analysis

Iris Zhong

4/27/2021

```
library(readr)
data_pair <- read_csv("data_pair.csv")
```

```
## Warning: Missing column names filled in: 'X1' [1]
```

```
##
## -- Column specification --------------------------------------------------------
## cols(
##   .default = col_double(),
##   day_A = col_character(),
##   day_P = col_character(),
##   gender_chr_A = col_character(),
##   gender_chr_P = col_character(),
##   partID_A = col_character(),
##   partID_P = col_character()
## )
## i Use `spec()` for the full column specifications.
```

```
data_pair$day_of_study_A <- as.numeric(data_pair$day_of_study_A)
data_pair$day_of_study_P <- as.numeric(data_pair$day_of_study_P)
data_pair <- data_pair %>%
  mutate(day_of_study_A = day_of_study_A -1,
         day_of_study_P = day_of_study_P - 1,
         fair_chores_C_A = fair_chores_A - mean(fair_chores_A, na.rm = T),
         fair_chores_C_P = fair_chores_P - mean(fair_chores_P, na.rm = T),
         grbs_C_A = grbs_ss_A - mean(grbs_ss_A, na.rm = T),
         grbs_C_P = grbs_ss_P - mean(grbs_ss_P, na.rm = T))
```

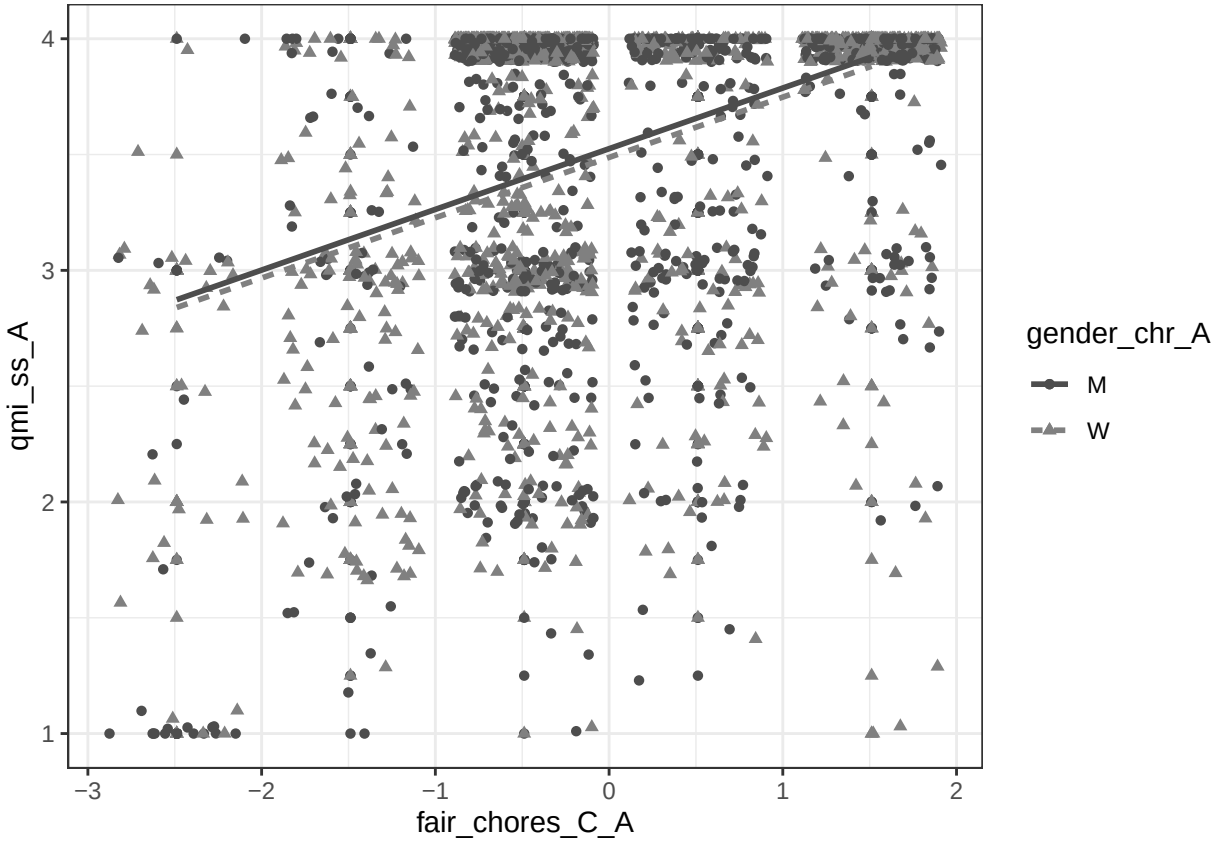
```
ggplot(data_pair, aes(x = fair_chores_C_A, y = qmi_ss_A, color = gender_chr_A, shape= gender_chr_A)) +
  geom_point()+
  geom_jitter() +
  geom_smooth(method = "lm", aes(linetype = gender_chr_A), se=F) +
  scale_color_grey(start = 0.3, end = 0.5) +
  theme_bw() +
  scale_y_continuous(limits = c(1, 4), oob = scales::squish)
```

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

