Study 1: Code Translation from SPSS to R

Jennifer Lin

11/5/2019

Contents

Reported Results for Study 1

For reference, the results reported in the original paper were as follows.

1. The authors reported that the **aggregate moral relevance rating for individualizing foundations was *higher* than the aggregate ratings for the binding foundations** such that $F(1, 1207) = 1895.09$, $p < .001$, $\eta^2 = .61$.
2. The effect as moderated by politics: $F(1, 1207) = 224.34$, $p < .001$, $\eta^2 = .16$.

From this code, we are missing:

1. Calculations for the η^2 values on both results
2. Correct degrees of freedom in any ANOVA or t-test printout
3. Correct F-values on ANOVA printouts. The F-values reported counld not be achieved even when t^2 was computed on the t-tests.

Setup

```
s1 <- read.csv("GrahamS1data.csv")
```

```
######## Load Packages ###########
library(psych)
library(tidyverse)
```

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

```
## v ggplot2 3.2.0      v purrr   0.3.2
## v tibble  2.1.3      v dplyr   0.8.1
## v tidyr   0.8.3      v stringr 1.4.0
## v readr   1.3.1      v forcats 0.4.0
```

```
## -- Conflicts ------------------- tidyverse_conflicts() --
## x ggplot2::%+%()   masks psych::%+%()
## x ggplot2::alpha() masks psych::alpha()
## x dplyr::filter()  masks stats::filter()
## x dplyr::lag()     masks stats::lag()
```
```
######## Check Variable Structure ######### Gender -- From Integer to factor
str(s1$gender)
```

```
##  int [1:1548] -1 NA -1 1 NA 1 NA 1 1 NA ...
```

```
s1$gender <- as.factor(s1$gender)
class(s1$gender)
```

```
## [1] "factor"
```

Code Translation

For each of the code translations, the original SPSS code is presented followed by the code in R. Results are also presented with each code chunk.

T-test between average Individualizing and Binding Foundations

```
T-TEST
/TESTVAL = 0
/MISSING = ANALYSIS
/VARIABLES = HandFexav IandAandPexav
/CRITERIA = CI(.95) .
```

```r
t.test(s1$HandFexav)
```

```
## 
##  One Sample t-test
## 
## data:  s1$HandFexav
## t = 248.28, df = 1273, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
##  5.041089 5.121391
## sample estimates:
## mean of x
##   5.08124
```

```r
t.test(s1$IandAandPexav)
```

```
## 
##  One Sample t-test
## 
## data:  s1$IandAandPexav
## t = 155.93, df = 1272, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
##  3.617258 3.709441
## sample estimates:
## mean of x
##   3.66335
```

Paired t-test between average individualizing and binding foundations

```
T-TEST
PAIRS = HandFexav  WITH IandAandPexav (PAIRED)
/CRITERIA = CI(.95)
/MISSING = ANALYSIS.
```

```
t.test(s1$HandFexav, s1$IandAandPexav, paired = TRUE)
```

```
##
##  Paired t-test
##
## data:  s1$HandFexav and s1$IandAandPexav
## t = 55.85, df = 1272, p-value < 2.2e-16
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  1.368146 1.467762
## sample estimates:
## mean of the differences
##                1.417954
```

Split-Half Reliability for Harm Foundation

```
RELIABILITY
/VARIABLES=harmed1 suffered1 violence1
/SCALE('Harm items')  ALL
/MODEL=SPLIT
/STATISTICS=DESCRIPTIVE SCALE CORR COV ANOVA
/SUMMARY=TOTAL.
```

```
Harm <- s1 %>% select(c("harmed1", "suffered1", "violence1"))
psych::splitHalf(Harm)
```

```
## Split half reliabilities
## Call: psych::splitHalf(r = Harm)
##
## Maximum split half reliability (lambda 4) =  0.6
## Guttman lambda 6                           =  0.52
## Average split half reliability             =  0.74
## Guttman lambda 3 (alpha)                   =  0.62
## Minimum split half reliability  (beta)     =  0.52
## Average interitem r =  0.35   with median =  0.37
```

