Moniz_2020_Replication_Code.R

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11/21/2020

Moniz (2020) Replication Code.

How Bad Is It? Elite Influence and the Perceived Seriousness of the Coronavirus Pandemic

Journal of Experimental Political Science

Load in the PROCESS mediation function:

```
##
## ***************** PROCESS for R Version 3.5 beta0.1 ******************
##
##            Written by Andrew F. Hayes, Ph.D.  www.afhayes.com
##    Documentation available in Hayes (2018). www.guilford.com/p/hayes3
##
## **************************************************************************
##
## PROCESS is now ready for use.
## Copyright 2020 by Andrew F. Hayes ALL RIGHTS RESERVED
##
## Distribution of this beta release of PROCESS is prohibited
## without written authorization from the copyright holder.
```

```
library(dplyr) # makes variables
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(readr) # reads in dataset
library(broom) # extracts statistics from models
library(ggplot2) # makes plots
library(ggpubr) # arranges plots
library(BayesFactor) # calculates Bayes Factors
```

```
## Loading required package: coda
```

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

```
## ************
## Welcome to BayesFactor 0.9.12-4.2. If you have questions, please contact Richard Morey (richarddmorey
##
```

```
## Type BFManual() to open the manual.
## ************
```

```
library(psych) # calculates reliability statistics
```

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

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

```
library(stargazer) # makes tables
```

```
##
## Please cite as:
```

```
##  Hlavac, Marek (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables.
```

```
##  R package version 5.2.2. https://CRAN.R-project.org/package=stargazer
```

```
# Set this to the location of the dataset on your machine
setwd("~/Data/COVID-19_Accountability")

#### IMPORT DATA ####

d <- read_csv("covid_serious_Moniz_2020.csv")
```

```
##
## -- Column specification --------------------------------------------------------
## cols(
##   .default = col_double(),
##   Manipulations_DO = col_character(),
##   Q26_4_TEXT = col_character(),
##   `Q26_4_TEXT - Parent Topics` = col_logical(),
##   `Q26_4_TEXT - Topics` = col_logical()
## )
## i Use `spec()` for the full column specifications.
```

```
#### VARIABLE CONSTRUCTION ####

# condition indicator constructed as follows:
d <- mutate(d, condition = case_when(
      Manipulations_DO == "control" ~ 0,
      Manipulations_DO == "minimize" ~ 1,
      Manipulations_DO == "minimize.context" ~ 2,
      Manipulations_DO == "amplify" ~ 3
))

# R says he/she had heard of treatment before
d$pretreated.binary <- ifelse(d$pretreated <= 2, 1, 0)

# Problem seriousness DV (scaled 0-1), larger values = deaths are a bigger problem
d$deaths.bigproblem <- ((6 - d$deaths.problem) - 1) / 4

# Trump Job approval scale DV
d <- mutate(d, trump.job = (as.numeric(d$trump.weak) + as.numeric(d$trump.incomp) +
                                  as.numeric(d$trump.effective)
```

```
                            + as.numeric(d$trump.helpful)) / 4)
d <- mutate(d, trump.job = 10 - trump.job) # higher = better job
d <- mutate(d, trump.job = (trump.job - 1)/ 8) # scale from 0-1

# policy support scale DV; scaled 0-1; larger = more support
d <- mutate(d, policy.scale =( ((8 -((Q47 + Q60 + Q61 + Q62 + Q63 + Q64 + Q65 + Q66)/8))) - 1) /6)

# risky health-behavior intentions DV
d$face.mask <- (8 - d$Q75) # reverse-coded
# larger values = more risky intentions
d <- mutate(d, intentions =( (((Q67+ Q77+ Q76+ Q72+ face.mask+ Q73+ Q74+ Q69)/8)) - 1) /6)


#### TEST RELIABILITY OF SCALES ####


trump.job <- data.frame(weak = as.numeric(d$trump.weak), incomp = as.numeric(d$trump.incomp),
                        effec = as.numeric(d$trump.effective),
                        help = as.numeric(d$trump.helpful))
psych::alpha(trump.job)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = trump.job)
##
##   raw_alpha std.alpha G6(smc) average_r S/N   ase mean  sd median_r
##       0.97      0.97    0.97      0.91  39 0.001  4.1 2.2     0.91
##
##  lower alpha upper     95% confidence boundaries
## 0.97 0.97 0.98
##
##  Reliability if an item is dropped:
##        raw_alpha std.alpha G6(smc) average_r S/N alpha se   var.r med.r
## weak        0.96      0.96    0.95      0.90  26   0.0016 9.3e-05  0.90
## incomp      0.97      0.97    0.95      0.91  31   0.0013 1.3e-05  0.91
## effec       0.97      0.97    0.95      0.91  30   0.0014 1.0e-04  0.91
## help        0.97      0.97    0.95      0.91  29   0.0014 2.1e-04  0.91
##
##  Item statistics
##           n raw.r std.r r.cor r.drop mean  sd
## weak   1609  0.97  0.97  0.96   0.95  4.1 2.3
## incomp 1615  0.96  0.96  0.94   0.93  4.1 2.3
## effec  1612  0.96  0.96  0.95   0.93  4.1 2.2
## help   1610  0.96  0.96  0.95   0.94  4.1 2.3
##
## Non missing response frequency for each item
##           1    2    3    4    5    6    7    8    9 miss
## weak   0.17 0.12 0.17 0.14 0.15 0.10 0.07 0.03 0.05    0
## incomp 0.17 0.12 0.18 0.14 0.11 0.11 0.09 0.03 0.05    0
## effec  0.15 0.11 0.17 0.16 0.14 0.11 0.08 0.03 0.05    0
## help   0.17 0.11 0.17 0.15 0.14 0.10 0.07 0.04 0.05    0
```

```
policy <- d %>% select(Q47, Q60, Q61, Q62, Q63, Q64, Q65, Q66)
psych::alpha(policy)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = policy)
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean  sd median_r