```
## Warning: Removed 1 rows containing non-finite values (stat_smooth).
```

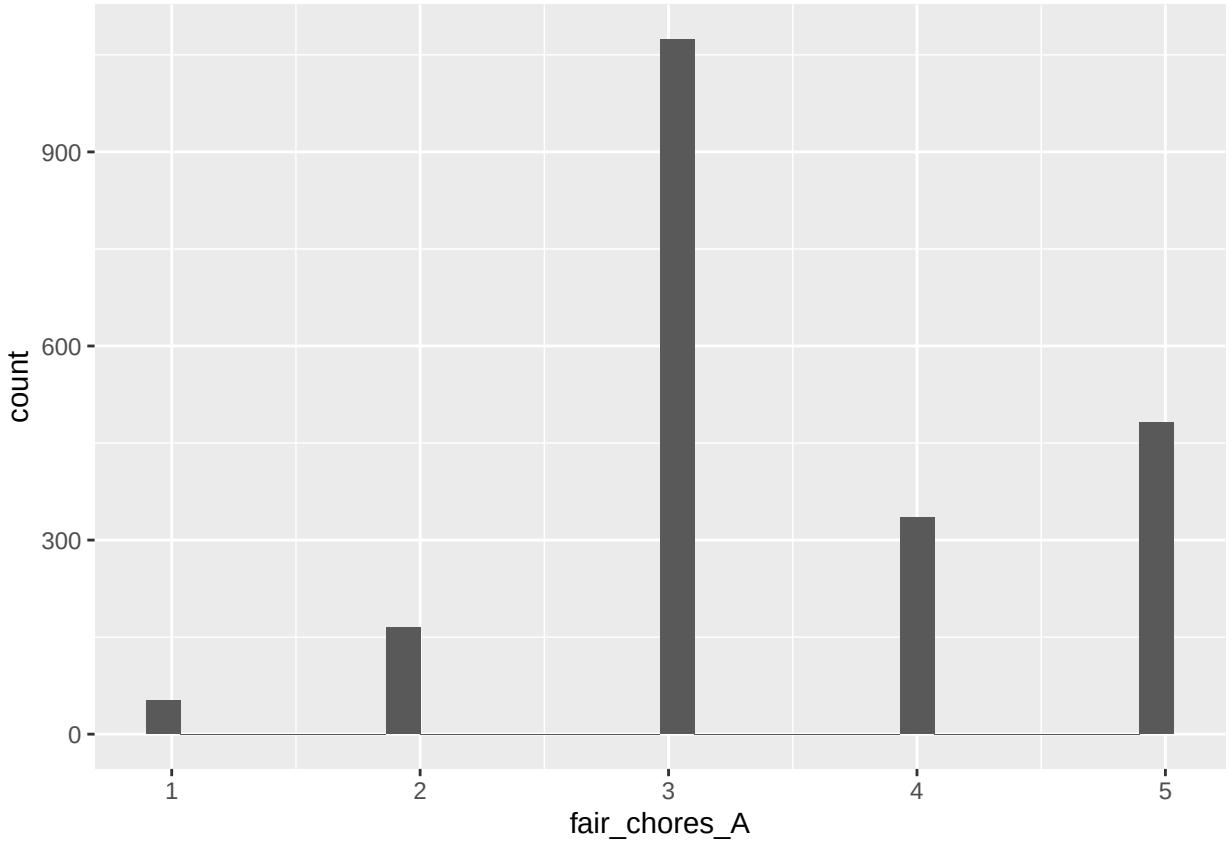
```
## Warning: Removed 1 rows containing missing values (geom_point).
```

```
## Warning: Removed 1 rows containing missing values (geom_point).
```




```
ggplot(data_pair, aes(x = fair_chores_A)) +
  geom_histogram()
```

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```




```
mod_qmi_chore_1  <- lme(qmi_ss_A ~ gender_chr_A +
                          gender_chr_A:day_of_study_A +
                          fair_chores_C_A:gender_chr_A,
                        data = data_pair,
                        random = ~ gender_chr_A - 1|dyadID,
                        correlation = corCompSymm(form = ~1|dyadID/obsid),
                        weights = varIdent(form = ~1|gender_chr_A),
                        na.action = na.omit)

summary(mod_qmi_chore_1)
```

```
## Linear mixed-effects model fit by REML
##   Data: data_pair
##        AIC      BIC    logLik
##   2339.985 2407.787 -1157.993
##
## Random effects:
##  Formula: ~gender_chr_A - 1 | dyadID
##  Structure: General positive-definite, Log-Cholesky parametrization
##               StdDev    Corr
## gender_chr_AM 0.6040866 gn__AM
## gender_chr_AW 0.5590112 0.79
## Residual      0.4051733
##
## Correlation Structure: Compound symmetry
```

```
##  Formula: ~1 | dyadID/obsid
##  Parameter estimate(s):
##       Rho
## 0.2939514
## Variance function:
##  Structure: Different standard deviations per stratum
##  Formula: ~1 | gender_chr_A
##  Parameter estimates:
##         W         M
## 1.0000000 0.8741118
## Fixed effects:  qmi_ss_A ~ gender_chr_A + gender_chr_A:day_of_study_A + fair_chores_C_A:gender_chr_A
##                                    Value  Std.Error   DF  t-value p-value
## (Intercept)                     3.563025 0.07021845 2021 50.74201  0.0000
## gender_chr_AW                  -0.136877 0.04970489 2021 -2.75380  0.0059
## gender_chr_AM:day_of_study_A   -0.002881 0.00274384 2021 -1.05013  0.2938
## gender_chr_AW:day_of_study_A    0.006602 0.00313943 2021  2.10280  0.0356
## gender_chr_AM:fair_chores_C_A   0.069398 0.01762136 2021  3.93826  0.0001
## gender_chr_AW:fair_chores_C_A   0.085162 0.01881061 2021  4.52735  0.0000
##  Correlation:
##                                (Intr) gn__AW g__AM:___ g__AW:___ g__AM:__C
## gender_chr_AW                  -0.428
## gender_chr_AM:day_of_study_A   -0.243  0.229
## gender_chr_AW:day_of_study_A   -0.071 -0.292  0.295
## gender_chr_AM:fair_chores_C_A -0.004  0.006 -0.039     0.006
## gender_chr_AW:fair_chores_C_A -0.001 -0.004 -0.001     0.074     0.053
##
## Standardized Within-Group Residuals:
##         Min          Q1         Med          Q3         Max
## -7.18273012 -0.14752596  0.05854595  0.29040436  3.70348939
##
## Number of Observations: 2107
## Number of Groups: 81
```

```r
mod_qmi_chore_2  <- lme(qmi_ss_A ~ gender_chr_A +
                            gender_chr_A:day_of_study_A +
                            fair_chores_C_A:gender_chr_A +
                            fair_chores_C_P:gender_chr_A -1,
                        data = data_pair,
                        random = ~ gender_chr_A - 1|dyadID,
                        correlation = corCompSymm(form = ~1|dyadID/obsid),
                        weights = varIdent(form = ~1|gender_chr_A),
                        na.action = na.omit)

summary(mod_qmi_chore_2)
```

```