Alpha Reliability for Harm Foundation

```
RELIABILITY
/VARIABLES=harmed1 suffered1 violence1
/SCALE('Harm items')
ALL/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR COV ANOVA
```

```
/SUMMARY=TOTAL.
Harm <- s1 %>% select(c("harmed1", "suffered1", "violence1"))
psych::alpha(Harm)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = Harm)
##
##    raw_alpha std.alpha G6(smc) average_r S/N    ase mean    sd median_r
##         0.62      0.62    0.52      0.35 1.6 0.017  5.1 0.86     0.37
##
##   lower alpha upper     95% confidence boundaries
## 0.59 0.62 0.65
##
##   Reliability if an item is dropped:
##           raw_alpha std.alpha G6(smc) average_r  S/N alpha se var.r med.r
## harmed1        0.56      0.56    0.39      0.39 1.29    0.022    NA  0.39
## suffered1      0.45      0.45    0.29      0.29 0.83    0.028    NA  0.29
## violence1      0.54      0.54    0.37      0.37 1.17    0.023    NA  0.37
##
##   Item statistics
##             n raw.r std.r r.cor r.drop mean  sd
## harmed1   1272  0.74  0.74  0.51   0.40  5.2 1.1
## suffered1 1270  0.80  0.78  0.60   0.47  4.7 1.2
## violence1 1273  0.72  0.75  0.53   0.42  5.3 1.0
##
## Non missing response frequency for each item
##             1    2    3    4    5    6 miss
## harmed1   0.02 0.02 0.04 0.14 0.20 0.58 0.18
## suffered1 0.02 0.03 0.09 0.25 0.27 0.33 0.18
## violence1 0.01 0.01 0.04 0.12 0.25 0.56 0.18
```

Alpha Reliability for Fairness Foundation

```
RELIABILITY
/VARIABLES=unfairly1 rights1 differently1
/SCALE('Fairness items')  ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR COV ANOVA
/SUMMARY=TOTAL.
```

```
Fairness <- s1 %>% select(c("unfairly1", "rights1", "differently1"))
psych::alpha(Fairness)
```

```
## 
## Reliability analysis
## Call: psych::alpha(x = Fairness)
## 
##    raw_alpha std.alpha G6(smc) average_r S/N   ase mean   sd median_r
##        0.67      0.67    0.58      0.41   2 0.014  5.1 0.82     0.41
## 
##  lower alpha upper     95% confidence boundaries
## 0.64 0.67 0.7
## 
##  Reliability if an item is dropped:
##             raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r
## unfairly1        0.60      0.61    0.43      0.43 1.5    0.020    NA
## rights1          0.58      0.58    0.41      0.41 1.4    0.021    NA
## differently1     0.54      0.54    0.37      0.37 1.2    0.023    NA
##             med.r
## unfairly1    0.43
## rights1      0.41
## differently1 0.37
## 
##  Item statistics
##                 n raw.r std.r r.cor r.drop mean   sd
## unfairly1    1272  0.77  0.76  0.56   0.46  5.0 1.08
## rights1      1272  0.76  0.77  0.59   0.48  5.3 0.97
## differently1 1271  0.80  0.79  0.62   0.51  4.9 1.09
## 
## Non missing response frequency for each item
##                 1    2    3    4    5    6 miss
## unfairly1    0.01 0.02 0.06 0.19 0.31 0.41 0.18
## rights1      0.01 0.01 0.04 0.10 0.27 0.57 0.18
## differently1 0.01 0.02 0.07 0.21 0.31 0.39 0.18
```