##       0.92      0.92    0.92      0.59  12 0.0029  3.2 1.6     0.69
##
##  lower alpha upper     95% confidence boundaries
## 0.91 0.92 0.93
##
##  Reliability if an item is dropped:
##     raw_alpha std.alpha G6(smc) average_r  S/N alpha se var.r med.r
## Q47      0.90      0.90    0.90      0.57  9.3   0.0036 0.034  0.48
## Q60      0.90      0.90    0.90      0.57  9.1   0.0036 0.033  0.48
## Q61      0.93      0.93    0.93      0.66 13.6   0.0028 0.018  0.71
## Q62      0.90      0.90    0.90      0.56  8.9   0.0037 0.031  0.48
## Q63      0.90      0.90    0.90      0.57  9.3   0.0035 0.035  0.48
## Q64      0.90      0.90    0.90      0.56  9.0   0.0037 0.032  0.48
## Q65      0.91      0.91    0.91      0.58  9.6   0.0034 0.036  0.48
## Q66      0.93      0.93    0.93      0.65 12.9   0.0024 0.023  0.71
##
##  Item statistics
##        n raw.r std.r r.cor r.drop mean  sd
## Q47 1612  0.87  0.86  0.85   0.81  4.1 2.0
## Q60 1614  0.88  0.88  0.87   0.84  3.0 1.9
## Q61 1614  0.54  0.57  0.47   0.45  2.1 1.4
## Q62 1613  0.90  0.90  0.89   0.86  3.3 2.0
## Q63 1612  0.86  0.86  0.84   0.81  3.0 1.9
## Q64 1614  0.89  0.89  0.89   0.85  3.2 2.0
## Q65 1615  0.84  0.84  0.81   0.78  3.1 2.0
## Q66 1612  0.63  0.61  0.52   0.50  3.6 2.3
##
## Non missing response frequency for each item
##        1    2    3    4    5    6    7 miss
## Q47 0.12 0.15 0.18 0.08 0.17 0.13 0.18    0
## Q60 0.27 0.23 0.20 0.05 0.10 0.07 0.08    0
## Q61 0.44 0.29 0.14 0.06 0.03 0.02 0.02    0
## Q62 0.22 0.21 0.20 0.06 0.10 0.09 0.11    0
## Q63 0.28 0.23 0.17 0.08 0.10 0.07 0.08    0
## Q64 0.22 0.25 0.18 0.07 0.10 0.08 0.10    0
## Q65 0.25 0.24 0.17 0.08 0.09 0.07 0.10    0
## Q66 0.26 0.19 0.10 0.09 0.07 0.09 0.20    0
```

```
intentions <- d %>% dplyr::select(Q67, Q77, Q76, Q72, face.mask, Q73, Q74, Q69)
psych::alpha(intentions)
```

```
##
## Reliability analysis
## Call: psych::alpha(x = intentions)
##
##   raw_alpha std.alpha G6(smc) average_r S/N    ase mean  sd median_r
##         0.9       0.9     0.9      0.53   9 0.0038    4 1.6     0.53
##
##  lower alpha upper     95% confidence boundaries
## 0.89 0.9 0.91
```

```
##
##  Reliability if an item is dropped:
##           raw_alpha std.alpha G6(smc) average_r S/N alpha se  var.r med.r
## Q67            0.88      0.88    0.88      0.51 7.4   0.0046 0.0146  0.52
## Q77            0.89      0.89    0.88      0.53 7.9   0.0043 0.0153  0.54
## Q76            0.88      0.89    0.88      0.52 7.7   0.0044 0.0155  0.52
## Q72            0.88      0.88    0.87      0.50 7.1   0.0047 0.0144  0.52
## face.mask      0.90      0.91    0.90      0.58 9.6   0.0036 0.0075  0.61
## Q73            0.88      0.88    0.87      0.51 7.2   0.0047 0.0145  0.47
## Q74            0.88      0.88    0.87      0.51 7.4   0.0046 0.0149  0.52
## Q69            0.90      0.90    0.89      0.56 8.8   0.0039 0.0135  0.61
##
##  Item statistics
##              n raw.r std.r r.cor r.drop mean  sd
## Q67       1612  0.82  0.82  0.79   0.75  4.0 2.1
## Q77       1612  0.75  0.76  0.72   0.68  5.3 1.9
## Q76       1611  0.78  0.78  0.74   0.70  3.4 2.1
## Q72       1614  0.84  0.85  0.83   0.79  4.6 2.1
## face.mask 1613  0.60  0.60  0.50   0.47  3.1 2.2
## Q73       1614  0.84  0.84  0.82   0.78  4.2 2.1
## Q74       1612  0.82  0.82  0.80   0.75  3.4 2.2
## Q69       1613  0.67  0.67  0.59   0.56  4.1 2.3
##
## Non missing response frequency for each item
##              1    2    3    4    5    6    7 miss
## Q67       0.18 0.14 0.11 0.08 0.17 0.16 0.16    0
## Q77       0.06 0.06 0.07 0.06 0.16 0.21 0.37    0
## Q76       0.29 0.15 0.10 0.11 0.12 0.11 0.11    0
## Q72       0.12 0.12 0.10 0.06 0.16 0.17 0.28    0
## face.mask 0.35 0.17 0.13 0.06 0.07 0.08 0.14    0
## Q73       0.18 0.11 0.10 0.12 0.14 0.16 0.18    0
## Q74       0.28 0.17 0.11 0.09 0.13 0.11 0.12    0
## Q69       0.23 0.10 0.09 0.11 0.12 0.12 0.23    0
```

```
####################
#### INFERENCES ####
####################

#### HYPOTHESIS ONE ####
## DIFFERENCES IN PROBLEM STATUS ##
summary(lm(deaths.bigproblem ~ factor(condition), d))
```

```
##
## Call:
## lm(formula = deaths.bigproblem ~ factor(condition), data = d)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.68691 -0.17076  0.06309  0.13666  0.38666
##
## Coefficients:
##                     Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.68691    0.01241  55.360  < 2e-16 ***
## factor(condition)1 -0.01615    0.01773  -0.911    0.363
## factor(condition)2 -0.07357    0.01797  -4.093 4.47e-05 ***
```

```
## factor(condition)3 -0.02108    0.01783  -1.182    0.237
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.2555 on 1611 degrees of freedom
## Multiple R-squared:  0.01136,    Adjusted R-squared:  0.009515
## F-statistic: 6.168 on 3 and 1611 DF,  p-value: 0.0003628
```

```
t.test(deaths.bigproblem ~ condition, d[d$condition == 0 | d$condition == 1, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  deaths.bigproblem by condition
## t = 0.89978, df = 828.77, p-value = 0.1842
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.02415167         Inf
## sample estimates:
## mean in group 0 mean in group 1
##       0.6869104       0.6707617
```

```
t.test(deaths.bigproblem ~ condition, d[d$condition == 0 | d$condition == 3, ],
       alternative = "less", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  deaths.bigproblem by condition
## t = 1.1651, df = 818.42, p-value = 0.8778
## alternative hypothesis: true difference in means is less than 0
## 98.75 percent confidence interval:
##        -Inf 0.06171139
## sample estimates:
## mean in group 0 mean in group 3
##       0.6869104       0.6658291
```

