating_f				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.00	0.27	-0.54 – 0.53	-0.02	0.988
conception_risk	-0.08	0.29	-0.64 – 0.49	-0.27	0.784
stress	-0.02	0.04	-0.10 – 0.05	-0.62	0.532

conception_risk * stress	-0.10	0.27	-0.64 – 0.44	-0.35	0.725
ICC	0.53				
N _{Person}	200				
N _{FemaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.000 / 0.534				

```
#moderated by self-reported stress, but with E_P ratio, Hypothesis 1d
#Table S16
f_model1d2<- lmer(Rating_f ~ E_P * stress + (1 |Person) + (1 | FemaleID) + (1+ E_P*
stress||Person), data = data)
tab_model(f_model1d2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating_f				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.04	0.28	-0.58 – 0.50	-0.14	0.891
E_P	0.09	0.13	-0.17 – 0.34	0.65	0.516
stress	-0.08	0.04	-0.15 – -0.00	-2.01	0.045
E_P * stress	-0.03	0.15	-0.32 – 0.25	-0.22	0.823
ICC	0.58				
N _{Person}	255				
N _{FemaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.001 / 0.577				

#shifts in mate attraction mediated by sexual desire? H1e

```
#Premises H1e:
#effect of mediator on outcome
f_model_p1_H1e1 <- lmer(Rating_f ~ roney_desire + (1 | Person) + (1 | FemaleID) +
(1 + roney_desire||Person), data = data)
tab_model(f_model_p1_H1e1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating_f				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.07	0.27	-0.61 – 0.47	-0.26	0.797
roney_desire	0.03	0.03	-0.03 – 0.09	1.06	0.288
ICC	0.56				

N_{Person} 257
N_{FemaleID} 40

Observations 41120
Marginal R² / Conditional R² 0.000 / 0.561

```
#Test H1e:
#Table S17
f_modelH1e1<- lmer(Rating_f ~ conception_risk +roney_desire + (1 | Person) + (1 | FemaleID) + (1 + conception_risk + roney_desire || Person), data = data)
```

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

```
tab_model(f_modelH1e1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating_f				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.01	0.27	-0.55 – 0.52	-0.05	0.962
conception_risk	-0.31	0.29	-0.89 – 0.26	-1.07	0.284
roney_desire	0.02	0.04	-0.05 – 0.10	0.66	0.512
ICC	0.55				
N _{Person}	200				
N _{FemaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.000 / 0.550				

```
#Preference shift for female muscularity?

#Hypothesis 2a: for muscularity
#Table S18
f_model2a <- lmer(Rating_f ~ conception_risk * Muscularity_f + (1 | Person) + (1 | FemaleID) + (1 + conception_risk * Muscularity_f || Person), data = data)
tab_model(f_model2a, show.std = TRUE, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating_f						
	Estimates	std. Error	std. Beta	CI	standardized CI	Statistic	p
(Intercept)	-5.79	0.63	-0.00	-7.03 – -4.55	-0.13 – 0.12	-0.01	<0.001

conception_risk	-1.04	0.46	-0.01	-1.94 – -0.14	-0.02 – 0.01	-0.64	0.023
Muscularity_f	1.90	0.20	0.55	1.51 – 2.30	0.44 – 0.67	9.54	<0.001
conception_risk * Muscularity_f	0.29	0.15	0.01	0.00 – 0.58	0.00 – 0.02	2.01	0.048
ICC	0.27						
N _{Person}	200						
N _{FemaleID}	40						
Observations	32000						
Marginal R ² / Conditional R ²	0.385 / 0.553						

###Are there cycle shifts in women's attraction to objects (control)?

#Hypothesis 1a

```
o_model 1a <- lmer(Rating_o ~ conception_risk + ( 1 | Person) + (1 | ObjectID) + (1  
+ conception_risk||Person), data = data)
```

```
tab_model(o_model 1a, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating_o					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.41	0.21	0.00 – 0.81	1.97	0.049
conception_risk	0.24	0.19	-0.13 – 0.61	1.27	0.206
ICC	0.23				
N _{Person}	200				
N _{ObjectID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.000 / 0.227				

#with E_P ratio, Hypothesis 1b

#Table S12

```
o_model 1b <- lmer(Rating_o ~ E_P + ( 1 | Person) + (1 | ObjectID) + (1 + E_P||Perso  
n), data = data)
```

```
tab_model(o_model 1b, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating_o					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.40	0.20	0.00 – 0.80	1.97	0.048

E_P	0.07	0.05	-0.02 – 0.17	1.59	0.111
ICC	0.23				
N _{Person}	255				
N _{ObjectID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.000 / 0.230				

```
#moderated by relationship status, Hypothesis 1c
#Table S13
o_model1c<- lmer(Rating_o ~ conception_risk * relationship_status + (1 |Person) +
(1 | ObjectID) + (1+ conception_risk*relationship_status||Person), data = data)
tab_model(o_model1c, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating_o					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.37	0.21	-0.04 – 0.79	1.76	0.078
conception_risk	0.22	0.25	-0.26 – 0.71	0.90	0.370
relationship_status [1]	0.07	0.11	-0.15 – 0.29	0.64	0.519
conception_risk * relationship_status [1]	0.08	0.39	-0.68 – 0.84	0.20	0.839
ICC	0.23				
N _{Person}	200				
N _{ObjectID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.000 / 0.227				

```
#moderated by relationship status, but with E_P ratio, Hypothesis 1d
#Table S14
o_model1c2<- lmer(Rating_o ~ E_P * relationship_status + (1 |Person) + (1 | ObjectID) +
(1+ E_P*relationship_status||Person), data = data)
```

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

```
tab_model(o_model1c2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating_o					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.36	0.21	-0.04 – 0.77	1.75	0.081

E_P	0.07	0.08	-0.08 – 0.22	0.93	0.351
relationship_status [1]	0.09	0.09	-0.09 – 0.27	1.00	0.317
E_P * relationship_status [1]	0.03	0.09	-0.15 – 0.21	0.32	0.751
N Person	255				
N ObjectID	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.001 / NA				

```
#moderated by self-reported stress, Hypothesis 1d
#Table S15
o_model1d<- lmer(Rating_o ~ conception_risk * stress + (1 |Person) + (1 | ObjectID)
+ (1+ conception_risk*stress||Person), data = data)
```

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

```
tab_model(o_model1d, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating_o				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.41	0.21	0.00 – 0.81	1.98	0.048
conception_risk	0.20	0.18	-0.15 – 0.54	1.13	0.259
stress	0.04	0.03	-0.01 – 0.09	1.47	0.142
conception_risk * stress	-0.20	0.20	-0.59 – 0.18	-1.04	0.299
ICC	0.23				
N Person	200				
N ObjectID	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.000 / 0.227				

```
#moderated by self-reported stress, but with E_P ratio, Hypothesis 1d
#Table S16
o_model1d2<- lmer(Rating_o ~ E_P * stress + (1 |Person) + (1 | ObjectID) + (1+ E_P*
stress||Person), data = data)
```

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

```
tab_model(o_model1d2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating_o					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.41	0.20	0.00 – 0.81	1.98	0.047
E_P	0.09	0.04	0.01 – 0.17	2.13	0.033
stress	0.02	0.02	-0.02 – 0.07	1.05	0.293
E_P * stress	0.07	0.06	-0.04 – 0.19	1.23	0.218
N _{Person}	255				
N _{ObjectID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.000 / NA				

#shifts in object attraction mediated by sexual desire? H1e

#Test H1e:

#Table S17

```
o_model H1e1<- lmer(Rating_o ~ conception_risk + roney_desire + (1 | Person) + (1 | ObjectID) + (1 + conception_risk + roney_desire || Person), data = data)
tab_model(o_model H1e1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating_o					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.41	0.21	0.01 – 0.81	1.99	0.046
conception_risk	0.18	0.19	-0.20 – 0.55	0.93	0.354
roney_desire	0.03	0.02	-0.01 – 0.07	1.54	0.124
ICC	0.23				
N _{Person}	200				
N _{ObjectID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.000 / 0.227				

Cycle shifts in attractiveness ratings: Mate preferences

Hypotheses Block 2

```
#add between-women hormone effects
```

```
#Hypothesis 2a: for muscularity
```

```
#Table 2
```

```
model2a <- lmer(Rating ~ conception_risk * Muscularity + (1 | Person) + (1 | MaleID) + (1 + conception_risk * Muscularity || Person), data = data)
```

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

```
tab_model(model2a, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.16	-0.20 – 0.45	0.76	0.447
conception_risk	0.54	0.21	0.13 – 0.95	2.60	0.009
Muscularity	1.57	0.16	1.26 – 1.88	10.05	<0.001
conception_risk * Muscularity	0.24	0.10	0.04 – 0.45	2.33	0.020
N Person	200				
N MaleID	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.505 / NA				

```
#Hypothesis 2b: for dominance
```

```
#Table 2
```

```
model2b <- lmer(Rating ~ conception_risk * dominance + (1 | Person) + (1 | MaleID) + (1 + conception_risk * dominance || Person), data = data)
```

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

```
tab_model(model2b, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.25	-0.37 – 0.62	0.49	0.621
conception_risk	0.54	0.21	0.13 – 0.95	2.60	0.009

dominance	1.04	0.25	0.56 – 1.53	4.22	<0.001
conception_risk * dominance	0.10	0.11	-0.11 – 0.31	0.91	0.364

N_{Person} 200

N_{MaleID} 40

Observations 32000

Marginal R² / Conditional R² 0.302 / NA

#Hypothesis 2c: for factor 1

#Table 2

```
model2c <- lmer(Rating ~ conception_risk * shoulder_factor + (1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor || Person), data = data)
tab_model(model2c, show.std = TRUE, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

boundary (singular) fit: see ?isSingular

Predictors	Estimates	std. Error	std. Beta	Rating		Statistic	p
				CI	standardized CI		
(Intercept)	0.13	0.29	0.00	-0.44 – 0.69	-0.21 – 0.21	0.01	0.661
conception_risk	0.54	0.21	0.02	0.13 – 0.95	0.00 – 0.03	2.62	0.009
shoulder_factor	0.73	0.31	0.25	0.12 – 1.34	0.04 – 0.46	2.37	0.020
conception_risk * shoulder_factor	0.19	0.12	0.01	-0.04 – 0.42	-0.00 – 0.01	1.61	0.108
ICC	0.55						
N _{Person}	200						
N _{MaleID}	40						
Observations	32000						
Marginal R ² / Conditional R ²	0.072 / 0.580						

#Hypothesis 2c: for factor 2

#Table 2

```
model2c2 <- lmer(Rating ~ conception_risk * strength_factor + (1 | Person) + (1 | MaleID) + (1 + conception_risk* strength_factor || Person), data = data)
tab_model(model2c2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.29	-0.45 – 0.70	0.43	0.668
conception_risk	0.54	0.21	0.13 – 0.95	2.60	0.009
strength_factor	0.56	0.29	-0.01 – 1.13	1.93	0.054
conception_risk * strength_factor	0.09	0.11	-0.13 – 0.30	0.81	0.417
ICC	0.55				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.050 / 0.571				

```
#####
#####
```

```
#with E/P rather than conception risk, Hypothesis 2f, Table 4
#also including between-women hormone effects in an exploratory manner
```

```
#for muscularity
```

```
#Table 3
```

```
model2f1 <- lmer(Rating ~ E_P * Muscularity + E_P_mean * Muscularity + (1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity || Person), data = data)
```

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

```
#tab_model(model2f1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
summary(model2f1)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Rating ~ E_P * Muscularity + E_P_mean * Muscularity + (1 | Person) +
## (1 | MaleID) + (1 + E_P * Muscularity || Person)
## Data: data
##
## REML criterion at convergence: 130363.7
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -4.5711 -0.5958 -0.0067  0.6039  5.3611
##
## Random effects:
## Groups   Name                Variance Std.Dev.
## Person   E_P:Muscularity  0.000e+00 0.000000
## Person.1 Muscularity      2.506e-01 0.500633
## Person.2 E_P              1.217e+00 1.103334
## Person.3 (Intercept)      8.183e-01 0.904585
## Person.4 (Intercept)      4.394e-05 0.006628
## MaleID    (Intercept)      9.148e-01 0.956463
## Residual                    2.352e+00 1.533629
## Number of obs: 34680, groups: Person, 255; MaleID, 40
##
## Fixed effects:
##              Estimate Std. Error      df t value Pr(>|t|)
## (Intercept)    1.291e-01  1.617e-01  4.925e+01   0.798    0.429
## E_P            -3.841e-02  8.797e-02  1.066e+02  -0.437    0.663
## Muscularity     1.592e+00  1.547e-01  4.133e+01  10.291  5.7e-13 ***
## E_P_mean        8.604e-02  5.790e-02  2.639e+02   1.486    0.138
## E_P:Muscularity  4.921e-03  1.993e-02  3.377e+04   0.247    0.805
## Muscularity:E_P_mean -2.950e-02  3.350e-02  2.838e+02  -0.881    0.379
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##              (Intr) E_P   MscIrt E_P_mn E_P:Ms
## E_P           0.000
## Muscularity  0.000  0.000
## E_P_mean     0.001  0.000  0.000
## E_P:MscIrt  0.000  0.000  0.000  0.000
## MscIrt:E_P_ 0.000  0.000  0.001  0.000  0.000
## convergence code: 0
## boundary (singular) fit: see ?isSingular
```

#for dominance

#Table 3

```
model2f2 <- lmer(Rating ~ E_P * dominance + E_P_mean* dominance + (1 | Person) +
(1 | MaleID) + (1 + E_P* dominance||Person), data = data)
```



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

```
#tab_model(model2f2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
summary(model2f2)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Rating ~ E_P * dominance + E_P_mean * dominance + (1 | Person) +
##          (1 | MaleID) + (1 + E_P * dominance || Person)
## Data: data
##
## REML criterion at convergence: 131564.7
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -4.7475 -0.6134 -0.0016  0.6225  5.2202
##
## Random effects:
## Groups   Name                Variance Std.Dev.
## Person   E_P:dominance      0.0000    0.0000
## Person.1 dominance          0.1686    0.4106
## Person.2 E_P                1.1574    1.0758
## Person.3 (Intercept)        0.1545    0.3931
## Person.4 (Intercept)        0.6630    0.8142
## MaleID    (Intercept)        2.4294    1.5587
## Residual                        2.4411    1.5624
## Number of obs: 34680, groups:  Person, 255; MaleID, 40
##
## Fixed effects:
##              Estimate Std. Error      df t value Pr(>|t|)
## (Intercept)   1.291e-01  2.530e-01  4.205e+01   0.510 0.612653
## E_P           -3.752e-02  8.658e-02  1.047e+02  -0.433 0.665621
## dominance      1.039e+00  2.479e-01  3.879e+01   4.189 0.000156 ***
## E_P_mean       8.602e-02  5.791e-02  2.643e+02   1.485 0.138657
## E_P:dominance  1.912e-02  2.030e-02  3.377e+04   0.942 0.346361
## dominance:E_P_mean -5.287e-02  2.834e-02  2.937e+02  -1.866 0.063080 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##              (Intr) E_P   domnnc E_P_mn E_P:dm
## E_P           0.000
## dominance     0.000  0.000
## E_P_mean      0.001  0.000  0.000
## E_P:dominanc  0.000  0.000  0.000  0.000
## dmnnc:E_P_m  0.000  0.000  0.001  0.000  0.000
## convergence code: 0
## boundary (singular) fit: see ?isSingular
```

```
#for factor 1  
#Table 3  
model2f3 <- lmer(Rating ~ E_P * shoulder_factor + E_P_mean* shoulder_factor + (1 |  
Person) + (1 | MaleID) + (1 + E_P* shoulder_factor || Person), data = data)
```

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

```
#tab_model(model2f3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)  
summary(model2f3)
```

```

## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Rating ~ E_P * shoulder_factor + E_P_mean * shoulder_factor +
## (1 | Person) + (1 | MaleID) + (1 + E_P * shoulder_factor ||
## Person)
## Data: data
##
## REML criterion at convergence: 131863
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -7.3305 -0.6110  0.0011  0.6254  4.5315
##
## Random effects:
## Groups   Name                Variance Std. Dev.
## Person   E_P: shoulder_factor 0.000e+00 0.000000
## Person.1 shoulder_factor      1.804e-01 0.424732
## Person.2 E_P                  1.142e+00 1.068762
## Person.3 (Intercept)          8.173e-01 0.904058
## Person.4 (Intercept)          5.385e-05 0.007339
## MaleID    (Intercept)          3.082e+00 1.755591
## Residual                        2.464e+00 1.569870
## Number of obs: 34680, groups: Person, 255; MaleID, 40
##
## Fixed effects:
##              Estimate Std. Error      df t value Pr(>|t|)
## (Intercept)    1.291e-01  2.834e-01  4.118e+01   0.455   0.6512
## E_P            -3.729e-02  8.622e-02  1.042e+02  -0.432   0.6663
## shoulder_factor  7.539e-01  3.103e-01  3.853e+01   2.430   0.0199
## E_P_mean        8.602e-02  5.792e-02  2.644e+02   1.485   0.1387
## E_P: shoulder_factor -1.949e-02  2.271e-02  3.377e+04  -0.858   0.3907
## shoulder_factor: E_P_mean  2.204e-02  2.973e-02  3.003e+02   0.742   0.4589
##
## (Intercept)
## E_P
## shoulder_factor *
## E_P_mean
## E_P: shoulder_factor
## shoulder_factor: E_P_mean
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##              (Intr) E_P   shl dr_ E_P_mn E_P:s_
## E_P              0.000
## shldr_fctr 0.000  0.000
## E_P_mean      0.001  0.000 0.000
## E_P: shldr_f 0.000  0.000 0.000 0.000
## shldr_: E_P_ 0.000  0.000 0.001 0.000 0.000
## convergence code: 0
## boundary (singular) fit: see ?isSingular

```

```
#for factor 2  
#Table 3  
model2f4 <- lmer(Rating ~ E_P * strength_factor + E_P_mean*strength_factor + (1 |  
Person) + (1 | MaleID) + (1 + E_P* strength_factor||Person), data = data)
```

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

```
#tab_model(model2f4, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)  
summary(model2f4)
```

```

## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Rating ~ E_P * strength_factor + E_P_mean * strength_factor +
## (1 | Person) + (1 | MaleID) + (1 + E_P * strength_factor ||
## Person)
## Data: data
##
## REML criterion at convergence: 132903.6
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -5.2333 -0.6181  0.0002  0.6306  5.1341
##
## Random effects:
## Groups   Name                Variance Std. Dev.
## Person   E_P:strength_factor 0.00000  0.0000
## Person.1 strength_factor      0.05771  0.2402
## Person.2 E_P                  1.08493  1.0416
## Person.3 (Intercept)          0.34355  0.5861
## Person.4 (Intercept)          0.47327  0.6879
## MaleID    (Intercept)          3.23790  1.7994
## Residual                        2.55617  1.5988
## Number of obs: 34680, groups: Person, 255; MaleID, 40
##
## Fixed effects:
##              Estimate Std. Error      df t value Pr(>|t|)
## (Intercept)    1.291e-01  2.902e-01  4.106e+01  0.445  0.6589
## E_P            -3.637e-02  8.485e-02  1.021e+02 -0.429  0.6691
## strength_factor  5.611e-01  2.894e-01  3.820e+01  1.939  0.0599
## E_P_mean        8.600e-02  5.795e-02  2.648e+02  1.484  0.1390
## E_P:strength_factor  3.314e-02  2.110e-02  3.377e+04  1.571  0.1162
## strength_factor:E_P_mean -3.987e-02  1.920e-02  3.350e+02 -2.076  0.0386
##
## (Intercept)
## E_P
## strength_factor
## E_P_mean
## E_P:strength_factor
## strength_factor:E_P_mean *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##              (Intr) E_P   strng_ E_P_mn E_P:s_
## E_P              0.000
## strngth_fct      0.000  0.000
## E_P_mean          0.001  0.000  0.000
## E_P:strngt_       0.000  0.000  0.000  0.000
## strng_:E_P_       0.000  0.000  0.001  0.000  0.000
## convergence code: 0
## boundary (singular) fit: see ?isSingular

```

```
#####
#####
```

```
#3-way Interactions with relationship status: Hypothesis 2d
```

```
#for muscularity
```

```
#Table S24
```

```
model2d <- lmer(Rating ~ conception_risk * Muscularity * relationship_status + ( 1
| Person) + (1 | MaleID) + (1 + conception_risk* Muscularity*relationship_status||P
erson), data = data)
```

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

```
tab_model(model2d, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.20	0.18	-0.15 – 0.54	1.12	0.261
conception_risk	0.72	0.26	0.21 – 1.23	2.77	0.006
Muscularity	1.56	0.16	1.24 – 1.87	9.74	<0.001
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.25	0.210
conception_risk * Muscularity	0.24	0.14	-0.04 – 0.52	1.69	0.090
conception_risk * relationship_status [1]	-0.31	0.43	-1.15 – 0.53	-0.73	0.465
Muscularity * relationship_status [1]	0.03	0.06	-0.10 – 0.15	0.41	0.685
(conception_risk Muscularity) relationship_status [1]	-0.01	0.21	-0.43 – 0.40	-0.06	0.954
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.506 / NA				

```
#for dominance #Table S24
```

```
model2d2 <- lmer(Rating ~ conception_risk * dominance*relationship_status + ( 1 | P
erson) + (1 | MaleID) + (1 + conception_risk* dominance*relationship_status||Perso
n), data = data)
```

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

```
tab_model(model2d2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.20	0.26	-0.31 – 0.71	0.75	0.451
conception_risk	0.72	0.26	0.21 – 1.22	2.76	0.006
dominance	1.06	0.25	0.57 – 1.55	4.24	<0.001
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.25	0.210
conception_risk * dominance	0.07	0.15	-0.21 – 0.36	0.49	0.626
conception_risk * relationship_status [1]	-0.31	0.43	-1.14 – 0.53	-0.72	0.473
dominance * relationship_status [1]	-0.03	0.05	-0.14 – 0.08	-0.52	0.603
(conception_risk dominance) relationship_status [1]	0.05	0.21	-0.37 – 0.47	0.24	0.810
ICC	0.49				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.183 / 0.580				

```
#for shoulder factor #Table S25
```

```
model2d3 <- lmer(Rating ~ conception_risk * shoulder_factor*relationship_status + (1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor*relationship_status || Person), data = data)
```

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

```
tab_model(model2d3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.20	0.29	-0.38 – 0.77	0.67	0.501

conception_risk	0.71	0.26	0.21 – 1.22	2.76	0.006
shoulder_factor	0.70	0.31	0.09 – 1.32	2.24	0.025
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.25	0.210
conception_risk * shoulder_factor	0.27	0.16	-0.05 – 0.58	1.64	0.102
conception_risk * relationship_status [1]	-0.31	0.43	-1.14 – 0.53	-0.72	0.474
shoulder_factor * relationship_status [1]	0.05	0.06	-0.07 – 0.17	0.86	0.392
(conception_risk shoulder_factor) relationship_status [1]	-0.17	0.24	-0.64 – 0.30	-0.72	0.469
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.149 / NA				

#for strength factor #Table S25

```
model2d4 <- lmer(Rating ~ conception_risk * strength_factor*relationship_status + (
1 | Person) + (1 | MaleID) + (1 + conception_risk* strength_factor*relationship_status||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2d4, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.20	0.30	-0.39 – 0.78	0.66	0.511
conception_risk	0.71	0.26	0.20 – 1.21	2.74	0.006
strength_factor	0.57	0.29	-0.00 – 1.14	1.96	0.050
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.25	0.210
conception_risk * strength_factor	0.08	0.15	-0.21 – 0.37	0.53	0.595
conception_risk * relationship_status [1]	-0.30	0.43	-1.13 – 0.54	-0.70	0.484

strength_factor * relationship_status [1]	-0.03	0.04	-0.10 – 0.05	-0.67	0.506
(conception_risk strength_factor) relationship_status [1]	0.02	0.22	-0.41 – 0.45	0.09	0.931
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.107 / NA				

```
#####
#####
#with E/P rather than conception risk

#also including between-women hormone effects in an exploratory manner

#for muscularity #Table S26
model2d5 <- lmer(Rating ~ E_P * Muscularity*relationship_status + E_P_mean * Muscularity*relationship_status + ( 1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity*relationship_status ||Person), data = data)
```

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

```
tab_model(model2d5, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.21	0.17	-0.12 – 0.54	1.26	0.207
E_P	-0.01	0.07	-0.14 – 0.13	-0.09	0.932
Muscularity	1.58	0.16	1.27 – 1.89	10.08	<0.001
relationship_status [1]	-0.17	0.11	-0.38 – 0.04	-1.57	0.117
E_P_mean	0.05	0.07	-0.10 – 0.19	0.65	0.518
E_P * Muscularity	0.01	0.03	-0.04 – 0.06	0.35	0.726
E_P * relationship_status [1]	-0.08	0.19	-0.46 – 0.30	-0.42	0.671
Muscularity * relationship_status [1]	0.02	0.05	-0.08 – 0.13	0.42	0.672
Muscularity * E_P_mean	-0.03	0.04	-0.12 – 0.05	-0.75	0.453

relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.66	0.511
(E_P * Muscularity) * relationship_status [1]	-0.01	0.04	-0.09 – 0.07	-0.26	0.796
(Muscularity relationship_status [1]) E_P_mean	0.01	0.07	-0.12 – 0.14	0.18	0.855
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.520 / NA				

#for dominance #Table S27

```
model2d6 <- lmer(Rating ~ E_P * dominance*relationship_status + E_P_mean* dominance
*relationship_status + ( 1 | Person) + (1 | MaleID) + (1 + E_P* dominance*relati ons
hip_status||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2d6, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.21	0.26	-0.29 – 0.72	0.82	0.410
E_P	-0.01	0.07	-0.14 – 0.13	-0.09	0.925
dominance	1.03	0.25	0.54 – 1.52	4.12	<0.001
relationship_status [1]	-0.17	0.11	-0.38 – 0.04	-1.57	0.116
E_P_mean	0.05	0.07	-0.10 – 0.19	0.65	0.518
E_P * dominance	0.02	0.03	-0.03 – 0.07	0.78	0.435
E_P * relationship_status [1]	-0.08	0.19	-0.46 – 0.29	-0.43	0.671
dominance * relationship_status [1]	0.02	0.05	-0.07 – 0.12	0.52	0.604
dominance * E_P_mean	-0.06	0.04	-0.14 – 0.01	-1.58	0.115
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.66	0.511

(E_P * dominance) * relationship_status [1]	-0.00	0.04	-0.09 – 0.08	-0.10	0.917
--	-------	------	--------------	-------	-------

(dominance relationship_status [1]) E_P_mean	0.02	0.06	-0.09 – 0.13	0.37	0.712
--	------	------	--------------	------	-------

N _{Person}	255
---------------------	-----

N _{MaleID}	40
---------------------	----

Observations	34680
--------------	-------

Marginal R ² / Conditional R ²	0.310 / NA
--	------------

```
#for factor 1 #Table S28
```

```
model 2d7 <- lmer(Rating ~ E_P * shoulder_factor*relationship_status + E_P_mean* shoulder_factor*relationship_status + ( 1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor* relationship_status || Person), data = data)
```

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

```
tab_model(model 2d7, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.21	0.29	-0.35 – 0.77	0.74	0.459
E_P	-0.01	0.07	-0.14 – 0.13	-0.09	0.926
shoulder_factor	0.76	0.31	0.15 – 1.36	2.43	0.015
relationship_status [1]	-0.17	0.11	-0.38 – 0.04	-1.57	0.116
E_P_mean	0.05	0.07	-0.10 – 0.19	0.65	0.518
E_P * shoulder_factor	-0.02	0.03	-0.08 – 0.03	-0.80	0.422
E_P * relationship_status [1]	-0.08	0.19	-0.46 – 0.29	-0.43	0.666
shoulder_factor * relationship_status [1]	-0.01	0.05	-0.11 – 0.09	-0.12	0.901
shoulder_factor * E_P_mean	0.03	0.04	-0.04 – 0.11	0.85	0.396
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.66	0.511

(E_P * shoulder_factor) * relationship_status [1]	0.01	0.05	-0.08 – 0.10	0.22	0.825
--	------	------	--------------	------	-------

(shoulder_factor relationship_status [1]) E_P_mean	-0.03	0.06	-0.14 – 0.09	-0.50	0.616
--	-------	------	--------------	-------	-------

N _{Person}	255
---------------------	-----

N _{MaleID}	40
---------------------	----

Observations	34680
--------------	-------

Marginal R ² / Conditional R ²	0.161 / NA
--	------------

```
#for factor 2 #Table S29
```

```
model2d8 <- lmer(Rating ~ E_P * strength_factor*relationship_status + E_P_mean*strength_factor*relationship_status + (1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor*relationship_status || Person), data = data)
```

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

```
tab_model(model2d8, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.21	0.29	-0.37 – 0.79	0.72	0.472
E_P	-0.01	0.07	-0.14 – 0.13	-0.08	0.935
strength_factor	0.57	0.29	-0.00 – 1.14	1.95	0.051
relationship_status [1]	-0.17	0.11	-0.39 – 0.04	-1.58	0.114
E_P_mean	0.05	0.07	-0.10 – 0.19	0.65	0.518
E_P * strength_factor	0.04	0.03	-0.02 – 0.09	1.38	0.169
E_P * relationship_status [1]	-0.09	0.19	-0.46 – 0.28	-0.47	0.642
strength_factor * relationship_status [1]	-0.01	0.03	-0.08 – 0.05	-0.37	0.711
strength_factor * E_P_mean	-0.04	0.03	-0.09 – 0.01	-1.53	0.125
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.65	0.513

(E_P * strength_factor) * relationship_status [1]	-0.01	0.04	-0.10 – 0.07	-0.26	0.795
--	-------	------	--------------	-------	-------

(strength_factor relationship_status [1]) E_P_mean	-0.00	0.04	-0.08 – 0.07	-0.09	0.927
--	-------	------	--------------	-------	-------

N _{Person}	255
---------------------	-----

N _{MaleID}	40
---------------------	----

Observations	34680
--------------	-------

Marginal R ² / Conditional R ²	0.112 / NA
--	------------

```
#####
#####
```

```
#3-way Interactions with self-reported stress: Hypothesis 2e
```

```
#for muscularity #Table S30
```

```
model2e <- lmer(Rating ~ conception_risk * Muscularity * stress + (1 | Person) +  
(1 | MaleID) + (1 + conception_risk* Muscularity*stress|Person), data = data)
```

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