## Linear mixed-effects model fit by REML
##   Data: data_pair
##        AIC      BIC    logLik
##   2355.818 2434.907 -1163.909
##
## Random effects:
##  Formula: ~gender_chr_A - 1 | dyadID
##  Structure: General positive-definite, Log-Cholesky parametrization
##               StdDev    Corr
```

```
## gender_chr_AM 0.6063608 gn__AM
## gender_chr_AW 0.5610447 0.792
## Residual      0.4052960
##
## Correlation Structure: Compound symmetry
##  Formula: ~1 | dyadID/obsid
##  Parameter estimate(s):
##       Rho
## 0.2936967
## Variance function:
##  Structure: Different standard deviations per stratum
##  Formula: ~1 | gender_chr_A
##  Parameter estimates:
##         W         M
## 1.0000000 0.8741505
## Fixed effects:  qmi_ss_A ~ gender_chr_A + gender_chr_A:day_of_study_A + fair_chores_C_A:gender_chr_A
##                                    Value  Std.Error   DF  t-value p-value
## gender_chr_AM                   3.563150 0.07046262 2019 50.56795  0.0000
## gender_chr_AW                   3.426267 0.06664337 2019 51.41196  0.0000
## gender_chr_AM:day_of_study_A   -0.002984 0.00275515 2019 -1.08302  0.2789
## gender_chr_AW:day_of_study_A    0.006585 0.00314538 2019  2.09362  0.0364
## gender_chr_AM:fair_chores_C_A   0.068927 0.01884934 2019  3.65674  0.0003
## gender_chr_AW:fair_chores_C_A   0.082186 0.02020809 2019  4.06698  0.0000
## gender_chr_AM:fair_chores_C_P -0.008273 0.01813876 2019 -0.45607  0.6484
## gender_chr_AW:fair_chores_C_P -0.003392 0.02106712 2019 -0.16100  0.8721
##  Correlation:
##                                gn__AM gn__AW g__AM:___ g__AW:___ g__AM:__C_A
## gender_chr_AW                   0.739
## gender_chr_AM:day_of_study_A   -0.242 -0.086
## gender_chr_AW:day_of_study_A   -0.071 -0.293  0.296
## gender_chr_AM:fair_chores_C_A -0.004 -0.001 -0.047    -0.014
## gender_chr_AW:fair_chores_C_A -0.002 -0.004  0.030     0.083    -0.010
## gender_chr_AM:fair_chores_C_P -0.004 -0.002  0.086     0.030    -0.074
## gender_chr_AW:fair_chores_C_P -0.001 -0.005 -0.014    -0.048     0.347
##                                g__AW:__C_A g__AM:__C_P
## gender_chr_AW
## gender_chr_AM:day_of_study_A
## gender_chr_AW:day_of_study_A
## gender_chr_AM:fair_chores_C_A
## gender_chr_AW:fair_chores_C_A
## gender_chr_AM:fair_chores_C_P  0.355
## gender_chr_AW:fair_chores_C_P -0.090      -0.009
##
## Standardized Within-Group Residuals:
##         Min          Q1         Med          Q3         Max
## -7.17635854 -0.14029584  0.05879081  0.28437019  3.70465556
##
## Number of Observations: 2107
## Number of Groups: 81
```

```
mod_qmi_chore_3  <- lme(qmi_ss_A ~ gender_chr_A +
                                  gender_chr_A:day_of_study_A +
                                  fair_chores_C_A:gender_chr_A +
                                  fair_chores_C_P:gender_chr_A +
```

```
                              gender_chr_A:grbs_C_A+
                              grbs_C_A:gender_chr_A:fair_chores_C_A+
                              grbs_C_A:gender_chr_A:fair_chores_C_P -1,
                      data = data_pair,
                      random = ~ gender_chr_A - 1|dyadID,
                      correlation = corCompSymm(form = ~1|dyadID/obsid),
                      weights = varIdent(form = ~1|gender_chr_A),
                      na.action = na.omit)

summary(mod_qmi_chore_3)
```

```