```
# Bayes Factors
# nullInterval argument specifies the one-sided hypothesis test
# (difference can be between 0 and infinity, not negative)
ttestBF(d$deaths.bigproblem[d$condition == 0], d$deaths.bigproblem[d$condition == 1],
        nullInterval = c(0, Inf))
```

```
## Bayes factor analysis
## --------------
## [1] Alt., r=0.707 0<d<Inf    : 0.1877744  ±0%
## [2] Alt., r=0.707 !(0<d<Inf) : 0.04303358 ±0%
##
## Against denominator:
##   Null, mu1-mu2 = 0
## ---
## Bayes factor type: BFindepSample, JZS
```

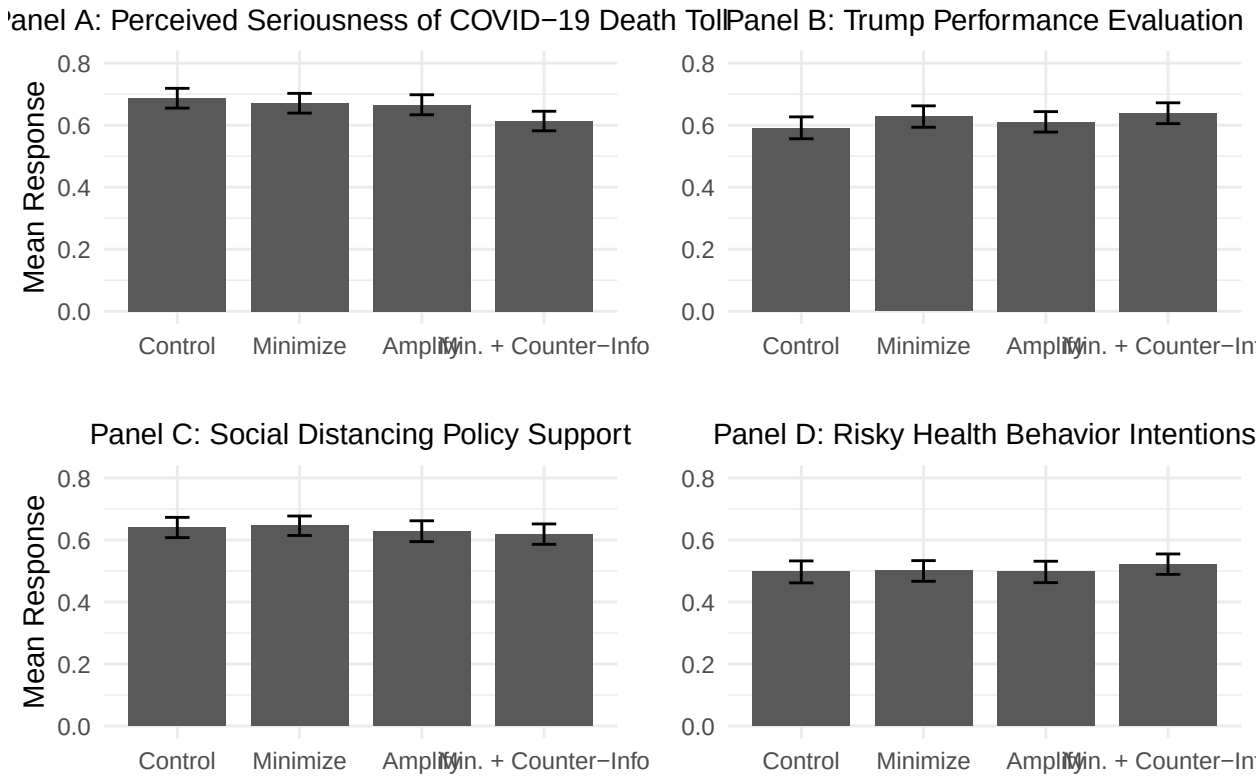
```
ttestBF(d$deaths.bigproblem[d$condition == 0], d$deaths.bigproblem[d$condition == 3],
        nullInterval = c(0, Inf))
```

```
## Bayes factor analysis
## --------------
## [1] Alt., r=0.707 0<d<Inf    : 0.265803   ±0.01%
## [2] Alt., r=0.707 !(0<d<Inf) : 0.03775454 ±0%
##
## Against denominator:
##   Null, mu1-mu2 = 0
## ---
## Bayes factor type: BFindepSample, JZS
```

```
#### Figure 1 ####
## Contains all four DVs ##

## Perceived Seriousness of Death Toll DV
# estimating standard errors of means for CIs
mean0 <- broom::tidy(t.test(d[d$condition == 0,"deaths.bigproblem"], conf.level = .9875))

mean1 <- broom::tidy(t.test(d[d$condition == 1,"deaths.bigproblem"], conf.level = .9875))

mean2 <- broom::tidy(t.test(d[d$condition == 2,"deaths.bigproblem"], conf.level = .9875))

mean3 <- broom::tidy(t.test(d[d$condition == 3,"deaths.bigproblem"], conf.level = .9875))

h1means <- bind_rows(mean0, mean1, mean2, mean3)

h1means$group <- factor(c("Control", "Minimize", "Min. + Counter-Info", "Amplify"),
                        levels = c("Control", "Minimize",
                                   "Amplify", "Min. + Counter-Info"))


serious.plot <- h1means %>% ggplot(aes(group, estimate)) + geom_col(width = .8) +
      geom_errorbar(aes(ymin = conf.low, ymax = conf.high), width = .2) +
      xlab("") + ylab("Mean Response") +
      theme_minimal() + ylim(c(0, .8)) +
      labs(subtitle = "Panel A: Perceived Seriousness of COVID-19 Death Toll") +
      theme(plot.subtitle = element_text(hjust = 0.5))


## Trump job performance DV
# estimating standard errors of means for CIs
mean0 <- broom::tidy(t.test(d[d$condition == 0,"trump.job"], conf.level = .9875))

mean1 <- broom::tidy(t.test(d[d$condition == 1,"trump.job"], conf.level = .9875))

mean2 <- broom::tidy(t.test(d[d$condition == 2,"trump.job"], conf.level = .9875))

mean3 <- broom::tidy(t.test(d[d$condition == 3,"trump.job"], conf.level = .9875))

h2means <- bind_rows(mean0, mean1, mean2, mean3)

h2means$group <- factor(c("Control", "Minimize", "Min. + Counter-Info", "Amplify"),
                        levels = c("Control", "Minimize",
                                   "Amplify", "Min. + Counter-Info"))
```

```r
trump.job.plot <- h2means %>% ggplot(aes(group, estimate)) + geom_col(width = .8) +
      geom_errorbar(aes(ymin = conf.low, ymax = conf.high), width = .2) +
      xlab("") + ylab("") +
      theme_minimal() + ylim(c(0, .8)) +
      labs(subtitle = "Panel B: Trump Performance Evaluation") +
      theme(plot.subtitle = element_text(hjust = 0.5))

## Support for Social-Distancing Policies DV
# estimating standard errors of means for CIs
mean0 <- broom::tidy(t.test(d[d$condition == 0,"policy.scale"], conf.level = .9875))

mean1 <- broom::tidy(t.test(d[d$condition == 1,"policy.scale"], conf.level = .9875))

mean2 <- broom::tidy(t.test(d[d$condition == 2,"policy.scale"], conf.level = .9875))

mean3 <- broom::tidy(t.test(d[d$condition == 3,"policy.scale"], conf.level = .9875))

h3means <- bind_rows(mean0, mean1, mean2, mean3)

h3means$group <- factor(c("Control", "Minimize", "Min. + Counter-Info", "Amplify"),
                        levels = c("Control", "Minimize",
                                   "Amplify", "Min. + Counter-Info"))

policy.plot <- h3means %>% ggplot(aes(group, estimate)) + geom_col(width = .8) +
      geom_errorbar(aes(ymin = conf.low, ymax = conf.high), width = .2) +
      xlab("") +  ylab("Mean Response") +
      theme_minimal() + ylim(c(0, .8)) +
      labs(subtitle = "Panel C: Social Distancing Policy Support") +
      theme(plot.subtitle = element_text(hjust = 0.5))

## Intent toward Risky Health Behaviors DV
# estimating standard errors of means for CIs
mean0 <- broom::tidy(t.test(d[d$condition == 0,"intentions"], conf.level = .9875))

mean1 <- broom::tidy(t.test(d[d$condition == 1,"intentions"], conf.level = .9875))

mean2 <- broom::tidy(t.test(d[d$condition == 2,"intentions"], conf.level = .9875))

mean3 <- broom::tidy(t.test(d[d$condition == 3,"intentions"], conf.level = .9875))

h4means <- bind_rows(mean0, mean1, mean2, mean3)

h4means$group <- factor(c("Control", "Minimize", "Min. + Counter-Info", "Amplify"),
                        levels = c("Control", "Minimize",
                                   "Amplify", "Min. + Counter-Info"))

intentions.plot <- h4means %>% ggplot(aes(group, estimate)) + geom_col(width = .8) +
      geom_errorbar(aes(ymin = conf.low, ymax = conf.high), width = .2) +
      xlab("") + ylab("") +
      theme_minimal() + ylim(c(0, .8)) +
      labs(subtitle = "Panel D: Risky Health Behavior Intentions") +
      theme(plot.subtitle = element_text(hjust = 0.5))
```

```
fig1 <- ggarrange(serious.plot, trump.job.plot, policy.plot, intentions.plot,
                  widths = c(2))

annotate_figure(fig1, bottom = text_grob("Brackets represent 98.75% confidence intervals.",
                                         size = 8))
```



Brackets represent 98.75% confidence intervals.