```
tab_model(model2e, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.17	-0.21 – 0.44	0.72	0.474
conception_risk	0.57	0.24	0.11 – 1.03	2.41	0.016
Muscularity	1.57	0.16	1.26 – 1.88	10.06	<0.001
stress	-0.03	0.03	-0.09 – 0.02	-1.08	0.280
conception_risk * Muscularity	0.25	0.10	0.05 – 0.46	2.40	0.017
conception_risk * stress	-0.08	0.24	-0.55 – 0.40	-0.32	0.750
Muscularity * stress	-0.01	0.01	-0.04 – 0.01	-0.92	0.358
(conception_risk Muscularity) stress	0.11	0.11	-0.10 – 0.33	1.04	0.297
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				

Marginal R² / Conditional R² 0.509 / NA

```
#for dominance #Table S30
```

```
model2e2 <- lmer(Rating ~ conception_risk * dominance*stress + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* dominance*stress||Person), data = data)
```

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

```
tab_model(model2e2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.25	-0.38 – 0.62	0.47	0.641
conception_risk	0.56	0.23	0.10 – 1.02	2.41	0.016
dominance	1.04	0.25	0.56 – 1.53	4.22	<0.001
stress	-0.03	0.03	-0.08 – 0.02	-1.08	0.279
conception_risk * dominance	0.11	0.11	-0.10 – 0.32	1.00	0.318
conception_risk * stress	-0.09	0.24	-0.55 – 0.38	-0.36	0.718
dominance * stress	0.00	0.01	-0.02 – 0.03	0.22	0.827
(conception_risk dominance) stress	0.05	0.11	-0.17 – 0.27	0.48	0.633
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ² 0.306 / NA					

```
#for shoulder factor #Table S31
```

```
model2e3 <- lmer(Rating ~ conception_risk * shoulder_factor*stress + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor*stress||Person), data = data)
```

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

```
tab_model(model2e3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p

(Intercept)	0.12	0.29	-0.44 – 0.68	0.41	0.679
conception_risk	0.56	0.23	0.10 – 1.01	2.41	0.016
shoulder_factor	0.73	0.31	0.12 – 1.34	2.33	0.020
stress	-0.03	0.03	-0.08 – 0.02	-1.08	0.279
conception_risk * shoulder_factor	0.17	0.12	-0.06 – 0.41	1.45	0.147
conception_risk * stress	-0.09	0.24	-0.55 – 0.38	-0.37	0.714
shoulder_factor * stress	-0.03	0.01	-0.06 – 0.00	-1.91	0.056
(conception_risk shoulder_factor) stress	0.02	0.12	-0.22 – 0.26	0.16	0.873
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.150 / NA				

```
#for strength factor #Table S31
model2e4 <- lmer(Rating ~ conception_risk * strength_factor*stress + ( 1 | Person)
+ (1 | MaleID) + (1 + conception_risk* strength_factor*stress||Person), data = data)
```

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

```
tab_model(model2e4, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.29	-0.45 – 0.69	0.41	0.684
conception_risk	0.56	0.22	0.12 – 1.00	2.48	0.013
strength_factor	0.56	0.29	-0.01 – 1.13	1.93	0.054
stress	-0.03	0.03	-0.08 – 0.03	-1.02	0.310
conception_risk * strength_factor	0.08	0.11	-0.14 – 0.29	0.73	0.467
conception_risk * stress	-0.10	0.20	-0.49 – 0.30	-0.48	0.628
strength_factor * stress	0.01	0.01	-0.02 – 0.03	0.64	0.524

(conception_risk
strength_factor) stress -0.11 0.11 -0.33 – 0.11 -0.98 0.329

N_{Person} 200

N_{MaleID} 40

Observations 32000

Marginal R² / Conditional R² 0.106 / NA

```
#####  
#####
```

```
#with E/P rather than conception risk
```

```
#also including between-women hormone effects in an exploratory manner
```

```
#for muscularity #Table S32
```

```
model2e5 <- lmer(Rating ~ E_P * Muscularity*stress + E_P_mean * Muscularity*stress  
+ ( 1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity*stress ||Person), data = da  
ta)
```

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

```
tab_model(model2e5, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.16	-0.19 – 0.45	0.79	0.432
E_P	-0.06	0.11	-0.27 – 0.16	-0.54	0.592
Muscularity	1.59	0.15	1.29 – 1.89	10.28	<0.001
stress	-0.06	0.03	-0.12 – -0.00	-1.97	0.049
E_P_mean	0.04	0.07	-0.08 – 0.17	0.69	0.492
E_P * Muscularity	0.00	0.02	-0.04 – 0.04	0.15	0.880
E_P * stress	-0.03	0.10	-0.23 – 0.17	-0.26	0.795
Muscularity * stress	-0.01	0.01	-0.03 – 0.01	-0.91	0.363
Muscularity * E_P_mean	-0.04	0.03	-0.10 – 0.03	-1.04	0.300
stress * E_P_mean	-0.02	0.04	-0.11 – 0.06	-0.56	0.578
(E_P * Muscularity) * stress	-0.01	0.02	-0.06 – 0.04	-0.46	0.646

(Muscularity * stress) * E_P_mean	-0.01	0.02	-0.04 – 0.02	-0.65	0.518
--------------------------------------	-------	------	--------------	-------	-------

N _{Person}	255
---------------------	-----

N _{MaleID}	40
---------------------	----

Observations	34680
--------------	-------

Marginal R ² / Conditional R ²	0.525 / NA
--	------------

#for dominance #Table S33

```
model 2e6 <- lmer(Rating ~ E_P * dominance*stress + E_P_mean* dominance*stress + ( 1
| Person) + (1 | MaleID) + (1 + E_P* dominance*stress||Person), data = data)
```

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

```
tab_model(model 2e6, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.25	-0.37 – 0.62	0.50	0.616
E_P	-0.06	0.11	-0.27 – 0.15	-0.57	0.567
dominance	1.04	0.25	0.55 – 1.52	4.18	<0.001
stress	-0.06	0.03	-0.12 – 0.00	-1.94	0.052
E_P_mean	0.05	0.07	-0.08 – 0.17	0.72	0.474
E_P * dominance	0.02	0.02	-0.02 – 0.06	0.88	0.381
E_P * stress	-0.03	0.10	-0.22 – 0.16	-0.30	0.768
dominance * stress	-0.00	0.01	-0.02 – 0.02	-0.25	0.800
dominance * E_P_mean	-0.07	0.03	-0.12 – -0.01	-2.21	0.027
stress * E_P_mean	-0.02	0.04	-0.10 – 0.06	-0.50	0.615
(E_P * dominance) * stress	-0.02	0.02	-0.07 – 0.03	-0.73	0.462
(dominance * stress) * E_P_mean	-0.02	0.02	-0.05 – 0.01	-1.49	0.137
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				

Marginal R^2 / Conditional R^2 0.313 / NA

```
#for factor 1 #Table S34
```

```
model2e7 <- lmer(Rating ~ E_P * shoulder_factor*stress + E_P_mean* shoulder_factor*  
stress + ( 1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor*stress||Person),  
data = data)
```

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

```
tab_model(model2e7, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.28	-0.43 – 0.68	0.45	0.655
E_P	-0.06	0.10	-0.27 – 0.14	-0.58	0.561
shoulder_factor	0.76	0.31	0.15 – 1.36	2.43	0.015
stress	-0.06	0.03	-0.12 – 0.00	-1.94	0.053
E_P_mean	0.05	0.06	-0.08 – 0.17	0.72	0.469
E_P * shoulder_factor	-0.02	0.02	-0.06 – 0.03	-0.78	0.434
E_P * stress	-0.03	0.10	-0.22 – 0.16	-0.30	0.761
shoulder_factor * stress	-0.03	0.01	-0.05 – -0.00	-2.23	0.026
shoulder_factor * E_P_mean	0.03	0.03	-0.03 – 0.10	1.12	0.263
stress * E_P_mean	-0.02	0.04	-0.10 – 0.06	-0.49	0.624
(E_P * shoulder_factor) * stress	-0.04	0.03	-0.10 – 0.01	-1.52	0.128
(shoulder_factor stress) E_P_mean	0.03	0.02	-0.00 – 0.06	1.79	0.073
ICC	0.56				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R^2 / Conditional R^2	0.078 / 0.595				

```
#for factor 2 #Table S35
```

```
model2e8 <- lmer(Rating ~ E_P * strength_factor*stress + E_P_mean*strength_factor*s  
tress + ( 1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor*stress||Person), d  
ata = data)
```

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

```
tab_model(model2e8, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.29	-0.44 – 0.70	0.43	0.665
E_P	-0.06	0.10	-0.26 – 0.14	-0.62	0.538
strength_factor	0.56	0.29	-0.01 – 1.13	1.93	0.053
stress	-0.06	0.03	-0.11 – 0.00	-1.92	0.055
E_P_mean	0.05	0.06	-0.08 – 0.18	0.75	0.452
E_P * strength_factor	0.03	0.02	-0.01 – 0.07	1.54	0.125
E_P * stress	-0.03	0.09	-0.21 – 0.15	-0.34	0.731
strength_factor * stress	-0.01	0.01	-0.03 – 0.02	-0.50	0.615
strength_factor * E_P_mean	-0.05	0.02	-0.09 – -0.01	-2.31	0.021
stress * E_P_mean	-0.02	0.04	-0.10 – 0.06	-0.44	0.660
(E_P * strength_factor) * stress	-0.02	0.03	-0.07 – 0.03	-0.78	0.438
(strength_factor stress) E_P_mean	-0.01	0.01	-0.04 – 0.01	-0.99	0.324
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.111 / NA				

#controlling for body fat mass (with WHtR), Hypothesis 2g

#Hypothesis 2a controlling for WHtR #Table S36

```
model2g_fat <- lmer(Rating ~ conception_risk * Muscularity + WHtR * Muscularity + (1 | Person) + (1 | MaleID) + (1 + conception_risk* Muscularity + WHtR * Muscularity || Person), data = data)
tab_model(model2g_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.12	0.15	-0.17 – 0.41	0.81	0.417
conception_risk	0.55	0.21	0.14 – 0.97	2.60	0.009
Muscularity	1.23	0.14	0.95 – 1.50	8.75	<0.001
WHtR	-0.71	0.17	-1.04 – -0.39	-4.32	<0.001
conception_risk * Muscularity	0.24	0.10	0.06 – 0.43	2.57	0.010
Muscularity * WHtR	-0.01	0.13	-0.26 – 0.25	-0.07	0.946
ICC	0.27				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.508 / 0.643				

#Hypothesis 2b: for dominance #Table S36

```
model2b_fat <- lmer(Rating ~ conception_risk * dominance + WHtR * dominance + (1 | Person) + (1 | MaleID) + (1 + conception_risk* dominance + WHtR * dominance || Person), data = data)
tab_model(model2b_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.12	0.14	-0.16 – 0.39	0.83	0.404
conception_risk	0.55	0.21	0.14 – 0.97	2.60	0.009
dominance	0.95	0.13	0.70 – 1.21	7.34	<0.001
WHtR	-1.44	0.15	-1.73 – -1.15	-9.71	<0.001
conception_risk * dominance	0.10	0.10	-0.09 – 0.29	1.00	0.318

dominance * WHtR	-0.41	0.18	-0.76 – -0.06	-2.29	0.022
ICC	0.25				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.504 / 0.627				

#Hypothesis 2c: for factor 1 #Table S37

```
model2c_fat <- lmer(Rating ~ conception_risk * shoulder_factor + WHtR * shoulder_factor + (1 | Person) + (1 | MaleID) + (1 + conception_risk * shoulder_factor + WHtR * shoulder_factor || Person), data = data)
tab_model(model2c_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.29	0.24	-0.18 – 0.77	1.21	0.226
conception_risk	0.55	0.21	0.13 – 0.96	2.60	0.009
shoulder_factor	0.20	0.30	-0.38 – 0.78	0.69	0.493
WHtR	-1.07	0.29	-1.63 – -0.51	-3.73	<0.001
conception_risk * shoulder_factor	0.19	0.11	-0.03 – 0.40	1.71	0.087
shoulder_factor * WHtR	0.38	0.24	-0.09 – 0.85	1.58	0.115
ICC	0.45				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.308 / 0.620				

#Hypothesis 2c: for factor 2 #Table S37

```
model2c2_fat <- lmer(Rating ~ conception_risk * strength_factor + WHtR * strength_factor + (1 | Person) + (1 | MaleID) + (1 + conception_risk * strength_factor + WHtR * strength_factor || Person), data = data)
tab_model(model2c2_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.20	-0.27 – 0.52	0.62	0.536

conception_risk	0.55	0.21	0.13 – 0.96	2.60	0.009
strength_factor	0.62	0.20	0.23 – 1.00	3.12	0.002
WHtR	-1.37	0.20	-1.76 – -0.98	-6.90	<0.001
conception_risk * strength_factor	0.09	0.10	-0.11 – 0.29	0.91	0.363
strength_factor * WHtR	-0.37	0.25	-0.85 – 0.11	-1.51	0.131
ICC	0.39				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.360 / 0.610				

```
#####
#####
#with E/P rather than conception risk, Hypothesis 2f, Table 4
#also including between-women hormone effects in an exploratory manner

#for muscularity #Table S38
model2f1_fat <- lmer(Rating ~ E_P * Muscularity + E_P_mean * Muscularity + WHtR * Muscularity + (1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity + WHtR * Muscularity || Person), data = data)
```

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

```
tab_model(model2f1_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.14	-0.16 – 0.40	0.83	0.408
E_P	-0.04	0.09	-0.23 – 0.14	-0.44	0.657
Muscularity	1.24	0.14	0.97 – 1.51	9.03	<0.001
E_P_mean	0.08	0.06	-0.04 – 0.20	1.30	0.195
WHtR	-0.74	0.16	-1.05 – -0.42	-4.60	<0.001
E_P * Muscularity	0.00	0.02	-0.03 – 0.04	0.27	0.787
Muscularity * E_P_mean	-0.05	0.03	-0.11 – 0.02	-1.49	0.135
Muscularity * WHtR	-0.02	0.13	-0.27 – 0.23	-0.16	0.872

N_{Person} 255
N_{MaleID} 40

Observations 34680
Marginal R² / Conditional R² 0.601 / NA

```
#for dominance #Table S38
model2f2_fat <- lmer(Rating ~ E_P * dominance + E_P_mean* dominance + WHtR *dominance + (1 | Person) + (1 | MaleID) + (1 + E_P* dominance + WHtR *dominance||Person), data = data)
```

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

```
tab_model(model2f2_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.14	-0.15 – 0.39	0.88	0.379
E_P	-0.04	0.09	-0.22 – 0.14	-0.44	0.657
dominance	0.95	0.13	0.69 – 1.20	7.32	<0.001
E_P_mean	0.09	0.06	-0.03 – 0.20	1.48	0.138
WHtR	-1.46	0.15	-1.75 – -1.17	-10.00	<0.001
E_P * dominance	0.02	0.02	-0.02 – 0.06	1.03	0.301
dominance * E_P_mean	-0.05	0.03	-0.11 – 0.00	-1.87	0.061
dominance * WHtR	-0.42	0.18	-0.78 – -0.07	-2.37	0.018
N _{Person}	255				
N _{MaleID}	40				

Observations 34680
Marginal R² / Conditional R² 0.587 / NA

```
#for factor 1 #Table S39
model2f3_fat <- lmer(Rating ~ E_P * shoulder_factor + E_P_mean* shoulder_factor + WHtR *shoulder_factor + (1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor+ WHtR *shoulder_factor||Person), data = data)
tab_model(model2f3_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p

(Intercept)	0.30	0.24	-0.17 – 0.77	1.24	0.217
E_P	-0.04	0.09	-0.22 – 0.14	-0.44	0.659
shoulder_factor	0.22	0.29	-0.35 – 0.80	0.76	0.450
E_P_mean	0.08	0.06	-0.04 – 0.19	1.33	0.183
WHtR	-1.08	0.28	-1.64 – -0.52	-3.81	<0.001
E_P * shoulder_factor	-0.02	0.02	-0.06 – 0.02	-0.91	0.362
shoulder_factor * E_P_mean	0.01	0.02	-0.03 – 0.04	0.37	0.710
shoulder_factor * WHtR	0.37	0.24	-0.09 – 0.84	1.57	0.115
ICC	0.46				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.318 / 0.630				

#for factor 2 #Table S39

```
model2f4_fat <- lmer(Rating ~ E_P * strength_factor + E_P_mean*strength_factor + WHtR *strength_factor + ( 1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor + WHtR *strength_factor||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2f4_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.20	-0.26 – 0.51	0.65	0.516
E_P	-0.04	0.09	-0.22 – 0.14	-0.44	0.659
strength_factor	0.62	0.20	0.23 – 1.00	3.16	0.002
E_P_mean	0.09	0.06	-0.03 – 0.20	1.49	0.137
WHtR	-1.39	0.20	-1.77 – -1.00	-7.07	<0.001
E_P * strength_factor	0.03	0.02	-0.01 – 0.07	1.70	0.090
strength_factor * E_P_mean	-0.04	0.02	-0.08 – -0.00	-1.98	0.048

strength_factor * WHtR	-0.37	0.24	-0.84 – 0.11	-1.50	0.132
N _{Person}	255				
N _{MaleID}	40				

Observations	34680
Marginal R ² / Conditional R ²	0.495 / NA

```
#####
#####
```

```
#3-way Interactions with relationship status: Hypothesis 2d
#for muscularity #Table S40
model2d_fat <- lmer(Rating ~ conception_risk * Muscularity * relationship_status +
  WHtR * Muscularity * relationship_status + (1 | Person) + (1 | MaleID) + (1 + concept
  ion_risk * Muscularity * relationship_status + WHtR * Muscularity * relationship_status |
  Person), data = data)
```

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

```
tab_model(model2d_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.21	0.16	-0.11 – 0.52	1.28	0.199
conception_risk	0.76	0.27	0.23 – 1.28	2.84	0.005
Muscularity	1.24	0.14	0.96 – 1.52	8.60	<0.001
relationship_status [1]	-0.18	0.13	-0.43 – 0.07	-1.42	0.157
WHtR	-0.64	0.17	-0.97 – -0.30	-3.70	<0.001
conception_risk * Muscularity	0.24	0.13	-0.02 – 0.49	1.81	0.071
conception_risk * relationship_status [1]	-0.35	0.44	-1.21 – 0.51	-0.81	0.419
Muscularity * relationship_status [1]	-0.03	0.06	-0.15 – 0.09	-0.47	0.636
Muscularity * WHtR	0.03	0.13	-0.23 – 0.29	0.26	0.798
relationship_status [1] * WHtR	-0.16	0.08	-0.32 – 0.01	-1.88	0.060

(conception_risk Muscularity) relationship_status [1]	0.00	0.20	-0.39 – 0.39	0.00	0.997
(Muscularity relationship_status [1]) WHtR	-0.09	0.05	-0.19 – 0.01	-1.79	0.074
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.588 / NA				

#for dominance #Table S41

```
model2d2_fat <- lmer(Rating ~ conception_risk * dominance*relationship_status + WHtR *dominance*relationship_status+ ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* dominance*relationship_status + WHtR *dominance *relationship_status||Person),
data = data)
tab_model(model2d2_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.19	0.15	-0.11 – 0.48	1.25	0.212
conception_risk	0.75	0.26	0.23 – 1.27	2.84	0.005
dominance	0.98	0.13	0.71 – 1.24	7.30	<0.001
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.27	0.205
WHtR	-1.38	0.15	-1.68 – -1.07	-8.91	<0.001
conception_risk * dominance	0.07	0.13	-0.19 – 0.33	0.53	0.596
conception_risk * relationship_status [1]	-0.35	0.43	-1.19 – 0.50	-0.80	0.426
dominance * relationship_status [1]	-0.04	0.05	-0.15 – 0.06	-0.81	0.420
dominance * WHtR	-0.36	0.18	-0.71 – -0.00	-1.98	0.048
relationship_status [1] * WHtR	-0.13	0.08	-0.28 – 0.02	-1.73	0.084
(conception_risk dominance) relationship_status [1]	0.05	0.20	-0.33 – 0.44	0.27	0.786

(dominance relationship_status [1]) WHtR	-0.11	0.05	-0.22 – -0.01	-2.12	0.034
ICC	0.24				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.509 / 0.625				

```
#for shoulder factor #Table S42
model2d3_fat <- lmer(Rating ~ conception_risk * shoulder_factor*relationship_status
+ WHtR *shoulder_factor * relationship_status + ( 1 | Person) + (1 | MaleID) + (1 +
conception_risk* shoulder_factor*relationship_status + WHtR *shoulder_factor* rel at
ionship_status||Person), data = data)
tab_model(model2d3_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.36	0.25	-0.13 – 0.85	1.45	0.146
conception_risk	0.74	0.26	0.22 – 1.25	2.80	0.005
shoulder_factor	0.19	0.30	-0.39 – 0.78	0.66	0.511
relationship_status [1]	-0.14	0.12	-0.38 – 0.09	-1.19	0.234
WHtR	-1.03	0.29	-1.59 – -0.46	-3.55	<0.001
conception_risk * shoulder_factor	0.25	0.15	-0.05 – 0.54	1.64	0.100
conception_risk * relationship_status [1]	-0.33	0.43	-1.18 – 0.51	-0.77	0.442
shoulder_factor * relationship_status [1]	0.02	0.04	-0.06 – 0.09	0.48	0.630
shoulder_factor * WHtR	0.38	0.24	-0.09 – 0.85	1.59	0.113
relationship_status [1] * WHtR	-0.08	0.07	-0.23 – 0.06	-1.14	0.253
(conception_risk shoulder_factor) relationship_status [1]	-0.14	0.22	-0.57 – 0.30	-0.62	0.536

(shoulder_factor relationship_status [1]) WHtR	-0.01 0.04 -0.09 – 0.08 -0.14 0.886
ICC	0.44
N _{Person}	200
N _{MaleID}	40
Observations	32000
Marginal R ² / Conditional R ²	0.313 / 0.615

```
#for strength factor #Table S43
model2d4_fat <- lmer(Rating ~ conception_risk * strength_factor*relationship_status
+ WHtR *strength_factor * relationship_status + ( 1 | Person) + (1 | MaleID) + (1 +
conception_risk* strength_factor*relationship_status + WHtR *strength_factor * rela
tionship_status||Person), data = data)
```

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

```
tab_model(model2d4_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.20	0.21	-0.21 – 0.60	0.94	0.349
conception_risk	0.74	0.26	0.22 – 1.25	2.80	0.005
strength_factor	0.63	0.20	0.24 – 1.02	3.15	0.002
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.26	0.209
WHtR	-1.32	0.20	-1.72 – -0.93	-6.52	<0.001
conception_risk * strength_factor	0.09	0.14	-0.19 – 0.36	0.62	0.538
conception_risk * relationship_status [1]	-0.33	0.43	-1.18 – 0.52	-0.76	0.446
strength_factor * relationship_status [1]	-0.02	0.04	-0.09 – 0.06	-0.43	0.669
strength_factor * WHtR	-0.34	0.25	-0.82 – 0.14	-1.38	0.168
relationship_status [1] * WHtR	-0.10	0.07	-0.24 – 0.04	-1.38	0.168

(conception_risk strength_factor) relationship_status [1]	0.01	0.20	-0.39 – 0.41	0.06	0.949
---	------	------	--------------	------	-------

(strength_factor relationship_status [1]) WHtR	-0.06	0.03	-0.13 – 0.00	-1.84	0.066
--	-------	------	--------------	-------	-------

N Person	200
----------	-----

N MaleID	40
----------	----

Observations	32000
--------------	-------

Marginal R ² / Conditional R ²	0.481 / NA
--	------------

```
#####  
#####  
#with E/P rather than conception risk
```

```
#also including between-women hormone effects in an exploratory manner
```

```
#for muscularity #Table S44
```

```
model2d5_fat <- lmer(Rating ~ E_P * Muscularity*relationship_status + E_P_mean * Muscularity*relationship_status + WHtR *Muscularity * relationship_status + (1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity*relationship_status + WHtR *Muscularity * relationship_status|Person), data = data)
```

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

```
tab_model(model2d5_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.20	0.15	-0.10 – 0.50	1.32	0.186
E_P	-0.00	0.08	-0.16 – 0.15	-0.06	0.956
Muscularity	1.23	0.14	0.95 – 1.50	8.78	<0.001
relationship_status [1]	-0.17	0.12	-0.39 – 0.06	-1.44	0.150
E_P_mean	0.03	0.08	-0.12 – 0.19	0.45	0.656
WHtR	-0.75	0.16	-1.07 – -0.42	-4.55	<0.001
E_P * Muscularity	0.01	0.02	-0.04 – 0.05	0.39	0.696
E_P * relationship_status [1]	-0.09	0.21	-0.49 – 0.32	-0.41	0.678

Muscularity * relationship_status [1]	0.03	0.05	-0.08 – 0.13	0.49	0.621
Muscularity * E_P_mean	-0.06	0.04	-0.15 – 0.02	-1.40	0.160
relationship_status [1] * E_P_mean	0.09	0.13	-0.15 – 0.34	0.76	0.449
Muscularity * WHtR	-0.01	0.13	-0.26 – 0.24	-0.07	0.947
relationship_status [1] * WHtR	0.02	0.07	-0.12 – 0.15	0.24	0.812
(E_P * Muscularity) * relationship_status [1]	-0.01	0.04	-0.08 – 0.06	-0.29	0.771
(Muscularity relationship_status [1]) E_P_mean	0.03	0.06	-0.09 – 0.16	0.49	0.622
(Muscularity relationship_status [1]) WHtR	-0.03	0.04	-0.11 – 0.06	-0.61	0.543
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.602 / NA				

#for dominance #Table S45

```
model2d6_fat <- lmer(Rating ~ E_P * dominance*relationship_status + E_P_mean* dominance*relationship_status + WHtR * dominance * relationship_status+ ( 1 | Person) + (1 | MaleID) + (1 + E_P* dominance*relationship_status + WHtR *dominance * relationship_status||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2d6_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.20	0.14	-0.08 – 0.48	1.40	0.160
E_P	-0.01	0.08	-0.15 – 0.14	-0.07	0.944
dominance	0.94	0.13	0.68 – 1.20	7.14	<0.001
relationship_status [1]	-0.17	0.11	-0.38 – 0.04	-1.55	0.122

E_P_mean	0.05	0.07	-0.10 – 0.19	0.64	0.523
WHtR	-1.46	0.15	-1.75 – -1.17	-9.76	<0.001
E_P * dominance	0.02	0.02	-0.03 – 0.07	0.85	0.393
E_P * relationship_status [1]	-0.08	0.21	-0.49 – 0.32	-0.40	0.687
dominance * relationship_status [1]	0.02	0.05	-0.07 – 0.11	0.44	0.657
dominance * E_P_mean	-0.06	0.04	-0.14 – 0.01	-1.62	0.106
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.67	0.503
dominance * WHtR	-0.40	0.18	-0.75 – -0.04	-2.20	0.028
relationship_status [1] * WHtR	-0.01	0.06	-0.13 – 0.11	-0.12	0.907
(E_P * dominance) * relationship_status [1]	-0.00	0.04	-0.08 – 0.07	-0.11	0.915
(dominance relationship_status [1]) E_P_mean	0.02	0.06	-0.09 – 0.13	0.41	0.679
(dominance relationship_status [1]) WHtR	-0.06	0.05	-0.15 – 0.03	-1.25	0.211
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.588 / NA				

#for factor 1 #Table S46

```
model2d7_fat <- lmer(Rating ~ E_P * shoulder_factor*relationship_status + E_P_mean*
shoulder_factor*relationship_status + WHtR *shoulder_factor * relationship_status +
( 1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor* relationship_status + WHt
R *shoulder_factor* relationship_status||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2d7_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating

<i>Predictors</i>	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.38	0.26	-0.13 – 0.88	1.46	0.143
E_P	-0.01	0.07	-0.15 – 0.14	-0.10	0.923
shoulder_factor	0.22	0.31	-0.39 – 0.83	0.69	0.487
relationship_status [1]	-0.16	0.11	-0.38 – 0.07	-1.36	0.174
E_P_mean	0.03	0.07	-0.11 – 0.18	0.47	0.642
WHtR	-1.10	0.30	-1.69 – -0.51	-3.65	<0.001
E_P * shoulder_factor	-0.02	0.03	-0.08 – 0.04	-0.62	0.533
E_P * relationship_status [1]	-0.08	0.20	-0.47 – 0.31	-0.39	0.696
shoulder_factor * relationship_status [1]	0.01	0.03	-0.05 – 0.08	0.42	0.672
shoulder_factor * E_P_mean	0.01	0.02	-0.04 – 0.06	0.34	0.733
relationship_status [1] * E_P_mean	0.09	0.12	-0.15 – 0.32	0.73	0.463
shoulder_factor * WHtR	0.35	0.25	-0.14 – 0.85	1.41	0.158
relationship_status [1] * WHtR	0.03	0.06	-0.09 – 0.15	0.57	0.569
(E_P * shoulder_factor) * relationship_status [1]	0.00	0.05	-0.09 – 0.10	0.09	0.931
(shoulder_factor relationship_status [1]) E_P_mean	-0.00	0.04	-0.08 – 0.07	-0.05	0.958
(shoulder_factor relationship_status [1]) WHtR	0.04	0.04	-0.03 – 0.12	1.07	0.286
ICC	0.47				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.315 / 0.636				

#for factor 2 #Table S47

```
model2d8_fat <- lmer(Rating ~ E_P * strength_factor*relationship_status + E_P_mean*
strength_factor*relationship_status + WHtR * strength_factor * relationship_status
+ ( 1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor*relationship_status + WH
tR *strength_factor * relationship_status||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2d8_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.21	0.20	-0.19 – 0.61	1.04	0.299
E_P	-0.01	0.07	-0.15 – 0.14	-0.08	0.938
strength_factor	0.62	0.20	0.23 – 1.01	3.15	0.002
relationship_status [1]	-0.17	0.11	-0.38 – 0.04	-1.56	0.119
E_P_mean	0.05	0.07	-0.10 – 0.19	0.65	0.518
WHtR	-1.39	0.20	-1.78 – -1.00	-6.97	<0.001
E_P * strength_factor	0.04	0.03	-0.01 – 0.09	1.48	0.140
E_P * relationship_status [1]	-0.08	0.20	-0.47 – 0.31	-0.41	0.679
strength_factor * relationship_status [1]	-0.01	0.03	-0.07 – 0.06	-0.21	0.833
strength_factor * E_P_mean	-0.04	0.03	-0.09 – 0.01	-1.41	0.159
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.66	0.509
strength_factor * WHtR	-0.35	0.24	-0.83 – 0.13	-1.44	0.150
relationship_status [1] * WHtR	0.00	0.06	-0.11 – 0.12	0.06	0.956
(E_P * strength_factor) * relationship_status [1]	-0.01	0.04	-0.09 – 0.07	-0.27	0.789
(strength_factor relationship_status [1]) E_P_mean	-0.01	0.04	-0.08 – 0.07	-0.15	0.881

(strength_factor -0.03 0.03 -0.09 – 0.03 -0.97 0.334
 relationship_status [1])
 WHtR

N Person 255

N MaleID 40

Observations 34680

Marginal R² / Conditional R² 0.496 / NA