Alpha Reliability for Ingroup Foundation

```
RELIABILITY
/VARIABLES=betray1 friend1 loyalty1
/SCALE('Ingroup items')
ALL/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR COV ANOVA
/SUMMARY=TOTAL.
```

```r
Ingroup <- s1 %>% select(c("betray1", "friend1", "loyalty1"))
psych::alpha(Ingroup)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = Ingroup)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.59       0.6    0.52      0.34 1.5 0.018  3.8 1.1     0.27
##
##  lower alpha upper     95% confidence boundaries
## 0.56 0.59 0.63
##
##  Reliability if an item is dropped:
##         raw_alpha std.alpha G6(smc) average_r  S/N alpha se var.r med.r
## betray1      0.42      0.43    0.27      0.27 0.74    0.029    NA  0.27
## friend1      0.63      0.63    0.46      0.46 1.74    0.019    NA  0.46
## loyalty1     0.42      0.43    0.27      0.27 0.74    0.029    NA  0.27
##
##  Item statistics
##            n raw.r std.r r.cor r.drop mean  sd
## betray1  1273  0.76  0.78  0.61   0.45  3.7 1.4
## friend1  1273  0.73  0.69  0.40   0.32  3.5 1.6
## loyalty1 1271  0.75  0.78  0.61   0.45  4.1 1.4
##
## Non missing response frequency for each item
##             1    2    3    4    5    6 miss
## betray1  0.06 0.14 0.23 0.28 0.17 0.12 0.18
## friend1  0.17 0.14 0.17 0.25 0.14 0.13 0.18
## loyalty1 0.03 0.11 0.18 0.28 0.22 0.18 0.18
```

Alpha Reliability for Authority Foundation

```
RELIABILITY
/VARIABLES=duties1 rank1 respect1
/SCALE('Authority items')
ALL/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR COV ANOVA
/SUMMARY=TOTAL.
```

```r
Authority <- s1 %>% select(c("duties1", "rank1", "respect1"))
psych::alpha(Authority)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = Authority)
##
```

```
##    raw_alpha std.alpha G6(smc) average_r  S/N    ase mean    sd median_r
##         0.39      0.41    0.33       0.19 0.68 0.027  3.6 0.95     0.14
##
##  lower alpha upper     95% confidence boundaries
## 0.34 0.39 0.45
##
##  Reliability if an item is dropped:
##          raw_alpha std.alpha G6(smc) average_r  S/N alpha se var.r med.r
## duties1       0.25      0.25   0.142     0.142 0.33    0.038    NA 0.142
## rank1         0.48      0.49   0.320     0.320 0.94    0.026    NA 0.320
## respect1      0.17      0.17   0.093     0.093 0.21    0.041    NA 0.093
##
##   Item statistics
##             n raw.r std.r r.cor r.drop mean  sd
## duties1  1271  0.65  0.70  0.45   0.27  4.4 1.2
## rank1    1272  0.65  0.61  0.22   0.15  2.6 1.5
## respect1 1273  0.72  0.72  0.50   0.30  3.6 1.4
##
## Non missing response frequency for each item
##             1    2    3    4    5    6 miss
## duties1  0.03 0.05 0.14 0.30 0.27 0.22 0.18
## rank1    0.33 0.20 0.17 0.18 0.07 0.06 0.18
## respect1 0.08 0.16 0.23 0.25 0.17 0.11 0.18
```

Alpha Reliability for Purity Foundation

```
RELIABILITY
/VARIABLES=purity1 disgust1 unnatural1
/SCALE('Purity items')
ALL/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR COV ANOVA
/SUMMARY=TOTAL.
```

```r
Purity <- s1 %>% select(c("purity1", "disgust1", "unnatural1"))
psych::alpha(Purity)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = Purity)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##         0.7       0.7    0.61      0.44 2.3 0.013  3.7 1.1     0.43
##
##  lower alpha upper     95% confidence boundaries
```

```
## 0.68 0.7 0.73
##
##  Reliability if an item is dropped:
##           raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r med.r
## purity1        0.60      0.60    0.43      0.43 1.5    0.020    NA  0.43
## disgust1       0.59      0.59    0.42      0.42 1.4    0.021    NA  0.42
## unnatural1     0.64      0.64    0.47      0.47 1.8    0.018    NA  0.47
##
##  Item statistics
##               n raw.r std.r r.cor r.drop mean  sd
## purity1    1273  0.81  0.79  0.63   0.52  3.5 1.5
## disgust1   1272  0.79  0.80  0.64   0.53  3.4 1.4
## unnatural1 1270  0.77  0.78  0.59   0.49  4.1 1.4
##
## Non missing response frequency for each item
##              1    2    3    4    5    6 miss
## purity1    0.10 0.18 0.22 0.23 0.15 0.12 0.18
## disgust1   0.08 0.20 0.24 0.25 0.12 0.09 0.18
## unnatural1 0.05 0.08 0.19 0.26 0.22 0.20 0.18
```