```
#ggsave("fig1.png", scale = .66)

#### HYPOTHESIS TWO ####
## DIFFERENCES IN TRUMP APPROVAL ##

with(d[d$condition == 0 | d$condition == 1,], t.test(trump.job ~ condition,
                                                    alternative = "less",
                                                    conf.level = 1-(.05/4)))
```

```
##
##  Welch Two Sample t-test
##
## data:  trump.job by condition
## t = -1.8413, df = 823.99, p-value = 0.03297
## alternative hypothesis: true difference in means is less than 0
## 98.75 percent confidence interval:
##         -Inf 0.007959469
## sample estimates:
## mean in group 0 mean in group 1
##       0.5915232       0.6277778
```

```r
# Group sizes to calculate Bayes Factor
sum(!is.na(d$trump.job[d$condition == 0]))
```

```
## [1] 421
```

```r
sum(!is.na(d$trump.job[d$condition == 1]))
```

```
## [1] 405
```

```r
#Bayes Factor
ttest.tstat(-1.8413, 421, 405, simple = T, nullInterval = c(-Inf, 0))
```

```
##       B10
## 0.7926091
```

```r
#### HYPOTHESIS THREE ####
## DIFFERENCES IN TRUMP APPROVAL ##
## Between Problem-minimizing and Problem-minimizing with Counterargument ##

with(d[d$condition == 0 | d$condition == 2,], t.test(trump.job ~ condition,
                                                    alternative = "less",
                                                    conf.level = 1-(.05/4)))
```

```
##
##  Welch Two Sample t-test
##
## data:  trump.job by condition
## t = -2.4254, df = 802.96, p-value = 0.007755
## alternative hypothesis: true difference in means is less than 0
## 98.75 percent confidence interval:
##          -Inf -0.003489617
## sample estimates:
## mean in group 0 mean in group 2
##       0.5915232       0.6385905
```

```r
with(d[d$condition == 1 | d$condition == 2,], t.test(trump.job ~ condition,
                                                    alternative = "less",
                                                    conf.level = 1-(.05/4)))
```

```
##
##  Welch Two Sample t-test
##
## data:  trump.job by condition
## t = -0.56399, df = 786.99, p-value = 0.2865
## alternative hypothesis: true difference in means is less than 0
## 98.75 percent confidence interval:
##        -Inf 0.03224138
## sample estimates:
## mean in group 1 mean in group 2
##       0.6277778       0.6385905
```

```r
summary(lm(trump.job ~ factor(condition), d))
```

```
##
## Call:
## lm(formula = trump.job ~ factor(condition), data = d)
##
## Residuals:
```

```
##      Min       1Q   Median       3Q      Max
## -0.63859 -0.19028  0.01766  0.22098  0.40848
##
## Coefficients:
##                     Estimate Std. Error t value Pr(>|t|)
## (Intercept)          0.59152    0.01330  44.467   <2e-16 ***
## factor(condition)1   0.03625    0.01900   1.908   0.0565 .
## factor(condition)2   0.04707    0.01926   2.444   0.0146 *
## factor(condition)3   0.01915    0.01909   1.003   0.3161
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.2729 on 1603 degrees of freedom
##   (8 observations deleted due to missingness)
## Multiple R-squared:  0.004294,   Adjusted R-squared:  0.00243
## F-statistic: 2.304 on 3 and 1603 DF,  p-value: 0.07516
```

```
#### HYPOTHESIS FOUR ####

## DIFFERENCES IN POLICY ATTITUDES ##

with(d[d$condition == 0 | d$condition == 1,], t.test(policy.scale ~ condition,
                                                    alternative = "greater",
                                                    conf.level = 1-(.05/4)))
```

```
##
##  Welch Two Sample t-test
##
## data:  policy.scale by condition
## t = -0.31193, df = 821.7, p-value = 0.6224
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.04619829         Inf
## sample estimates:
## mean in group 0 mean in group 1
##       0.6400435       0.6456782
```

```
with(d[d$condition == 0 | d$condition == 3,], t.test(policy.scale ~ condition,
                                                    alternative = "less",
                                                    conf.level = 1-(.05/4)))
```

```
##
##  Welch Two Sample t-test
##
## data:  policy.scale by condition
## t = 0.6366, df = 813.42, p-value = 0.7377
## alternative hypothesis: true difference in means is less than 0
## 98.75 percent confidence interval:
##        -Inf 0.05385372
## sample estimates:
## mean in group 0 mean in group 3
##       0.6400435       0.6281486
```

```
#Bayes Factors
# Group sizes are calculated thus and placed directly into BF code
sum(!is.na(d$policy.scale[d$condition == 0]))
```

```
## [1] 421
```

```
ttest.tstat(-.31193, sum(!is.na(d$policy.scale[d$condition == 0])),
            sum(!is.na(d$policy.scale[d$condition == 1])),
            simple = T, nullInterval = c(-Inf, 0))
```

```
##      B10
## 0.101543
```

```
ttest.tstat(.6366, sum(!is.na(d$policy.scale[d$condition == 0])),
            sum(!is.na(d$policy.scale[d$condition == 3])),
            simple = T, nullInterval = c(0, Inf))
```

```
##       B10
## 0.1404203
```

```
## DIFFERENCES IN RISK INTENTIONS ##

with(d[d$condition == 0 | d$condition == 1,], t.test(intentions ~ condition,
                                                    alternative = "greater",
                                                    conf.level = 1-(.05/4)))
```

```
##
##  Welch Two Sample t-test
##
## data:  intentions by condition
## t = -0.15943, df = 816.55, p-value = 0.5633
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.04658309         Inf
## sample estimates:
## mean in group 0 mean in group 1
##       0.4968600       0.4999482
```

```
with(d[d$condition == 0 | d$condition == 3,], t.test(intentions ~ condition,
                                                    alternative = "less",
                                                    conf.level = 1-(.05/4)))
```

```
##
##  Welch Two Sample t-test
##
## data:  intentions by condition
## t = 0.005175, df = 807.97, p-value = 0.5021
## alternative hypothesis: true difference in means is less than 0
## 98.75 percent confidence interval:
##       -Inf 0.04435007
## sample estimates:
## mean in group 0 mean in group 3
##       0.4968600       0.4967581
```

```
#Bayes Factors
# Group sizes are calculated directly in BF code
ttest.tstat(-.15943, sum(!is.na(d$intentions[d$condition == 0])),
            sum(!is.na(d$intentions[d$condition == 1])),
            simple = T, nullInterval = c(-Inf, 0))
```

```
##        B10
## 0.08898149
```

```
ttest.tstat(.005175, sum(!is.na(d$intentions[d$condition == 0])),
            sum(!is.na(d$intentions[d$condition == 3])),
            simple = T, nullInterval = c(0, Inf))
```

```
##        B10
## 0.07889559
```

```
#### EXPLORATORY ANALYSES ####

## DIFFERENCES IN PROBLEM STATUS ##

t.test(deaths.bigproblem ~ condition, d[d$condition == 0 | d$condition == 2, ])
```

```
##
##  Welch Two Sample t-test
##
## data:  deaths.bigproblem by condition
## t = 4.1146, df = 806.98, p-value = 4.276e-05
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  0.03847231 0.10866451
## sample estimates:
## mean in group 0 mean in group 2
##       0.6869104       0.6133420
```

```
# Bayes Factors
# Group sizes are calculated directly in BF code
ttest.tstat(4.1146, sum(!is.na(d$deaths.bigproblem[d$condition == 0])),
            sum(!is.na(d$deaths.bigproblem[d$condition == 2])),
            simple = T)
```

```
##      B10
## 297.5657
```

```
t.test(trump.job ~ condition, d[d$condition == 0 | d$condition == 2, ],
       conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  trump.job by condition
## t = -2.4254, df = 802.96, p-value = 0.01551
## alternative hypothesis: true difference in means is not equal to 0
## 98.75 percent confidence interval:
##  -0.095646534  0.001511863
## sample estimates:
## mean in group 0 mean in group 2
##       0.5915232       0.6385905
```

```
### MEDIATION ANALYSES ###