```
#3-way Interactions with self-reported stress: Hypothesis 2e
#for muscularity #Table S48
model2e_fat <- lmer(Rating ~ conception_risk * Muscularity * stress + WHtR * Muscularity * stress + (1 | Person) + (1 | MaleID) + (1 + conception_risk * Muscularity * stress + WHtR * Muscularity * stress | Person), data = data)
```

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

```
tab_model(model2e_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.11	0.15	-0.18 – 0.41	0.76	0.446
conception_risk	0.60	0.25	0.11 – 1.10	2.40	0.016
Muscularity	1.23	0.14	0.95 – 1.50	8.74	<0.001
stress	-0.03	0.03	-0.09 – 0.02	-1.14	0.252
WHtR	-0.71	0.17	-1.04 – -0.39	-4.31	<0.001
conception_risk * Muscularity	0.26	0.10	0.07 – 0.45	2.66	0.008
conception_risk * stress	-0.03	0.26	-0.54 – 0.49	-0.10	0.924
Muscularity * stress	-0.00	0.01	-0.03 – 0.03	-0.06	0.953
Muscularity * WHtR	-0.01	0.13	-0.26 – 0.25	-0.07	0.946
stress * WHtR	0.02	0.01	-0.01 – 0.05	1.36	0.172
(conception_risk Muscularity) stress	0.10	0.10	-0.10 – 0.30	1.01	0.311
(Muscularity * stress) * WHtR	-0.01	0.01	-0.03 – 0.01	-0.63	0.526
ICC	0.21				

N_{Person} 200
N_{MaleID} 40

Observations 32000
Marginal R² / Conditional R² 0.534 / 0.634

```
#for dominance #Table S49
model2e2_fat <- lmer(Rating ~ conception_risk * dominance*stress + WHtR * dominance
* stress+ ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* dominance*stress + W
HtR *dominance * stress||Person), data = data)
tab_model(model2e2_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.11	0.14	-0.17 – 0.38	0.78	0.437
conception_risk	0.60	0.25	0.11 – 1.08	2.41	0.016
dominance	0.95	0.13	0.70 – 1.21	7.34	<0.001
stress	-0.03	0.03	-0.09 – 0.03	-1.07	0.284
WHtR	-1.44	0.15	-1.73 – -1.15	-9.73	<0.001
conception_risk * dominance	0.11	0.10	-0.08 – 0.30	1.13	0.258
conception_risk * stress	-0.04	0.26	-0.54 – 0.47	-0.14	0.891
dominance * stress	0.00	0.01	-0.02 – 0.03	0.06	0.955
dominance * WHtR	-0.41	0.18	-0.76 – -0.06	-2.30	0.022
stress * WHtR	0.02	0.01	-0.01 – 0.04	1.53	0.125
(conception_risk dominance) stress	0.06	0.10	-0.14 – 0.26	0.58	0.559
(dominance * stress) * WHtR	-0.01	0.01	-0.04 – 0.02	-0.60	0.548
ICC	0.23				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.517 / 0.627				

#for shoulder factor #Table S50

```
model2e3_fat <- lmer(Rating ~ conception_risk * shoulder_factor*stress + WHtR * shoulder_factor * stress + (1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor*stress + WHtR *shoulder_factor * stress||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2e3_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.29	0.24	-0.19 – 0.76	1.18	0.238
conception_risk	0.58	0.24	0.11 – 1.06	2.41	0.016
shoulder_factor	0.20	0.30	-0.38 – 0.78	0.69	0.491
stress	-0.03	0.03	-0.09 – 0.03	-1.09	0.275
WHtR	-1.07	0.29	-1.63 – -0.51	-3.73	<0.001
conception_risk * shoulder_factor	0.17	0.11	-0.05 – 0.38	1.53	0.126
conception_risk * stress	-0.05	0.25	-0.55 – 0.44	-0.21	0.836
shoulder_factor * stress	-0.02	0.01	-0.05 – 0.01	-1.30	0.193
shoulder_factor * WHtR	0.38	0.24	-0.09 – 0.85	1.58	0.115
stress * WHtR	0.01	0.01	-0.02 – 0.04	0.80	0.425
(conception_risk shoulder_factor) stress	-0.01	0.11	-0.24 – 0.21	-0.12	0.908
(shoulder_factor stress) WHtR	-0.00	0.01	-0.03 – 0.02	-0.30	0.766
ICC	0.44				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.317 / 0.617				

```
#for strength factor #Table S51
```

```
model2e4_fat <- lmer(Rating ~ conception_risk * strength_factor*stress + WHtR * strength_factor * stress+ ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* strength_factor*stress + WHtR * strength_factor * stress||Person), data = data)
```

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

```
tab_model(model2e4_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.12	0.20	-0.28 – 0.51	0.58	0.561
conception_risk	0.58	0.24	0.11 – 1.05	2.41	0.016
strength_factor	0.62	0.20	0.23 – 1.00	3.12	0.002
stress	-0.03	0.03	-0.09 – 0.03	-1.07	0.283
WHtR	-1.37	0.20	-1.76 – -0.98	-6.90	<0.001
conception_risk * strength_factor	0.08	0.10	-0.11 – 0.28	0.83	0.407
conception_risk * stress	-0.06	0.25	-0.55 – 0.43	-0.23	0.821
strength_factor * stress	0.01	0.01	-0.01 – 0.03	0.78	0.437
strength_factor * WHtR	-0.37	0.25	-0.85 – 0.11	-1.51	0.131
stress * WHtR	0.02	0.01	-0.00 – 0.04	1.87	0.062
(conception_risk strength_factor) stress	-0.11	0.11	-0.31 – 0.10	-1.00	0.317
(strength_factor stress) WHtR	-0.01	0.01	-0.03 – 0.02	-0.57	0.566
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.485 / NA				

```
#####
#####
```

```
#with E/P rather than conception risk
```

```
#also including between-women hormone effects in an exploratory manner
```

```
#for muscularity #Table S52
```

```
model2e5_fat <- lmer(Rating ~ E_P * Muscularity*stress + E_P_mean * Muscularity*stress + WHtR *Muscularity * stress + ( 1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity*stress + WHtR *Muscularity * stress||Person), data = data)
```

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

```
tab_model(model2e5_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.12	0.14	-0.16 – 0.41	0.85	0.398
E_P	-0.04	0.13	-0.30 – 0.21	-0.32	0.745
Muscularity	1.23	0.14	0.97 – 1.50	9.01	<0.001
stress	-0.07	0.03	-0.14 – -0.01	-2.23	0.026
E_P_mean	0.03	0.07	-0.11 – 0.16	0.37	0.715
WHtR	-0.74	0.16	-1.05 – -0.42	-4.60	<0.001
E_P * Muscularity	0.00	0.02	-0.04 – 0.04	0.10	0.923
E_P * stress	-0.02	0.13	-0.27 – 0.22	-0.17	0.867
Muscularity * stress	-0.00	0.01	-0.03 – 0.02	-0.11	0.916
Muscularity * E_P_mean	-0.06	0.03	-0.12 – 0.01	-1.62	0.105
stress * E_P_mean	-0.04	0.05	-0.14 – 0.05	-0.94	0.349
Muscularity * WHtR	-0.02	0.13	-0.27 – 0.23	-0.16	0.872
stress * WHtR	0.01	0.01	-0.01 – 0.04	1.14	0.253
(E_P * Muscularity) * stress	-0.01	0.02	-0.06 – 0.04	-0.32	0.746
(Muscularity * stress) * E_P_mean	-0.01	0.02	-0.05 – 0.02	-0.78	0.433

(Muscularity * stress) *	-0.01	0.01	-0.03 – 0.01	-0.90	0.366
WhtR					
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.608 / NA				

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.14	-0.15 – 0.39	0.89	0.375
E_P	-0.05	0.13	-0.29 – 0.20	-0.38	0.704
dominance	0.94	0.13	0.69 – 1.20	7.31	<0.001
stress	-0.07	0.03	-0.13 – -0.00	-2.08	0.038
E_P_mean	0.04	0.07	-0.09 – 0.17	0.56	0.575
WHtR	-1.46	0.15	-1.75 – -1.17	-10.01	<0.001
E_P * dominance	0.02	0.02	-0.02 – 0.05	0.84	0.401
E_P * stress	-0.02	0.12	-0.26 – 0.21	-0.17	0.863
dominance * stress	-0.00	0.01	-0.03 – 0.02	-0.37	0.711
dominance * E_P_mean	-0.07	0.03	-0.13 – -0.01	-2.23	0.026
stress * E_P_mean	-0.04	0.05	-0.12 – 0.05	-0.77	0.440
dominance * WHtR	-0.42	0.18	-0.78 – -0.07	-2.37	0.018
stress * WHtR	0.02	0.01	-0.00 – 0.04	1.66	0.097
(E_P * dominance) * stress	-0.02	0.02	-0.06 – 0.03	-0.67	0.505

(dominance * stress) * E_P_mean	-0.03	0.02	-0.06 – 0.01	-1.61	0.108
(dominance * stress) * WHtR	-0.00	0.01	-0.03 – 0.02	-0.22	0.824
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.594 / NA				

```
#for factor 1 #Table S54
model2e7_fat <- lmer(Rating ~ E_P * shoulder_factor*stress + E_P_mean* shoulder_factor*stress + WHtR *shoulder_factor * stress + ( 1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor*stress + WHtR *shoulder_factor * stress||Person), data = data)
```

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

```
tab_model(model2e7_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.30	0.24	-0.17 – 0.77	1.23	0.217
E_P	-0.05	0.12	-0.28 – 0.18	-0.45	0.652
shoulder_factor	0.22	0.29	-0.35 – 0.80	0.76	0.449
stress	-0.06	0.03	-0.13 – -0.00	-2.06	0.040
E_P_mean	0.03	0.07	-0.10 – 0.16	0.45	0.652
WHtR	-1.08	0.28	-1.64 – -0.52	-3.81	<0.001
E_P * shoulder_factor	-0.02	0.02	-0.06 – 0.02	-0.90	0.367
E_P * stress	-0.02	0.11	-0.24 – 0.20	-0.20	0.842
shoulder_factor * stress	-0.02	0.01	-0.05 – 0.00	-1.82	0.069
shoulder_factor * E_P_mean	0.01	0.02	-0.03 – 0.05	0.56	0.576
stress * E_P_mean	-0.03	0.04	-0.12 – 0.05	-0.75	0.451
shoulder_factor * WHtR	0.37	0.24	-0.09 – 0.84	1.58	0.115
stress * WHtR	0.01	0.01	-0.02 – 0.04	0.66	0.510

(E_P * shoulder_factor) * stress	-0.04	0.03	-0.09 – 0.01	-1.64	0.100
(shoulder_factor * stress) E_P_mean	0.02	0.01	-0.01 – 0.04	1.12	0.262
(shoulder_factor * stress) WHtR	-0.00	0.01	-0.03 – 0.02	-0.31	0.760
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.469 / NA				

#for factor 2 #Table S55

```
model2e8_fat <- lmer(Rating ~ E_P * strength_factor*stress + E_P_mean*strength_factor*stress + WHtR *strength_factor * stress + ( 1 | Person) + (1 | MaleID) + (1 + E_P * strength_factor*stress + WHtR *strength_factor * stress||Person), data = data)
```

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

```
tab_model(model2e8_fat, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.20	-0.26 – 0.51	0.65	0.517
E_P	-0.05	0.12	-0.28 – 0.18	-0.46	0.643
strength_factor	0.62	0.20	0.23 – 1.00	3.15	0.002
stress	-0.06	0.03	-0.12 – -0.00	-2.02	0.044
E_P_mean	0.04	0.07	-0.09 – 0.17	0.63	0.530
WHtR	-1.39	0.20	-1.77 – -1.00	-7.07	<0.001
E_P * strength_factor	0.03	0.02	-0.01 – 0.07	1.66	0.096
E_P * stress	-0.02	0.11	-0.24 – 0.19	-0.21	0.836
strength_factor * stress	-0.01	0.01	-0.03 – 0.01	-0.66	0.511
strength_factor * E_P_mean	-0.05	0.02	-0.08 – -0.01	-2.23	0.026
stress * E_P_mean	-0.03	0.04	-0.12 – 0.06	-0.66	0.509

strength_factor * WHtR	-0.37	0.24	-0.84 – 0.11	-1.50	0.132
stress * WHtR	0.02	0.01	0.00 – 0.04	2.00	0.045
(E_P * strength_factor) * stress	-0.02	0.02	-0.06 – 0.03	-0.82	0.411
(strength_factor stress) E_P_mean	-0.01	0.01	-0.04 – 0.01	-1.02	0.310
(strength_factor stress) WHtR	0.01	0.01	-0.02 – 0.03	0.50	0.615
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.501 / NA				

*#All models with estradiol and progesterone separately rather than E/P
#also including between-women hormone effects in an exploratory manner*

#for muscularity #Table S56

```
model2ep1 <- lmer(Rating ~ estradiol * Muscularity + estradiol_mean * Muscularity +
progesterone * Muscularity + progesterone_mean * Muscularity + (1 | Person) + (1 |
MaleID) + (1 + estradiol * Muscularity + progesterone * Muscularity || Person), data
= data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2ep1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.16	-0.19 – 0.44	0.76	0.449
estradiol	0.12	0.09	-0.06 – 0.30	1.33	0.182
Muscularity	1.59	0.15	1.29 – 1.90	10.29	<0.001
estradiol_mean	0.04	0.06	-0.08 – 0.15	0.63	0.531
progesterone	-0.03	0.07	-0.16 – 0.11	-0.37	0.712
progesterone_mean	-0.01	0.06	-0.13 – 0.10	-0.18	0.855
estradiol * Muscularity	-0.01	0.02	-0.06 – 0.03	-0.57	0.566

Muscularity * estradiol_mean	0.01	0.03	-0.06 – 0.07	0.25	0.804
Muscularity * progesterone	-0.02	0.02	-0.05 – 0.01	-1.07	0.285
Muscularity * progesterone_mean	0.02	0.03	-0.04 – 0.09	0.75	0.455
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.523 / NA				

#for dominance #Table S56

```
model2ep2 <- lmer(Rating ~ estradiol * dominance + estradiol_mean* dominance + progesterone * dominance + progesterone_mean* dominance + (1 | Person) + (1 | MaleID) + (1 + estradiol * dominance + progesterone * dominance || Person), data = data)
```

boundary (singular) fit: see ?isSingular

tab_model(model2ep2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.25	-0.37 – 0.62	0.49	0.627
estradiol	0.12	0.09	-0.05 – 0.30	1.35	0.176
dominance	1.04	0.25	0.55 – 1.52	4.19	<0.001
estradiol_mean	0.04	0.06	-0.08 – 0.15	0.63	0.531
progesterone	-0.02	0.07	-0.16 – 0.11	-0.36	0.719
progesterone_mean	-0.01	0.06	-0.13 – 0.10	-0.18	0.858
estradiol * dominance	-0.01	0.02	-0.06 – 0.03	-0.61	0.539
dominance * estradiol_mean	-0.01	0.03	-0.06 – 0.05	-0.21	0.836
dominance * progesterone	-0.01	0.02	-0.05 – 0.02	-0.75	0.452
dominance * progesterone_mean	0.04	0.03	-0.02 – 0.09	1.37	0.170
N _{Person}	255				

N _{MaleID}	40
Observations	34680
Marginal R ² / Conditional R ²	0.311 / NA

```
#for factor 1 #Table S57
model2ep3 <- lmer(Rating ~ estradiol * shoulder_factor + estradiol_mean* shoulder_factor + progesterone * shoulder_factor + progesterone_mean* shoulder_factor + (1 | Person) + (1 | MaleID) + (1 + estradiol * shoulder_factor + progesterone * shoulder_factor || Person), data = data)
```

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

```
tab_model(model2ep3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.28	-0.43 – 0.68	0.43	0.665
estradiol	0.12	0.09	-0.05 – 0.30	1.36	0.175
shoulder_factor	0.75	0.31	0.15 – 1.36	2.43	0.015
estradiol_mean	0.04	0.06	-0.08 – 0.15	0.63	0.530
progesterone	-0.02	0.07	-0.16 – 0.11	-0.36	0.721
progesterone_mean	-0.01	0.06	-0.13 – 0.10	-0.18	0.859
estradiol * shoulder_factor	-0.00	0.03	-0.06 – 0.05	-0.11	0.915
shoulder_factor * estradiol_mean	0.01	0.03	-0.05 – 0.07	0.39	0.699
shoulder_factor * progesterone	-0.03	0.02	-0.07 – 0.01	-1.49	0.137
shoulder_factor * progesterone_mean	-0.01	0.03	-0.07 – 0.04	-0.47	0.635
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.160 / NA				

```
#for factor 2 #Table S57
```

```
model2ep4 <- lmer(Rating ~ estradiol * strength_factor + estradiol_mean*strength_factor + progesterone * strength_factor + progesterone_mean*strength_factor + (1 | Person) + (1 | MaleID) + (1 + estradiol * strength_factor + progesterone * strength_factor || Person), data = data)
```

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

```
tab_model(model2ep4, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.29	-0.45 – 0.69	0.42	0.671
estradiol	0.12	0.09	-0.05 – 0.29	1.37	0.169
strength_factor	0.56	0.29	-0.01 – 1.13	1.94	0.052
estradiol_mean	0.04	0.06	-0.08 – 0.15	0.63	0.530
progesterone	-0.02	0.07	-0.16 – 0.11	-0.35	0.727
progesterone_mean	-0.01	0.06	-0.13 – 0.11	-0.17	0.862
estradiol * strength_factor	0.01	0.02	-0.04 – 0.06	0.29	0.769
strength_factor * estradiol_mean	-0.01	0.02	-0.05 – 0.02	-0.60	0.549
strength_factor * progesterone	-0.04	0.02	-0.08 – -0.01	-2.28	0.023
strength_factor * progesterone_mean	0.03	0.02	-0.01 – 0.06	1.51	0.131
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.110 / NA				

```
#####
#####
```

```
#three-way interaction with relationship status
```

```
#also including between-women hormone effects in an exploratory manner
```

```
#for muscularity #Table S58
```

```
model2ep5 <- lmer(Rating ~ estradiol * Muscularity*relationship_status + estradiol_
mean * Muscularity*relationship_status + progesterone * Muscularity*relationship_st
atus + progesterone_mean * Muscularity*relationship_status + ( 1 | Person) + (1 | M
aleID) + (1 + estradiol * Muscularity*relationship_status + progesterone * Muscular
ity*relationship_status ||Person), data = data)
```

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

```
tab_model(model2ep5, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.22	0.17	-0.11 – 0.55	1.30	0.194
estradiol	0.22	0.10	0.01 – 0.42	2.10	0.036
Muscularity	1.58	0.16	1.27 – 1.89	10.08	<0.001
relationship_status [1]	-0.20	0.11	-0.43 – 0.02	-1.76	0.078
estradiol_mean	0.01	0.07	-0.13 – 0.15	0.12	0.906
progesterone	0.03	0.07	-0.11 – 0.16	0.36	0.720
progesterone_mean	0.00	0.06	-0.12 – 0.12	0.01	0.994
estradiol * Muscularity	-0.01	0.03	-0.06 – 0.05	-0.26	0.797
estradiol * relationship_status [1]	-0.25	0.19	-0.63 – 0.13	-1.31	0.189
Muscularity * relationship_status [1]	0.02	0.06	-0.09 – 0.13	0.33	0.739
Muscularity * estradiol_mean	0.01	0.04	-0.07 – 0.09	0.34	0.733
relationship_status [1] * estradiol_mean	0.05	0.12	-0.18 – 0.29	0.45	0.650
Muscularity * progesterone	-0.01	0.02	-0.06 – 0.03	-0.68	0.496

relationship_status [1] * progesterone	-0.07	0.14	-0.35 – 0.20	-0.52	0.600
Muscularity * progesterone_mean	0.02	0.04	-0.05 – 0.09	0.53	0.594
relationship_status [1] * progesterone_mean	-0.03	0.15	-0.32 – 0.27	-0.19	0.852
(estradiol * Muscularity) * relationship_status [1]	-0.02	0.05	-0.12 – 0.08	-0.41	0.680
(Muscularity relationship_status [1]) estradiol_mean	-0.01	0.06	-0.13 – 0.10	-0.21	0.834
(Muscularity relationship_status [1]) progesterone	-0.01	0.04	-0.08 – 0.06	-0.21	0.833
(Muscularity relationship_status [1]) progesterone_mean	0.03	0.05	-0.08 – 0.13	0.49	0.627
N Person	255				
N MaleID	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.525 / NA				

#for dominance #Table S59

```
model2ep6 <- lmer(Rating ~ estradiol * dominance*relationship_status + estradiol_mean* dominance*relationship_status + progesterone * dominance*relationship_status + progesterone_mean* dominance*relationship_status + (1 | Person) + (1 | MaleID) + (1 + estradiol * dominance*relationship_status + progesterone * dominance*relationship_status | Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2ep6, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.22	0.26	-0.28 – 0.72	0.86	0.392
estradiol	0.21	0.10	0.02 – 0.41	2.12	0.034
dominance	1.03	0.25	0.54 – 1.52	4.13	<0.001

relationship_status [1]	-0.20	0.11	-0.43 – 0.02	-1.76	0.078
estradiol_mean	0.01	0.07	-0.13 – 0.15	0.14	0.890
progesterone	0.03	0.07	-0.10 – 0.17	0.47	0.635
progesterone_mean	-0.00	0.06	-0.12 – 0.12	-0.01	0.995
estradiol * dominance	-0.00	0.03	-0.06 – 0.05	-0.13	0.899
estradiol * relationship_status [1]	-0.25	0.19	-0.62 – 0.13	-1.29	0.196
dominance * relationship_status [1]	0.02	0.05	-0.08 – 0.11	0.38	0.705
dominance * estradiol_mean	0.01	0.04	-0.06 – 0.08	0.27	0.790
relationship_status [1] * estradiol_mean	0.04	0.12	-0.19 – 0.28	0.38	0.707
dominance * progesterone	-0.01	0.02	-0.06 – 0.03	-0.63	0.529
relationship_status [1] * progesterone	-0.08	0.13	-0.34 – 0.18	-0.59	0.553
dominance * progesterone_mean	0.03	0.03	-0.03 – 0.09	1.00	0.318
relationship_status [1] * progesterone_mean	0.00	0.14	-0.27 – 0.27	0.00	0.999
(estradiol * dominance) * relationship_status [1]	-0.05	0.05	-0.15 – 0.06	-0.86	0.391
(dominance relationship_status [1]) estradiol_mean	-0.04	0.05	-0.13 – 0.06	-0.71	0.479
(dominance relationship_status [1]) progesterone	0.01	0.04	-0.06 – 0.08	0.18	0.855
(dominance relationship_status [1]) progesterone_mean	0.03	0.05	-0.06 – 0.13	0.69	0.493
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				

Marginal R² / Conditional R² 0.313 / NA

```
#for factor 1 #Table S60
model2ep7 <- lmer(Rating ~ estradiol * shoulder_factor*relationship_status + estradiol_mean* shoulder_factor*relationship_status + progesterone * shoulder_factor*relationship_status + (1 | Person) + (1 | MaleID) + (1 + estradiol * shoulder_factor* relationship_status + progesterone * shoulder_factor*relationship_status||Person), data = data)
```

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

```
tab_model(model2ep7, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.22	0.29	-0.34 – 0.78	0.76	0.446
estradiol	0.21	0.10	0.02 – 0.41	2.11	0.034
shoulder_factor	0.75	0.31	0.14 – 1.36	2.41	0.016
relationship_status [1]	-0.20	0.11	-0.43 – 0.02	-1.76	0.079
estradiol_mean	0.01	0.07	-0.13 – 0.15	0.14	0.886
progesterone	0.03	0.07	-0.10 – 0.17	0.48	0.633
progesterone_mean	-0.00	0.06	-0.12 – 0.12	-0.01	0.993
estradiol * shoulder_factor	-0.01	0.03	-0.07 – 0.06	-0.23	0.820
estradiol * relationship_status [1]	-0.24	0.19	-0.62 – 0.13	-1.29	0.198
shoulder_factor * relationship_status [1]	0.00	0.05	-0.10 – 0.11	0.09	0.932
shoulder_factor * estradiol_mean	-0.00	0.04	-0.07 – 0.07	-0.04	0.969
relationship_status [1] * estradiol_mean	0.04	0.12	-0.19 – 0.28	0.36	0.716
shoulder_factor * progesterone	-0.04	0.02	-0.08 – 0.01	-1.48	0.140
relationship_status [1] * progesterone	-0.08	0.13	-0.35 – 0.18	-0.61	0.539

shoulder_factor * progesterone_mean	-0.01	0.03	-0.07 – 0.06	-0.22	0.824
relationship_status [1] * progesterone_mean	0.00	0.14	-0.27 – 0.27	0.01	0.992
(estradiol shoulder_factor) relationship_status [1]	0.03	0.06	-0.09 – 0.15	0.43	0.669
(shoulder_factor relationship_status [1]) estradiol_mean	0.03	0.05	-0.07 – 0.14	0.63	0.527
(shoulder_factor relationship_status [1]) progesterone	0.01	0.04	-0.07 – 0.09	0.27	0.790
(shoulder_factor relationship_status [1]) progesterone_mean	-0.04	0.05	-0.14 – 0.07	-0.67	0.501
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.164 / NA				

```
#for factor 2 #Table S61
model2ep8 <- lmer(Rating ~ estradiol * strength_factor*relationship_status + estradiol_mean*strength_factor*relationship_status + progesterone * strength_factor*relationship_status + progesterone_mean*strength_factor*relationship_status + (1 | Person) + (1 | MaleID) + (1 + estradiol * strength_factor*relationship_status + progesterone * strength_factor*relationship_status || Person), data = data)
```

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

```
tab_model(model2ep8, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.22	0.29	-0.36 – 0.80	0.74	0.457
estradiol	0.21	0.10	0.01 – 0.40	2.11	0.035
strength_factor	0.57	0.29	-0.00 – 1.13	1.95	0.051
relationship_status [1]	-0.20	0.11	-0.43 – 0.02	-1.74	0.081

estradiol_mean	0.01	0.07	-0.13 – 0.15	0.15	0.881
progesterone	0.03	0.07	-0.10 – 0.17	0.49	0.624
progesterone_mean	-0.00	0.06	-0.12 – 0.12	-0.01	0.994
estradiol * strength_factor	0.02	0.03	-0.04 – 0.08	0.58	0.559
estradiol * relationship_status [1]	-0.24	0.19	-0.60 – 0.13	-1.28	0.202
strength_factor * relationship_status [1]	-0.01	0.03	-0.08 – 0.06	-0.35	0.729
strength_factor * estradiol_mean	-0.00	0.02	-0.05 – 0.04	-0.16	0.870
relationship_status [1] * estradiol_mean	0.04	0.12	-0.19 – 0.27	0.35	0.725
strength_factor * progesterone	-0.06	0.02	-0.10 – -0.01	-2.53	0.011
relationship_status [1] * progesterone	-0.09	0.13	-0.35 – 0.17	-0.64	0.519
strength_factor * progesterone_mean	0.03	0.02	-0.01 – 0.07	1.35	0.176
relationship_status [1] * progesterone_mean	0.00	0.14	-0.27 – 0.27	0.00	0.999
(estradiol <i>strength_factor</i>) relationship_status [1]	-0.06	0.06	-0.18 – 0.05	-1.09	0.275
(strength_factor <i>relationship_status [1]</i>) estradiol_mean	-0.02	0.04	-0.09 – 0.05	-0.54	0.587
(strength_factor <i>relationship_status [1]</i>) progesterone	0.05	0.04	-0.03 – 0.12	1.25	0.213
(strength_factor <i>relationship_status [1]</i>) progesterone_mean	0.00	0.04	-0.07 – 0.08	0.06	0.952
N Person	255				
N MaleID	40				

Observations 34680
Marginal R² / Conditional R² 0.114 / NA

```
#####  
###  
#three-way interaction with self-reported stress  
  
#for muscularity #Table S62  
model2ep5 <- lmer(Rating ~ estradiol * Muscularity*stress + estradiol_mean * Muscularity*stress + progesterone * Muscularity*stress + progesterone_mean * Muscularity*stress + (1 | Person) + (1 | MaleID) + (1 + estradiol * Muscularity*stress + progesterone * Muscularity*stress||Person), data = data)
```

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

```
tab_model(model2ep5, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.16	-0.20 – 0.44	0.75	0.454
estradiol	0.13	0.08	-0.04 – 0.29	1.52	0.129
Muscularity	1.59	0.15	1.29 – 1.90	10.27	<0.001
stress	-0.07	0.03	-0.12 – -0.01	-2.39	0.017
estradiol_mean	0.03	0.06	-0.09 – 0.14	0.42	0.672
progesterone	-0.00	0.08	-0.15 – 0.15	-0.01	0.992
progesterone_mean	0.01	0.06	-0.11 – 0.13	0.09	0.932
estradiol * Muscularity	-0.01	0.02	-0.06 – 0.03	-0.60	0.549
estradiol * stress	-0.12	0.10	-0.31 – 0.07	-1.24	0.214
Muscularity * stress	-0.01	0.01	-0.03 – 0.01	-0.79	0.431
Muscularity * estradiol_mean	0.01	0.03	-0.06 – 0.07	0.23	0.816
stress * estradiol_mean	-0.02	0.03	-0.08 – 0.03	-0.79	0.432
Muscularity * progesterone	-0.02	0.02	-0.06 – 0.01	-1.31	0.192
stress * progesterone	-0.05	0.07	-0.18 – 0.08	-0.73	0.465