Alpha Reliability for All Foundations

```
RELIABILITY
/VARIABLES=purity1 disgust1 unnatural1 betray1 differently1 duties1
  friend1 harmed1 loyalty1 rank1 respect1 rights1 suffered1
  unfairly1 violence1
/SCALE('Full scale')
ALL/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR COV ANOVA
/SUMMARY=TOTAL.
```

```r
AllFoundations <- s1 %>% select(c("harmed1", "suffered1", "violence1",
    "unfairly1", "rights1", "differently1", "betray1", "friend1", "loyalty1",
    "duties1", "rank1", "respect1", "purity1", "disgust1", "unnatural1"))
psych::alpha(AllFoundations)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = AllFoundations)
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean   sd median_r
##        0.79       0.8    0.82      0.21 3.9 0.0077  4.2 0.66      0.2
##
##  lower alpha upper     95% confidence boundaries
```

```
## 0.78 0.79 0.81
##
##   Reliability if an item is dropped:
##             raw_alpha std.alpha G6(smc) average_r S/N alpha se var.r
## harmed1          0.79      0.79     0.81      0.21 3.8   0.0079 0.014
## suffered1        0.78      0.78     0.80      0.20 3.6   0.0082 0.014
## violence1        0.78      0.78     0.80      0.21 3.6   0.0081 0.014
## unfairly1        0.78      0.78     0.80      0.21 3.6   0.0081 0.014
## rights1          0.79      0.79     0.81      0.21 3.8   0.0079 0.013
## differently1     0.78      0.79     0.80      0.21 3.7   0.0080 0.013
## betray1          0.77      0.78     0.80      0.20 3.5   0.0085 0.014
## friend1          0.79      0.80     0.82      0.22 3.9   0.0077 0.014
## loyalty1         0.77      0.78     0.80      0.20 3.5   0.0085 0.014
## duties1          0.78      0.78     0.81      0.21 3.6   0.0082 0.015
## rank1            0.80      0.80     0.82      0.22 4.1   0.0075 0.013
## respect1         0.78      0.78     0.81      0.21 3.6   0.0083 0.014
## purity1          0.78      0.78     0.80      0.21 3.6   0.0083 0.013
## disgust1         0.77      0.78     0.80      0.20 3.6   0.0085 0.013
## unnatural1       0.77      0.78     0.80      0.20 3.6   0.0084 0.015
##               med.r
## harmed1        0.21
## suffered1      0.20
## violence1      0.19
## unfairly1      0.20
## rights1        0.20
## differently1   0.20
## betray1        0.19
## friend1        0.21
## loyalty1       0.19
## duties1        0.19
## rank1          0.21
## respect1       0.20
## purity1        0.20
## disgust1       0.20
## unnatural1     0.20
##
##   Item statistics
##               n raw.r std.r r.cor r.drop mean   sd
## harmed1      1272  0.41  0.44  0.37   0.30  5.2 1.15
## suffered1    1270  0.52  0.55  0.52   0.42  4.7 1.22
## violence1    1273  0.50  0.54  0.50   0.41  5.3 1.05
## unfairly1    1272  0.49  0.53  0.49   0.40  5.0 1.08
## rights1      1272  0.41  0.47  0.42   0.32  5.3 0.97
## differently1 1271  0.47  0.52  0.48   0.38  4.9 1.09
## betray1      1273  0.62  0.59  0.56   0.52  3.7 1.39
```

```
## friend1      1273  0.42  0.37  0.29    0.27  3.5 1.61
## loyalty1     1271  0.61  0.60  0.57    0.52  4.1 1.35
## duties1      1271  0.52  0.53  0.48    0.42  4.4 1.24
## rank1        1272  0.35  0.32  0.22    0.21  2.6 1.54
## respect1     1273  0.55  0.53  0.48    0.44  3.6 1.44
## purity1      1273  0.57  0.53  0.49    0.45  3.5 1.50
## disgust1     1272  0.61  0.58  0.55    0.51  3.4 1.40
## unnatural1   1270  0.58  0.56  0.51    0.47  4.1 1.41
##
## Non missing response frequency for each item
##                  1    2    3    4    5    6 miss
## harmed1       0.02 0.02 0.04 0.14 0.20 0.58 0.18
## suffered1     0.02 0.03 0.09 0.25 0.27 0.33 0.18
## violence1     0.01 0.01 0.04 0.12 0.25 0.56 0.18
## unfairly1     0.01 0.02 0.06 0.19 0.31 0.41 0.18
## rights1       0.01 0.01 0.04 0.10 0.27 0.57 0.18
## differently1  0.01 0.02 0.07 0.21 0.31 0.39 0.18
## betray1       0.06 0.14 0.23 0.28 0.17 0.12 0.18
## friend1       0.17 0.14 0.17 0.25 0.14 0.13 0.18
## loyalty1      0.03 0.11 0.18 0.28 0.22 0.18 0.18
## duties1       0.03 0.05 0.14 0.30 0.27 0.22 0.18
## rank1         0.33 0.20 0.17 0.18 0.07 0.06 0.18
## respect1      0.08 0.16 0.23 0.25 0.17 0.11 0.18
## purity1       0.10 0.18 0.22 0.23 0.15 0.12 0.18
## disgust1      0.08 0.20 0.24 0.25 0.12 0.09 0.18
## unnatural1    0.05 0.08 0.19 0.26 0.22 0.20 0.18
```