## HYPOTHESIS TWO ##
# Model: Perceived seriousness mediates treatment effect on Trump's job eval.

# Using PROCESS
# Problem-Minimizing condition
process(data = d[d$condition == 0 | d$condition == 1,],
```

```
        y = "trump.job", x = "condition", m = "deaths.bigproblem",
        cov = c("ideology", "follow.news"), model = 4, conf = 98.75, seed = 155292)
```

```
##
## ***************** PROCESS for R Version 3.5 beta0.1 *****************
##
##           Written by Andrew F. Hayes, Ph.D.  www.afhayes.com
##    Documentation available in Hayes (2018). www.guilford.com/p/hayes3
##
## **************************************************************************
##
## Model : 4
##     Y : trump.job
##     X : condition
##     M : deaths.bigproblem
##
## Covariates:
##        ideology follow.news
##
## Sample size: 825
##
## Custom seed: 155292
##
##
## **************************************************************************
## Outcome Variable: deaths.bigproblem
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.3457    0.1195    0.0591   37.1476    3.0000  821.0000    0.0000
##
## Model:
##                 coeff        se         t         p      LLCI      ULCI
## constant       0.6633    0.0501   13.2352    0.0000    0.5378    0.7888
## condition     -0.0225    0.0169   -1.3256    0.1853   -0.0649    0.0200
## ideology      -0.0435    0.0069   -6.2634    0.0000   -0.0609   -0.0261
## follow.news    0.0700    0.0085    8.2598    0.0000    0.0488    0.0913
##
## **************************************************************************
## Outcome Variable: trump.job
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.4174    0.1743    0.0666   43.2625    4.0000  820.0000    0.0000
##
## Model:
##                       coeff        se         t         p      LLCI      ULCI
## constant             0.4046    0.0586    6.9033    0.0000    0.2579    0.5513
## condition            0.0370    0.0180    2.0548    0.0402   -0.0081    0.0821
## deaths.bigproblem   -0.2892    0.0371   -7.8041    0.0000   -0.3819   -0.1964
## ideology             0.0636    0.0075    8.4256    0.0000    0.0447    0.0825
## follow.news          0.0135    0.0094    1.4382    0.1508   -0.0100    0.0369
##
## **************************************************************************
```

```
## Bootstrapping progress:
##   |                                                                      |
```

```
# Problem-Amplifying condition
process(data = d[d$condition == 0 | d$condition == 3,],
        y = "trump.job", x = "condition", m = "deaths.bigproblem",
        cov = c("ideology", "follow.news"), model = 4, conf = 98.75, seed = 155292)
```

```
##
## ****************** PROCESS for R Version 3.5 beta0.1 ******************
##
##            Written by Andrew F. Hayes, Ph.D.  www.afhayes.com
##    Documentation available in Hayes (2018). www.guilford.com/p/hayes3
##
## **************************************************************************
##
## Model : 4
##     Y : trump.job
##     X : condition
##     M : deaths.bigproblem
##
## Covariates:
##        ideology follow.news
##
## Sample size: 818
##
## Custom seed: 155292
##
##
## **************************************************************************
## Outcome Variable: deaths.bigproblem
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.3292    0.1084    0.0604   32.9770    3.0000  814.0000    0.0000
##
## Model:
```

```
##                 coeff        se         t         p      LLCI      ULCI
## constant       0.6417    0.0523   12.2782    0.0000    0.5108    0.7725
## condition     -0.0075    0.0057   -1.2994    0.1942   -0.0218    0.0069
## ideology      -0.0399    0.0073   -5.4508    0.0000   -0.0582   -0.0216
## follow.news    0.0707    0.0088    8.0627    0.0000    0.0487    0.0926
##
## ************************************************************************
## Outcome Variable: trump.job
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.3950    0.1560    0.0647   37.5683    4.0000  813.0000    0.0000
##
## Model:
##                       coeff        se         t         p      LLCI      ULCI
## constant             0.2896    0.0589    4.9205    0.0000    0.1423    0.4370
## condition            0.0038    0.0059    0.6452    0.5190   -0.0110    0.0187
## deaths.bigproblem   -0.2108    0.0363   -5.8137    0.0000   -0.3016   -0.1200
## ideology             0.0728    0.0077    9.4563    0.0000    0.0536    0.0921
## follow.news          0.0168    0.0094    1.7877    0.0742   -0.0067    0.0404
##
## ************************************************************************
## Bootstrapping progress:
##   |                                                                      |
```

```
## HYPOTHESIS THREE ##

process(data = d[d$condition == 0 | d$condition == 2,],
        y = "trump.job", x = "condition", m = "deaths.bigproblem",
        cov = c("ideology", "follow.news"), model = 4, conf = 98.75, seed = 155292)
```

```
##
## ****************** PROCESS for R Version 3.5 beta0.1 ******************
##
##            Written by Andrew F. Hayes, Ph.D.  www.afhayes.com
##    Documentation available in Hayes (2018). www.guilford.com/p/hayes3
##
```

```
## ************************************************************************
##
## Model : 4
##     Y : trump.job
##     X : condition
##     M : deaths.bigproblem
##
## Covariates:
##        ideology follow.news
##
## Sample size: 804
##
## Custom seed: 155292
##
##
## ************************************************************************
## Outcome Variable: deaths.bigproblem
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.3719    0.1383    0.0571   42.8090    3.0000  800.0000    0.0000
##
## Model:
##                 coeff        se         t         p      LLCI      ULCI
## constant       0.6208    0.0504   12.3262    0.0000    0.4947    0.7468
## condition     -0.0359    0.0084   -4.2526    0.0000   -0.0570   -0.0148
## ideology      -0.0383    0.0070   -5.4729    0.0000   -0.0558   -0.0208
## follow.news    0.0742    0.0085    8.7476    0.0000    0.0529    0.0954
##
## ************************************************************************
## Outcome Variable: trump.job
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.4660    0.2171    0.0605   55.3986    4.0000  799.0000    0.0000
##
## Model:
##                       coeff        se         t         p      LLCI      ULCI
## constant             0.3126    0.0565    5.5324    0.0000    0.1712    0.4541
## condition            0.0115    0.0088    1.3134    0.1894   -0.0104    0.0335
## deaths.bigproblem   -0.3143    0.0364   -8.6410    0.0000   -0.4053   -0.2232
## ideology             0.0729    0.0073    9.9477    0.0000    0.0546    0.0913
## follow.news          0.0299    0.0091    3.2778    0.0011    0.0071    0.0528
##
## ************************************************************************
## Bootstrapping progress:
##   |                                                                      |
```

```
## Indirect effect(s) of X on Y:
##                      Effect    BootSE  BootLLCI  BootULCI
## deaths.bigproblem    0.0113    0.0030    0.0046    0.0191
##
## ******************** ANALYSIS NOTES AND ERRORS ************************
##
## Level of confidence for all confidence intervals in output: 98.75
##
## Number of bootstraps for percentile bootstrap confidence intervals: 5000
##
## NOTE: Some cases with missing data were deleted. The number of deleted cases was: 6
```