Muscularity * progesterone_mean	0.02	0.03	-0.04 – 0.09	0.65	0.513
stress * progesterone_mean	-0.04	0.04	-0.12 – 0.04	-0.91	0.365
(estradiol * Muscularity) * stress	0.01	0.03	-0.04 – 0.07	0.39	0.697
(Muscularity * stress) * estradiol_mean	-0.02	0.01	-0.04 – 0.01	-1.44	0.151
(Muscularity * stress) * progesterone	0.01	0.02	-0.04 – 0.05	0.35	0.729
(Muscularity * stress) * progesterone_mean	0.02	0.01	-0.01 – 0.04	1.18	0.239
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.527 / NA				

#for dominance #Table S63

```
model2ep6 <- lmer(Rating ~ estradiol * dominance*stress + estradiol_mean* dominance
*stress + progesterone * dominance*stress + progesterone_mean* dominance*stress + (
1 | Person) + (1 | MaleID) + (1 + estradiol * dominance*stress + progesterone * domi
nance*stress||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2ep6, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.25	-0.37 – 0.62	0.48	0.631
estradiol	0.12	0.08	-0.04 – 0.28	1.50	0.133
dominance	1.04	0.25	0.55 – 1.52	4.19	<0.001
stress	-0.07	0.03	-0.12 – -0.01	-2.43	0.015
estradiol_mean	0.03	0.06	-0.09 – 0.14	0.44	0.663
progesterone	0.00	0.07	-0.15 – 0.15	0.01	0.995
progesterone_mean	0.01	0.06	-0.11 – 0.12	0.08	0.933

estradiol * dominance	-0.02	0.02	-0.06 – 0.03	-0.65	0.518
estradiol * stress	-0.12	0.10	-0.31 – 0.07	-1.27	0.203
dominance * stress	-0.00	0.01	-0.02 – 0.02	-0.10	0.918
dominance * estradiol_mean	-0.01	0.03	-0.06 – 0.05	-0.23	0.818
stress * estradiol_mean	-0.02	0.03	-0.08 – 0.03	-0.78	0.434
dominance * progesterone	-0.02	0.02	-0.05 – 0.02	-1.06	0.289
stress * progesterone	-0.05	0.07	-0.18 – 0.08	-0.70	0.484
dominance * progesterone_mean	0.03	0.03	-0.02 – 0.09	1.22	0.221
stress * progesterone_mean	-0.04	0.04	-0.12 – 0.04	-0.91	0.365
(estradiol * dominance) * stress	-0.00	0.03	-0.06 – 0.05	-0.07	0.941
(dominance * stress) * estradiol_mean	-0.02	0.01	-0.04 – 0.01	-1.37	0.171
(dominance * stress) * progesterone	0.01	0.02	-0.03 – 0.05	0.50	0.616
(dominance * stress) * progesterone_mean	0.02	0.01	-0.01 – 0.05	1.34	0.181
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.314 / NA				

#for factor 1 #Table S64

```
model2ep7 <- lmer(Rating ~ estradiol * shoulder_factor*stress + estradiol_mean* shoulder_factor*stress + progesterone * shoulder_factor*stress + progesterone_mean* shoulder_factor*stress + (1 | Person) + (1 | MaleID) + (1 + estradiol * shoulder_factor*stress + progesterone * shoulder_factor*stress || Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2ep7, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating

<i>Predictors</i>	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.12	0.28	-0.43 – 0.68	0.43	0.668
estradiol	0.12	0.08	-0.04 – 0.28	1.50	0.134
shoulder_factor	0.75	0.31	0.14 – 1.36	2.43	0.015
stress	-0.07	0.03	-0.12 – -0.01	-2.44	0.015
estradiol_mean	0.03	0.06	-0.09 – 0.14	0.44	0.661
progesterone	0.00	0.07	-0.14 – 0.15	0.01	0.992
progesterone_mean	0.01	0.06	-0.11 – 0.12	0.08	0.933
estradiol * shoulder_factor	-0.01	0.03	-0.06 – 0.05	-0.23	0.821
estradiol * stress	-0.12	0.09	-0.31 – 0.06	-1.28	0.200
shoulder_factor * stress	-0.03	0.01	-0.05 – -0.00	-2.29	0.022
shoulder_factor * estradiol_mean	0.01	0.03	-0.04 – 0.07	0.45	0.653
stress * estradiol_mean	-0.02	0.03	-0.08 – 0.03	-0.78	0.434
shoulder_factor * progesterone	-0.02	0.02	-0.06 – 0.02	-1.16	0.246
stress * progesterone	-0.05	0.07	-0.18 – 0.08	-0.69	0.489
shoulder_factor * progesterone_mean	-0.01	0.03	-0.07 – 0.04	-0.43	0.665
stress * progesterone_mean	-0.04	0.04	-0.12 – 0.04	-0.90	0.366
(estradiol shoulder_factor) stress	-0.01	0.03	-0.07 – 0.05	-0.27	0.788
(shoulder_factor stress) estradiol_mean	0.01	0.01	-0.02 – 0.04	0.77	0.443
(shoulder_factor stress) progesterone	0.02	0.02	-0.02 – 0.07	0.99	0.321
(shoulder_factor stress) progesterone_mean	-0.01	0.02	-0.05 – 0.02	-0.97	0.334
N Person	255				

N MaleID

40

Observations

34680

Marginal R² / Conditional R² 0.164 / NA

#for factor 2 #Table S65

```
model2ep8 <- lmer(Rating ~ estradiol * strength_factor*stress + estradiol_mean*strength_factor*stress + progesterone * strength_factor*stress + progesterone_mean*strength_factor*stress + (1 | Person) + (1 | MaleID) + (1 + estradiol * strength_factor*stress + progesterone * strength_factor*stress||Person), data = data)
```

boundary (singular) fit: see ?isSingular

tab_model(model2ep8, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.12	0.29	-0.45 – 0.69	0.42	0.675
estradiol	0.12	0.08	-0.04 – 0.28	1.48	0.139
strength_factor	0.56	0.29	-0.01 – 1.13	1.94	0.053
stress	-0.07	0.03	-0.12 – -0.01	-2.47	0.013
estradiol_mean	0.03	0.06	-0.09 – 0.14	0.45	0.653
progesterone	0.00	0.07	-0.14 – 0.14	0.02	0.983
progesterone_mean	0.00	0.06	-0.11 – 0.12	0.08	0.935
estradiol * strength_factor	0.00	0.02	-0.05 – 0.05	0.11	0.913
estradiol * stress	-0.12	0.09	-0.30 – 0.06	-1.31	0.191
strength_factor * stress	-0.00	0.01	-0.03 – 0.02	-0.37	0.709
strength_factor * estradiol_mean	-0.01	0.02	-0.05 – 0.02	-0.61	0.539
stress * estradiol_mean	-0.02	0.03	-0.08 – 0.03	-0.78	0.434
strength_factor * progesterone	-0.04	0.02	-0.08 – -0.01	-2.27	0.023
stress * progesterone	-0.04	0.06	-0.17 – 0.08	-0.66	0.509
strength_factor * progesterone_mean	0.03	0.02	-0.01 – 0.06	1.47	0.142

stress *	-0.04	0.04	-0.11 – 0.04	-0.91	0.365
progesterone_mean					
(estradiol	-0.05	0.03	-0.10 – 0.01	-1.72	0.085
strength_factor) stress					
(strength_factor	-0.00	0.01	-0.03 – 0.02	-0.26	0.798
stress) estradiol_mean					
(strength_factor	-0.00	0.02	-0.05 – 0.04	-0.07	0.946
stress) progesterone					
(strength_factor	0.00	0.01	-0.02 – 0.03	0.35	0.724
stress)					
progesterone_mean					
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.113 / NA				

```
#####
#####
#controlling for body fat mass (WHtR)
#####
#####
```

```
#for muscularity #Table S66
model2ep9 <- lmer(Rating ~ estradiol * Muscularity + estradiol_mean * Muscularity +
progesterone * Muscularity + progesterone_mean * Muscularity + WHtR *Muscularity +
( 1 | Person) + (1 | MaleID) + (1 + estradiol * Muscularity + progesterone * Muscul
arity + WHtR *Muscularity||Person), data = data)
```

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

```
tab_model(model2ep9, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.11	0.14	-0.17 – 0.39	0.78	0.438
estradiol	0.12	0.10	-0.07 – 0.31	1.21	0.225
Muscularity	1.24	0.14	0.97 – 1.51	9.03	<0.001
estradiol_mean	0.03	0.06	-0.09 – 0.15	0.48	0.631
progesterone	-0.03	0.08	-0.18 – 0.12	-0.43	0.670

progesterone_mean	-0.01	0.06	-0.13 – 0.12	-0.10	0.923
WHtR	-0.74	0.16	-1.05 – -0.42	-4.60	<0.001
estradiol * Muscularity	-0.02	0.03	-0.08 – 0.04	-0.57	0.569
Muscularity * estradiol_mean	-0.00	0.03	-0.06 – 0.06	-0.04	0.965
Muscularity * progesterone	-0.01	0.02	-0.05 – 0.02	-0.94	0.348
Muscularity * progesterone_mean	0.04	0.03	-0.02 – 0.10	1.22	0.224
Muscularity * WHtR	-0.02	0.13	-0.27 – 0.23	-0.16	0.872
ICC	0.28				
N _{Person}	255				
N _{MaleID}	40				

Observations 34680

Marginal R² / Conditional R² 0.527 / 0.657

#for dominance #Table S67

```
model2ep10 <- lmer(Rating ~ estradiol * dominance + estradiol_mean* dominance + progesterone * dominance + progesterone_mean* dominance + WHtR *dominance + ( 1 | Person) + (1 | MaleID) + (1 + estradiol * dominance + progesterone * dominance + WHtR *dominance || Person), data = data)
```

boundary (singular) fit: see ?isSingular

tab_model(model2ep10, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.11	0.14	-0.15 – 0.38	0.82	0.410
estradiol	0.12	0.10	-0.07 – 0.31	1.24	0.213
dominance	0.95	0.13	0.69 – 1.20	7.34	<0.001
estradiol_mean	0.04	0.06	-0.08 – 0.15	0.62	0.537
progesterone	-0.03	0.07	-0.18 – 0.12	-0.41	0.681
progesterone_mean	-0.01	0.06	-0.13 – 0.10	-0.20	0.842
WHtR	-1.46	0.15	-1.75 – -1.18	-10.02	<0.001

estradiol * dominance	-0.01	0.02	-0.06 – 0.03	-0.66	0.510
dominance * estradiol_mean	-0.01	0.03	-0.06 – 0.05	-0.29	0.775
dominance * progesterone	-0.01	0.02	-0.04 – 0.02	-0.83	0.408
dominance * progesterone_mean	0.04	0.03	-0.02 – 0.09	1.35	0.178
dominance * WHtR	-0.42	0.18	-0.78 – -0.07	-2.37	0.018
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.591 / NA				

#for factor 1 #Table S68

```
model2ep11 <- lmer(Rating ~ estradiol * shoulder_factor + estradiol_mean* shoulder_factor + progesterone * shoulder_factor + progesterone_mean* shoulder_factor + WHtR *shoulder_factor + ( 1 | Person) + (1 | MaleID) + (1 + estradiol * shoulder_factor + progesterone * shoulder_factor + WHtR *shoulder_factor||Person), data = data)
tab_model(model2ep11, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.29	0.24	-0.18 – 0.76	1.21	0.227
estradiol	0.12	0.09	-0.06 – 0.30	1.27	0.204
shoulder_factor	0.22	0.29	-0.35 – 0.80	0.76	0.449
estradiol_mean	0.03	0.06	-0.09 – 0.15	0.50	0.619
progesterone	-0.03	0.07	-0.17 – 0.11	-0.39	0.693
progesterone_mean	-0.01	0.06	-0.13 – 0.11	-0.15	0.879
WHtR	-1.08	0.28	-1.64 – -0.53	-3.81	<0.001
estradiol * shoulder_factor	0.00	0.03	-0.05 – 0.05	0.12	0.904
shoulder_factor * estradiol_mean	-0.01	0.02	-0.04 – 0.02	-0.47	0.641
shoulder_factor * progesterone	-0.03	0.02	-0.06 – 0.01	-1.60	0.111

shoulder_factor * progesterone_mean	-0.01	0.02	-0.04 – 0.03	-0.50	0.620
shoulder_factor * WHtR	0.37	0.24	-0.09 – 0.84	1.58	0.115
ICC	0.46				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.320 / 0.634				

#for factor 2 #Table S69

```
model2ep12 <- lmer(Rating ~ estradiol * strength_factor + estradiol_mean*strength_factor + progesterone * strength_factor + progesterone_mean*strength_factor + WHtR * strength_factor + ( 1 | Person) + (1 | MaleID) + (1 + estradiol * strength_factor + progesterone * strength_factor + WHtR *strength_factor||Person), data = data)
```

boundary (singular) fit: see ?isSingular

tab_model(model2ep12, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.20	-0.26 – 0.51	0.61	0.539
estradiol	0.12	0.09	-0.06 – 0.30	1.29	0.196
strength_factor	0.62	0.20	0.24 – 1.00	3.16	0.002
estradiol_mean	0.04	0.06	-0.08 – 0.15	0.62	0.532
progesterone	-0.03	0.07	-0.17 – 0.11	-0.39	0.697
progesterone_mean	-0.01	0.06	-0.13 – 0.10	-0.19	0.848
WHtR	-1.39	0.20	-1.77 – -1.00	-7.07	<0.001
estradiol * strength_factor	0.01	0.02	-0.04 – 0.05	0.32	0.751
strength_factor * estradiol_mean	-0.01	0.02	-0.04 – 0.03	-0.55	0.580
strength_factor * progesterone	-0.04	0.02	-0.07 – -0.01	-2.47	0.014
strength_factor * progesterone_mean	0.03	0.02	-0.01 – 0.06	1.57	0.116

strength_factor * WHtR	-0.37	0.24	-0.84 – 0.11	-1.51	0.132
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.499 / NA				

```
#####
#####
#three-way interaction with relationship status

#also including between-women hormone effects in an exploratory manner

#for muscularity #Table S70
model2ep13 <- lmer(Rating ~ estradiol * Muscularity*relationship_status + estradiol
_mean * Muscularity*relationship_status + progesterone * Muscularity*relationship_s
tatus + progesterone_mean * Muscularity*relationship_status + WHtR *Muscularity * r
elationship_status + ( 1 | Person) + (1 | MaleID) + (1 + estradiol * Muscularity*re
lationship_status + progesterone * Muscularity*relationship_status + WHtR *Muscular
ity*relationship_status ||Person), data = data)
```

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

```
tab_model(model2ep13, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.21	0.15	-0.09 – 0.51	1.39	0.165
estradiol	0.23	0.11	0.01 – 0.45	2.04	0.041
Muscularity	1.23	0.14	0.95 – 1.50	8.77	<0.001
relationship_status [1]	-0.21	0.12	-0.45 – 0.03	-1.71	0.088
estradiol_mean	-0.00	0.08	-0.15 – 0.15	-0.01	0.991
progesterone	0.02	0.08	-0.13 – 0.16	0.21	0.835
progesterone_mean	0.01	0.07	-0.12 – 0.14	0.09	0.932
WHtR	-0.75	0.16	-1.07 – -0.43	-4.56	<0.001
estradiol * Muscularity	-0.01	0.04	-0.08 – 0.07	-0.22	0.826
estradiol * relationship_status [1]	-0.29	0.21	-0.70 – 0.12	-1.39	0.166

Muscularity * relationship_status [1]	0.02	0.06	-0.09 – 0.13	0.35	0.724
Muscularity * estradiol_mean	0.01	0.04	-0.07 – 0.09	0.20	0.841
relationship_status [1] * estradiol_mean	0.07	0.13	-0.19 – 0.32	0.51	0.610
Muscularity * progesterone	-0.01	0.02	-0.05 – 0.03	-0.57	0.565
relationship_status [1] * progesterone	-0.07	0.15	-0.36 – 0.23	-0.44	0.662
Muscularity * progesterone_mean	0.03	0.04	-0.03 – 0.10	0.97	0.333
relationship_status [1] * progesterone_mean	-0.03	0.16	-0.35 – 0.28	-0.20	0.842
Muscularity * WHtR	-0.01	0.13	-0.26 – 0.24	-0.07	0.945
relationship_status [1] * WHtR	0.02	0.07	-0.11 – 0.16	0.33	0.739
(estradiol * Muscularity) * relationship_status [1]	-0.02	0.06	-0.14 – 0.10	-0.39	0.699
(Muscularity relationship_status [1]) estradiol_mean	-0.02	0.06	-0.13 – 0.09	-0.38	0.706
(Muscularity relationship_status [1]) progesterone	-0.01	0.03	-0.07 – 0.06	-0.19	0.847
(Muscularity relationship_status [1]) progesterone_mean	0.03	0.05	-0.07 – 0.12	0.52	0.606
(Muscularity relationship_status [1]) WHtR	-0.03	0.04	-0.11 – 0.06	-0.59	0.554
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.608 / NA				

```
#for dominance #Table S71
```

```
model2ep14 <- lmer(Rating ~ estradiol * dominance*relationship_status + estradiol_mean* dominance*relationship_status + progesterone * dominance*relationship_status + progesterone_mean* dominance*relationship_status + + WHtR * dominance * relationship_status + (1 | Person) + (1 | MaleID) + (1 + estradiol * dominance*relationship_status + progesterone * dominance*relationship_status + WHtR * dominance * relationship_status || Person), data = data)
```

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

```
tab_model(model2ep14, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.21	0.14	-0.07 – 0.49	1.47	0.142
estradiol	0.23	0.11	0.01 – 0.44	2.06	0.039
dominance	0.94	0.13	0.68 – 1.20	7.14	<0.001
relationship_status [1]	-0.21	0.12	-0.43 – 0.02	-1.79	0.074
estradiol_mean	0.01	0.07	-0.13 – 0.15	0.09	0.930
progesterone	0.02	0.07	-0.13 – 0.16	0.23	0.819
progesterone_mean	0.00	0.06	-0.12 – 0.12	0.01	0.994
WHtR	-1.46	0.15	-1.75 – -1.17	-9.75	<0.001
estradiol * dominance	-0.00	0.03	-0.06 – 0.05	-0.13	0.894
estradiol * relationship_status [1]	-0.28	0.21	-0.69 – 0.12	-1.38	0.168
dominance * relationship_status [1]	0.01	0.05	-0.09 – 0.11	0.23	0.821
dominance * estradiol_mean	0.01	0.04	-0.06 – 0.08	0.21	0.831
relationship_status [1] * estradiol_mean	0.06	0.12	-0.17 – 0.30	0.53	0.598
dominance * progesterone	-0.01	0.02	-0.05 – 0.03	-0.69	0.488
relationship_status [1] * progesterone	-0.07	0.15	-0.37 – 0.22	-0.48	0.630

dominance * progesterone_mean	0.03	0.03	-0.03 – 0.09	1.01	0.311
relationship_status [1] * progesterone_mean	-0.04	0.15	-0.33 – 0.25	-0.28	0.782
dominance * WHtR	-0.40	0.18	-0.75 – -0.04	-2.20	0.028
relationship_status [1] * WHtR	-0.01	0.06	-0.13 – 0.11	-0.11	0.913
(estradiol * dominance) * relationship_status [1]	-0.05	0.05	-0.16 – 0.05	-1.03	0.305
(dominance relationship_status [1]) estradiol_mean	-0.04	0.05	-0.14 – 0.06	-0.74	0.459
(dominance relationship_status [1]) progesterone	0.01	0.03	-0.06 – 0.07	0.23	0.820
(dominance relationship_status [1]) progesterone_mean	0.03	0.05	-0.06 – 0.13	0.69	0.492
(dominance relationship_status [1]) WHtR	-0.06	0.05	-0.15 – 0.04	-1.22	0.221
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.593 / NA				

#for factor 1 #Table S72

```
model2ep15 <- lmer(Rating ~ estradiol * shoulder_factor*relationship_status + estradiol_mean* shoulder_factor*relationship_status + progesterone * shoulder_factor*relationship_status + progesterone_mean* shoulder_factor*relationship_status + WHtR * shoulder_factor * relationship_status + ( 1 | Person) + (1 | MaleID) + (1 + estradiol * shoulder_factor* relationship_status + progesterone * shoulder_factor*relationship_status + WHtR *shoulder_factor * relationship_status ||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2ep15, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating

<i>Predictors</i>	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.37	0.24	-0.11 – 0.85	1.53	0.126
estradiol	0.22	0.11	0.01 – 0.43	2.07	0.039
shoulder_factor	0.22	0.29	-0.36 – 0.79	0.74	0.462
relationship_status [1]	-0.18	0.12	-0.41 – 0.05	-1.54	0.124
estradiol_mean	0.01	0.07	-0.14 – 0.15	0.08	0.934
progesterone	0.02	0.07	-0.12 – 0.16	0.28	0.777
progesterone_mean	0.00	0.06	-0.12 – 0.13	0.02	0.984
WHtR	-1.09	0.29	-1.65 – -0.53	-3.83	<0.001
estradiol * shoulder_factor	-0.00	0.03	-0.06 – 0.06	-0.11	0.915
estradiol * relationship_status [1]	-0.27	0.20	-0.66 – 0.12	-1.35	0.177
shoulder_factor * relationship_status [1]	0.02	0.03	-0.05 – 0.08	0.49	0.621
shoulder_factor * estradiol_mean	-0.02	0.02	-0.06 – 0.02	-0.81	0.416
relationship_status [1] * estradiol_mean	0.05	0.12	-0.19 – 0.29	0.40	0.691
shoulder_factor * progesterone	-0.04	0.02	-0.08 – 0.01	-1.55	0.121
relationship_status [1] * progesterone	-0.07	0.15	-0.36 – 0.21	-0.49	0.625
shoulder_factor * progesterone_mean	0.00	0.02	-0.04 – 0.04	0.13	0.899
relationship_status [1] * progesterone_mean	-0.03	0.15	-0.33 – 0.27	-0.17	0.862
shoulder_factor * WHtR	0.36	0.24	-0.11 – 0.82	1.50	0.135
relationship_status [1] * WHtR	0.03	0.06	-0.09 – 0.15	0.46	0.642
(estradiol shoulder_factor) relationship_status [1]	0.03	0.06	-0.09 – 0.14	0.47	0.638

(shoulder_factor relationship_status [1]) estradiol_mean	0.03	0.03	-0.04 – 0.09	0.81	0.418
(shoulder_factor relationship_status [1]) progesterone	0.01	0.04	-0.07 – 0.09	0.17	0.866
(shoulder_factor relationship_status [1]) progesterone_mean	-0.06	0.04	-0.13 – 0.02	-1.48	0.140
(shoulder_factor relationship_status [1]) WHtR	0.04	0.04	-0.04 – 0.11	1.00	0.317
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.469 / NA				

```
#for factor 2 #Table S73
```

```
model2ep16 <- lmer(Rating ~ estradiol * strength_factor*relationship_status + estradiol_mean*strength_factor*relationship_status + progesterone * strength_factor*relationship_status + progesterone_mean*strength_factor*relationship_status + WHtR * strength_factor * relationship_status+ ( 1 | Person) + (1 | MaleID) + (1 + estradiol * strength_factor*relationship_status + progesterone * strength_factor*relationship_status + WHtR *strength_factor * relationship_status ||Person), data = data)
```

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

```
tab_model(model2ep16, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.22	0.21	-0.18 – 0.62	1.06	0.288
estradiol	0.22	0.11	0.01 – 0.43	2.08	0.037
strength_factor	0.62	0.20	0.23 – 1.01	3.10	0.002
relationship_status [1]	-0.20	0.12	-0.43 – 0.02	-1.77	0.077
estradiol_mean	0.01	0.07	-0.13 – 0.15	0.10	0.917
progesterone	0.02	0.07	-0.12 – 0.17	0.29	0.770
progesterone_mean	-0.00	0.06	-0.12 – 0.12	-0.00	0.998

WHtR	-1.39	0.20	-1.78 – -0.99	-6.88	<0.001
estradiol * strength_factor	0.02	0.03	-0.04 – 0.07	0.63	0.526
estradiol * relationship_status [1]	-0.27	0.20	-0.66 – 0.12	-1.34	0.179
strength_factor * relationship_status [1]	-0.01	0.03	-0.07 – 0.06	-0.20	0.839
strength_factor * estradiol_mean	-0.00	0.02	-0.05 – 0.04	-0.06	0.956
relationship_status [1] * estradiol_mean	0.06	0.12	-0.17 – 0.30	0.50	0.614
strength_factor * progesterone	-0.06	0.02	-0.10 – -0.02	-2.73	0.006
relationship_status [1] * progesterone	-0.07	0.15	-0.35 – 0.22	-0.46	0.648
strength_factor * progesterone_mean	0.03	0.02	-0.01 – 0.07	1.39	0.163
relationship_status [1] * progesterone_mean	-0.03	0.15	-0.33 – 0.26	-0.21	0.830
strength_factor * WHtR	-0.35	0.25	-0.84 – 0.13	-1.42	0.156
relationship_status [1] * WHtR	0.00	0.06	-0.11 – 0.12	0.05	0.957
(estradiol strength_factor) relationship_status [1]	-0.07	0.06	-0.18 – 0.04	-1.26	0.207
(strength_factor relationship_status [1]) estradiol_mean	-0.02	0.03	-0.09 – 0.04	-0.67	0.501
(strength_factor relationship_status [1]) progesterone	0.05	0.03	-0.02 – 0.11	1.33	0.183
(strength_factor relationship_status [1]) progesterone_mean	0.00	0.04	-0.07 – 0.08	0.08	0.939

(strength_factor -0.03 0.03 -0.09 – 0.03 -0.98 0.329
 relationship_status [1])
 WHtR

N_{Person} 255

N_{MaleID} 40

Observations 34680

Marginal R² / Conditional R² 0.501 / NA

```
#####  
###
```

```
#three-way interaction with self-reported stress
```

```
#for muscularity #Table S74
```

```
model2ep17 <- lmer(Rating ~ estradiol * Muscularity*stress + estradiol_mean * Muscu  
larity*stress + progesterone * Muscularity*stress + progesterone_mean * Muscularity  
*stress + WHtR *Muscularity * stress+ ( 1 | Person) + (1 | MaleID) + (1 + estradiol  
* Muscularity*stress + progesterone * Muscularity*stress + WHtR *Muscularity * stre  
ss||Person), data = data)
```

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

```
tab_model(model2ep17, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.11	0.14	-0.17 – 0.40	0.78	0.437
estradiol	0.14	0.09	-0.03 – 0.32	1.57	0.116
Muscularity	1.24	0.14	0.97 – 1.50	9.01	<0.001
stress	-0.07	0.03	-0.13 – -0.01	-2.28	0.022
estradiol_mean	0.01	0.06	-0.11 – 0.14	0.22	0.829
progesterone	-0.01	0.09	-0.18 – 0.16	-0.12	0.904
progesterone_mean	0.01	0.07	-0.12 – 0.14	0.16	0.874
WHtR	-0.74	0.16	-1.05 – -0.42	-4.60	<0.001
estradiol * Muscularity	-0.02	0.03	-0.08 – 0.04	-0.73	0.468
estradiol * stress	-0.12	0.11	-0.33 – 0.09	-1.10	0.272
Muscularity * stress	0.00	0.01	-0.02 – 0.03	0.07	0.945

Muscularity * estradiol_mean	-0.00	0.03	-0.07 – 0.06	-0.07	0.947
stress * estradiol_mean	-0.03	0.03	-0.09 – 0.04	-0.81	0.418
Muscularity * progesterone	-0.02	0.02	-0.05 – 0.01	-1.14	0.256
stress * progesterone	-0.07	0.08	-0.22 – 0.08	-0.90	0.367
Muscularity * progesterone_mean	0.04	0.03	-0.03 – 0.10	1.14	0.256
stress * progesterone_mean	-0.04	0.05	-0.13 – 0.05	-0.97	0.333
Muscularity * WHtR	-0.02	0.13	-0.27 – 0.23	-0.16	0.872
stress * WHtR	0.01	0.01	-0.01 – 0.04	1.15	0.249
(estradiol * Muscularity) * stress	-0.01	0.03	-0.08 – 0.06	-0.27	0.788
(Muscularity * stress) * estradiol_mean	-0.02	0.01	-0.04 – 0.01	-1.56	0.119
(Muscularity * stress) * progesterone	-0.00	0.02	-0.04 – 0.04	-0.02	0.982
(Muscularity * stress) * progesterone_mean	0.01	0.01	-0.01 – 0.04	1.01	0.315
(Muscularity * stress) * WHtR	-0.01	0.01	-0.03 – 0.01	-0.91	0.365
N _{Person}	255				
N _{MaleID}	40				

Observations 34680

Marginal R² / Conditional R² 0.611 / NA

```
#for dominance #Table S75
model2ep18 <- lmer(Rating ~ estradiol * dominance*stress + estradiol_mean* dominance*stress + progesterone * dominance*stress + progesterone_mean* dominance*stress + WHtR * dominance * stress+ ( 1 | Person) + (1 | MaleID) + (1 + estradiol * dominance*stress + progesterone * dominance*stress + WHtR *dominance * stress||Person), data = data)
```

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

```
tab_model (model 2ep18, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

<i>Predictors</i>	Rating				
	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.11	0.14	-0.16 – 0.38	0.82	0.412
estradiol	0.14	0.09	-0.03 – 0.31	1.57	0.116
dominance	0.95	0.13	0.69 – 1.20	7.32	<0.001
stress	-0.07	0.03	-0.13 – -0.01	-2.23	0.026
estradiol_mean	0.02	0.06	-0.10 – 0.14	0.37	0.712
progesterone	-0.01	0.09	-0.17 – 0.16	-0.09	0.932
progesterone_mean	0.01	0.06	-0.12 – 0.13	0.08	0.934
WHtR	-1.46	0.15	-1.75 – -1.17	-10.01	<0.001
estradiol * dominance	-0.02	0.02	-0.06 – 0.03	-0.78	0.436
estradiol * stress	-0.12	0.11	-0.33 – 0.09	-1.12	0.263
dominance * stress	-0.00	0.01	-0.02 – 0.02	-0.19	0.849
dominance * estradiol_mean	-0.01	0.03	-0.06 – 0.05	-0.28	0.776
stress * estradiol_mean	-0.02	0.03	-0.09 – 0.04	-0.80	0.423
dominance * progesterone	-0.02	0.02	-0.05 – 0.01	-1.16	0.248
stress * progesterone	-0.06	0.07	-0.21 – 0.09	-0.82	0.414
dominance * progesterone_mean	0.03	0.03	-0.02 – 0.09	1.21	0.226
stress * progesterone_mean	-0.04	0.04	-0.13 – 0.05	-0.90	0.367
dominance * WHtR	-0.42	0.18	-0.78 – -0.07	-2.37	0.018
stress * WHtR	0.02	0.01	-0.00 – 0.04	1.68	0.093
(estradiol * dominance) * stress	0.00	0.03	-0.05 – 0.05	0.04	0.966
(dominance * stress) * estradiol_mean	-0.02	0.01	-0.04 – 0.01	-1.53	0.127