## Linear mixed-effects model fit by REML
##   Data: data_pair
##       AIC      BIC   logLik
##   2391.68 2504.607 -1175.84
##
## Random effects:
##  Formula: ~gender_chr_A - 1 | dyadID
##  Structure: General positive-definite, Log-Cholesky parametrization
##               StdDev    Corr
## gender_chr_AM 0.6108624 gn__AM
## gender_chr_AW 0.5675382 0.803
## Residual      0.4055762
##
## Correlation Structure: Compound symmetry
##  Formula: ~1 | dyadID/obsid
##  Parameter estimate(s):
##       Rho
## 0.2939971
## Variance function:
##  Structure: Different standard deviations per stratum
##  Formula: ~1 | gender_chr_A
##  Parameter estimates:
##         W         M
## 1.0000000 0.8739161
## Fixed effects:  qmi_ss_A ~ gender_chr_A + gender_chr_A:day_of_study_A + fair_chores_C_A:gender_chr_A
##                                          Value  Std.Error   DF  t-value
## gender_chr_AM                         3.551778 0.07180647 2013 49.46320
## gender_chr_AW                         3.431381 0.06813773 2013 50.35949
## gender_chr_AM:day_of_study_A         -0.002904 0.00277025 2013 -1.04817
## gender_chr_AW:day_of_study_A          0.006223 0.00316621 2013  1.96536
## gender_chr_AM:fair_chores_C_A         0.072220 0.01901282 2013  3.79851
## gender_chr_AW:fair_chores_C_A         0.076382 0.02090415 2013  3.65391
## gender_chr_AM:fair_chores_C_P        -0.007095 0.01843006 2013 -0.38497
## gender_chr_AW:fair_chores_C_P        -0.002954 0.02167911 2013 -0.13627
## gender_chr_AM:grbs_C_A                0.072012 0.08164134 2013  0.88206
## gender_chr_AW:grbs_C_A                0.042565 0.07318491 2013  0.58161
## gender_chr_AM:fair_chores_C_A:grbs_C_A -0.035623 0.02507536 2013 -1.42064
## gender_chr_AW:fair_chores_C_A:grbs_C_A -0.036299 0.03030353 2013 -1.19786
## gender_chr_AM:fair_chores_C_P:grbs_C_A  0.000591 0.02846254 2013  0.02076
## gender_chr_AW:fair_chores_C_P:grbs_C_A -0.015888 0.02903808 2013 -0.54714
##                                      p-value
## gender_chr_AM                         0.0000
```

```
## gender_chr_AW                             0.0000
## gender_chr_AM:day_of_study_A              0.2947
## gender_chr_AW:day_of_study_A              0.0495
## gender_chr_AM:fair_chores_C_A             0.0001
## gender_chr_AW:fair_chores_C_A             0.0003
## gender_chr_AM:fair_chores_C_P             0.7003
## gender_chr_AW:fair_chores_C_P             0.8916
## gender_chr_AM:grbs_C_A                    0.3779
## gender_chr_AW:grbs_C_A                    0.5609
## gender_chr_AM:fair_chores_C_A:grbs_C_A    0.1556
## gender_chr_AW:fair_chores_C_A:grbs_C_A    0.2311
## gender_chr_AM:fair_chores_C_P:grbs_C_A    0.9834
## gender_chr_AW:fair_chores_C_P:grbs_C_A    0.5843
##  Correlation:
##                                           gn__AM gn__AW g__AM:___ g__AW:___
## gender_chr_AW                              0.720
## gender_chr_AM:day_of_study_A              -0.237 -0.083
## gender_chr_AW:day_of_study_A              -0.069 -0.291  0.295
## gender_chr_AM:fair_chores_C_A             -0.005 -0.007 -0.047    -0.013
## gender_chr_AW:fair_chores_C_A              0.001 -0.018  0.033     0.108
## gender_chr_AM:fair_chores_C_P             -0.008  0.000  0.067     0.024
## gender_chr_AW:fair_chores_C_P             -0.006  0.021 -0.015    -0.063
## gender_chr_AM:grbs_C_A                    -0.154  0.075  0.001    -0.003
## gender_chr_AW:grbs_C_A                    -0.083  0.141  0.008    -0.017
## gender_chr_AM:fair_chores_C_A:grbs_C_A     0.010  0.017 -0.028    -0.005
## gender_chr_AW:fair_chores_C_A:grbs_C_A    -0.005 -0.039  0.017     0.106
## gender_chr_AM:fair_chores_C_P:grbs_C_A     0.003  0.000  0.099     0.019
## gender_chr_AW:fair_chores_C_P:grbs_C_A     0.001  0.054 -0.004    -0.029
##                                           gn__AM:__C_A gn__AW:__C_A gn__AM:__C_P