```
# Sensitivity Analysis Using Imai et al.'s Causal Mediation Analysis package
# This package requires equal-size datasets be used for outcome and mediator models, so
# 1 observation with missing value on the DV needs to be dropped manually.
library(mediation)
```

```
## Loading required package: MASS
```

```
##
## Attaching package: 'MASS'
```

```
## The following object is masked from 'package:dplyr':
##
##     select
```

```
## Loading required package: mvtnorm
```

```
## Loading required package: sandwich
```

```
## Registered S3 methods overwritten by 'lme4':
##   method                          from
##   cooks.distance.influence.merMod car
##   influence.merMod                car
##   dfbeta.influence.merMod         car
##   dfbetas.influence.merMod        car
```

```
## mediation: Causal Mediation Analysis
## Version: 4.5.0
```

```
##
## Attaching package: 'mediation'
```

```
## The following object is masked from 'package:psych':
##
##     mediate
```

```
med.data <- d[!is.na(d$trump.job),]
# Linear model of mediator
modm <- lm(deaths.bigproblem ~ condition + ideology + follow.news,
           data = med.data[med.data$condition == 0 | med.data$condition == 2,])
# Linear model of outcome
mody <- lm(trump.job ~ deaths.bigproblem + condition + ideology + follow.news,
           data = d[d$condition == 0 | d$condition == 2,])
# Estimates the mediation model
cma <- mediate(modm, mody, treat = "condition", mediator = "deaths.bigproblem",
               covariates = c("ideology", "follow.news"))
# Conducts sensitivity analysis
```

```r
sencma <- medsens(cma)
summary(sencma)
```

```
##
## Mediation Sensitivity Analysis for Average Causal Mediation Effect
##
## Sensitivity Region
##
##       Rho   ACME 95% CI Lower 95% CI Upper R^2_M*R^2_Y* R^2_M~R^2_Y~
## [1,] -0.3 -3e-04      -0.0029       0.0022         0.09       0.0607
##
## Rho at which ACME = 0: -0.3
## R^2_M*R^2_Y* at which ACME = 0: 0.09
## R^2_M~R^2_Y~ at which ACME = 0: 0.0607
```

```r
# Calculating sample correlations for comparing sensitivity to observed correlations
cor.test(d$deaths.bigproblem, d$ideology)
```

```
##
##  Pearson's product-moment correlation
##
## data:  d$deaths.bigproblem and d$ideology
## t = -7.6689, df = 1612, p-value = 2.98e-14
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  -0.2342651 -0.1401067
## sample estimates:
##        cor
## -0.1876169
```

```r
cor.test(d$deaths.bigproblem, d$follow.news)
```

```
##
##  Pearson's product-moment correlation
##
## data:  d$deaths.bigproblem and d$follow.news
## t = 10.815, df = 1612, p-value < 2.2e-16
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.2140184 0.3050169
## sample estimates:
##       cor
## 0.2600951
```

```r
cor.test(d$trump.job, d$ideology)
```

```
##
##  Pearson's product-moment correlation
##
## data:  d$trump.job and d$ideology
## t = 14.648, df = 1604, p-value < 2.2e-16
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.2996156 0.3859256
## sample estimates:
##       cor
```

```
## 0.3434957
```

```
cor.test(d$trump.job, d$follow.news)
```

```
##
##  Pearson's product-moment correlation
##
## data:  d$trump.job and d$follow.news
## t = -0.18425, df = 1604, p-value = 0.8538
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  -0.05350250  0.04432376
## sample estimates:
##          cor
## -0.004600378
```

```
## HYPOTHESIS FOUR ##

# DV = policy support
process(data = d[d$condition == 0 | d$condition == 1,],
        y = "policy.scale", x = "condition", m = "deaths.bigproblem",
        cov = c("ideology", "follow.news"),
        model = 4, conf = 98.75, seed = 155292)
```

```
##
## ***************** PROCESS for R Version 3.5 beta0.1 *****************
##
##            Written by Andrew F. Hayes, Ph.D.  www.afhayes.com
##    Documentation available in Hayes (2018). www.guilford.com/p/hayes3
##
## **************************************************************************
##
## Model : 4
##     Y : policy.scale
##     X : condition
##     M : deaths.bigproblem
##
## Covariates:
##        ideology follow.news
##
## Sample size: 824
##
## Custom seed: 155292
##
##
## **************************************************************************
## Outcome Variable: deaths.bigproblem
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.3480    0.1211    0.0592   37.6655    3.0000  820.0000    0.0000
##
## Model:
##                 coeff        se         t         p      LLCI      ULCI
## constant       0.6679    0.0501   13.3422    0.0000    0.5426    0.7933
```

```
## condition     -0.0237    0.0170   -1.3974    0.1627   -0.0662    0.0188
## ideology      -0.0445    0.0070   -6.3996    0.0000   -0.0619   -0.0271
## follow.news    0.0699    0.0085    8.2520    0.0000    0.0487    0.0912
##
## ************************************************************************
## Outcome Variable: policy.scale
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.6073    0.3688    0.0427  119.6330    4.0000  819.0000    0.0000
##
## Model:
##                       coeff        se         t         p      LLCI      ULCI
## constant             0.4017    0.0469    8.5654    0.0000    0.2843    0.5190
## condition            0.0129    0.0144    0.8954    0.3708   -0.0232    0.0490
## deaths.bigproblem    0.5712    0.0296   19.2633    0.0000    0.4969    0.6454
## ideology            -0.0269    0.0060   -4.4449    0.0000   -0.0420   -0.0117
## follow.news         -0.0031    0.0075   -0.4186    0.6756   -0.0219    0.0156
##
## ************************************************************************
## Bootstrapping progress:
##   |                                                                      |
```

```
process(data = d[d$condition == 0 | d$condition == 3,],
        y = "policy.scale", x = "condition", m = "deaths.bigproblem",
        cov = c("ideology", "follow.news"),
        model = 4, conf = 98.75, seed = 155292)
```

```
##
## ***************** PROCESS for R Version 3.5 beta0.1 *****************
##
##            Written by Andrew F. Hayes, Ph.D.  www.afhayes.com
##    Documentation available in Hayes (2018). www.guilford.com/p/hayes3
##
## ************************************************************************
##
## Model : 4
```

```
##     Y : policy.scale
##     X : condition
##     M : deaths.bigproblem
##
## Covariates:
##        ideology follow.news
##
## Sample size: 818
##
## Custom seed: 155292
##
##
## ************************************************************************
## Outcome Variable: deaths.bigproblem
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.3281    0.1076    0.0603   32.7259    3.0000  814.0000    0.0000
##
## Model:
##                 coeff        se         t         p      LLCI      ULCI
## constant       0.6365    0.0521   12.2075    0.0000    0.5060    0.7670
## condition     -0.0073    0.0057   -1.2823    0.2001   -0.0217    0.0070
## ideology      -0.0393    0.0073   -5.3544    0.0000   -0.0576   -0.0209
## follow.news    0.0710    0.0087    8.1148    0.0000    0.0491    0.0929
##
## ************************************************************************
## Outcome Variable: policy.scale
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.6197    0.3840    0.0441  126.7011    4.0000  813.0000    0.0000
##
## Model:
##                      coeff        se         t         p      LLCI      ULCI
## constant            0.3976    0.0485    8.1975    0.0000    0.2762    0.5191
## condition           0.0007    0.0049    0.1462    0.8838   -0.0116    0.0130
## deaths.bigproblem   0.5895    0.0300   19.6629    0.0000    0.5144    0.6645
## ideology           -0.0330    0.0064   -5.1758    0.0000   -0.0490   -0.0171
## follow.news         0.0035    0.0078    0.4466    0.6553   -0.0160    0.0230
##
## ************************************************************************
## Bootstrapping progress:
##   |                                                                      |
```