(dominance * stress) * progesterone	0.01	0.02	-0.03 – 0.05	0.44	0.659
(dominance * stress) * progesterone_mean	0.02	0.01	-0.01 – 0.05	1.39	0.163
(dominance * stress) * WHtR	-0.00	0.01	-0.03 – 0.02	-0.22	0.825
N Person	255				
N MaleID	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.596 / NA				

#for factor 1 #Table S76

```
model2ep19 <- lmer(Rating ~ estradiol * shoulder_factor*stress + estradiol_mean* shoulder_factor*stress + progesterone * shoulder_factor*stress + progesterone_mean* shoulder_factor*stress + WHtR * shoulder_factor * stress+ ( 1 | Person) + (1 | MaleID) + (1 + estradiol * shoulder_factor*stress + progesterone * shoulder_factor*stress + WHtR *shoulder_factor * stress||Person), data = data)
```

boundary (singular) fit: see ?isSingular

tab_model(model2ep19, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.29	0.24	-0.18 – 0.76	1.21	0.228
estradiol	0.13	0.09	-0.04 – 0.30	1.52	0.127
shoulder_factor	0.22	0.29	-0.35 – 0.80	0.76	0.449
stress	-0.07	0.03	-0.13 – -0.01	-2.32	0.020
estradiol_mean	0.02	0.06	-0.10 – 0.14	0.26	0.794
progesterone	-0.00	0.08	-0.16 – 0.15	-0.06	0.953
progesterone_mean	0.01	0.06	-0.12 – 0.13	0.13	0.900
WHtR	-1.08	0.28	-1.63 – -0.53	-3.82	<0.001
estradiol * shoulder_factor	0.00	0.03	-0.05 – 0.06	0.12	0.907
estradiol * stress	-0.12	0.10	-0.32 – 0.08	-1.19	0.235

shoulder_factor * stress	-0.02	0.01	-0.05 – 0.00	-1.85	0.064
shoulder_factor * estradiol_mean	-0.01	0.02	-0.04 – 0.03	-0.38	0.702
stress * estradiol_mean	-0.02	0.03	-0.08 – 0.04	-0.79	0.430
shoulder_factor * progesterone	-0.02	0.02	-0.06 – 0.01	-1.29	0.196
stress * progesterone	-0.06	0.07	-0.20 – 0.08	-0.84	0.401
shoulder_factor * progesterone_mean	-0.01	0.02	-0.04 – 0.03	-0.43	0.667
stress * progesterone_mean	-0.04	0.04	-0.13 – 0.04	-0.98	0.327
shoulder_factor * WHtR	0.37	0.24	-0.09 – 0.84	1.58	0.114
stress * WHtR	0.01	0.01	-0.02 – 0.04	0.67	0.501
(estradiol shoulder_factor) stress	-0.03	0.03	-0.09 – 0.03	-0.91	0.363
(shoulder_factor stress) estradiol_mean	0.01	0.01	-0.02 – 0.03	0.47	0.640
(shoulder_factor stress) progesterone	0.02	0.02	-0.03 – 0.06	0.64	0.521
(shoulder_factor stress) progesterone_mean	-0.02	0.01	-0.04 – 0.01	-1.08	0.282
(shoulder_factor stress) WHtR	-0.00	0.01	-0.03 – 0.02	-0.30	0.766
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.471 / NA				

#for factor 2 #Table S77

```
model2ep20 <- lmer(Rating ~ estradiol * strength_factor*stress + estradiol_mean*str
strength_factor*stress + progesterone * strength_factor*stress + progesterone_mean*str
strength_factor*stress + WHtR * strength_factor * stress + ( 1 | Person) + (1 | MaleID) + (1 + estradiol * strength_factor*stress + progesterone * strength_factor*stress
+ WHtR *strength_factor * stress||Person), data = data)
```


boundary (singular) fit: see ?isSingular

tab_model(model2ep20, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)

<i>Predictors</i>	Rating				
	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.12	0.20	-0.27 – 0.51	0.61	0.542
estradiol	0.13	0.09	-0.04 – 0.30	1.55	0.122
strength_factor	0.62	0.20	0.23 – 1.00	3.16	0.002
stress	-0.07	0.03	-0.12 – -0.01	-2.32	0.021
estradiol_mean	0.02	0.06	-0.09 – 0.14	0.40	0.689
progesterone	-0.00	0.08	-0.16 – 0.15	-0.04	0.966
progesterone_mean	0.01	0.06	-0.12 – 0.13	0.09	0.932
WHtR	-1.39	0.20	-1.77 – -1.00	-7.07	<0.001
estradiol * strength_factor	0.00	0.02	-0.04 – 0.05	0.12	0.904
estradiol * stress	-0.12	0.10	-0.32 – 0.08	-1.19	0.235
strength_factor * stress	-0.01	0.01	-0.03 – 0.01	-0.53	0.594
strength_factor * estradiol_mean	-0.01	0.02	-0.05 – 0.03	-0.56	0.573
stress * estradiol_mean	-0.02	0.03	-0.08 – 0.04	-0.79	0.430
strength_factor * progesterone	-0.04	0.02	-0.07 – -0.01	-2.48	0.013
stress * progesterone	-0.06	0.07	-0.19 – 0.08	-0.78	0.437
strength_factor * progesterone_mean	0.03	0.02	-0.01 – 0.06	1.52	0.128
stress * progesterone_mean	-0.04	0.04	-0.12 – 0.05	-0.90	0.367
strength_factor * WHtR	-0.37	0.24	-0.84 – 0.11	-1.50	0.132
stress * WHtR	0.02	0.01	0.00 – 0.04	2.01	0.045

(estradiol strength_factor) stress	-0.05	0.03	-0.10 – 0.00	-1.83	0.067
(strength_factor stress) estradiol_mean	-0.00	0.01	-0.02 – 0.02	-0.25	0.805
(strength_factor stress) progesterone	-0.00	0.02	-0.04 – 0.04	-0.02	0.985
(strength_factor stress) progesterone_mean	0.01	0.01	-0.02 – 0.03	0.43	0.665
(strength_factor stress) WHtR	0.01	0.01	-0.02 – 0.03	0.50	0.618
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.504 / NA				

```
#Repeat main models from Hypotheses 2c, 2f with masculine indicators separately
#names(data)
```

```
###with conception risk (2c)
#for strength #Table S19
model2c3 <- lmer(Rating ~ conception_risk * strength+ ( 1 | Person) + (1 | MaleID)
+ (1 + conception_risk * strength ||Person), data = data)
```

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

```
tab_model(model2c3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.29	-0.44 – 0.69	0.43	0.666
conception_risk	0.54	0.21	0.13 – 0.95	2.59	0.009
strength	0.57	0.28	0.02 – 1.13	2.02	0.044
conception_risk * strength	0.09	0.11	-0.12 – 0.30	0.87	0.384
ICC	0.55				
N _{Person}	200				
N _{MaleID}	40				

Observations 32000

Marginal R² / Conditional R² 0.054 / 0.570

```
#for height #Table S19
model2c4 <- lmer(Rating ~ conception_risk * height + ( 1 | Person) + (1 | MaleID) +
(1 + conception_risk * height ||Person), data = data)
```

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

```
tab_model(model2c4, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.30	-0.46 – 0.71	0.42	0.677
conception_risk	0.54	0.21	0.13 – 0.95	2.60	0.009
height	0.35	0.29	-0.23 – 0.93	1.18	0.237
conception_risk * height	-0.09	0.11	-0.30 – 0.12	-0.87	0.386
N _{Person}	200				
N _{MaleID}	40				

Observations 32000

Marginal R² / Conditional R² 0.044 / NA

```
#for upperarm circumference #Table S19
model2c5 <- lmer(Rating ~ conception_risk * upperarmgirth_mean_leftright + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk * upperarmgirth_mean_leftright ||Person), data = data)
```

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

```
tab_model(model2c5, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.30	-0.47 – 0.72	0.41	0.680
conception_risk	0.54	0.21	0.13 – 0.95	2.60	0.009
upperarmgirth_mean_leftright	-0.18	0.30	-0.77 – 0.40	-0.61	0.541
conception_risk * upperarmgirth_mean_leftright	-0.16	0.11	-0.37 – 0.05	-1.50	0.133

N _{Person}	200
N _{MaleID}	40

Observations	32000
Marginal R ² / Conditional R ²	0.015 / NA

```
#for SHR #Table S19
model2c6 <- lmer(Rating ~ conception_risk * SHR + ( 1 | Person) + (1 | MaleID) + (1
+ conception_risk * SHR ||Person), data = data)
tab_model(model2c6, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.29	-0.44 – 0.69	0.43	0.664
conception_risk	0.54	0.21	0.13 – 0.95	2.59	0.009
SHR	0.62	0.28	0.07 – 1.18	2.21	0.027
conception_risk * SHR	0.15	0.11	-0.06 – 0.36	1.38	0.168
ICC	0.55				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.065 / 0.575				

```
#for SCR #Table S20
model2c7 <- lmer(Rating ~ conception_risk * SCR + ( 1 | Person) + (1 | MaleID) + (1
+ conception_risk * SCR ||Person), data = data)
```

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

```
tab_model(model2c7, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.30	-0.45 – 0.71	0.42	0.672
conception_risk	0.54	0.21	0.13 – 0.95	2.60	0.009
SCR	0.46	0.29	-0.11 – 1.03	1.59	0.111
conception_risk * SCR	0.09	0.11	-0.12 – 0.30	0.86	0.390
N _{Person}	200				

N _{MaleID}	40
Observations	32000
Marginal R ² / Conditional R ²	0.079 / NA

```
#for relative torso volume #Table S20
model2c8 <- lmer(Rating ~ conception_risk * rel_torso_vol + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk * rel_torso_vol ||Person), data = data)
```

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

```
tab_model(model2c8, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.29	-0.45 – 0.70	0.43	0.669
conception_risk	0.54	0.21	0.13 – 0.95	2.60	0.009
rel_torso_vol	0.52	0.29	-0.04 – 1.08	1.82	0.069
conception_risk * rel_torso_vol	0.21	0.11	-0.00 – 0.42	1.93	0.053
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.097 / NA				

```
#for testosterone levels #Table S20
model2c9 <- lmer(Rating ~ conception_risk * testosterone_men + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk * testosterone_men ||Person), data = data)
```

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

```
tab_model(model2c9, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.30	-0.47 – 0.72	0.41	0.680
conception_risk	0.54	0.21	0.13 – 0.95	2.59	0.009
testosterone_men	0.21	0.30	-0.37 – 0.79	0.70	0.483

```
conception_risk *          -0.13    0.11   -0.34 – 0.08  -1.19  0.236
testosterone_men
```

```
NPerson          200
```

```
NMaleID         40
```

```
Observations      32000
```

```
Marginal R2 / Conditional R2  0.016 / NA
```

```
###with E/P (2f)
#for strength #Table S21
model2f5 <- lmer(Rating ~ E_P * strength + E_P_mean * strength + ( 1 | Person) + (1
| MaleID) + (1 + E_P * strength ||Person), data = data)
```

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

```
tab_model(model2f5, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.29	-0.44 – 0.70	0.45	0.655
E_P	-0.04	0.08	-0.20 – 0.13	-0.43	0.668
strength	0.58	0.28	0.02 – 1.13	2.03	0.042
E_P_mean	0.09	0.06	-0.03 – 0.20	1.48	0.138
E_P * strength	0.03	0.02	-0.01 – 0.07	1.53	0.125
strength * E_P_mean	-0.04	0.02	-0.08 – -0.00	-2.03	0.043
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.117 / NA				

```
#for height #Table S21
model2f6 <- lmer(Rating ~ E_P * height + E_P_mean * height + ( 1 | Person) + (1 | M
aleID) + (1 + E_P * height ||Person), data = data)
```

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

```
tab_model(model2f6, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating

<i>Predictors</i>	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.13	0.30	-0.46 – 0.71	0.43	0.665
E_P	-0.04	0.09	-0.20 – 0.13	-0.43	0.667
height	0.36	0.29	-0.22 – 0.93	1.22	0.223
E_P_mean	0.09	0.06	-0.03 – 0.20	1.48	0.138
E_P * height	-0.01	0.02	-0.05 – 0.03	-0.70	0.485
height * E_P_mean	0.03	0.02	-0.01 – 0.08	1.33	0.183
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.050 / NA				

#for upperarm circumference #Table S21

```
model 2f7 <- lmer(Rating ~ E_P * upperarmgirth_mean_leftright + E_P_mean * upperarmgirth_mean_leftright + (1 | Person) + (1 | MaleID) + (1 + E_P * upperarmgirth_mean_leftright || Person), data = data)
```

boundary (singular) fit: see ?isSingular

tab_model(model 2f7, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)

Rating					
<i>Predictors</i>	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.13	0.30	-0.46 – 0.72	0.43	0.669
E_P	-0.04	0.09	-0.21 – 0.13	-0.43	0.665
upperarmgirth_mean_leftright	-0.21	0.30	-0.79 – 0.38	-0.70	0.486
E_P_mean	0.09	0.06	-0.03 – 0.20	1.49	0.138
E_P * upperarmgirth_mean_leftright	0.02	0.02	-0.02 – 0.06	1.17	0.241
upperarmgirth_mean_leftright * E_P_mean	-0.03	0.03	-0.08 – 0.03	-1.03	0.303
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.019 / NA				

```
#for SHR #Table S22
```

```
model2f8 <- lmer(Rating ~ E_P * SHR + E_P_mean * SHR + ( 1 | Person) + (1 | MaleID)
+ (1 + E_P * SHR ||Person), data = data)
```

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

```
tab_model(model2f8, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.29	-0.43 – 0.69	0.45	0.651
E_P	-0.04	0.09	-0.20 – 0.13	-0.43	0.667
SHR	0.64	0.28	0.09 – 1.19	2.29	0.022
E_P_mean	0.09	0.06	-0.03 – 0.20	1.48	0.138
E_P * SHR	-0.01	0.02	-0.05 – 0.03	-0.53	0.598
SHR * E_P_mean	0.01	0.02	-0.03 – 0.06	0.47	0.640
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.142 / NA				

```
#for SCR #Table S22
```

```
model2f9 <- lmer(Rating ~ E_P * SCR + E_P_mean * SCR + ( 1 | Person) + (1 | MaleID)
+ (1 + E_P * SCR ||Person), data = data)
```

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

```
tab_model(model2f9, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.29	-0.45 – 0.70	0.44	0.660
E_P	-0.04	0.09	-0.21 – 0.13	-0.43	0.666
SCR	0.48	0.29	-0.08 – 1.05	1.67	0.095
E_P_mean	0.09	0.06	-0.03 – 0.20	1.48	0.138

E_P * SCR	-0.03	0.02	-0.07 – 0.01	-1.31	0.190
SCR * E_P_mean	0.03	0.03	-0.02 – 0.08	1.22	0.222
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.088 / NA				

#for relative torso volume #Table S22

```
model2f10 <- lmer(Rating ~ E_P * rel_torso_vol + E_P_mean * rel_torso_vol + (1 | Person) + (1 | MaleID) + (1 + E_P * rel_torso_vol || Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2f10, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.29	-0.44 – 0.70	0.44	0.657
E_P	-0.04	0.08	-0.20 – 0.13	-0.43	0.669
rel_torso_vol	0.54	0.29	-0.02 – 1.10	1.89	0.059
E_P_mean	0.09	0.06	-0.03 – 0.20	1.48	0.138
E_P * rel_torso_vol	0.01	0.02	-0.03 – 0.05	0.36	0.717
rel_torso_vol * E_P_mean	-0.01	0.02	-0.04 – 0.03	-0.46	0.646
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.104 / NA				

#for testosterone levels #Table S23

```
model2f11 <- lmer(Rating ~ E_P * testosterone_men + E_P_mean * testosterone_men + (1 | Person) + (1 | MaleID) + (1 + E_P * testosterone_men || Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2f11, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating

Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.30	-0.46 – 0.72	0.43	0.669
E_P	-0.04	0.08	-0.20 – 0.13	-0.43	0.669
testosterone_men	0.20	0.30	-0.38 – 0.79	0.69	0.491
E_P_mean	0.09	0.06	-0.03 – 0.20	1.48	0.138
E_P * testosterone_men	-0.00	0.02	-0.04 – 0.04	-0.19	0.852
testosterone_men * E_P_mean	0.01	0.02	-0.02 – 0.04	0.35	0.728
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.018 / NA				

```
###Controlling main analyses for session
```

```
#Hypothesis 1a
```

```
s_model1a <- lmer(Rating ~ conception_risk + Session + ( 1 | Person) + (1 | MaleID)
+ (1 + conception_risk ||Person), data = data)
tab_model(s_model1a, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.14	0.30	-0.45 – 0.74	0.47	0.637
conception_risk	0.54	0.21	0.14 – 0.95	2.61	0.009
Session	-0.01	0.01	-0.03 – 0.01	-0.76	0.447
ICC	0.56				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.000 / 0.564				

```
#with E_P ratio, Hypothesis 1b
```

```
s_model1b <- lmer(Rating ~ E_P + Session + ( 1 | Person) + (1 | MaleID) + (1 + E_
P ||Person), data = data)
tab_model(s_model1b, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating					
Predictors	Estimates	std. Error	CI	Statistic	p

(Intercept)	0.16	0.30	-0.43 – 0.75	0.53	0.598
E_P	-0.04	0.08	-0.20 – 0.12	-0.47	0.642
Session	-0.01	0.01	-0.03 – 0.01	-1.27	0.203
ICC	0.58				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.000 / 0.582				

```
#moderated by relationship status, Hypothesis 1c
s_model 1c<- lmer(Rating ~ conception_risk * relationship_status + Session + (1 | Person) + (1 | MaleID) + (1+ conception_risk*relationship_status||Person), data = data)
tab_model(s_model 1c, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.23	0.31	-0.37 – 0.83	0.75	0.455
conception_risk	0.71	0.26	0.21 – 1.22	2.78	0.005
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.28	0.201
Session	-0.01	0.01	-0.03 – 0.01	-1.38	0.168
conception_risk * relationship_status [1]	-0.29	0.43	-1.13 – 0.54	-0.69	0.491
ICC	0.56				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.002 / 0.562				

```
#moderated by relationship status, but with E_P ratio, Hypothesis 1d
s_model 1c2<- lmer(Rating ~ E_P * relationship_status + Session + (1 | Person) + (1 | MaleID) + (1+ E_P*relationship_status||Person), data = data)
tab_model(s_model 1c2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.25	0.30	-0.34 – 0.85	0.83	0.406

E_P	-0.01	0.07	-0.14 – 0.12	-0.18	0.859
relationship_status [1]	-0.19	0.11	-0.40 – 0.03	-1.73	0.084
Session	-0.01	0.01	-0.03 – 0.00	-1.57	0.116
E_P * relationship_status [1]	-0.08	0.18	-0.44 – 0.28	-0.44	0.661
ICC	0.58				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.002 / 0.581				

#moderated by self-reported stress, Hypothesis 1d

```
s_model1d<- lmer(Rating ~ conception_risk * stress + Session + (1 |Person) + (1 | MaleID) + (1+ conception_risk*stress||Person), data = data)
tab_model(s_model1d, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.14	0.30	-0.45 – 0.74	0.47	0.640
conception_risk	0.55	0.23	0.11 – 1.00	2.43	0.015
stress	-0.03	0.03	-0.08 – 0.03	-1.05	0.293
Session	-0.01	0.01	-0.03 – 0.01	-0.90	0.370
conception_risk * stress	-0.11	0.23	-0.57 – 0.35	-0.47	0.636
ICC	0.57				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.001 / 0.567				

#moderated by self-reported stress, but with E_P ratio, Hypothesis 1d

```
s_model1d2<- lmer(Rating ~ E_P * stress + Session + (1 |Person) + (1 | MaleID) + (1 + E_P*stress||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(s_model1d2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.17	0.30	-0.42 – 0.76	0.57	0.571
E_P	-0.07	0.10	-0.26 – 0.12	-0.69	0.492
stress	-0.05	0.03	-0.11 – 0.00	-1.90	0.057
Session	-0.02	0.01	-0.04 – 0.00	-1.62	0.104
E_P * stress	-0.03	0.09	-0.20 – 0.14	-0.34	0.731
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.002 / NA				

#shifts in mate attraction mediated by sexual desire? H1e

#Premises H1e:

#effect of mediator on outcome

```
s_model_p1_H1e1 <- lmer(Rating ~ roney_desire + Session + (1 | Person) + (1 | MaleID) + (1 + roney_desire || Person), data = data)
```

```
tab_model(s_model_p1_H1e1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.30	-0.47 – 0.72	0.41	0.683
roney_desire	0.08	0.02	0.03 – 0.13	3.23	0.001
Session	-0.00	0.01	-0.02 – 0.02	-0.03	0.974
ICC	0.58				
N _{Person}	257				
N _{MaleID}	40				
Observations	41120				
Marginal R ² / Conditional R ²	0.001 / 0.583				

#effect of predictor on mediator

```
s_model_p2_H1e1 <- lmer(roney_desire ~ conception_risk + Session + (1 | Person) + (1 | MaleID) + (1 + conception_risk || Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(s_model_p2_H1e1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

roney_desire					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.01	0.05	-0.12 – 0.09	-0.25	0.801
conception_risk	4.42	1.26	1.95 – 6.89	3.51	<0.001
Session	-0.02	0.00	-0.03 – -0.01	-5.74	<0.001
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.312 / NA				

#Test H1e:

```
s_model H1e1<- lmer(Rating ~ conception_risk +roney_desire + Session + (1 | Person)
+ (1 | MaleID) + (1 + conception_risk + roney_desire || Person), data = data)
tab_model(s_model H1e1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.15	0.30	-0.45 – 0.74	0.48	0.632
conception_risk	0.51	0.22	0.08 – 0.94	2.32	0.020
roney_desire	0.04	0.03	-0.01 – 0.10	1.43	0.152
Session	-0.01	0.01	-0.03 – 0.01	-0.63	0.529
ICC	0.57				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.001 / 0.570				

#for E/P rather than conception risk

#premise: Effect of predictor on mediator

```
s_P2_model H1e2<- lmer(roney_desire ~ E_P + Session +(1 | Person) + (1 | MaleID) +
(1+ E_P||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(s_P2_model H1e2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

roney_desire					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	-0.03	0.05	-0.12 – 0.06	-0.59	0.557
E_P	0.46	0.95	-1.40 – 2.32	0.48	0.629
Session	-0.00	0.00	-0.01 – 0.00	-0.54	0.592
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.117 / NA				

#testing Hypothesis 1e for E/P

```
s_modelH1e2<- lmer(Rating ~ E_P + roney_desire + Session + (1 | Person) + (1 | MaleID) + (1 + E_P + roney_desire || Person), data = data)
tab_model(s_modelH1e2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating					
Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.30	-0.47 – 0.71	0.40	0.691
E_P	-0.04	0.09	-0.21 – 0.13	-0.44	0.660
roney_desire	0.12	0.03	0.06 – 0.17	4.26	<0.001
Session	0.00	0.01	-0.02 – 0.02	0.02	0.982
ICC	0.58				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.002 / 0.581				

#Hypothesis 1f: Attraction shift (of conception risk) mediated by E/P?

#Premise H1f:

```
s_P_modelH1f<- lmer(E_P ~ conception_risk + Session + (1 | Person) + (1 | MaleID) + (1+conception_risk || Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(s_P_modelH1f, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	E_P				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.03	0.02	-0.00 – 0.06	1.79	0.074
conception_risk	3.82	0.93	1.99 – 5.64	4.09	<0.001
Session	-0.05	0.00	-0.05 – -0.04	-22.07	<0.001
N _{Person}	200				
N _{MaleID}	40				
Observations	27600				
Marginal R ² / Conditional R ²	0.564 / NA				

#Test H1f:

```
s_model H1f<- lmer(Rating ~ conception_risk + E_P + Session + (1 | Person) + (1 | MaleID) + (1+conception_risk+ E_P||Person), data = data)
tab_model(s_model H1f, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.15	0.30	-0.44 – 0.74	0.49	0.624
conception_risk	0.50	0.25	0.01 – 1.00	1.99	0.047
E_P	-0.14	0.10	-0.33 – 0.06	-1.39	0.165
Session	-0.01	0.01	-0.04 – 0.01	-1.13	0.259
ICC	0.57				
N _{Person}	200				
N _{MaleID}	40				
Observations	27600				
Marginal R ² / Conditional R ²	0.001 / 0.568				

#main analyses for preference shifts controlling for session

#Hypothesis 2a

```
s_model 2g <- lmer(Rating ~ conception_risk * Muscularity + Session + (1 | Person) + (1 | MaleID) + (1 + conception_risk* Muscularity||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(s_model 2g, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```


Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.14	0.17	-0.18 – 0.47	0.86	0.390
conception_risk	0.55	0.21	0.14 – 0.96	2.62	0.009
Muscularity	1.57	0.16	1.26 – 1.88	10.05	<0.001
Session	-0.01	0.01	-0.02 – 0.01	-0.80	0.421
conception_risk * Muscularity	0.24	0.10	0.04 – 0.45	2.33	0.020
ICC	0.27				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.426 / 0.582				

#Hypothesis 2b: for dominance

```
s_model 2b <- lmer(Rating ~ conception_risk * dominance + Session + ( 1 | Person) +
(1 | MaleID) + (1 + conception_risk* dominance||Person), data = data)
```

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

```
tab_model(s_model 2b, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.14	0.25	-0.36 – 0.64	0.56	0.575
conception_risk	0.55	0.21	0.14 – 0.96	2.62	0.009
dominance	1.04	0.25	0.56 – 1.53	4.22	<0.001
Session	-0.01	0.01	-0.02 – 0.01	-0.79	0.430
conception_risk * dominance	0.10	0.11	-0.11 – 0.31	0.91	0.364
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.302 / NA				

```
#Hypothesis 2c: for factor 1
```

```
s_model 2c <- lmer(Rating ~ conception_risk * shoulder_factor + Session + (1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor || Person), data = data)
```

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

```
tab_model(s_model 2c, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.14	0.29	-0.42 – 0.70	0.50	0.618
conception_risk	0.55	0.21	0.14 – 0.96	2.62	0.009
shoulder_factor	0.73	0.31	0.12 – 1.34	2.33	0.020
Session	-0.01	0.01	-0.02 – 0.01	-0.79	0.431
conception_risk * shoulder_factor	0.19	0.12	-0.04 – 0.42	1.61	0.108
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.147 / NA				

```
#Hypothesis 2c: for factor 2
```

```
s_model 2c2 <- lmer(Rating ~ conception_risk * strength_factor + Session + (1 | Person) + (1 | MaleID) + (1 + conception_risk* strength_factor || Person), data = data)
```

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

```
tab_model(s_model 2c2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.14	0.29	-0.43 – 0.72	0.49	0.626
conception_risk	0.54	0.21	0.14 – 0.95	2.61	0.009
strength_factor	0.56	0.29	-0.01 – 1.13	1.93	0.054
Session	-0.01	0.01	-0.03 – 0.01	-0.77	0.442

conception_risk * strength_factor 0.09 0.11 -0.13 – 0.30 0.81 0.417

N_{Person} 200

N_{MaleID} 40

Observations 32000

Marginal R² / Conditional R² 0.104 / NA

```
#####
#####
```

#with E/P rather than conception risk, Hypothesis 2f, Table 4

#also including between-women hormone effects in an exploratory manner

#for muscularity

```
s_model 2f1 <- lmer(Rating ~ E_P * Muscularity + E_P_mean * Muscularity + Session +
( 1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity ||Person), data = data)
```

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

```
tab_model(s_model 2f1, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.16	0.16	-0.16 – 0.48	0.96	0.337
E_P	-0.04	0.09	-0.21 – 0.13	-0.47	0.636
Muscularity	1.59	0.15	1.29 – 1.90	10.29	<0.001
E_P_mean	0.09	0.06	-0.03 – 0.20	1.47	0.141
Session	-0.01	0.01	-0.03 – 0.01	-1.24	0.215
E_P * Muscularity	0.00	0.02	-0.03 – 0.04	0.25	0.805
Muscularity * E_P_mean	-0.03	0.03	-0.10 – 0.04	-0.88	0.378
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.520 / NA				

#for dominance

```
s_model 2f2 <- lmer(Rating ~ E_P * dominance + E_P_mean* dominance + Session + ( 1 |
Person) + (1 | MaleID) + (1 + E_P* dominance||Person), data = data)
```

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

```
tab_model(s_model2f2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.16	0.25	-0.34 – 0.66	0.62	0.535
E_P	-0.04	0.09	-0.21 – 0.13	-0.47	0.638
dominance	1.04	0.25	0.55 – 1.52	4.19	<0.001
E_P_mean	0.09	0.06	-0.03 – 0.20	1.47	0.142
Session	-0.01	0.01	-0.03 – 0.01	-1.25	0.213
E_P * dominance	0.02	0.02	-0.02 – 0.06	0.94	0.346
dominance * E_P_mean	-0.05	0.03	-0.11 – 0.00	-1.87	0.062
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.309 / NA				

```
#for factor 1
```

```
s_model2f3 <- lmer(Rating ~ E_P * shoulder_factor + E_P_mean* shoulder_factor + Session + (1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor || Person), data = data)
```

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

```
tab_model(s_model2f3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.16	0.28	-0.40 – 0.71	0.55	0.579
E_P	-0.04	0.09	-0.21 – 0.13	-0.47	0.639
shoulder_factor	0.75	0.31	0.15 – 1.36	2.43	0.015
E_P_mean	0.09	0.06	-0.03 – 0.20	1.47	0.142
Session	-0.01	0.01	-0.03 – 0.01	-1.25	0.213

E_P * shoulder_factor	-0.02	0.02	-0.06 – 0.03	-0.86	0.391
shoulder_factor * E_P_mean	0.02	0.03	-0.04 – 0.08	0.74	0.458
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.158 / NA				