## gender_chr_AW
## gender_chr_AM:day_of_study_A
## gender_chr_AW:day_of_study_A
## gender_chr_AM:fair_chores_C_A
## gender_chr_AW:fair_chores_C_A             -0.007
## gender_chr_AM:fair_chores_C_P             -0.065        0.329
## gender_chr_AW:fair_chores_C_P              0.331       -0.124       -0.005
## gender_chr_AM:grbs_C_A                    -0.004       -0.019        0.033
## gender_chr_AW:grbs_C_A                    -0.030       -0.035        0.010
## gender_chr_AM:fair_chores_C_A:grbs_C_A    -0.121       -0.014       -0.006
## gender_chr_AW:fair_chores_C_A:grbs_C_A    -0.004        0.244       -0.052
## gender_chr_AM:fair_chores_C_P:grbs_C_A    -0.021        0.046       -0.172
## gender_chr_AW:fair_chores_C_P:grbs_C_A    -0.029       -0.081       -0.009
##                                           gn__AW:__C_P g__AM:_C g__AW:_C
## gender_chr_AW
## gender_chr_AM:day_of_study_A
## gender_chr_AW:day_of_study_A
## gender_chr_AM:fair_chores_C_A
## gender_chr_AW:fair_chores_C_A
## gender_chr_AM:fair_chores_C_P
## gender_chr_AW:fair_chores_C_P
## gender_chr_AM:grbs_C_A                     0.035
## gender_chr_AW:grbs_C_A                     0.082        0.536
## gender_chr_AM:fair_chores_C_A:grbs_C_A     0.033        0.035    0.023
## gender_chr_AW:fair_chores_C_A:grbs_C_A    -0.102        0.028   -0.102
```

```
## gender_chr_AM:fair_chores_C_P:grbs_C_A -0.013       -0.039    0.033
## gender_chr_AW:fair_chores_C_P:grbs_C_A  0.200        0.022   -0.036
##                                       g__AM:__C_A: g__AW:__C_A: g__AM:__C_P:
## gender_chr_AW
## gender_chr_AM:day_of_study_A
## gender_chr_AW:day_of_study_A
## gender_chr_AM:fair_chores_C_A
## gender_chr_AW:fair_chores_C_A
## gender_chr_AM:fair_chores_C_P
## gender_chr_AW:fair_chores_C_P
## gender_chr_AM:grbs_C_A
## gender_chr_AW:grbs_C_A
## gender_chr_AM:fair_chores_C_A:grbs_C_A
## gender_chr_AW:fair_chores_C_A:grbs_C_A  0.011
## gender_chr_AM:fair_chores_C_P:grbs_C_A -0.135        0.214
## gender_chr_AW:fair_chores_C_P:grbs_C_A  0.224       -0.050        0.008
##
## Standardized Within-Group Residuals:
##         Min          Q1         Med          Q3         Max
## -7.19086987 -0.12192501  0.05742598  0.29034113  3.69795490
##
## Number of Observations: 2107
## Number of Groups: 81
```

```
#report(mod_qmi_chore_3)
```

```
mod_qmi_chore_empty<- lme(qmi_ss_A ~ gender_chr_A - 1,
                    data = data_pair,
                    random = ~ gender_chr_A - 1|dyadID,
                    correlation = corCompSymm(form = ~1|dyadID/obsid),
                    weights = varIdent(form = ~1|gender_chr_A),
                    na.action = na.omit)

summary(mod_qmi_chore_empty)
```

```
## Linear mixed-effects model fit by REML
##   Data: data_pair
##        AIC      BIC   logLik
##   2338.161 2383.377 -1161.08
##
## Random effects:
##  Formula: ~gender_chr_A - 1 | dyadID
##  Structure: General positive-definite, Log-Cholesky parametrization
##               StdDev    Corr
## gender_chr_AM 0.6259714 gn__AM
## gender_chr_AW 0.5928230 0.778
## Residual      0.4064918
##
## Correlation Structure: Compound symmetry
##  Formula: ~1 | dyadID/obsid
##  Parameter estimate(s):
##       Rho
## 0.2871853
```

```