```
##
## ******************** ANALYSIS NOTES AND ERRORS ************************
##
## Level of confidence for all confidence intervals in output: 98.75
##
## Number of bootstraps for percentile bootstrap confidence intervals: 5000
##
## NOTE: Some cases with missing data were deleted. The number of deleted cases was: 4
```

```r
# DV = behavioral intentions
process(data = d[d$condition == 0 | d$condition == 1,],
        y = "intentions", x = "condition", m = "deaths.bigproblem",
        cov = c("ideology", "follow.news"),
        model = 4, conf = 98.75, seed = 155292)
```

```
##
## ****************** PROCESS for R Version 3.5 beta0.1 ******************
##
##            Written by Andrew F. Hayes, Ph.D.  www.afhayes.com
##    Documentation available in Hayes (2018). www.guilford.com/p/hayes3
##
## **************************************************************************
##
## Model : 4
##     Y : intentions
##     X : condition
##     M : deaths.bigproblem
##
## Covariates:
##        ideology follow.news
##
## Sample size: 819
##
## Custom seed: 155292
##
##
## **************************************************************************
## Outcome Variable: deaths.bigproblem
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.3465    0.1200    0.0589   37.0575    3.0000  815.0000    0.0000
##
## Model:
##                 coeff        se         t         p      LLCI      ULCI
## constant       0.6699    0.0503   13.3137    0.0000    0.5440    0.7959
## condition     -0.0251    0.0170   -1.4812    0.1389   -0.0676    0.0173
## ideology      -0.0441    0.0070   -6.3158    0.0000   -0.0616   -0.0266
## follow.news    0.0693    0.0085    8.1777    0.0000    0.0481    0.0905
##
## **************************************************************************
## Outcome Variable: intentions
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
```

```
##      0.5218    0.2723    0.0563   76.1349    4.0000  814.0000    0.0000
##
## Model:
##                         coeff        se         t         p      LLCI      ULCI
## constant               0.8473    0.0543   15.6118    0.0000    0.7115    0.9832
## condition             -0.0025    0.0166   -0.1514    0.8797   -0.0441    0.0391
## deaths.bigproblem     -0.5134    0.0342  -14.9943    0.0000   -0.5992   -0.4277
## ideology               0.0150    0.0070    2.1418    0.0325   -0.0025    0.0325
## follow.news           -0.0211    0.0086   -2.4508    0.0145   -0.0427    0.0005
##
## ************************************************************************
## Bootstrapping progress:
##   |                                                                      |
```

```
process(data = d[d$condition == 0 | d$condition == 3,],
        y = "intentions", x = "condition", m = "deaths.bigproblem",
        cov = c("ideology", "follow.news"),
        model = 4, conf = 98.75, seed = 155292)
```

```
##
## ****************** PROCESS for R Version 3.5 beta0.1 ******************
##
##            Written by Andrew F. Hayes, Ph.D.  www.afhayes.com
##    Documentation available in Hayes (2018). www.guilford.com/p/hayes3
##
## ************************************************************************
##
## Model : 4
##     Y : intentions
##     X : condition
##     M : deaths.bigproblem
##
## Covariates:
##        ideology follow.news
##
## Sample size: 810
##
```

```
## Custom seed: 155292
##
##
## ************************************************************************
## Outcome Variable: deaths.bigproblem
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.3290    0.1082    0.0601   32.6022    3.0000  806.0000    0.0000
##
## Model:
##                 coeff        se         t         p      LLCI      ULCI
## constant       0.6366    0.0526   12.1062    0.0000    0.5050    0.7683
## condition     -0.0087    0.0057   -1.5091    0.1317   -0.0231    0.0057
## ideology      -0.0389    0.0074   -5.2743    0.0000   -0.0573   -0.0204
## follow.news    0.0708    0.0088    8.0642    0.0000    0.0488    0.0927
##
## ************************************************************************
## Outcome Variable: intentions
##
## Model Summary:
##           R      R-sq       MSE         F       df1       df2         p
##      0.5232    0.2738    0.0575   75.8616    4.0000  805.0000    0.0000
##
## Model:
##                       coeff        se         t         p      LLCI      ULCI
## constant             0.7800    0.0559   13.9543    0.0000    0.6400    0.9199
## condition           -0.0045    0.0056   -0.7966    0.4259   -0.0186    0.0096
## deaths.bigproblem   -0.5113    0.0344  -14.8453    0.0000   -0.5975   -0.4251
## ideology             0.0256    0.0073    3.4933    0.0005    0.0073    0.0439
## follow.news         -0.0185    0.0089   -2.0708    0.0387   -0.0408    0.0039
##
## ************************************************************************
## Bootstrapping progress:
##   |                                                                      |
```

```r
## PRETREATMENT ESTIMATE ##

# 1 = seen/heard of stimulus once or several times
prop.table(table(d$pretreated.binary[d$condition == 0]))
```

```
##
##         0         1
## 0.5259434 0.4740566
```

```r
#### APPENDIX TABLES ####

# TABLE 1: Descriptive statistics by condition
# Calculate variable means by condition
means <- d %>% group_by(condition) %>%
      summarize(ageM = mean(age, na.rm=T),
                        ideologyM = mean(ideology, na.rm=T),
                        follow.newsM = mean(follow.news, na.rm = T))
```

```
## `summarise()` ungrouping output (override with `.groups` argument)
```

```r
# Calculate variable standard deviations by condition
sds <- d %>% group_by(condition) %>%
                summarize(ageSD = sd(age, na.rm=T),
                ideologySD = sd(ideology, na.rm=T),
                follow.newsSD = sd(follow.news, na.rm=T))
```

```
## `summarise()` ungrouping output (override with `.groups` argument)
```

```r
# round to 2 decimal places
sds <- round(sds, 2)
means <- round(means, 2)

# write in names of conditions
means[,1] <- c("Control", "Minimize", "Minimize + Counter-Info", "Amplify")
# give columns names
colnames(means) <- c("Condition", "Age", "Ideology", "Pol. Interest")

# print table of means (added SDs by hand)
stargazer(means, summary = F) # table output
```

```
##
## % Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harva
## % Date and time: Tue, Nov 24, 2020 - 14:35:46
## \begin{table}[!htbp] \centering
##   \caption{}
##   \label{}
## \begin{tabular}{@{\extracolsep{5pt}} ccccc}
## \\[-1.8ex]\hline
## \hline \\[-1.8ex]
##  & Condition & Age & Ideology & Pol. Interest \\
## \hline \\[-1.8ex]
## 1 & Control & 37 & 5.29 & 3.64 \\
## 2 & Minimize & 36.65 & 5.22 & 3.7 \\
## 3 & Minimize + Counter-Info & 37.41 & 5.32 & 3.63 \\
## 4 & Amplify & 37.69 & 5.33 & 3.67 \\
## \hline \\[-1.8ex]
```

```
## \end{tabular}
## \end{table}
```

```
# TABLE 2: Calculating means, difference of means confidence intervals,
# and Ns for experimental groups
# These were then entered by hand into a LaTeX table

# Calculate means and difference-in-means standard errors for problem seriousness DV
t.test(deaths.bigproblem ~ condition, d[d$condition == 0 | d$condition == 1, ],
alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  deaths.bigproblem by condition
## t = 0.89978, df = 828.77, p-value = 0.1842
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.02415167         Inf