Correlation between politics and all relevance foundation scores

```
CORRELATIONS
/VARIABLES=politics HarmRel FairnessRel IngroupRel AuthorityRel PurityRel
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE.
Relpolcor <- s1 %>% select(c("HarmRel", "FairnessRel", "IngroupRel", "AuthorityRel",
    "PurityRel", "politics"))
cor(Relpolcor, method = "pearson", use = "complete.obs")
```

```
##                 HarmRel FairnessRel IngroupRel AuthorityRel PurityRel
## HarmRel       1.0000000   0.5303343  0.2803263    0.2080561 0.2572554
## FairnessRel   0.5303343   1.0000000  0.2134403    0.2463292 0.1946201
## IngroupRel    0.2803263   0.2134403  1.0000000    0.4221912 0.4564582
## AuthorityRel  0.2080561   0.2463292  0.4221912    1.0000000 0.4446942
## PurityRel     0.2572554   0.1946201  0.4564582    0.4446942 1.0000000
```

```
## politics      -0.1545757  -0.2085178  0.1180143    0.2061546 0.2642959
##                  politics
## HarmRel       -0.1545757
## FairnessRel   -0.2085178
## IngroupRel     0.1180143
## AuthorityRel   0.2061546
## PurityRel      0.2642959
## politics       1.0000000
```