## Variance function:
##  Structure: Different standard deviations per stratum
##  Formula: ~1 | gender_chr_A
##  Parameter estimates:
##         W         M
## 1.0000000 0.8740537
## Fixed effects:  qmi_ss_A ~ gender_chr_A - 1
##                  Value  Std.Error   DF  t-value p-value
## gender_chr_AM 3.548848 0.07050727 2025 50.33307       0
## gender_chr_AW 3.461429 0.06717298 2025 51.53008       0
##  Correlation:
##               gn__AM
## gender_chr_AW 0.762
##
## Standardized Within-Group Residuals:
##         Min          Q1         Med          Q3         Max
## -7.19355647 -0.03058622  0.04125902  0.23337873  3.61705556
##
## Number of Observations: 2107
## Number of Groups: 81
```

residual standard deviation for women: 0.4064918 residual standard deviation for men: 0.4064918 * 0.8740537
residual variance: square them

Calculate pseudo-R^2:

```
resid_var_qmi_chore_W <- 0.4064918^2
resid_var_qmi_chore_M <- (0.4064918 * 0.8740537)^2
r2_qmi_chore_W1 <- 1 - (0.4051733^2)/resid_var_qmi_chore_W
r2_qmi_chore_M1 <- 1 - (0.4051733*0.8741118)^2/resid_var_qmi_chore_M
r2_qmi_chore_W2 <- 1 - (0.4052960^2)/resid_var_qmi_chore_W
r2_qmi_chore_M2 <- 1 - (0.4052960*0.8741505)^2/resid_var_qmi_chore_M
r2_qmi_chore_W3 <- 1 - (0.4055762^2)/resid_var_qmi_chore_W
r2_qmi_chore_M3 <- 1 - (0.4055762*0.8739161)^2/resid_var_qmi_chore_M
```

```
mod_chore_work_2  <- lme(fair_chores_C_A ~ gender_chr_A + telework_A:gender_chr_A + childnum + r_years +
                      data = data_pair,
                      random = ~ gender_chr_A - 1|dyadID,
                      correlation = corCompSymm(form = ~1|dyadID/obsid),
                      weights = varIdent(form = ~1|gender_chr_A),
                      na.action = na.omit)

summary(mod_chore_work_2)
```

```
## Linear mixed-effects model fit by REML
##   Data: data_pair
##        AIC      BIC    logLik
##   3719.933 3791.375 -1846.967
##
## Random effects:
##  Formula: ~gender_chr_A - 1 | dyadID
##  Structure: General positive-definite, Log-Cholesky parametrization
##               StdDev    Corr
## gender_chr_AM 0.7891896 gn__AM
```

```
## gender_chr_AW 0.8145291 0.305
## Residual      0.6042419
##
## Correlation Structure: Compound symmetry
##  Formula: ~1 | dyadID/obsid
##  Parameter estimate(s):
##       Rho
## 0.07253131
## Variance function:
##  Structure: Different standard deviations per stratum
##  Formula: ~1 | gender_chr_A
##  Parameter estimates:
##         W         M
## 1.0000000 0.9535672
## Fixed effects:  fair_chores_C_A ~ gender_chr_A + telework_A:gender_chr_A + childnum +      r_years +
##                                Value  Std.Error   DF    t-value p-value
## gender_chr_AM             0.2939821 0.23577171 1722  1.2468931  0.2126
## gender_chr_AW             0.3456162 0.30602613 1722  1.1293684  0.2589
## childnum                  0.0137449 0.08418131   79  0.1632777  0.8707
## r_years                  -0.0121029 0.00806536   79 -1.5006033  0.1374
## income_A                  0.0000005 0.00000097 1722  0.5363609  0.5918
## gender_chr_AM:telework_A -0.0714542 0.18914857 1722 -0.3777678  0.7056
## gender_chr_AW:telework_A -0.2894359 0.25749654 1722 -1.1240380  0.2612
##  Correlation:
##                           gn__AM gn__AW chldnm r_yers incm_A g__AM:
## gender_chr_AW              0.511
## childnum                  -0.438 -0.302
## r_years                   -0.676 -0.602  0.222
## income_A                  -0.296 -0.197  0.050  0.034
## gender_chr_AM:telework_A -0.438  0.084  0.020 -0.040 -0.065
## gender_chr_AW:telework_A  0.005 -0.723 -0.045  0.103 -0.049 -0.095
##
## Standardized Within-Group Residuals:
##        Min         Q1        Med         Q3        Max
## -6.2882117 -0.3559258 -0.0309773  0.3275497  3.7986558
##
## Number of Observations: 1807
## Number of Groups: 81
```

```
report(mod_chore_work_2)
```