```
#for factor 2
s_model2f4 <- lmer(Rating ~ E_P * strength_factor + E_P_mean*strength_factor + Session + (1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor || Person), data = data)
```

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

```
tab_model(s_model2f4, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.16	0.29	-0.41 – 0.73	0.54	0.587
E_P	-0.04	0.08	-0.20 – 0.13	-0.47	0.641
strength_factor	0.56	0.29	-0.01 – 1.13	1.94	0.053
E_P_mean	0.09	0.06	-0.03 – 0.20	1.47	0.142
Session	-0.01	0.01	-0.03 – 0.01	-1.25	0.211
E_P * strength_factor	0.03	0.02	-0.01 – 0.07	1.57	0.116
strength_factor * E_P_mean	-0.04	0.02	-0.08 – -0.00	-2.08	0.038
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.109 / NA				

```
#####
#####
```

#3-way Interactions with relationship status: Hypothesis 2d

#for muscularity

```
s_model2d <- lmer(Rating ~ conception_risk * Muscularity * relationship_status + Session + (1 | Person) + (1 | MaleID) + (1 + conception_risk * Muscularity * relationship_status || Person), data = data)
```

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

```
tab_model(s_model2d, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.23	0.18	-0.12 – 0.58	1.31	0.192
conception_risk	0.73	0.25	0.23 – 1.23	2.85	0.004
Muscularity	1.56	0.16	1.24 – 1.87	9.71	<0.001
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.28	0.199
Session	-0.01	0.01	-0.03 – 0.00	-1.48	0.139
conception_risk * Muscularity	0.24	0.14	-0.04 – 0.52	1.70	0.090
conception_risk * relationship_status [1]	-0.31	0.43	-1.16 – 0.54	-0.71	0.478
Muscularity * relationship_status [1]	0.03	0.06	-0.09 – 0.15	0.44	0.663
(conception_risk Muscularity) relationship_status [1]	-0.01	0.21	-0.43 – 0.40	-0.06	0.953
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.506 / NA				

#for dominance

```
s_model2d2 <- lmer(Rating ~ conception_risk * dominance * relationship_status + Session + (1 | Person) + (1 | MaleID) + (1 + conception_risk * dominance * relationship_status || Person), data = data)
```

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

```
tab_model(s_model2d2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.23	0.26	-0.28 – 0.74	0.88	0.378
conception_risk	0.73	0.26	0.22 – 1.23	2.81	0.005
dominance	1.06	0.25	0.57 – 1.55	4.24	<0.001
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.28	0.201
Session	-0.01	0.01	-0.03 – 0.00	-1.43	0.152
conception_risk * dominance	0.07	0.15	-0.21 – 0.36	0.49	0.626
conception_risk * relationship_status [1]	-0.31	0.43	-1.15 – 0.53	-0.71	0.475
dominance * relationship_status [1]	-0.03	0.05	-0.14 – 0.08	-0.52	0.603
(conception_risk dominance) relationship_status [1]	0.05	0.21	-0.37 – 0.47	0.24	0.809
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.304 / NA				

```
#for shoulder factor
```

```
s_model2d3<- lmer(Rating ~ conception_risk * shoulder_factor*relationship_status +  
Session + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor*rela  
tionship_status||Person), data = data)
```

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

```
tab_model(s_model2d3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p

(Intercept)	0.23	0.29	-0.34 – 0.80	0.79	0.431
conception_risk	0.72	0.26	0.22 – 1.23	2.81	0.005
shoulder_factor	0.70	0.31	0.09 – 1.32	2.24	0.025
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.28	0.202
Session	-0.01	0.01	-0.03 – 0.00	-1.43	0.152
conception_risk * shoulder_factor	0.27	0.16	-0.05 – 0.58	1.64	0.102
conception_risk * relationship_status [1]	-0.31	0.43	-1.15 – 0.54	-0.71	0.476
shoulder_factor * relationship_status [1]	0.05	0.06	-0.07 – 0.17	0.86	0.392
(conception_risk shoulder_factor) relationship_status [1]	-0.17	0.24	-0.64 – 0.30	-0.72	0.469
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.149 / NA				

```
#for strength factor
s_model2d4 <- lmer(Rating ~ conception_risk * strength_factor*relationship_status +
Session + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* strength_factor*rela
tionship_status|Person), data = data)
```

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

```
tab_model(s_model2d4, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.23	0.30	-0.35 – 0.81	0.77	0.440
conception_risk	0.72	0.26	0.21 – 1.22	2.79	0.005
strength_factor	0.57	0.29	0.00 – 1.14	1.97	0.049
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.28	0.200
Session	-0.01	0.01	-0.03 – 0.01	-1.40	0.162

conception_risk * strength_factor	0.08	0.15	-0.21 – 0.37	0.53	0.595
conception_risk * relationship_status [1]	-0.30	0.43	-1.14 – 0.54	-0.70	0.487
strength_factor * relationship_status [1]	-0.03	0.04	-0.10 – 0.05	-0.67	0.506
(conception_risk strength_factor) relationship_status [1]	0.02	0.22	-0.41 – 0.45	0.09	0.931
ICC	0.55				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.051 / 0.571				

```
#####
#####
#with E/P rather than conception risk
```

```
#also including between-women hormone effects in an exploratory manner
```

```
#for muscularity
```

```
s_model2d5 <- lmer(Rating ~ E_P * Muscularity*relationship_status + E_P_mean * Muscularity*relationship_status + Session + (1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity*relationship_status||Person), data = data)
```

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

```
tab_model(s_model2d5, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.25	0.17	-0.08 – 0.58	1.46	0.144
E_P	-0.01	0.07	-0.15 – 0.13	-0.14	0.888
Muscularity	1.58	0.16	1.27 – 1.89	10.07	<0.001
relationship_status [1]	-0.17	0.11	-0.39 – 0.04	-1.59	0.112
E_P_mean	0.05	0.07	-0.10 – 0.19	0.63	0.530
Session	-0.01	0.01	-0.03 – 0.00	-1.56	0.119

E_P * Muscularity	0.01	0.03	-0.04 – 0.06	0.35	0.726
E_P * relationship_status [1]	-0.09	0.19	-0.46 – 0.29	-0.44	0.658
Muscularity * relationship_status [1]	0.02	0.05	-0.08 – 0.13	0.42	0.672
Muscularity * E_P_mean	-0.03	0.04	-0.12 – 0.05	-0.75	0.453
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.66	0.509
(E_P * Muscularity) * relationship_status [1]	-0.01	0.04	-0.09 – 0.07	-0.26	0.796
(Muscularity relationship_status [1]) E_P_mean	0.01	0.07	-0.12 – 0.14	0.18	0.855
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.520 / NA				

#for dominance

```
s_model 2d6<- lmer(Rating ~ E_P * dominance*relationship_status + E_P_mean* dominance*relationship_status + Session + ( 1 | Person) + (1 | MaleID) + (1 + E_P* dominance*relationship_status||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(s_model 2d6, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.25	0.26	-0.26 – 0.76	0.96	0.338
E_P	-0.01	0.07	-0.15 – 0.12	-0.18	0.858
dominance	1.03	0.25	0.54 – 1.52	4.10	<0.001
relationship_status [1]	-0.17	0.11	-0.39 – 0.04	-1.59	0.111
E_P_mean	0.05	0.07	-0.10 – 0.19	0.63	0.531
Session	-0.01	0.01	-0.03 – 0.00	-1.57	0.116

E_P * dominance	0.02	0.03	-0.03 – 0.07	0.78	0.435
E_P * relationship_status [1]	-0.08	0.19	-0.45 – 0.30	-0.40	0.691
dominance * relationship_status [1]	0.02	0.05	-0.07 – 0.12	0.52	0.604
dominance * E_P_mean	-0.06	0.04	-0.14 – 0.01	-1.58	0.115
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.66	0.510
(E_P * dominance) * relationship_status [1]	-0.00	0.04	-0.09 – 0.08	-0.10	0.917
(dominance relationship_status [1]) E_P_mean	0.02	0.06	-0.09 – 0.13	0.37	0.712
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.310 / NA				

```
#for factor 1
s_model 2d7 <- lmer(Rating ~ E_P * shoulder_factor*relationship_status + E_P_mean* shoulder_factor*relationship_status + Session + (1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor* relationship_status||Person), data = data)
```

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

```
tab_model(s_model 2d7, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.25	0.29	-0.32 – 0.81	0.86	0.388
E_P	-0.01	0.07	-0.15 – 0.12	-0.18	0.853
shoulder_factor	0.76	0.31	0.14 – 1.37	2.43	0.015
relationship_status [1]	-0.17	0.11	-0.39 – 0.04	-1.59	0.111
E_P_mean	0.05	0.07	-0.10 – 0.19	0.63	0.531
Session	-0.01	0.01	-0.03 – 0.00	-1.57	0.116

E_P * shoulder_factor	-0.02	0.03	-0.08 – 0.03	-0.80	0.422
E_P * relationship_status [1]	-0.07	0.19	-0.45 – 0.30	-0.39	0.695
shoulder_factor * relationship_status [1]	-0.01	0.05	-0.11 – 0.09	-0.12	0.901
shoulder_factor * E_P_mean	0.03	0.04	-0.04 – 0.11	0.85	0.396
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.66	0.509
(E_P * shoulder_factor) * relationship_status [1]	0.01	0.05	-0.08 – 0.10	0.22	0.825
(shoulder_factor relationship_status [1]) E_P_mean	-0.03	0.06	-0.14 – 0.09	-0.50	0.616
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.161 / NA				

#for factor 2

```
s_model2d8 <- lmer(Rating ~ E_P * strength_factor*relationship_status + E_P_mean*strength_factor*relationship_status + Session + ( 1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor*relationship_status || Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(s_model2d8, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.25	0.29	-0.33 – 0.83	0.85	0.396
E_P	-0.01	0.07	-0.14 – 0.12	-0.20	0.845
strength_factor	0.57	0.29	-0.00 – 1.13	1.96	0.050
relationship_status [1]	-0.17	0.11	-0.39 – 0.04	-1.59	0.111
E_P_mean	0.05	0.07	-0.10 – 0.19	0.63	0.531
Session	-0.01	0.01	-0.03 – 0.00	-1.57	0.116

E_P * strength_factor	0.04	0.03	-0.02 – 0.09	1.38	0.169
E_P * relationship_status [1]	-0.07	0.19	-0.44 – 0.29	-0.39	0.696
strength_factor * relationship_status [1]	-0.01	0.03	-0.08 – 0.05	-0.37	0.711
strength_factor * E_P_mean	-0.04	0.03	-0.09 – 0.01	-1.53	0.125
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.66	0.510
(E_P * strength_factor) * relationship_status [1]	-0.01	0.04	-0.10 – 0.07	-0.26	0.795
(strength_factor relationship_status [1]) E_P_mean	-0.00	0.04	-0.08 – 0.07	-0.09	0.926
ICC	0.56				
N _{Person}	255				
N _{MaleID}	40				

Observations 34680

Marginal R² / Conditional R² 0.053 / 0.581

#3-way Interactions with self-reported stress: Hypothesis 2e

#for muscularity

```
s_model 2e <- lmer(Rating ~ conception_risk * Muscularity * stress + Session + (1 | Person) + (1 | MaleID) + (1 + conception_risk * Muscularity * stress || Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(s_model 2e, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.14	0.17	-0.18 – 0.47	0.86	0.392
conception_risk	0.57	0.23	0.11 – 1.03	2.44	0.015
Muscularity	1.57	0.16	1.27 – 1.88	10.08	<0.001
stress	-0.03	0.03	-0.08 – 0.03	-1.04	0.297

Session	-0.01	0.01	-0.03 – 0.01	-0.96	0.339
conception_risk * Muscularity	0.25	0.10	0.05 – 0.46	2.40	0.017
conception_risk * stress	-0.08	0.24	-0.56 – 0.39	-0.35	0.727
Muscularity * stress	-0.01	0.01	-0.04 – 0.01	-0.92	0.359
(conception_risk Muscularity) stress	0.11	0.11	-0.10 – 0.33	1.04	0.297
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.509 / NA				

#for dominance

```
s_model 2e2 <- lmer(Rating ~ conception_risk * dominance*stress + Session+ ( 1 | Per
son) + (1 | MaleID) + (1 + conception_risk* dominance*stress||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(s_model 2e2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.14	0.26	-0.36 – 0.64	0.56	0.576
conception_risk	0.57	0.23	0.11 – 1.02	2.44	0.015
dominance	1.04	0.25	0.56 – 1.53	4.22	<0.001
stress	-0.03	0.03	-0.08 – 0.03	-1.05	0.296
Session	-0.01	0.01	-0.03 – 0.01	-0.94	0.349
conception_risk * dominance	0.11	0.11	-0.10 – 0.32	1.00	0.318
conception_risk * stress	-0.09	0.24	-0.56 – 0.38	-0.39	0.697
dominance * stress	0.00	0.01	-0.02 – 0.03	0.22	0.827
(conception_risk dominance) stress	0.05	0.11	-0.17 – 0.27	0.48	0.633
N _{Person}	200				

N _{MaleID}	40
Observations	32000
Marginal R ² / Conditional R ²	0.306 / NA

```
#for shoulder factor
s_model 2e3<- lmer(Rating ~ conception_risk * shoulder_factor*stress + Session + ( 1
| Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor*stress||Person), d
ata = data)
```

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

```
tab_model(s_model 2e3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.14	0.29	-0.42 – 0.71	0.50	0.620
conception_risk	0.57	0.23	0.11 – 1.02	2.44	0.015
shoulder_factor	0.73	0.31	0.12 – 1.34	2.33	0.020
stress	-0.03	0.03	-0.08 – 0.03	-1.05	0.296
Session	-0.01	0.01	-0.03 – 0.01	-0.93	0.351
conception_risk * shoulder_factor	0.17	0.12	-0.06 – 0.41	1.45	0.147
conception_risk * stress	-0.09	0.24	-0.56 – 0.37	-0.40	0.691
shoulder_factor * stress	-0.03	0.01	-0.06 – 0.00	-1.91	0.056
(conception_risk shoulder_factor) stress	0.02	0.12	-0.22 – 0.26	0.16	0.873
N _{Person}	200				
N _{MaleID}	40				

Observations	32000
Marginal R ² / Conditional R ²	0.150 / NA

```
#for strength factor
s_model 2e4 <- lmer(Rating ~ conception_risk * strength_factor*stress + Session+ ( 1
| Person) + (1 | MaleID) + (1 + conception_risk* strength_factor*stress||Person), d
ata = data)
```

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

```
tab_model(s_model 2e4, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.14	0.29	-0.43 – 0.72	0.49	0.624
conception_risk	0.56	0.22	0.12 – 1.01	2.51	0.012
strength_factor	0.56	0.29	-0.01 – 1.13	1.93	0.053
stress	-0.03	0.03	-0.08 – 0.03	-0.97	0.330
Session	-0.01	0.01	-0.03 – 0.01	-0.96	0.336
conception_risk * strength_factor	0.08	0.11	-0.14 – 0.29	0.73	0.467
conception_risk * stress	-0.11	0.20	-0.50 – 0.29	-0.53	0.599
strength_factor * stress	0.01	0.01	-0.02 – 0.03	0.64	0.524
(conception_risk strength_factor) stress	-0.11	0.11	-0.33 – 0.11	-0.98	0.329
ICC	0.55				
N Person	200				
N MaleID	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.051 / 0.574				

```
#####
#####
#with E/P rather than conception risk
```

```
#also including between-women hormone effects in an exploratory manner
```

```
#for muscularity
s_model 2e5 <- lmer(Rating ~ E_P * Muscularity*stress + E_P_mean * Muscularity*stress + Session + (1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity*stress || Person), data = data)
```

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

```
tab_model(s_model 2e5, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p

(Intercept)	0.17	0.16	-0.15 – 0.49	1.04	0.300
E_P	-0.06	0.11	-0.28 – 0.15	-0.58	0.563
Muscularity	1.59	0.15	1.29 – 1.89	10.28	<0.001
stress	-0.06	0.03	-0.12 – -0.00	-2.01	0.045
E_P_mean	0.04	0.07	-0.09 – 0.17	0.66	0.512
Session	-0.02	0.01	-0.04 – 0.00	-1.60	0.110
E_P * Muscularity	0.00	0.02	-0.04 – 0.04	0.15	0.880
E_P * stress	-0.03	0.10	-0.23 – 0.17	-0.29	0.773
Muscularity * stress	-0.01	0.01	-0.03 – 0.01	-0.91	0.363
Muscularity * E_P_mean	-0.04	0.03	-0.10 – 0.03	-1.04	0.300
stress * E_P_mean	-0.03	0.04	-0.11 – 0.06	-0.64	0.525
(E_P * Muscularity) * stress	-0.01	0.02	-0.06 – 0.04	-0.46	0.646
(Muscularity * stress) * E_P_mean	-0.01	0.02	-0.04 – 0.02	-0.65	0.518
ICC	0.28				
N _{Person}	255				
N _{MaleID}	40				

Observations 34680

Marginal R² / Conditional R² 0.441 / 0.600

#for dominance

```
s_model2e6 <- lmer(Rating ~ E_P * dominance*stress + E_P_mean* dominance*stress + Session + (1 | Person) + (1 | MaleID) + (1 + E_P* dominance*stress || Person), data = data)
```

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

```
tab_model(s_model2e6, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.17	0.25	-0.33 – 0.67	0.67	0.503
E_P	-0.06	0.10	-0.27 – 0.14	-0.61	0.539

dominance	1.04	0.25	0.55 – 1.52	4.18	<0.001
stress	-0.06	0.03	-0.12 – -0.00	-1.98	0.048
E_P_mean	0.04	0.07	-0.08 – 0.17	0.68	0.495
Session	-0.02	0.01	-0.04 – 0.00	-1.62	0.105
E_P * dominance	0.02	0.02	-0.02 – 0.06	0.87	0.383
E_P * stress	-0.03	0.10	-0.22 – 0.16	-0.32	0.747
dominance * stress	-0.00	0.01	-0.02 – 0.02	-0.25	0.800
dominance * E_P_mean	-0.07	0.03	-0.12 – -0.01	-2.21	0.027
stress * E_P_mean	-0.02	0.04	-0.11 – 0.06	-0.59	0.557
(E_P * dominance) * stress	-0.02	0.02	-0.07 – 0.03	-0.73	0.464
(dominance * stress) * E_P_mean	-0.02	0.02	-0.05 – 0.01	-1.48	0.138
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.313 / NA				

```
#for factor 1
s_model2e7 <- lmer(Rating ~ E_P * shoulder_factor*stress + E_P_mean* shoulder_factor*stress + Session + ( 1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor*stress || Person), data = data)
```

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

```
tab_model(s_model2e7, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.17	0.29	-0.39 – 0.73	0.60	0.550
E_P	-0.06	0.10	-0.27 – 0.14	-0.62	0.533
shoulder_factor	0.76	0.31	0.15 – 1.36	2.43	0.015
stress	-0.06	0.03	-0.12 – -0.00	-1.97	0.048
E_P_mean	0.04	0.06	-0.08 – 0.17	0.69	0.490

Session	-0.02	0.01	-0.04 – 0.00	-1.62	0.104
E_P * shoulder_factor	-0.02	0.02	-0.06 – 0.03	-0.78	0.434
E_P * stress	-0.03	0.10	-0.22 – 0.16	-0.33	0.740
shoulder_factor * stress	-0.03	0.01	-0.05 – -0.00	-2.23	0.026
shoulder_factor * E_P_mean	0.03	0.03	-0.03 – 0.10	1.12	0.263
stress * E_P_mean	-0.02	0.04	-0.11 – 0.06	-0.57	0.567
(E_P * shoulder_factor) * stress	-0.04	0.03	-0.10 – 0.01	-1.52	0.128
(shoulder_factor stress) E_P_mean	0.03	0.02	-0.00 – 0.06	1.79	0.073
N _{Person}	255				
N _{MaleID}	40				

Observations 34680

Marginal R² / Conditional R² 0.162 / NA

```
#for factor 2
s_model2e8 <- lmer(Rating ~ E_P * strength_factor*stress + E_P_mean*strength_factor
*stress + Session + ( 1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor*stres
s||Person), data = data)
```

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

```
tab_model(s_model2e8, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.17	0.29	-0.40 – 0.74	0.58	0.559
E_P	-0.07	0.10	-0.26 – 0.13	-0.66	0.512
strength_factor	0.56	0.29	-0.01 – 1.13	1.93	0.053
stress	-0.06	0.03	-0.11 – 0.00	-1.95	0.051
E_P_mean	0.05	0.06	-0.08 – 0.17	0.72	0.474
Session	-0.02	0.01	-0.04 – 0.00	-1.64	0.102
E_P * strength_factor	0.03	0.02	-0.01 – 0.07	1.54	0.125

E_P * stress	-0.03	0.09	-0.22 – 0.15	-0.37	0.712
strength_factor * stress	-0.01	0.01	-0.03 – 0.02	-0.50	0.615
strength_factor * E_P_mean	-0.05	0.02	-0.09 – -0.01	-2.31	0.021
stress * E_P_mean	-0.02	0.04	-0.10 – 0.06	-0.53	0.597
(E_P * strength_factor) * stress	-0.02	0.03	-0.07 – 0.03	-0.78	0.438
(strength_factor stress) E_P_mean	-0.01	0.01	-0.04 – 0.01	-0.99	0.324
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.111 / NA				

#controlling for body fat mass (with WHR rather than WHtR), Hypothesis 2g

#Hypothesis 2a controlling for WHR

```
model2g_fat2 <- lmer(Rating ~ conception_risk * Muscularity + WHR * Muscularity + (1 | Person) + (1 | MaleID) + (1 + conception_risk * Muscularity + WHR * Muscularity || Person), data = data)
tab_model(model2g_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.15	0.16	-0.17 – 0.47	0.93	0.350
conception_risk	0.55	0.21	0.13 – 0.96	2.60	0.009
Muscularity	1.34	0.16	1.03 – 1.65	8.50	<0.001
WHR	-0.49	0.17	-0.82 – -0.15	-2.87	0.004
conception_risk * Muscularity	0.24	0.10	0.04 – 0.44	2.39	0.017
Muscularity * WHR	0.06	0.14	-0.21 – 0.33	0.44	0.660
ICC	0.25				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.467 / 0.601				

```
#Hypothesis 2b: for dominance
```

```
model2b_fat2 <- lmer(Rating ~ conception_risk * dominance + WHR * dominance + (1 |  
Person) + (1 | MaleID) + (1 + conception_risk* dominance + WHR * dominance | Person),  
data = data)
```

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

```
tab_model(model2b_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.10	0.21	-0.31 – 0.52	0.49	0.624
conception_risk	0.55	0.21	0.13 – 0.96	2.60	0.009
dominance	0.86	0.20	0.47 – 1.26	4.30	<0.001
WHR	-1.03	0.23	-1.47 – -0.58	-4.55	<0.001
conception_risk * dominance	0.10	0.10	-0.10 – 0.30	0.94	0.345
dominance * WHR	-0.12	0.26	-0.63 – 0.39	-0.47	0.640
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.462 / NA				

```
#Hypothesis 2c: for factor 1
```

```
model2c_fat2 <- lmer(Rating ~ conception_risk * shoulder_factor + WHR * shoulder_fac  
tor + (1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor + WHR *s  
houlder_factor | Person), data = data)
```

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

```
tab_model(model2c_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.18	0.22	-0.26 – 0.62	0.79	0.427
conception_risk	0.55	0.21	0.13 – 0.96	2.60	0.009
shoulder_factor	0.65	0.24	0.18 – 1.13	2.68	0.007

WHR	-0.84	0.24	-1.32 – -0.36	-3.45	0.001
conception_risk * shoulder_factor	0.19	0.11	-0.03 – 0.41	1.66	0.096
shoulder_factor * WHR	0.47	0.23	0.02 – 0.92	2.03	0.043
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.424 / NA				

```
#Hypothesis 2c: for factor 2
model2c2_fat2 <- lmer(Rating ~ conception_risk * strength_factor + WHR * strength_factor + (1 | Person) + (1 | MaleID) + (1 + conception_risk * strength_factor + WHR * strength_factor || Person), data = data)
tab_model(model2c2_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.11	0.25	-0.37 – 0.59	0.45	0.650
conception_risk	0.54	0.21	0.13 – 0.95	2.60	0.009
strength_factor	0.38	0.24	-0.09 – 0.86	1.60	0.109
WHR	-1.10	0.25	-1.59 – -0.61	-4.38	<0.001
conception_risk * strength_factor	0.09	0.11	-0.12 – 0.30	0.85	0.397
strength_factor * WHR	-0.09	0.29	-0.65 – 0.47	-0.31	0.759
ICC	0.47				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.236 / 0.592				

```
#####
#####
#with E/P rather than conception risk, Hypothesis 2f, Table 4
#also including between-women hormone effects in an exploratory manner

#for muscularity
model2f1_fat2 <- lmer(Rating ~ E_P * Muscularity + E_P_mean * Muscularity + WHR * Muscularity + (1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity + WHR * Muscularity || Person), data = data)
```

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

```
tab_model(model2f1_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.16	0.16	-0.16 – 0.47	0.98	0.329
E_P	-0.04	0.09	-0.22 – 0.14	-0.44	0.659
Muscularity	1.36	0.16	1.05 – 1.67	8.70	<0.001
E_P_mean	0.08	0.06	-0.03 – 0.20	1.41	0.157
WHR	-0.49	0.17	-0.82 – -0.16	-2.91	0.004
E_P * Muscularity	0.00	0.02	-0.03 – 0.04	0.25	0.799
Muscularity * E_P_mean	-0.04	0.03	-0.10 – 0.03	-1.08	0.281
Muscularity * WHR	0.06	0.14	-0.21 – 0.32	0.44	0.663
ICC	0.26				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.479 / 0.614				

```
#for dominance
model2f2_fat2 <- lmer(Rating ~ E_P * dominance + E_P_mean* dominance + WHR *dominance + (1 | Person) + (1 | MaleID) + (1 + E_P* dominance + WHR *dominance||Person),
data = data)
```

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

```
tab_model(model2f2_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.11	0.21	-0.30 – 0.52	0.51	0.609
E_P	-0.04	0.09	-0.21 – 0.14	-0.44	0.660
dominance	0.86	0.20	0.46 – 1.25	4.26	<0.001

E_P_mean	0.09	0.06	-0.03 – 0.20	1.48	0.138
WHR	-1.03	0.23	-1.48 – -0.59	-4.58	<0.001
E_P * dominance	0.02	0.02	-0.02 – 0.06	0.98	0.329
dominance * E_P_mean	-0.05	0.03	-0.11 – 0.00	-1.86	0.063
dominance * WHR	-0.12	0.26	-0.63 – 0.39	-0.47	0.642
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.473 / NA				

#for factor 1

```
model 2f3_fat2 <- lmer(Rating ~ E_P * shoulder_factor + E_P_mean* shoulder_factor +
WHR *shoulder_factor + ( 1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor+ WH
R *shoulder_factor||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model 2f3_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.18	0.22	-0.25 – 0.62	0.83	0.409
E_P	-0.04	0.09	-0.21 – 0.14	-0.44	0.661
shoulder_factor	0.68	0.24	0.21 – 1.16	2.82	0.005
E_P_mean	0.09	0.06	-0.03 – 0.20	1.48	0.140
WHR	-0.84	0.24	-1.32 – -0.37	-3.48	<0.001
E_P * shoulder_factor	-0.02	0.02	-0.06 – 0.02	-0.89	0.373
shoulder_factor * E_P_mean	0.02	0.03	-0.03 – 0.08	0.79	0.432
shoulder_factor * WHR	0.48	0.23	0.02 – 0.93	2.06	0.039
ICC	0.45				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				

Marginal R^2 / Conditional R^2 0.302 / 0.613

```
#for factor 2
model2f4_fat2 <- lmer(Rating ~ E_P * strength_factor + E_P_mean*strength_factor + WHR *strength_factor + ( 1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor + WHR *strength_factor||Person), data = data)
```

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

```
tab_model(model2f4_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.24	-0.36 – 0.59	0.48	0.632
E_P	-0.04	0.09	-0.21 – 0.13	-0.44	0.663
strength_factor	0.39	0.24	-0.08 – 0.86	1.61	0.107
E_P_mean	0.09	0.06	-0.03 – 0.20	1.48	0.138
WHR	-1.10	0.25	-1.59 – -0.61	-4.41	<0.001
E_P * strength_factor	0.03	0.02	-0.01 – 0.07	1.62	0.104
strength_factor * E_P_mean	-0.04	0.02	-0.08 – -0.00	-2.09	0.037
strength_factor * WHR	-0.08	0.29	-0.64 – 0.48	-0.28	0.783
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R^2 / Conditional R^2 0.379 / NA					

```
#####
#####
```

#3-way Interactions with relationship status: Hypothesis 2d

#for muscularity

```
model2d_fat2 <- lmer(Rating ~ conception_risk * Muscularity * relationship_status + WHR *Muscularity* relationship_status+ ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* Muscularity*relationship_status + WHR *Muscularity*relationship_status||Person), data = data)
```

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

```
tab_model(model2d_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

<i>Predictors</i>	Rating				
	<i>Estimate</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.23	0.17	-0.11 – 0.57	1.34	0.179
conception_risk	0.73	0.26	0.22 – 1.25	2.79	0.005
Muscularity	1.35	0.16	1.03 – 1.66	8.34	<0.001
relationship_status [1]	-0.17	0.12	-0.41 – 0.07	-1.37	0.170
WHR	-0.44	0.17	-0.78 – -0.10	-2.57	0.010
conception_risk * Muscularity	0.24	0.14	-0.03 – 0.51	1.72	0.085
conception_risk * relationship_status [1]	-0.33	0.43	-1.17 – 0.52	-0.76	0.449
Muscularity * relationship_status [1]	-0.01	0.06	-0.13 – 0.11	-0.18	0.861
Muscularity * WHR	0.08	0.14	-0.19 – 0.35	0.60	0.547
relationship_status [1] * WHR	-0.09	0.05	-0.19 – 0.01	-1.78	0.076
(conception_risk Muscularity) relationship_status [1]	-0.00	0.21	-0.41 – 0.40	-0.02	0.985
(Muscularity relationship_status [1]) WHR	-0.05	0.03	-0.11 – 0.01	-1.55	0.120
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.540 / NA				

```
#for dominance
model2d2_fat2 <- lmer(Rating ~ conception_risk * dominance*relationship_status + WHR *dominance*relationship_status+ ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* dominance*relationship_status + WHR *dominance *relationship_status||Person), data = data)
```

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