Correlation between politics, foundation relevance scores and average difference score

```
CORRELATIONS
/VARIABLES=politics HarmRel FairnessRel IngroupRel AuthorityRel
  PurityRel HFminusIAPexav
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE.
```

```r
diffcor <- s1 %>% select(c("HarmRel", "FairnessRel", "IngroupRel", "AuthorityRel",
    "PurityRel", "politics", "HFminusIAPexav"))
cor(diffcor, method = "pearson", use = "complete.obs")
```

```
##                  HarmRel FairnessRel IngroupRel AuthorityRel  PurityRel
## HarmRel        1.0000000   0.5303343  0.2803263    0.2080561  0.2572554
## FairnessRel    0.5303343   1.0000000  0.2134403    0.2463292  0.1946201
## IngroupRel     0.2803263   0.2134403  1.0000000    0.4221912  0.4564582
## AuthorityRel   0.2080561   0.2463292  0.4221912    1.0000000  0.4446942
## PurityRel      0.2572554   0.1946201  0.4564582    0.4446942  1.0000000
## politics      -0.1545757  -0.2085178  0.1180143    0.2061546  0.2642959
## HFminusIAPexav 0.4252407   0.4511372 -0.5021068   -0.4903684 -0.5412954
##                  politics HFminusIAPexav
## HarmRel        -0.1545757      0.4252407
## FairnessRel    -0.2085178      0.4511372
## IngroupRel      0.1180143     -0.5021068
## AuthorityRel    0.2061546     -0.4903684
## PurityRel       0.2642959     -0.5412954
## politics        1.0000000     -0.3958994
## HFminusIAPexav -0.3958994      1.0000000
```

Paired t-test with binding and difference score

```
T-TEST
PAIRS = IandAandPexav  WITH HFminusIAPexav (PAIRED)
```

```
/CRITERIA = CI(.95)
/MISSING = ANALYSIS.
```

```r
t.test(s1$IandAandPexav, s1$HFminusIAPexav, paired = TRUE)
```

```
##
##  Paired t-test
##
## data:  s1$IandAandPexav and s1$HFminusIAPexav
## t = 50.543, df = 1272, p-value < 2.2e-16
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  2.158241 2.332551
## sample estimates:
## mean of the differences
##                2.245396
```

Oneway ANOVA with relevance scores by gender

```
ONEWAY   HarmRel FairnessRel IngroupRel AuthorityRel PurityRel BY gender
/MISSING ANALYSIS.
```

```r
summary(aov(HarmRel ~ gender, data = s1))   #Harm
```

```
##                Df Sum Sq Mean Sq F value Pr(>F)
## gender          1   36.0   36.04   50.49  2e-12 ***
## Residuals    1260  899.5    0.71
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 286 observations deleted due to missingness
```

```r
summary(aov(FairnessRel ~ gender, data = s1))   #Fairness
```

```
##                Df Sum Sq Mean Sq F value  Pr(>F)
## gender          1    4.6   4.594   6.943 0.00852 **
## Residuals    1259  833.1   0.662
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 287 observations deleted due to missingness
```

```r
summary(aov(IngroupRel ~ gender, data = s1))   #Ingroup
```

```
##                Df Sum Sq Mean Sq F value Pr(>F)
## gender          1    0.6   0.611   0.527  0.468
## Residuals    1259 1458.9   1.159
## 287 observations deleted due to missingness
```

```
summary(aov(AuthorityRel ~ gender, data = s1))   #Authority
```

```
##               Df Sum Sq Mean Sq F value Pr(>F)
## gender         1    0.6  0.6426   0.716  0.398
## Residuals   1259 1129.4  0.8971
## 287 observations deleted due to missingness
```

```
summary(aov(PurityRel ~ gender, data = s1))   #Purity
```

```
##               Df Sum Sq Mean Sq F value Pr(>F)
## gender         1    7.4   7.362   5.753 0.0166 *
## Residuals   1259 1611.1   1.280
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 287 observations deleted due to missingness
```