```
## We fitted a linear mixed model (estimated using REML and nlminb optimizer) to predict fair_chores_C_
##
##   - The effect of gender_chr_A [M] is statistically non-significant and positive (beta = 0.29, 95% C
##   - The effect of gender_chr_A [W] is statistically non-significant and positive (beta = 0.35, 95% C
##   - The effect of childnum is statistically non-significant and positive (beta = 0.01, 95% CI [-0.15
##   - The effect of r_years is statistically non-significant and negative (beta = -0.01, 95% CI [-0.03
##   - The effect of income_A is statistically non-significant and positive (beta = 5.20e-07, 95% CI [-
##   - The interaction effect of telework_A on gender_chr_A [M] is statistically non-significant and neg
##   - The interaction effect of telework_A on gender_chr_A [W] is statistically non-significant and neg
##
## Standardized parameters were obtained by fitting the model on a standardized version of the dataset.
```

```r
mod_chore_work_2_moderation  <- lme(fair_chores_C_A ~ gender_chr_A + telework_A:gender_chr_A + childnum
                      data = data_pair,
                      random = ~ gender_chr_A - 1|dyadID,
                      correlation = corCompSymm(form = ~1|dyadID/obsid),
                      weights = varIdent(form = ~1|gender_chr_A),
                      na.action = na.omit)

summary(mod_chore_work_2_moderation)
```

```
## Linear mixed-effects model fit by REML
##   Data: data_pair
##        AIC      BIC    logLik
##   3719.933 3791.375 -1846.967
##
## Random effects:
##  Formula: ~gender_chr_A - 1 | dyadID
##  Structure: General positive-definite, Log-Cholesky parametrization
##               StdDev    Corr
## gender_chr_AM 0.7891896 gn__AM
## gender_chr_AW 0.8145290 0.305
## Residual      0.6042418
##
## Correlation Structure: Compound symmetry
##  Formula: ~1 | dyadID/obsid
##  Parameter estimate(s):
##        Rho
## 0.07253141
## Variance function:
##  Structure: Different standard deviations per stratum
##  Formula: ~1 | gender_chr_A
##  Parameter estimates:
##         W         M
## 1.0000000 0.9535673
## Fixed effects:  fair_chores_C_A ~ gender_chr_A + telework_A:gender_chr_A + childnum +      r_years +
##                                 Value  Std.Error   DF    t-value p-value
## (Intercept)               0.29398213 0.23577171 1722  1.2468932  0.2126
## gender_chr_AW             0.05163413 0.27471127 1722  0.1879578  0.8509
## childnum                  0.01374494 0.08418130   78  0.1632778  0.8707
## r_years                  -0.01210291 0.00806536   78 -1.5006035  0.1375
## income_A                  0.00000052 0.00000097 1722  0.5363608  0.5918
## gender_chr_AM:telework_A -0.07145422 0.18914858 1722 -0.3777677  0.7056
## gender_chr_AW:telework_A -0.28943589 0.25749651 1722 -1.1240381  0.2612
##  Correlation:
##                           (Intr) gn__AW chldnm r_yers incm_A g__AM:
## gender_chr_AW             -0.289
## childnum                  -0.438  0.040
## r_years                   -0.676 -0.091  0.222
## income_A                  -0.296  0.034  0.050  0.034
## gender_chr_AM:telework_A -0.438  0.469  0.020 -0.040 -0.065
## gender_chr_AW:telework_A  0.005 -0.809 -0.045  0.103 -0.049 -0.095
##
## Standardized Within-Group Residuals:
##        Min         Q1        Med         Q3        Max
```

```
## -6.2882113 -0.3559258 -0.0309773  0.3275497  3.7986556
##
## Number of Observations: 1807
## Number of Groups: 81
```

```
mod_chore_work_empty<- lme(fair_chores_C_A ~ gender_chr_A - 1,
                     data = data_pair,
                     random = ~ gender_chr_A - 1|dyadID,
                     correlation = corCompSymm(form = ~1|dyadID/obsid),
                     weights = varIdent(form = ~1|gender_chr_A),
                     na.action = na.omit)

summary(mod_chore_work_empty)
```

```
## Linear mixed-effects model fit by REML
##   Data: data_pair
##        AIC      BIC    logLik
##   4321.117 4366.337 -2152.558
##
## Random effects:
##  Formula: ~gender_chr_A - 1 | dyadID
##  Structure: General positive-definite, Log-Cholesky parametrization
##               StdDev    Corr
## gender_chr_AM 0.7624073 gn__AM
## gender_chr_AW 0.8462503 0.426
## Residual      0.6076890
##
## Correlation Structure: Compound symmetry
##  Formula: ~1 | dyadID/obsid
##  Parameter estimate(s):
##        Rho
## 0.04661247
## Variance function:
##  Structure: Different standard deviations per stratum
##  Formula: ~1 | gender_chr_A
##  Parameter estimates:
##         W         M
## 1.0000000 0.9637828
## Fixed effects:  fair_chores_C_A ~ gender_chr_A - 1
##                      Value  Std.Error   DF    t-value p-value
## gender_chr_AM  0.05495151 0.08681476 2026  0.6329743  0.5268
## gender_chr_AW -0.06481978 0.09607527 2026 -0.6746770  0.5000
##  Correlation:
##               gn__AM
## gender_chr_AW 0.41
##
## Standardized Within-Group Residuals:
##         Min          Q1         Med          Q3         Max
## -6.13193025 -0.34740789 -0.03267258  0.33405421  3.96475558
##
## Number of Observations: 2108
## Number of Groups: 81
```

```r
resid_var_chore_work_W <- 0.6076890^2
resid_var_chore_work_M <- (0.6076890 * 0.9637828)^2
r2_chore_work_W <- 1 - (0.6042419^2)/resid_var_chore_work_W