```
tab_model(model2d2_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

<i>Predictors</i>	Rating				
	<i>Estimate</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.18	0.22	-0.25 – 0.61	0.83	0.408
conception_risk	0.73	0.26	0.22 – 1.24	2.79	0.005
dominance	0.88	0.20	0.48 – 1.28	4.35	<0.001
relationship_status [1]	-0.16	0.12	-0.40 – 0.07	-1.36	0.175
WHR	-0.98	0.23	-1.42 – -0.53	-4.31	<0.001
conception_risk * dominance	0.07	0.14	-0.21 – 0.34	0.49	0.621
conception_risk * relationship_status [1]	-0.32	0.43	-1.16 – 0.52	-0.75	0.455
dominance * relationship_status [1]	-0.04	0.05	-0.15 – 0.07	-0.73	0.464
dominance * WHR	-0.09	0.26	-0.60 – 0.42	-0.34	0.734
relationship_status [1] * WHR	-0.10	0.05	-0.20 – 0.01	-1.80	0.071
(conception_risk dominance) relationship_status [1]	0.06	0.21	-0.35 – 0.46	0.27	0.787
(dominance relationship_status [1]) WHR	-0.07	0.03	-0.12 – -0.02	-2.56	0.010
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.463 / NA				

```
#for shoulder factor
model2d3_fat2 <- lmer(Rating ~ conception_risk * shoulder_factor*relationship_status + WHR *shoulder_factor * relationship_status + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor*relationship_status + WHR *shoulder_factor* relationship_status||Person), data = data)
```

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

```
tab_model(model2d3_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

<i>Predictors</i>	Rating				
	<i>Estimate</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.25	0.23	-0.20 – 0.70	1.08	0.279
conception_risk	0.73	0.26	0.22 – 1.24	2.79	0.005
shoulder_factor	0.63	0.25	0.15 – 1.11	2.59	0.010
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.26	0.207
WHR	-0.81	0.24	-1.29 – -0.34	-3.33	0.001
conception_risk * shoulder_factor	0.27	0.16	-0.04 – 0.57	1.69	0.090
conception_risk * relationship_status [1]	-0.32	0.43	-1.16 – 0.53	-0.74	0.459
shoulder_factor * relationship_status [1]	0.04	0.06	-0.07 – 0.15	0.76	0.445
shoulder_factor * WHR	0.47	0.23	0.02 – 0.93	2.05	0.040
relationship_status [1] * WHR	-0.06	0.05	-0.16 – 0.04	-1.16	0.246
(conception_risk shoulder_factor) relationship_status [1]	-0.17	0.23	-0.62 – 0.28	-0.75	0.454
(shoulder_factor relationship_status [1]) WHR	-0.01	0.03	-0.08 – 0.05	-0.33	0.738
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.425 / NA				

```
#for strength factor
model2d4_fat2 <- lmer(Rating ~ conception_risk * strength_factor*relationship_status + WHR *strength_factor * relationship_status + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* strength_factor*relationship_status + WHR *strength_factor * relationship_status || Person), data = data)
```

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

```
tab_model(model2d4_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

<i>Predictors</i>	Rating				
	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.18	0.25	-0.31 – 0.68	0.73	0.466
conception_risk	0.72	0.26	0.21 – 1.23	2.78	0.005
strength_factor	0.40	0.24	-0.07 – 0.87	1.66	0.096
relationship_status [1]	-0.15	0.12	-0.38 – 0.08	-1.28	0.201
WHR	-1.07	0.25	-1.56 – -0.57	-4.22	<0.001
conception_risk * strength_factor	0.08	0.14	-0.21 – 0.36	0.52	0.602
conception_risk * relationship_status [1]	-0.31	0.43	-1.15 – 0.53	-0.72	0.470
strength_factor * relationship_status [1]	-0.04	0.04	-0.11 – 0.04	-0.90	0.370
strength_factor * WHR	-0.08	0.29	-0.64 – 0.48	-0.27	0.784
relationship_status [1] * WHR	-0.07	0.05	-0.17 – 0.04	-1.28	0.199
(conception_risk strength_factor) relationship_status [1]	0.03	0.21	-0.39 – 0.45	0.14	0.892
(strength_factor relationship_status [1]) WHR	-0.02	0.02	-0.07 – 0.03	-0.77	0.439
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.368 / NA				

```
#####
#####
```

```
#with E/P rather than conception risk
```

```
#also including between-women hormone effects in an exploratory manner
```

```
#for muscularity
```

```
model2d5_fat2 <- lmer(Rating ~ E_P * Muscularity*relationship_status + E_P_mean * M
uscularity*relationship_status + WHR *Muscularity * relationship_status + ( 1 | Per
son) + (1 | MaleID) + (1 + E_P * Muscularity*relationship_status + WHR *Muscularity
* relationship_status||Person), data = data)
```

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

```
tab_model(model2d5_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.24	0.17	-0.08 – 0.57	1.45	0.147
E_P	-0.01	0.07	-0.15 – 0.14	-0.08	0.939
Muscularity	1.35	0.16	1.04 – 1.66	8.53	<0.001
relationship_status [1]	-0.18	0.11	-0.40 – 0.04	-1.56	0.118
E_P_mean	0.04	0.08	-0.10 – 0.19	0.59	0.556
WHR	-0.49	0.17	-0.82 – -0.16	-2.88	0.004
E_P * Muscularity	0.01	0.02	-0.04 – 0.06	0.36	0.718
E_P * relationship_status [1]	-0.08	0.20	-0.47 – 0.31	-0.42	0.674
Muscularity * relationship_status [1]	0.02	0.05	-0.09 – 0.12	0.36	0.721
Muscularity * E_P_mean	-0.05	0.04	-0.13 – 0.04	-1.10	0.270
relationship_status [1] * E_P_mean	0.08	0.12	-0.16 – 0.32	0.68	0.500
Muscularity * WHR	0.07	0.14	-0.20 – 0.33	0.49	0.626
relationship_status [1] * WHR	-0.00	0.05	-0.09 – 0.09	-0.07	0.943

(E_P * Muscularity) * relationship_status [1]	-0.01	0.04	-0.09 – 0.07	-0.26	0.791
(Muscularity relationship_status [1]) E_P_mean	0.03	0.06	-0.09 – 0.16	0.49	0.622
(Muscularity relationship_status [1]) WHR	-0.02	0.03	-0.07 – 0.04	-0.56	0.577
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.555 / NA				

```
#for dominance
model 2d6_fat2 <- lmer(Rating ~ E_P * dominance*relationship_status + E_P_mean* dominance*relationship_status + WHR * dominance * relationship_status+ ( 1 | Person) + (1 | MaleID) + (1 + E_P* dominance*relationship_status + WHR *dominance * relationship_status||Person), data = data)
```

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

```
tab_model(model 2d6_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.19	0.21	-0.23 – 0.61	0.90	0.366
E_P	-0.00	0.07	-0.15 – 0.14	-0.06	0.949
dominance	0.84	0.20	0.45 – 1.24	4.18	<0.001
relationship_status [1]	-0.18	0.11	-0.39 – 0.04	-1.63	0.102
E_P_mean	0.05	0.07	-0.10 – 0.19	0.65	0.519
WHR	-1.03	0.23	-1.47 – -0.58	-4.52	<0.001
E_P * dominance	0.02	0.03	-0.03 – 0.07	0.81	0.420
E_P * relationship_status [1]	-0.09	0.20	-0.47 – 0.30	-0.45	0.654
dominance * relationship_status [1]	0.02	0.05	-0.07 – 0.12	0.51	0.610

dominance * E_P_mean	-0.06	0.04	-0.14 – 0.01	-1.62	0.104
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.66	0.506
dominance * WHR	-0.10	0.26	-0.61 – 0.41	-0.38	0.705
relationship_status [1] * WHR	-0.02	0.05	-0.11 – 0.08	-0.35	0.723
(E_P * dominance) * relationship_status [1]	-0.00	0.04	-0.08 – 0.07	-0.10	0.919
(dominance relationship_status [1]) E_P_mean	0.03	0.06	-0.08 – 0.14	0.46	0.646
(dominance relationship_status [1]) WHR	-0.05	0.03	-0.10 – 0.00	-1.88	0.060
N _{Person}	255				
N _{MaleID}	40				

Observations 34680

Marginal R² / Conditional R² 0.474 / NA

#for factor 1

```
model2d7_fat2 <- lmer(Rating ~ E_P * shoulder_factor*relationship_status + E_P_mean
* shoulder_factor*relationship_status + WHR *shoulder_factor * relationship_status
+ ( 1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor* relationship_status + W
HR *shoulder_factor* relationship_status||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2d7_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.26	0.23	-0.18 – 0.70	1.16	0.245
E_P	-0.00	0.07	-0.14 – 0.14	-0.06	0.956
shoulder_factor	0.68	0.24	0.21 – 1.16	2.80	0.005
relationship_status [1]	-0.17	0.11	-0.38 – 0.05	-1.53	0.126
E_P_mean	0.05	0.07	-0.10 – 0.19	0.62	0.533

WHR	-0.85	0.24	-1.32 – -0.37	-3.48	0.001
E_P * shoulder_factor	-0.02	0.03	-0.08 – 0.03	-0.80	0.422
E_P * relationship_status [1]	-0.09	0.20	-0.47 – 0.29	-0.46	0.645
shoulder_factor * relationship_status [1]	-0.00	0.05	-0.10 – 0.09	-0.09	0.932
shoulder_factor * E_P_mean	0.03	0.04	-0.04 – 0.11	0.83	0.407
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.68	0.496
shoulder_factor * WHR	0.47	0.23	0.02 – 0.92	2.03	0.043
relationship_status [1] * WHR	0.01	0.04	-0.08 – 0.09	0.16	0.874
(E_P * shoulder_factor) * relationship_status [1]	0.01	0.05	-0.08 – 0.10	0.22	0.825
(shoulder_factor relationship_status [1]) E_P_mean	-0.02	0.06	-0.13 – 0.09	-0.42	0.678
(shoulder_factor relationship_status [1]) WHR	0.02	0.03	-0.04 – 0.08	0.52	0.606
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.440 / NA				

```
#for factor 2
model2d8_fat2 <- lmer(Rating ~ E_P * strength_factor*relationship_status + E_P_mean
*strength_factor*relationship_status + WHR * strength_factor * relationship_status
+ ( 1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor*relationship_status + WH
R *strength_factor * relationship_status||Person), data = data)
```

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

```
tab_model(model2d8_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating

<i>Predictors</i>	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.20	0.25	-0.28 – 0.68	0.81	0.418
E_P	-0.01	0.07	-0.14 – 0.13	-0.09	0.928
strength_factor	0.39	0.24	-0.08 – 0.86	1.64	0.102
relationship_status [1]	-0.17	0.11	-0.39 – 0.04	-1.58	0.113
E_P_mean	0.05	0.07	-0.10 – 0.19	0.64	0.521
WHR	-1.10	0.25	-1.59 – -0.61	-4.39	<0.001
E_P * strength_factor	0.04	0.03	-0.01 – 0.09	1.42	0.157
E_P * relationship_status [1]	-0.08	0.19	-0.46 – 0.30	-0.42	0.673
strength_factor * relationship_status [1]	-0.01	0.03	-0.08 – 0.05	-0.39	0.698
strength_factor * E_P_mean	-0.04	0.03	-0.09 – 0.01	-1.62	0.105
relationship_status [1] * E_P_mean	0.08	0.12	-0.15 – 0.31	0.66	0.508
strength_factor * WHR	-0.07	0.28	-0.63 – 0.48	-0.26	0.796
relationship_status [1] * WHR	-0.01	0.05	-0.10 – 0.09	-0.12	0.905
(E_P * strength_factor) * relationship_status [1]	-0.01	0.04	-0.09 – 0.07	-0.26	0.795
(strength_factor relationship_status [1]) E_P_mean	0.00	0.04	-0.07 – 0.08	0.04	0.969
(strength_factor relationship_status [1]) WHR	-0.01	0.02	-0.06 – 0.03	-0.50	0.616
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.380 / NA				

#3-way Interactions with self-reported stress: Hypothesis 2e

#for muscularity

```
model2e_fat2 <- lmer(Rating ~ conception_risk * Muscularity * stress + WHR * Muscularity * stress + (1 | Person) + (1 | MaleID) + (1 + conception_risk * Muscularity * stress + WHR * Muscularity * stress || Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2e_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.15	0.16	-0.18 – 0.47	0.89	0.374
conception_risk	0.58	0.24	0.11 – 1.05	2.41	0.016
Muscularity	1.34	0.16	1.03 – 1.65	8.51	<0.001
stress	-0.04	0.03	-0.09 – 0.02	-1.21	0.225
WHR	-0.49	0.17	-0.82 – -0.15	-2.87	0.004
conception_risk * Muscularity	0.25	0.10	0.05 – 0.45	2.46	0.014
conception_risk * stress	-0.06	0.25	-0.55 – 0.42	-0.25	0.805
Muscularity * stress	-0.01	0.01	-0.03 – 0.02	-0.38	0.701
Muscularity * WHR	0.06	0.14	-0.21 – 0.33	0.44	0.660
stress * WHR	0.01	0.01	-0.01 – 0.04	0.83	0.405
(conception_risk Muscularity) stress	0.11	0.11	-0.10 – 0.32	1.03	0.305
(Muscularity * stress) * WHR	-0.01	0.01	-0.03 – 0.01	-1.03	0.304
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.544 / NA				

#for dominance

```
model2e2_fat2 <- lmer(Rating ~ conception_risk * dominance*stress + WHR * dominance * stress + (1 | Person) + (1 | MaleID) + (1 + conception_risk* dominance*stress + WHR * dominance * stress || Person), data = data)
```

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

```
tab_model(model2e2_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.10	0.21	-0.32 – 0.51	0.46	0.649
conception_risk	0.57	0.24	0.11 – 1.04	2.41	0.016
dominance	0.86	0.20	0.47 – 1.25	4.31	<0.001
stress	-0.03	0.03	-0.09 – 0.02	-1.17	0.243
WHR	-1.03	0.23	-1.47 – -0.58	-4.56	<0.001
conception_risk * dominance	0.11	0.10	-0.09 – 0.31	1.04	0.299
conception_risk * stress	-0.07	0.25	-0.55 – 0.41	-0.27	0.786
dominance * stress	0.01	0.01	-0.02 – 0.03	0.44	0.657
dominance * WHR	-0.12	0.26	-0.63 – 0.39	-0.47	0.639
stress * WHR	0.01	0.01	-0.01 – 0.04	0.97	0.333
(conception_risk dominance) stress	0.05	0.11	-0.16 – 0.26	0.49	0.624
(dominance * stress) * WHR	-0.02	0.01	-0.04 – 0.01	-1.24	0.216
ICC	0.39				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.347 / 0.604				

```
#for shoulder factor
model2e3_fat2 <- lmer(Rating ~ conception_risk * shoulder_factor*stress + WHR * shoulder_factor * stress + (1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor*stress + WHR *shoulder_factor * stress||Person), data = data)
```

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

```
tab_model(model2e3_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

<i>Predictors</i>	Rating				
	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.17	0.22	-0.27 – 0.61	0.76	0.446
conception_risk	0.57	0.24	0.11 – 1.04	2.41	0.016
shoulder_factor	0.66	0.24	0.18 – 1.13	2.69	0.007
stress	-0.03	0.03	-0.09 – 0.02	-1.09	0.274
WHR	-0.84	0.24	-1.32 – -0.37	-3.46	0.001
conception_risk * shoulder_factor	0.17	0.11	-0.05 – 0.40	1.50	0.133
conception_risk * stress	-0.07	0.25	-0.55 – 0.41	-0.28	0.780
shoulder_factor * stress	-0.03	0.01	-0.05 – 0.00	-1.88	0.061
shoulder_factor * WHR	0.47	0.23	0.02 – 0.92	2.03	0.042
stress * WHR	0.01	0.01	-0.01 – 0.04	0.91	0.361
(conception_risk shoulder_factor) stress	0.02	0.12	-0.22 – 0.25	0.15	0.878
(shoulder_factor stress) WHR	-0.01	0.01	-0.03 – 0.02	-0.47	0.635
N Person	200				
N MaleID	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.428 / NA				

```
#for strength factor
model2e4_fat2 <- lmer(Rating ~ conception_risk * strength_factor*stress + WHR * str
ength_factor * stress+ ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* strengt
h_factor*stress + WHR * strength_factor * stress||Person), data = data)
```

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

```
tab_model(model2e4_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

<i>Predictors</i>	Rating				
	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.10	0.25	-0.38 – 0.59	0.43	0.670

conception_risk	0.56	0.23	0.10 – 1.02	2.41	0.016
strength_factor	0.38	0.24	-0.09 – 0.85	1.60	0.109
stress	-0.03	0.03	-0.09 – 0.02	-1.13	0.257
WHR	-1.10	0.25	-1.59 – -0.61	-4.39	<0.001
conception_risk * strength_factor	0.08	0.11	-0.13 – 0.29	0.76	0.449
conception_risk * stress	-0.08	0.24	-0.55 – 0.39	-0.33	0.744
strength_factor * stress	0.01	0.01	-0.01 – 0.04	0.89	0.372
strength_factor * WHR	-0.09	0.29	-0.65 – 0.47	-0.31	0.759
stress * WHR	0.01	0.01	-0.01 – 0.04	1.23	0.219
(conception_risk strength_factor) stress	-0.12	0.11	-0.33 – 0.10	-1.05	0.295
(strength_factor stress) WHR	-0.01	0.01	-0.03 – 0.01	-0.84	0.401
N Person	200				
N MaleID	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.371 / NA				

```
#####
#####
#with E/P rather than conception risk

#also including between-women hormone effects in an exploratory manner

#for muscularity
model2e5_fat2 <- lmer(Rating ~ E_P * Muscularity*stress + E_P_mean * Muscularity*st
ress + WHR *Muscularity * stress + ( 1 | Person) + (1 | MaleID) + (1 + E_P * Muscul
arity*stress + WHR *Muscularity * stress||Person), data = data)
```

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

```
tab_model(model2e5_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.16	0.16	-0.16 – 0.47	0.97	0.331

E_P	-0.05	0.12	-0.28 – 0.17	-0.47	0.635
Muscularity	1.36	0.16	1.05 – 1.67	8.69	<0.001
stress	-0.07	0.03	-0.13 – -0.01	-2.15	0.032
E_P_mean	0.04	0.07	-0.09 – 0.17	0.58	0.559
WHR	-0.49	0.17	-0.82 – -0.16	-2.91	0.004
E_P * Muscularity	0.00	0.02	-0.04 – 0.04	0.11	0.911
E_P * stress	-0.02	0.11	-0.24 – 0.19	-0.22	0.825
Muscularity * stress	-0.01	0.01	-0.03 – 0.02	-0.41	0.679
Muscularity * E_P_mean	-0.04	0.03	-0.11 – 0.02	-1.23	0.220
stress * E_P_mean	-0.03	0.04	-0.12 – 0.06	-0.67	0.504
Muscularity * WHR	0.06	0.14	-0.21 – 0.32	0.44	0.663
stress * WHR	0.01	0.01	-0.02 – 0.03	0.69	0.490
(E_P * Muscularity) * stress	-0.01	0.02	-0.06 – 0.04	-0.43	0.668
(Muscularity * stress) * E_P_mean	-0.01	0.02	-0.04 – 0.02	-0.71	0.479
(Muscularity * stress) * WHR	-0.01	0.01	-0.03 – 0.01	-1.24	0.216
N _{Person}	255				
N _{MaleID}	40				

Observations 34680

Marginal R² / Conditional R² 0.560 / NA

```
#for dominance
model2e6_fat2 <- lmer(Rating ~ E_P * dominance*stress + E_P_mean* dominance*stress
+ WHR *dominance * stress+ ( 1 | Person) + (1 | MaleID) + (1 + E_P* dominance*stress
+ WHR *dominance * stress|Person), data = data)
```

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

```
tab_model(model2e6_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

	Rating				
Predictors	Estimates	std. Error	CI	Statistic	p

(Intercept)	0.11	0.21	-0.30 – 0.52	0.51	0.612
E_P	-0.06	0.11	-0.28 – 0.17	-0.50	0.618
dominance	0.85	0.20	0.46 – 1.25	4.25	<0.001
stress	-0.06	0.03	-0.12 – -0.00	-2.02	0.044
E_P_mean	0.04	0.07	-0.09 – 0.17	0.66	0.510
WHR	-1.03	0.23	-1.48 – -0.59	-4.57	<0.001
E_P * dominance	0.02	0.02	-0.02 – 0.06	0.86	0.391
E_P * stress	-0.02	0.11	-0.23 – 0.18	-0.23	0.817
dominance * stress	-0.00	0.01	-0.02 – 0.02	-0.05	0.962
dominance * E_P_mean	-0.07	0.03	-0.12 – -0.01	-2.20	0.028
stress * E_P_mean	-0.03	0.04	-0.11 – 0.06	-0.61	0.542
dominance * WHR	-0.12	0.26	-0.63 – 0.39	-0.47	0.642
stress * WHR	0.01	0.01	-0.01 – 0.04	1.20	0.231
(E_P * dominance) * stress	-0.02	0.02	-0.06 – 0.03	-0.70	0.485
(dominance * stress) * E_P_mean	-0.02	0.02	-0.05 – 0.01	-1.52	0.128
(dominance * stress) * WHR	-0.01	0.01	-0.03 – 0.02	-0.48	0.628
N _{Person}	255				
N _{MaleID}	40				

Observations 34680

Marginal R² / Conditional R² 0.479 / NA

#for factor 1

```
model2e7_fat2 <- lmer(Rating ~ E_P * shoulder_factor*stress + E_P_mean* shoulder_factor*stress + WHR *shoulder_factor * stress + ( 1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor*stress + WHR *shoulder_factor * stress||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2e7_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Rating

Predictors	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.18	0.22	-0.25 – 0.62	0.82	0.413
E_P	-0.06	0.11	-0.28 – 0.16	-0.51	0.609
shoulder_factor	0.68	0.24	0.21 – 1.16	2.82	0.005
stress	-0.06	0.03	-0.12 – -0.00	-2.00	0.046
E_P_mean	0.04	0.07	-0.09 – 0.17	0.65	0.517
WHR	-0.84	0.24	-1.32 – -0.37	-3.48	<0.001
E_P * shoulder_factor	-0.02	0.02	-0.06 – 0.02	-0.82	0.414
E_P * stress	-0.03	0.10	-0.23 – 0.18	-0.24	0.810
shoulder_factor * stress	-0.03	0.01	-0.05 – -0.00	-2.18	0.029
shoulder_factor * E_P_mean	0.03	0.03	-0.02 – 0.09	1.17	0.242
stress * E_P_mean	-0.03	0.04	-0.11 – 0.06	-0.61	0.541
shoulder_factor * WHR	0.48	0.23	0.02 – 0.93	2.06	0.039
stress * WHR	0.01	0.01	-0.01 – 0.03	0.99	0.324
(E_P * shoulder_factor) * stress	-0.04	0.03	-0.09 – 0.01	-1.59	0.111
(shoulder_factor stress) E_P_mean	0.03	0.02	-0.00 – 0.06	1.81	0.071
(shoulder_factor stress) WHR	-0.00	0.01	-0.02 – 0.02	-0.21	0.835
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.444 / NA				

#for factor 2

```
model2e8_fat2 <- lmer(Rating ~ E_P * strength_factor*stress + E_P_mean*strength_factor*stress + WHR *strength_factor * stress + ( 1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor*stress + WHR *strength_factor * stress||Person), data = data)
```

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

```
tab_model(model2e8_fat2, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.11	0.24	-0.36 – 0.59	0.47	0.638
E_P	-0.06	0.11	-0.27 – 0.15	-0.55	0.582
strength_factor	0.38	0.24	-0.09 – 0.85	1.60	0.109
stress	-0.06	0.03	-0.12 – 0.00	-1.95	0.051
E_P_mean	0.05	0.07	-0.08 – 0.17	0.70	0.487
WHR	-1.10	0.25	-1.59 – -0.61	-4.41	<0.001
E_P * strength_factor	0.03	0.02	-0.01 – 0.07	1.59	0.112
E_P * stress	-0.03	0.10	-0.22 – 0.17	-0.28	0.782
strength_factor * stress	-0.00	0.01	-0.02 – 0.02	-0.26	0.795
strength_factor * E_P_mean	-0.05	0.02	-0.09 – -0.01	-2.33	0.020
stress * E_P_mean	-0.02	0.04	-0.11 – 0.06	-0.54	0.590
strength_factor * WHR	-0.08	0.29	-0.64 – 0.48	-0.28	0.783
stress * WHR	0.02	0.01	-0.01 – 0.04	1.38	0.167
(E_P * strength_factor) * stress	-0.02	0.02	-0.07 – 0.03	-0.78	0.437
(strength_factor stress) E_P_mean	-0.01	0.01	-0.04 – 0.01	-1.05	0.296
(strength_factor stress) WHR	0.00	0.01	-0.02 – 0.02	0.08	0.933
N Person	255				
N MaleID	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.384 / NA				

#controlling for body fat mass (with BMI rather than WHtR), Hypothesis 2g

#Hypothesis 2a controlling for BMI

```
model2g_fat3 <- lmer(Rating ~ conception_risk * Muscularity + BMI * Muscularity + (1 | Person) + (1 | MaleID) + (1 + conception_risk * Muscularity + BMI * Muscularity) | Person), data = data)
tab_model(model2g_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.14	0.14	-0.12 – 0.41	1.05	0.295
conception_risk	0.55	0.21	0.14 – 0.97	2.60	0.009
Muscularity	1.39	0.12	1.15 – 1.64	11.16	<0.001
BMI	-0.62	0.14	-0.89 – -0.35	-4.54	<0.001
conception_risk * Muscularity	0.24	0.10	0.06 – 0.43	2.56	0.011
Muscularity * BMI	0.07	0.12	-0.17 – 0.30	0.56	0.578
ICC	0.25				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.517 / 0.636				

#Hypothesis 2b: for dominance

```
model2b_fat3 <- lmer(Rating ~ conception_risk * dominance + BMI * dominance + (1 |  
Person) + (1 | MaleID) + (1 + conception_risk * dominance + BMI * dominance | Person),  
data = data)  
tab_model(model2b_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.16	-0.18 – 0.43	0.81	0.420
conception_risk	0.55	0.21	0.14 – 0.97	2.60	0.009
dominance	1.30	0.15	1.01 – 1.59	8.88	<0.001
BMI	-1.29	0.15	-1.59 – -0.99	-8.36	<0.001
conception_risk * dominance	0.10	0.10	-0.09 – 0.29	0.99	0.321
dominance * BMI	-0.00	0.17	-0.33 – 0.32	-0.03	0.978
ICC	0.28				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				

Marginal R^2 / Conditional R^2 0.476 / 0.623

#Hypothesis 2c: for factor 1

```
model2c_fat3 <- lmer(Rating ~ conception_risk * shoulder_factor + BMI * shoulder_factor + (1 | Person) + (1 | MaleID) + (1 + conception_risk * shoulder_factor + BMI * shoulder_factor || Person), data = data)
tab_model(model2c_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.41	0.29	-0.16 – 0.98	1.41	0.158
conception_risk	0.55	0.21	0.13 – 0.96	2.60	0.009
shoulder_factor	0.30	0.36	-0.39 – 1.00	0.85	0.393
BMI	-0.73	0.33	-1.38 – -0.09	-2.22	0.026
conception_risk * shoulder_factor	0.19	0.11	-0.03 – 0.40	1.69	0.091
shoulder_factor * BMI	0.53	0.27	-0.01 – 1.07	1.94	0.052
ICC	0.52				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R^2 / Conditional R^2 0.213 / 0.621					

#Hypothesis 2c: for factor 2

```
model2c2_fat3 <- lmer(Rating ~ conception_risk * strength_factor + BMI * strength_factor + (1 | Person) + (1 | MaleID) + (1 + conception_risk * strength_factor + BMI * strength_factor || Person), data = data)
tab_model(model2c2_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.17	0.23	-0.27 – 0.62	0.76	0.450
conception_risk	0.55	0.21	0.14 – 0.96	2.60	0.009
strength_factor	0.88	0.23	0.43 – 1.33	3.86	<0.001
BMI	-1.23	0.22	-1.66 – -0.79	-5.48	<0.001
conception_risk * strength_factor	0.09	0.10	-0.11 – 0.29	0.91	0.363

```

strength_factor * BMI          -0.21    0.22   -0.65 – 0.23   -0.95    0.344
ICC                             0.45
NPerson                       200
NMaleID                       40
-----
Observations                   32000
Marginal R2 / Conditional R2 0.298 / 0.614

```

```

#####
#####
#with E/P rather than conception risk, Hypothesis 2f, Table 4
#also including between-women hormone effects in an exploratory manner

#for muscularity
model2f1_fat3 <- lmer(Rating ~ E_P * Muscularity + E_P_mean * Muscularity + BMI * Muscularity + (1 | Person) + (1 | MaleID) + (1 + E_P * Muscularity + BMI * Muscularity || Person), data = data)

```

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

```
tab_model(model2f1_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.14	0.13	-0.11 – 0.40	1.10	0.271
E_P	-0.04	0.09	-0.23 – 0.14	-0.44	0.657
Muscularity	1.41	0.12	1.17 – 1.65	11.58	<0.001
E_P_mean	0.08	0.06	-0.03 – 0.20	1.43	0.153
BMI	-0.64	0.13	-0.90 – -0.38	-4.84	<0.001
E_P * Muscularity	0.00	0.02	-0.03 – 0.04	0.27	0.787
Muscularity * E_P_mean	-0.04	0.03	-0.10 – 0.02	-1.21	0.226
Muscularity * BMI	0.06	0.12	-0.17 – 0.29	0.50	0.620
ICC	0.25				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.531 / 0.646				

```
#for dominance
model2f2_fat3 <- lmer(Rating ~ E_P * dominance + E_P_mean* dominance + BMI *dominance + (1 | Person) + (1 | MaleID) + (1 + E_P* dominance + BMI *dominance||Person),
data = data)
```

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