T-test comparing relevance scores on each foundation by gender

```
T-TEST
GROUPS = gender(-1 1)
/MISSING = ANALYSIS
/VARIABLES = HarmRel FairnessRel IngroupRel AuthorityRel PurityRel
/CRITERIA = CI(.95).
```

```
t.test(HarmRel ~ gender, data = s1)   #Harm
```

```
##
##   Welch Two Sample t-test
##
## data:  HarmRel by gender
## t = -7.1884, df = 1242.6, p-value = 1.128e-12
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.4308429 -0.2460923
## sample estimates:
## mean in group -1  mean in group 1
##         3.907631         4.246098
```

```
t.test(FairnessRel ~ gender, data = s1)   #Fairness
```

```
##
##   Welch Two Sample t-test
##
## data:  FairnessRel by gender
## t = -2.6467, df = 1258.3, p-value = 0.00823
## alternative hypothesis: true difference in means is not equal to 0
```

14

```
## 95 percent confidence interval:
##  -0.21049825 -0.03128043
## sample estimates:
## mean in group -1  mean in group 1
##        4.034890         4.155779
```

```r
t.test(IngroupRel ~ gender, data = s1)  #Ingroup
```

```
##
##  Welch Two Sample t-test
##
## data:  IngroupRel by gender
## t = -0.72974, df = 1258.8, p-value = 0.4657
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.16260616  0.07443522
## sample estimates:
## mean in group -1  mean in group 1
##        2.726155         2.770240
```

```r
t.test(AuthorityRel ~ gender, data = s1)   #Authority
```

```
##
##  Welch Two Sample t-test
##
## data:  AuthorityRel by gender
## t = 0.84979, df = 1257.9, p-value = 0.3956
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.05916579  0.14958947
## sample estimates:
## mean in group -1  mean in group 1
##        2.569779         2.524567
```

```r
t.test(PurityRel ~ gender, data = s1)  #Purity
```

```
##
##  Welch Two Sample t-test
##
## data:  PurityRel by gender
## t = -2.4, df = 1247.6, p-value = 0.01654
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.27813469 -0.02793885
## sample estimates:
## mean in group -1  mean in group 1
##        2.604920         2.757956
```

Oneway ANOVA with relevance scores and politics by gender

```
ONEWAY HarmRel FairnessRel IngroupRel AuthorityRel PurityRel politics BY gender
/MISSING ANALYSIS.
```

```r
summary(aov(HarmRel ~ gender, data = s1))   #Harm
```

```
##               Df Sum Sq Mean Sq F value Pr(>F)
## gender         1   36.0   36.04   50.49  2e-12 ***
## Residuals   1260  899.5    0.71
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 286 observations deleted due to missingness
```

```r
summary(aov(FairnessRel ~ gender, data = s1))   #Fairness
```

```
##               Df Sum Sq Mean Sq F value  Pr(>F)
## gender         1    4.6   4.594   6.943 0.00852 **
## Residuals   1259  833.1   0.662
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 287 observations deleted due to missingness
```

```r
summary(aov(IngroupRel ~ gender, data = s1))   #Ingroup
```

```
##               Df Sum Sq Mean Sq F value Pr(>F)
## gender         1    0.6   0.611   0.527  0.468
## Residuals   1259 1458.9   1.159
## 287 observations deleted due to missingness
```

```r
summary(aov(AuthorityRel ~ gender, data = s1))   #Authority
```

```
##               Df Sum Sq Mean Sq F value Pr(>F)
## gender         1    0.6  0.6426   0.716  0.398
## Residuals   1259 1129.4  0.8971
## 287 observations deleted due to missingness
```

```r
summary(aov(PurityRel ~ gender, data = s1))   #Purity
```

```
##               Df Sum Sq Mean Sq F value Pr(>F)
## gender         1    7.4   7.362   5.753 0.0166 *
## Residuals   1259 1611.1   1.280
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 287 observations deleted due to missingness
```

Regression with politics and gender from Harm Relevance score

```
REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT HarmRel
/METHOD=ENTER politics gender.
```

```
summary(lm(HarmRel ~ politics + gender, data = s1))
```

```
##
## Call:
## lm(formula = HarmRel ~ politics + gender, data = s1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -3.9973 -0.5130  0.1537  0.6693  1.3012
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  3.84805    0.03536 108.811  < 2e-16 ***
## politics    -0.07464    0.01528  -4.886 1.17e-06 ***
## gender1      0.33157    0.04872   6.806 1.58e-11 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.8408 on 1204 degrees of freedom
##   (341 observations deleted due to missingness)
## Multiple R-squared:  0.0603, Adjusted R-squared:  0.05874
## F-statistic: 38.63 on 2 and 1204 DF,  p-value: < 2.2e-16
```