r2_chore_work_M <- 1 - (0.6042419*0.9535672)^2/resid_var_chore_work_M
```

```r
mod_work_qmi  <- lme(qmi_ss_A ~ gender_chr_A + telework_A:gender_chr_A-1,
                     data = data_pair,
                     random = ~ gender_chr_A - 1|dyadID,
                     correlation = corCompSymm(form = ~1|dyadID/obsid),
                     weights = varIdent(form = ~1|gender_chr_A),
                     na.action = na.omit)

summary(mod_work_qmi)
```

```
## Linear mixed-effects model fit by REML
##   Data: data_pair
##        AIC      BIC    logLik
##   2347.068 2403.579 -1163.534
##
## Random effects:
##  Formula: ~gender_chr_A - 1 | dyadID
##  Structure: General positive-definite, Log-Cholesky parametrization
##               StdDev    Corr
## gender_chr_AM 0.6250626 gn__AM
## gender_chr_AW 0.5937359 0.773
## Residual      0.4064841
##
## Correlation Structure: Compound symmetry
##  Formula: ~1 | dyadID/obsid
##  Parameter estimate(s):
##      Rho
## 0.287253
## Variance function:
##  Structure: Different standard deviations per stratum
##  Formula: ~1 | gender_chr_A
##  Parameter estimates:
##         W         M
## 1.0000000 0.8740566
## Fixed effects:  qmi_ss_A ~ gender_chr_A + telework_A:gender_chr_A - 1
##                               Value  Std.Error   DF  t-value p-value
## gender_chr_AM              3.593784 0.08858764 2023 40.56756  0.0000
## gender_chr_AW              3.427106 0.10023313 2023 34.19135  0.0000
## gender_chr_AM:telework_A -0.082355 0.09858325 2023 -0.83538  0.4036
## gender_chr_AW:telework_A  0.047706 0.10383864 2023  0.45943  0.6460
##  Correlation:
##                           gn__AM gn__AW g__AM:
## gender_chr_AW              0.246
## gender_chr_AM:telework_A -0.607  0.261
## gender_chr_AW:telework_A  0.212 -0.741 -0.350
##
## Standardized Within-Group Residuals:
##         Min          Q1         Med          Q3         Max
## -7.18803976 -0.02879967  0.04294826  0.22863088  3.61251007
```

```
##
## Number of Observations: 2107
## Number of Groups: 81
```

```
mod_qmi_work_empty<- lme(qmi_ss_A ~ gender_chr_A - 1,
                     data = data_pair,
                     random = ~ gender_chr_A - 1|dyadID,
                     correlation = corCompSymm(form = ~1|dyadID/obsid),
                     weights = varIdent(form = ~1|gender_chr_A),
                     na.action = na.omit)

summary(mod_qmi_work_empty)
```

```
## Linear mixed-effects model fit by REML
##   Data: data_pair
##        AIC      BIC   logLik
##   2338.161 2383.377 -1161.08
##
## Random effects:
##  Formula: ~gender_chr_A - 1 | dyadID
##  Structure: General positive-definite, Log-Cholesky parametrization
##               StdDev    Corr
## gender_chr_AM 0.6259714 gn__AM
## gender_chr_AW 0.5928230 0.778
## Residual      0.4064918
##
## Correlation Structure: Compound symmetry
##  Formula: ~1 | dyadID/obsid
##  Parameter estimate(s):
##       Rho
## 0.2871853
## Variance function:
##  Structure: Different standard deviations per stratum
##  Formula: ~1 | gender_chr_A
##  Parameter estimates:
##         W         M
## 1.0000000 0.8740537
## Fixed effects:  qmi_ss_A ~ gender_chr_A - 1
##                   Value  Std.Error   DF  t-value p-value
## gender_chr_AM 3.548848 0.07050727 2025 50.33307       0
## gender_chr_AW 3.461429 0.06717298 2025 51.53008       0
##  Correlation:
##               gn__AM
## gender_chr_AW 0.762
##
## Standardized Within-Group Residuals:
##         Min          Q1         Med          Q3         Max
## -7.19355647 -0.03058622  0.04125902  0.23337873  3.61705556
##
## Number of Observations: 2107
## Number of Groups: 81
```

```
resid_var_qmi_work_W <- 0.4064918^2
resid_var_qmi_work_M <- (0.4064918 * 0.8740537)^2
r2_qmi_work_W <- 1 - (0.4064841^2)/resid_var_qmi_work_W
r2_qmi_work_M<- 1 - (0.4064841*0.8740566)^2/resid_var_qmi_work_M
r2_qmi_work_W
```

```
## [1] 3.788478e-05
```

```
r2_qmi_work_M
```

```
## [1] 3.124928e-05
```

```
stargazer(mod_qmi_chore_1, mod_qmi_chore_2, mod_qmi_chore_3)
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Fri, May 07, 2021 - 9:42:43 PM

Table 1:

	Dependent variable:		
	qmi_ss_A		
	(1)	(2)	(3)
gender_chr_AM		3.563***	3.552***
		(0.070)	(0.072)
gender_chr_AW	−0.137***	3.426***	3.431***
	(0.050)	(0.067)	(0.068)
gender_chr_AM:day_of_study_A	−0.003	−0.003	−0.003
	(0.003)	(0.003)	(0.003)
gender_chr_AW:day_of_study_A	0.007**	0.007**	0.006**
	(0.003)	(0.003)	(0.003)
gender_chr_AM:fair_chores_C_A	0.069***	0.069***	0.072***
	(0.018)	(0.019)	(0.019)
gender_chr_AW:fair_chores_C_A	0.085***	0.082***	0.076***
	(0.019)	(0.020)	(0.021)
gender_chr_AM:fair_chores_C_P		−0.008	−0.007
		(0.018)	(0.018)
gender_chr_AW:fair_chores_C_P		−0.003	−0.003
		(0.021)	(0.022)
gender_chr_AM:grbs_C_A			0.072
			(0.082)
gender_chr_AW:grbs_C_A			0.043
			(0.073)
gender_chr_AM:fair_chores_C_A:grbs_C_A			−0.036
			(0.025)
gender_chr_AW:fair_chores_C_A:grbs_C_A			−0.036
			(0.030)
gender_chr_AM:fair_chores_C_P:grbs_C_A			0.001
			(0.028)
gender_chr_AW:fair_chores_C_P:grbs_C_A			−0.016
			(0.029)
Constant	3.563***		
	(0.070)		
Observations	2,107	2,107	2,107
Log Likelihood	−1,157.993	−1,163.909	−1,175.840
Akaike Inf. Crit.	2,339.985	2,355.818	2,391.680
Bayesian Inf. Crit.	2,407.787	2,434.907	2,504.607

Note: *p<0.1; **p<0.05; ***p<0.01