```
tab_model(model2f2_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.13	0.15	-0.17 – 0.43	0.85	0.396
E_P	-0.04	0.09	-0.22 – 0.14	-0.44	0.657
dominance	1.30	0.15	1.01 – 1.58	8.88	<0.001
E_P_mean	0.09	0.06	-0.02 – 0.20	1.53	0.125
BMI	-1.30	0.15	-1.60 – -1.00	-8.54	<0.001
E_P * dominance	0.02	0.02	-0.02 – 0.06	1.03	0.305
dominance * E_P_mean	-0.05	0.03	-0.11 – 0.01	-1.70	0.089
dominance * BMI	-0.01	0.17	-0.34 – 0.32	-0.06	0.955
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.569 / NA				

```
#for factor 1
model2f3_fat3 <- lmer(Rating ~ E_P * shoulder_factor + E_P_mean* shoulder_factor + BMI *shoulder_factor + (1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor+ BMI *shoulder_factor||Person), data = data)
```

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

```
tab_model(model2f3_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.41	0.29	-0.15 – 0.97	1.43	0.152

E_P	-0.04	0.09	-0.22 – 0.14	-0.44	0.659
shoulder_factor	0.32	0.35	-0.37 – 1.01	0.91	0.364
E_P_mean	0.07	0.06	-0.04 – 0.19	1.27	0.204
BMI	-0.75	0.33	-1.39 – -0.11	-2.29	0.022
E_P * shoulder_factor	-0.02	0.02	-0.06 – 0.02	-0.91	0.363
shoulder_factor * E_P_mean	-0.01	0.02	-0.04 – 0.03	-0.30	0.766
shoulder_factor * BMI	0.53	0.27	-0.01 – 1.06	1.94	0.053
ICC	0.52				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.221 / 0.630				

```
#for factor 2
```

```
model2f4_fat3 <- lmer(Rating ~ E_P * strength_factor + E_P_mean*strength_factor + BMI *strength_factor + ( 1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor + BMI *strength_factor||Person), data = data)
```

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

```
tab_model(model2f4_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.18	0.23	-0.26 – 0.62	0.78	0.433
E_P	-0.04	0.09	-0.22 – 0.14	-0.44	0.659
strength_factor	0.89	0.23	0.44 – 1.33	3.92	<0.001
E_P_mean	0.09	0.06	-0.02 – 0.20	1.53	0.125
BMI	-1.24	0.22	-1.68 – -0.81	-5.61	<0.001
E_P * strength_factor	0.03	0.02	-0.01 – 0.07	1.70	0.089
strength_factor * E_P_mean	-0.03	0.02	-0.07 – 0.01	-1.48	0.138
strength_factor * BMI	-0.21	0.22	-0.65 – 0.22	-0.96	0.338

ICC	0.46
N _{Person}	255
N _{MaleID}	40
Observations	34680
Marginal R ² / Conditional R ²	0.308 / 0.624

```
#####
#####
```

#3-way Interactions with relationship status: Hypothesis 2d

#for muscularity

```
model2d_fat3 <- lmer(Rating ~ conception_risk * Muscularity * relationship_status +
  BMI * Muscularity * relationship_status + (1 | Person) + (1 | MaleID) + (1 + conception_risk *
  Muscularity * relationship_status + BMI * Muscularity * relationship_status || Person), data = data)
```

```
tab_model(model2d_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.22	0.15	-0.07 – 0.51	1.48	0.140
conception_risk	0.75	0.27	0.23 – 1.28	2.84	0.005
Muscularity	1.39	0.13	1.14 – 1.64	10.79	<0.001
relationship_status [1]	-0.16	0.12	-0.40 – 0.08	-1.32	0.186
BMI	-0.57	0.14	-0.85 – -0.29	-3.97	<0.001
conception_risk * Muscularity	0.24	0.13	-0.02 – 0.50	1.83	0.067
conception_risk * relationship_status [1]	-0.35	0.44	-1.21 – 0.50	-0.81	0.420
Muscularity * relationship_status [1]	0.01	0.06	-0.11 – 0.12	0.11	0.909
Muscularity * BMI	0.10	0.12	-0.14 – 0.33	0.79	0.427
relationship_status [1] * BMI	-0.11	0.07	-0.26 – 0.03	-1.58	0.113
(conception_risk Muscularity) relationship_status [1]	-0.01	0.20	-0.39 – 0.38	-0.04	0.969

(Muscularity relationship_status [1]) BMI	-0.06	0.04	-0.15 – 0.02	-1.40	0.161
ICC	0.23				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.524 / 0.632				

```
#for dominance
model2d2_fat3 <- lmer(Rating ~ conception_risk * dominance*relationship_status + BMI
I *dominance*relationship_status+ ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* dominance*relationship_status + BMI *dominance *relationship_status||Person), data = data)
```

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

```
tab_model(model2d2_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.19	0.17	-0.14 – 0.52	1.15	0.251
conception_risk	0.75	0.26	0.23 – 1.27	2.83	0.005
dominance	1.31	0.15	1.02 – 1.60	8.74	<0.001
relationship_status [1]	-0.14	0.12	-0.37 – 0.09	-1.16	0.247
BMI	-1.24	0.16	-1.55 – -0.93	-7.79	<0.001
conception_risk * dominance	0.07	0.13	-0.19 – 0.34	0.55	0.580
conception_risk * relationship_status [1]	-0.34	0.43	-1.20 – 0.51	-0.79	0.429
dominance * relationship_status [1]	-0.02	0.06	-0.13 – 0.09	-0.34	0.736
dominance * BMI	0.03	0.17	-0.30 – 0.36	0.17	0.864
relationship_status [1] * BMI	-0.10	0.07	-0.24 – 0.04	-1.42	0.156

(conception_risk dominance) relationship_status [1]	0.04	0.20	-0.34 – 0.43	0.22	0.824
(dominance relationship_status [1]) BMI	-0.07	0.04	-0.15 – 0.01	-1.71	0.088
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.559 / NA				

```
#for shoulder factor
model2d3_fat3 <- lmer(Rating ~ conception_risk * shoulder_factor*relationship_status + BMI *shoulder_factor * relationship_status + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor*relationship_status + BMI *shoulder_factor* relationship_status|Person), data = data)
```

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

```
tab_model(model2d3_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.48	0.30	-0.10 – 1.06	1.61	0.108
conception_risk	0.74	0.26	0.22 – 1.25	2.80	0.005
shoulder_factor	0.30	0.36	-0.40 – 0.99	0.84	0.401
relationship_status [1]	-0.14	0.12	-0.37 – 0.10	-1.12	0.261
BMI	-0.69	0.33	-1.34 – -0.04	-2.09	0.036
conception_risk * shoulder_factor	0.24	0.15	-0.06 – 0.54	1.58	0.115
conception_risk * relationship_status [1]	-0.33	0.43	-1.18 – 0.52	-0.77	0.444
shoulder_factor * relationship_status [1]	0.01	0.04	-0.07 – 0.09	0.28	0.776
shoulder_factor * BMI	0.53	0.27	-0.01 – 1.07	1.93	0.054
relationship_status [1] * BMI	-0.08	0.07	-0.22 – 0.06	-1.16	0.246

(conception_risk shoulder_factor) relationship_status [1]	-0.12	0.22	-0.56 – 0.32	-0.54	0.589
(shoulder_factor relationship_status [1]) BMI	0.01	0.04	-0.08 – 0.09	0.16	0.874
ICC	0.51				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.216 / 0.618				

```
#for strength factor
model2d4_fat3 <- lmer(Rating ~ conception_risk * strength_factor*relationship_status + BMI *strength_factor * relationship_status + ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* strength_factor*relationship_status + BMI *strength_factor * relationship_status || Person), data = data)
tab_model(model2d4_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.24	0.24	-0.22 – 0.70	1.01	0.315
conception_risk	0.73	0.26	0.22 – 1.25	2.81	0.005
strength_factor	0.88	0.23	0.43 – 1.33	3.85	<0.001
relationship_status [1]	-0.13	0.12	-0.37 – 0.10	-1.13	0.257
BMI	-1.18	0.23	-1.63 – -0.74	-5.20	<0.001
conception_risk * strength_factor	0.09	0.14	-0.18 – 0.37	0.68	0.494
conception_risk * relationship_status [1]	-0.33	0.43	-1.18 – 0.52	-0.76	0.446
strength_factor * relationship_status [1]	-0.00	0.04	-0.08 – 0.08	-0.02	0.984
strength_factor * BMI	-0.18	0.22	-0.62 – 0.26	-0.80	0.423
relationship_status [1] * BMI	-0.09	0.07	-0.23 – 0.04	-1.32	0.186

(conception_risk strength_factor) relationship_status [1]	-0.01	0.20	-0.41 – 0.39	-0.03	0.975
(strength_factor relationship_status [1]) BMI	-0.07	0.03	-0.13 – -0.01	-2.18	0.029
ICC	0.45				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.301 / 0.612				

```
#####
#####
#with E/P rather than conception risk

#also including between-women hormone effects in an exploratory manner

#for muscularity
model2d5_fat3 <- lmer(Rating ~ E_P * Muscularity*relationship_status + E_P_mean * M
uscularity*relationship_status + BMI *Muscularity * relationship_status + ( 1 | Per
son) + (1 | MaleID) + (1 + E_P * Muscularity*relationship_status + BMI *Muscularity
* relationship_status||Person), data = data)
```

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

```
tab_model(model2d5_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.23	0.14	-0.05 – 0.50	1.62	0.105
E_P	-0.01	0.08	-0.16 – 0.15	-0.07	0.947
Muscularity	1.40	0.12	1.16 – 1.64	11.25	<0.001
relationship_status [1]	-0.17	0.11	-0.38 – 0.05	-1.49	0.135
E_P_mean	0.04	0.07	-0.10 – 0.19	0.57	0.569
BMI	-0.65	0.14	-0.91 – -0.38	-4.75	<0.001
E_P * Muscularity	0.01	0.02	-0.04 – 0.06	0.39	0.699

E_P * relationship_status [1]	-0.08	0.21	-0.49 – 0.32	-0.40	0.687
Muscularity * relationship_status [1]	0.02	0.05	-0.08 – 0.12	0.47	0.638
Muscularity * E_P_mean	-0.04	0.04	-0.13 – 0.04	-1.06	0.288
relationship_status [1] * E_P_mean	0.09	0.12	-0.15 – 0.32	0.72	0.473
Muscularity * BMI	0.07	0.12	-0.17 – 0.30	0.55	0.580
relationship_status [1] * BMI	0.01	0.06	-0.11 – 0.13	0.17	0.862
(E_P * Muscularity) * relationship_status [1]	-0.01	0.04	-0.08 – 0.06	-0.28	0.776
(Muscularity relationship_status [1]) E_P_mean	0.02	0.06	-0.10 – 0.14	0.28	0.779
(Muscularity relationship_status [1]) BMI	-0.02	0.04	-0.09 – 0.06	-0.43	0.665
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.601 / NA				

#for dominance

```
model 2d6_fat3 <- lmer(Rating ~ E_P * dominance*relationship_status + E_P_mean* dominance*relationship_status + BMI * dominance * relationship_status+ ( 1 | Person) + (1 | MaleID) + (1 + E_P* dominance*relationship_status + BMI *dominance * relationship_status||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model 2d6_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.21	0.16	-0.10 – 0.52	1.31	0.191
E_P	-0.01	0.08	-0.15 – 0.14	-0.07	0.942

dominance	1.28	0.15	0.99 – 1.57	8.67	<0.001
relationship_status [1]	-0.16	0.11	-0.37 – 0.05	-1.52	0.129
E_P_mean	0.05	0.07	-0.09 – 0.19	0.70	0.485
BMI	-1.30	0.16	-1.61 – -1.00	-8.37	<0.001
E_P * dominance	0.02	0.02	-0.03 – 0.07	0.84	0.399
E_P * relationship_status [1]	-0.08	0.20	-0.48 – 0.32	-0.40	0.688
dominance * relationship_status [1]	0.03	0.05	-0.07 – 0.12	0.57	0.571
dominance * E_P_mean	-0.06	0.04	-0.13 – 0.02	-1.41	0.159
relationship_status [1] * E_P_mean	0.07	0.11	-0.15 – 0.30	0.64	0.525
dominance * BMI	0.01	0.17	-0.32 – 0.34	0.04	0.969
relationship_status [1] * BMI	-0.00	0.06	-0.12 – 0.11	-0.04	0.966
(E_P * dominance) * relationship_status [1]	-0.00	0.04	-0.08 – 0.07	-0.10	0.919
(dominance relationship_status [1]) E_P_mean	0.02	0.06	-0.10 – 0.13	0.30	0.765
(dominance relationship_status [1]) BMI	-0.04	0.04	-0.11 – 0.04	-0.99	0.322
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.570 / NA				

```
#for factor 1
model2d7_fat3 <- lmer(Rating ~ E_P * shoulder_factor*relationship_status + E_P_mean
* shoulder_factor*relationship_status + BMI *shoulder_factor * relationship_status
+ ( 1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor* relationship_status + B
MI *shoulder_factor* relationship_status||Person), data = data)
```

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

```
tab_model (model 2d7_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

<i>Predictors</i>	Rating				
	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>Statistic</i>	<i>p</i>
(Intercept)	0.48	0.29	-0.09 – 1.05	1.64	0.101
E_P	-0.01	0.07	-0.15 – 0.14	-0.08	0.936
shoulder_factor	0.32	0.35	-0.38 – 1.01	0.89	0.372
relationship_status [1]	-0.13	0.11	-0.35 – 0.08	-1.21	0.227
E_P_mean	0.03	0.07	-0.12 – 0.18	0.41	0.683
BMI	-0.76	0.33	-1.40 – -0.11	-2.31	0.021
E_P * shoulder_factor	-0.02	0.03	-0.08 – 0.04	-0.69	0.488
E_P * relationship_status [1]	-0.08	0.20	-0.47 – 0.31	-0.41	0.683
shoulder_factor * relationship_status [1]	0.01	0.03	-0.06 – 0.08	0.25	0.801
shoulder_factor * E_P_mean	-0.00	0.02	-0.05 – 0.05	-0.13	0.898
relationship_status [1] * E_P_mean	0.09	0.12	-0.14 – 0.33	0.78	0.433
shoulder_factor * BMI	0.50	0.27	-0.03 – 1.04	1.84	0.066
relationship_status [1] * BMI	0.03	0.06	-0.09 – 0.15	0.46	0.643
(E_P * shoulder_factor) * relationship_status [1]	0.01	0.05	-0.08 – 0.10	0.14	0.886
(shoulder_factor relationship_status [1]) E_P_mean	-0.01	0.04	-0.08 – 0.07	-0.15	0.881
(shoulder_factor relationship_status [1]) BMI	0.05	0.04	-0.02 – 0.13	1.32	0.185
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				

Marginal R^2 / Conditional R^2 0.376 / NA

```
#for factor 2
model2d8_fat3 <- lmer(Rating ~ E_P * strength_factor*relationship_status + E_P_mean
*strength_factor*relationship_status + BMI * strength_factor * relationship_status
+ ( 1 | Person) + (1 | MaleID) + (1 + E_P* strength_factor*relationship_status + BMI
I *strength_factor * relationship_status||Person), data = data)
```

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

```
tab_model(model2d8_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.26	0.23	-0.19 – 0.71	1.11	0.265
E_P	-0.01	0.07	-0.15 – 0.14	-0.08	0.937
strength_factor	0.89	0.23	0.44 – 1.34	3.91	<0.001
relationship_status [1]	-0.16	0.11	-0.37 – 0.05	-1.51	0.131
E_P_mean	0.05	0.07	-0.09 – 0.19	0.71	0.480
BMI	-1.24	0.22	-1.68 – -0.81	-5.57	<0.001
E_P * strength_factor	0.04	0.03	-0.01 – 0.09	1.47	0.143
E_P * relationship_status [1]	-0.08	0.20	-0.47 – 0.31	-0.41	0.682
strength_factor * relationship_status [1]	-0.01	0.04	-0.08 – 0.07	-0.16	0.874
strength_factor * E_P_mean	-0.03	0.03	-0.08 – 0.03	-0.96	0.336
relationship_status [1] * E_P_mean	0.07	0.12	-0.15 – 0.30	0.62	0.534
strength_factor * BMI	-0.20	0.22	-0.64 – 0.24	-0.89	0.374
relationship_status [1] * BMI	0.01	0.06	-0.11 – 0.12	0.12	0.902
(E_P * strength_factor) * relationship_status [1]	-0.01	0.04	-0.09 – 0.07	-0.25	0.805

(strength_factor relationship_status [1]) E_P_mean	-0.01	0.04	-0.09 – 0.07	-0.26	0.796
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(strength_factor relationship_status [1]) BMI	-0.03	0.03	-0.09 – 0.02	-1.17	0.242
---	-------	------	--------------	-------	-------

N _{Person}	255
---------------------	-----

N _{MaleID}	40
---------------------	----

Observations	34680
--------------	-------

Marginal R ² / Conditional R ²	0.452 / NA
--	------------

#3-way Interactions with self-reported stress: Hypothesis 2e

#for muscularity

```
model2e_fat3 <- lmer(Rating ~ conception_risk * Muscularity * stress + BMI * Muscularity * stress + (1 | Person) + (1 | MaleID) + (1 + conception_risk * Muscularity * stress | Person), data = data)
```

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

```
tab_model(model2e_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.14	0.14	-0.13 – 0.40	0.99	0.323
conception_risk	0.60	0.25	0.11 – 1.10	2.40	0.016
Muscularity	1.39	0.12	1.15 – 1.64	11.15	<0.001
stress	-0.03	0.03	-0.09 – 0.02	-1.12	0.262
BMI	-0.62	0.14	-0.89 – -0.35	-4.55	<0.001
conception_risk * Muscularity	0.26	0.10	0.07 – 0.45	2.67	0.008
conception_risk * stress	-0.03	0.26	-0.54 – 0.49	-0.10	0.917
Muscularity * stress	-0.00	0.01	-0.03 – 0.02	-0.38	0.706
Muscularity * BMI	0.07	0.12	-0.17 – 0.30	0.56	0.578
stress * BMI	0.02	0.01	-0.01 – 0.04	1.47	0.141
(conception_risk Muscularity) stress	0.11	0.10	-0.09 – 0.31	1.09	0.275

(Muscularity * stress) * BMI	-0.01	0.01	-0.03 – 0.01	-0.75	0.456
------------------------------	-------	------	--------------	-------	-------

N _{Person}	200
---------------------	-----

N _{MaleID}	40
---------------------	----

Observations	32000
--------------	-------

Marginal R ² / Conditional R ²	0.593 / NA
--	------------

```
#for dominance
```

```
model 2e2_fat3 <- lmer(Rating ~ conception_risk * dominance*stress + BMI * dominance
* stress+ ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* dominance*stress + B
MI *dominance * stress||Person), data = data)
```

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

```
tab_model(model 2e2_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.12	0.16	-0.19 – 0.43	0.75	0.451
conception_risk	0.60	0.25	0.11 – 1.08	2.42	0.016
dominance	1.30	0.15	1.01 – 1.59	8.87	<0.001
stress	-0.03	0.03	-0.09 – 0.03	-0.98	0.327
BMI	-1.29	0.15	-1.59 – -0.99	-8.36	<0.001
conception_risk * dominance	0.11	0.10	-0.08 – 0.30	1.12	0.261
conception_risk * stress	-0.04	0.26	-0.54 – 0.47	-0.15	0.880
dominance * stress	-0.00	0.01	-0.03 – 0.02	-0.35	0.727
dominance * BMI	-0.00	0.17	-0.33 – 0.32	-0.03	0.978
stress * BMI	0.02	0.01	-0.00 – 0.04	1.63	0.104
(conception_risk dominance) stress	0.07	0.10	-0.13 – 0.27	0.65	0.518
(dominance * stress) * BMI	-0.01	0.01	-0.04 – 0.01	-0.98	0.326
N _{Person}	200				
N _{MaleID}	40				

Observations 32000

Marginal R² / Conditional R² 0.564 / NA

```
#for shoulder factor
model2e3_fat3 <- lmer(Rating ~ conception_risk * shoulder_factor*stress + BMI * shoulder_factor * stress + (1 | Person) + (1 | MaleID) + (1 + conception_risk* shoulder_factor*stress + BMI *shoulder_factor * stress||Person), data = data)
```

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

```
tab_model(model2e3_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.40	0.29	-0.17 – 0.97	1.39	0.165
conception_risk	0.58	0.24	0.11 – 1.06	2.40	0.016
shoulder_factor	0.30	0.35	-0.39 – 1.00	0.86	0.390
stress	-0.03	0.03	-0.09 – 0.03	-1.03	0.301
BMI	-0.73	0.33	-1.38 – -0.09	-2.23	0.026
conception_risk * shoulder_factor	0.17	0.11	-0.05 – 0.38	1.50	0.133
conception_risk * stress	-0.05	0.25	-0.54 – 0.44	-0.21	0.831
shoulder_factor * stress	-0.01	0.02	-0.04 – 0.02	-0.89	0.371
shoulder_factor * BMI	0.53	0.27	-0.00 – 1.07	1.94	0.052
stress * BMI	0.01	0.01	-0.01 – 0.04	0.96	0.337
(conception_risk shoulder_factor) stress	-0.03	0.12	-0.25 – 0.20	-0.23	0.819
(shoulder_factor stress) BMI	-0.00	0.01	-0.02 – 0.02	-0.02	0.981
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.365 / NA				

```
#for strength factor
model2e4_fat3 <- lmer(Rating ~ conception_risk * strength_factor*stress + BMI * str
ength_factor * stress+ ( 1 | Person) + (1 | MaleID) + (1 + conception_risk* strengt
h_factor*stress + BMI * strength_factor * stress||Person), data = data)
```

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

```
tab_model(model2e4_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.16	0.23	-0.28 – 0.61	0.72	0.471
conception_risk	0.58	0.24	0.11 – 1.06	2.42	0.016
strength_factor	0.88	0.23	0.43 – 1.33	3.86	<0.001
stress	-0.03	0.03	-0.09 – 0.03	-1.03	0.303
BMI	-1.23	0.22	-1.66 – -0.79	-5.48	<0.001
conception_risk * strength_factor	0.09	0.10	-0.11 – 0.28	0.84	0.400
conception_risk * stress	-0.06	0.25	-0.55 – 0.43	-0.22	0.825
strength_factor * stress	0.00	0.01	-0.02 – 0.03	0.15	0.884
strength_factor * BMI	-0.21	0.22	-0.65 – 0.23	-0.95	0.345
stress * BMI	0.02	0.01	0.00 – 0.05	2.00	0.045
(conception_risk strength_factor) stress	-0.09	0.11	-0.29 – 0.12	-0.82	0.412
(strength_factor stress) BMI	-0.01	0.01	-0.03 – 0.02	-0.49	0.623
ICC	0.45				
N _{Person}	200				
N _{MaleID}	40				
Observations	32000				
Marginal R ² / Conditional R ²	0.302 / 0.616				

```
#####
#####
```

```
#with E/P rather than conception risk
```

```
#also including between-women hormone effects in an exploratory manner
```

```
#for muscularity
```

```
model2e5_fat3 <- lmer(Rating ~ E_P * Muscularity*stress + E_P_mean * Muscularity*st
ress + BMI *Muscularity * stress + ( 1 | Person) + (1 | MaleID) + (1 + E_P * Muscul
arity*stress + BMI *Muscularity * stress||Person), data = data)
```

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

```
tab_model(model2e5_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimate	std. Error	CI	Statistic	p
(Intercept)	0.15	0.13	-0.11 – 0.41	1.11	0.266
E_P	-0.04	0.13	-0.30 – 0.21	-0.34	0.731
Muscularity	1.41	0.12	1.17 – 1.65	11.56	<0.001
stress	-0.07	0.03	-0.13 – -0.01	-2.16	0.031
E_P_mean	0.03	0.07	-0.10 – 0.17	0.48	0.632
BMI	-0.64	0.13	-0.90 – -0.38	-4.84	<0.001
E_P * Muscularity	0.00	0.02	-0.04 – 0.04	0.07	0.942
E_P * stress	-0.02	0.12	-0.26 – 0.22	-0.17	0.867
Muscularity * stress	-0.00	0.01	-0.03 – 0.02	-0.38	0.706
Muscularity * E_P_mean	-0.04	0.03	-0.11 – 0.02	-1.35	0.176
stress * E_P_mean	-0.04	0.05	-0.13 – 0.05	-0.88	0.381
Muscularity * BMI	0.06	0.12	-0.17 – 0.29	0.50	0.620
stress * BMI	0.02	0.01	-0.01 – 0.04	1.33	0.183
(E_P * Muscularity) * stress	-0.01	0.02	-0.05 – 0.04	-0.34	0.733
(Muscularity * stress) * E_P_mean	-0.01	0.02	-0.04 – 0.02	-0.74	0.457

(Muscularity * stress) * BMI	-0.01	0.01	-0.03 – 0.01	-0.74	0.457
------------------------------	-------	------	--------------	-------	-------

N _{Person}	255
---------------------	-----

N _{MaleID}	40
---------------------	----

Observations	34680
--------------	-------

Marginal R ² / Conditional R ²	0.607 / NA
--	------------

```
#for dominance
model 2e6_fat3 <- lmer(Rating ~ E_P * dominance*stress + E_P_mean* dominance*stress
+ BMI *dominance * stress+ ( 1 | Person) + (1 | MaleID) + (1 + E_P* dominance*stress
+ BMI *dominance * stress||Person), data = data)
```

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

```
tab_model(model 2e6_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.13	0.15	-0.17 – 0.44	0.85	0.394
E_P	-0.05	0.12	-0.29 – 0.19	-0.40	0.688
dominance	1.29	0.15	1.01 – 1.58	8.86	<0.001
stress	-0.06	0.03	-0.13 – -0.00	-2.03	0.043
E_P_mean	0.04	0.07	-0.09 – 0.17	0.62	0.534
BMI	-1.30	0.15	-1.60 – -1.00	-8.54	<0.001
E_P * dominance	0.02	0.02	-0.02 – 0.05	0.86	0.392
E_P * stress	-0.02	0.12	-0.25 – 0.21	-0.17	0.864
dominance * stress	-0.01	0.01	-0.03 – 0.01	-0.81	0.418
dominance * E_P_mean	-0.06	0.03	-0.12 – -0.00	-2.06	0.040
stress * E_P_mean	-0.03	0.05	-0.12 – 0.06	-0.71	0.475
dominance * BMI	-0.01	0.17	-0.34 – 0.32	-0.06	0.955
stress * BMI	0.02	0.01	-0.00 – 0.04	1.76	0.078
(E_P * dominance) * stress	-0.02	0.02	-0.06 – 0.03	-0.73	0.466

(dominance * stress) * E_P_mean	-0.02	0.02	-0.06 – 0.01	-1.54	0.124
(dominance * stress) * BMI	-0.00	0.01	-0.03 – 0.02	-0.42	0.674
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.576 / NA				

```
#for factor 1
model2e7_fat3 <- lmer(Rating ~ E_P * shoulder_factor*stress + E_P_mean* shoulder_factor*stress + BMI *shoulder_factor * stress + ( 1 | Person) + (1 | MaleID) + (1 + E_P* shoulder_factor*stress + BMI *shoulder_factor * stress||Person), data = data)
```

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

```
tab_model(model2e7_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.41	0.29	-0.15 – 0.97	1.43	0.154
E_P	-0.05	0.12	-0.28 – 0.18	-0.46	0.644
shoulder_factor	0.32	0.35	-0.37 – 1.01	0.91	0.365
stress	-0.06	0.03	-0.13 – -0.00	-2.03	0.042
E_P_mean	0.03	0.07	-0.10 – 0.16	0.40	0.692
BMI	-0.75	0.33	-1.39 – -0.11	-2.28	0.022
E_P * shoulder_factor	-0.02	0.02	-0.06 – 0.02	-0.89	0.375
E_P * stress	-0.02	0.11	-0.24 – 0.19	-0.20	0.840
shoulder_factor * stress	-0.02	0.01	-0.05 – 0.01	-1.51	0.130
shoulder_factor * E_P_mean	-0.00	0.02	-0.04 – 0.04	-0.05	0.960
stress * E_P_mean	-0.03	0.04	-0.12 – 0.05	-0.75	0.453
shoulder_factor * BMI	0.53	0.27	-0.01 – 1.06	1.93	0.053
stress * BMI	0.01	0.01	-0.02 – 0.04	0.69	0.491

(E_P * shoulder_factor) * stress	-0.04	0.03	-0.09 – 0.01	-1.58	0.114
(shoulder_factor stress) E_P_mean	0.02	0.01	-0.01 – 0.05	1.16	0.247
(shoulder_factor stress) BMI	-0.00	0.01	-0.02 – 0.02	-0.24	0.808
ICC	0.52				
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.228 / 0.629				

#for factor 2

```
model2e8_fat3 <- lmer(Rating ~ E_P * strength_factor*stress + E_P_mean*strength_factor*stress + BMI *strength_factor * stress + ( 1 | Person) + (1 | MaleID) + (1 + E_P * strength_factor*stress + BMI *strength_factor * stress||Person), data = data)
```

boundary (singular) fit: see ?isSingular

```
tab_model(model2e8_fat3, show.se = TRUE, show.stat = TRUE, show.re.var = FALSE)
```

Predictors	Rating				
	Estimates	std. Error	CI	Statistic	p
(Intercept)	0.18	0.23	-0.27 – 0.62	0.78	0.434
E_P	-0.05	0.12	-0.28 – 0.18	-0.46	0.642
strength_factor	0.89	0.23	0.44 – 1.33	3.91	<0.001
stress	-0.06	0.03	-0.13 – -0.00	-2.05	0.040
E_P_mean	0.04	0.07	-0.08 – 0.17	0.67	0.506
BMI	-1.24	0.22	-1.68 – -0.81	-5.61	<0.001
E_P * strength_factor	0.03	0.02	-0.01 – 0.07	1.66	0.097
E_P * stress	-0.02	0.11	-0.24 – 0.19	-0.20	0.842
strength_factor * stress	-0.01	0.01	-0.03 – 0.01	-1.28	0.199
strength_factor * E_P_mean	-0.04	0.02	-0.08 – 0.00	-1.76	0.078
stress * E_P_mean	-0.03	0.04	-0.12 – 0.06	-0.65	0.516

strength_factor * BMI	-0.21	0.22	-0.65 – 0.22	-0.96	0.338
stress * BMI	0.02	0.01	0.00 – 0.04	2.11	0.035
(E_P * strength_factor) * stress	-0.02	0.02	-0.07 – 0.03	-0.88	0.379
(strength_factor stress) E_P_mean	-0.01	0.01	-0.04 – 0.01	-0.98	0.325
(strength_factor stress) BMI	0.00	0.01	-0.01 – 0.02	0.48	0.632
N _{Person}	255				
N _{MaleID}	40				
Observations	34680				
Marginal R ² / Conditional R ²	0.457 / NA				