Regression with politics and gender from Fairness Relevance score

```
REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT FairnessRel
/METHOD=ENTER politics gender.
```

```
summary(lm(FairnessRel ~ politics + gender, data = s1))
```

```
## 
## Call:
## lm(formula = FairnessRel ~ politics + gender, data = s1)
## 
## Residuals:
##     Min      1Q  Median      3Q     Max
## -4.1633 -0.3936  0.0775  0.6168  1.3516
## 
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  3.95733    0.03352 118.049  < 2e-16 ***
## politics    -0.10297    0.01448  -7.110 1.99e-12 ***
## gender1      0.09255    0.04621   2.003   0.0454 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## Residual standard error: 0.797 on 1203 degrees of freedom
##   (342 observations deleted due to missingness)
## Multiple R-squared:  0.04587,    Adjusted R-squared:  0.04429
## F-statistic: 28.92 on 2 and 1203 DF,  p-value: 5.411e-13
```

Regression with politics and gender from Ingroup Relevance score

```
REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT IngroupRel
/METHOD=ENTER politics gender.
```

```r
summary(lm(IngroupRel ~ politics + gender, data = s1))
```

```
## 
## Call:
## lm(formula = IngroupRel ~ politics + gender, data = s1)
## 
## Residuals:
##      Min       1Q   Median       3Q      Max
## -3.10438 -0.69244  0.04228  0.72328  2.37562
## 
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  2.78916    0.04484  62.200  < 2e-16 ***
```

```
## politics      0.08239    0.01937    4.253 2.28e-05 ***
## gender1       0.06806    0.06181    1.101    0.271
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.066 on 1203 degrees of freedom
##   (342 observations deleted due to missingness)
## Multiple R-squared:  0.0152, Adjusted R-squared:  0.01356
## F-statistic: 9.284 on 2 and 1203 DF,  p-value: 9.975e-05
```

Regression with politics and gender from Authority Relevance score

```
REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT AuthorityRel
/METHOD=ENTER politics gender.
```

```
summary(lm(AuthorityRel ~ politics + gender, data = s1))
```

```
##
## Call:
## lm(formula = AuthorityRel ~ politics + gender, data = s1)
##
## Residuals:
##     Min      1Q   Median      3Q      Max
## -3.04654 -0.62868 -0.00309  0.57985  2.57985
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) 2.669760   0.038995  68.464  < 2e-16 ***
## politics    0.124803   0.016848   7.408 2.41e-13 ***
## gender1     0.002368   0.053750   0.044    0.965
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.9271 on 1203 degrees of freedom
##   (342 observations deleted due to missingness)
## Multiple R-squared:  0.04397,    Adjusted R-squared:  0.04238
## F-statistic: 27.66 on 2 and 1203 DF,  p-value: 1.795e-12
```

Regression with politics and gender from Purity Relevance score

```
REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT PurityRel
/METHOD=ENTER politics gender.
```

```
summary(lm(PurityRel ~ politics + gender, data = s1))
```

```
##
## Call:
## lm(formula = PurityRel ~ politics + gender, data = s1)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -3.5636 -0.7159 -0.0334  0.7539  2.8224
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  2.76815    0.04573  60.538  < 2e-16 ***
## politics     0.19684    0.01976   9.964  < 2e-16 ***
## gender1      0.20494    0.06303   3.252  0.00118 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 1.087 on 1203 degrees of freedom
##   (342 observations deleted due to missingness)
## Multiple R-squared:  0.07998,    Adjusted R-squared:  0.07845
## F-statistic: 52.29 on 2 and 1203 DF,  p-value: < 2.2e-16
```