## sample estimates:
## mean in group 0 mean in group 1
##       0.6869104       0.6707617
```

```
t.test(deaths.bigproblem ~ condition, d[d$condition == 0 | d$condition == 2, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  deaths.bigproblem by condition
## t = 4.1146, df = 806.98, p-value = 2.138e-05
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  0.033418      Inf
## sample estimates:
## mean in group 0 mean in group 2
##       0.6869104       0.6133420
```

```
t.test(deaths.bigproblem ~ condition, d[d$condition == 0 | d$condition == 3, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  deaths.bigproblem by condition
## t = 1.1651, df = 818.42, p-value = 0.1222
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.01954892         Inf
## sample estimates:
## mean in group 0 mean in group 3
##       0.6869104       0.6658291
```

```
# Calculate Ns for problem seriousness DV
sum(!is.na(d$deaths.bigproblem[d$condition == 0]))
```

```
## [1] 424
```

```r
sum(!is.na(d$deaths.bigproblem[d$condition == 1]))
```

```
## [1] 407
```

```r
sum(!is.na(d$deaths.bigproblem[d$condition == 2]))
```

```
## [1] 386
```

```r
sum(!is.na(d$deaths.bigproblem[d$condition == 3]))
```

```
## [1] 398
```

```r
# Calculate means and difference-in-means standard errors for Trump performance DV
t.test(trump.job ~ condition, d[d$condition == 0 | d$condition == 1, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  trump.job by condition
## t = -1.8413, df = 823.99, p-value = 0.967
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.08046871         Inf
## sample estimates:
## mean in group 0 mean in group 1
##       0.5915232       0.6277778
```

```r
t.test(trump.job ~ condition, d[d$condition == 0 | d$condition == 2, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  trump.job by condition
## t = -2.4254, df = 802.96, p-value = 0.9922
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.09064505         Inf
## sample estimates:
## mean in group 0 mean in group 2
##       0.5915232       0.6385905
```

```r
t.test(trump.job ~ condition, d[d$condition == 0 | d$condition == 3, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  trump.job by condition
## t = -0.9941, df = 814.72, p-value = 0.8398
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.06240963         Inf
## sample estimates:
## mean in group 0 mean in group 3
##       0.5915232       0.6106738
```

```r
# Calculate Ns for Trump performance DV
sum(!is.na(d$trump.job[d$condition == 0]))
```

```
## [1] 421
```

```r
sum(!is.na(d$trump.job[d$condition == 1]))
```

```
## [1] 405
```

```r
sum(!is.na(d$trump.job[d$condition == 2]))
```

```
## [1] 384
```

```r
sum(!is.na(d$trump.job[d$condition == 3]))
```

```
## [1] 397
```

```r
# Calculate means and difference-in-means standard errors for policy support DV
t.test(policy.scale ~ condition, d[d$condition == 0 | d$condition == 1, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  policy.scale by condition
## t = -0.31193, df = 821.7, p-value = 0.6224
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.04619829         Inf
## sample estimates:
## mean in group 0 mean in group 1
##       0.6400435       0.6456782
```

```r
t.test(policy.scale ~ condition, d[d$condition == 0 | d$condition == 2, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  policy.scale by condition
## t = 1.1557, df = 798.58, p-value = 0.1241
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.02015224         Inf
## sample estimates:
## mean in group 0 mean in group 2
##       0.6400435       0.6186736
```

```r
t.test(policy.scale ~ condition, d[d$condition == 0 | d$condition == 3, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  policy.scale by condition
## t = 0.6366, df = 813.42, p-value = 0.2623
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
```

```
##  -0.03006386         Inf
## sample estimates:
## mean in group 0 mean in group 3
##       0.6400435       0.6281486
```

```
# Calculate Ns for Trump policy support DV
sum(!is.na(d$policy.scale[d$condition == 0]))
```

```
## [1] 421
```

```
sum(!is.na(d$policy.scale[d$condition == 1]))
```

```
## [1] 403
```

```
sum(!is.na(d$policy.scale[d$condition == 2]))
```

```
## [1] 382
```

```
sum(!is.na(d$policy.scale[d$condition == 3]))
```

```
## [1] 397
```

```
# Calculate means and difference-in-means standard errors for Trump behavioral intentions DV
t.test(intentions ~ condition, d[d$condition == 0 | d$condition == 1, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  intentions by condition
## t = -0.15943, df = 816.55, p-value = 0.5633
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.04658309         Inf
## sample estimates:
## mean in group 0 mean in group 1
##       0.4968600       0.4999482
```

```
t.test(intentions ~ condition, d[d$condition == 0 | d$condition == 2, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
## data:  intentions by condition
## t = -1.2951, df = 800.17, p-value = 0.9022
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.06820385         Inf
## sample estimates:
## mean in group 0 mean in group 2
##       0.4968600       0.5218074
```

```
t.test(intentions ~ condition, d[d$condition == 0 | d$condition == 3, ],
       alternative = "greater", conf.level = 1-(.05/4))
```

```
##
##  Welch Two Sample t-test
##
```

```
## data:  intentions by condition
## t = 0.005175, df = 807.97, p-value = 0.4979
## alternative hypothesis: true difference in means is greater than 0
## 98.75 percent confidence interval:
##  -0.04414613         Inf
## sample estimates:
## mean in group 0 mean in group 3
##       0.4968600       0.4967581
```

```
# Calculate Ns for Trump behavioral intentions DV
sum(!is.na(d$intentions[d$condition == 0]))
```

```
## [1] 418
```

```
sum(!is.na(d$intentions[d$condition == 1]))
```

```
## [1] 402
```

```
sum(!is.na(d$intentions[d$condition == 2]))
```

```
## [1] 385
```

```
sum(!is.na(d$intentions[d$condition == 3]))
```

```
## [1] 392
```

```
## TABLE 3: Trump pandemic-specific performance evaluation
# recode variables from 0 to 1
trump.job <- data.frame(weak = as.numeric((9 - d$trump.weak)/8),
               incomp = as.numeric((9 - d$trump.incomp)/8),
                        effec = as.numeric((9 - d$trump.effective)/8),
                        help = as.numeric((9 - d$trump.helpful)/8))
# print table
stargazer(trump.job, summary = T, digits = 2, summary.stat = c("mean", "sd"))
```

```
##
## % Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harva
## % Date and time: Tue, Nov 24, 2020 - 14:35:47
## \begin{table}[!htbp] \centering
##   \caption{}
##   \label{}
## \begin{tabular}{@{\extracolsep{5pt}}lcc}
## \\[-1.8ex]\hline
## \hline \\[-1.8ex]
## Statistic & \multicolumn{1}{c}{Mean} & \multicolumn{1}{c}{St. Dev.} \\
## \hline \\[-1.8ex]
## weak & 0.62 & 0.28 \\
## incomp & 0.62 & 0.29 \\
## effec & 0.61 & 0.28 \\
## help & 0.62 & 0.28 \\
## \hline \\[-1.8ex]
## \end{tabular}
## \end{table}
```

```
## TABLE 4: Social-distancing policy support
# # recode variables from 0 to 1
policy <- mutate(policy, (8 - !!all_vars(policy))/7 )
policy <- data.frame(policy)
# print table
```

```r
stargazer(policy, summary = T, digits = 2, summary.stat = c("mean", "sd"))
```

```
##
## % Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harva
## % Date and time: Tue, Nov 24, 2020 - 14:35:47
## \begin{table}[!htbp] \centering
##   \caption{}
##   \label{}
## \begin{tabular}{@{\extracolsep{5pt}}lcc}
## \\[-1.8ex]\hline
## \hline \\[-1.8ex]
## Statistic & \multicolumn{1}{c}{Mean} & \multicolumn{1}{c}{St. Dev.} \\
## \hline \\[-1.8ex]
## Q47 & 0.55 & 0.29 \\
## Q60 & 0.71 & 0.27 \\
## Q61 & 0.84 & 0.20 \\
## Q62 & 0.66 & 0.29 \\
## Q63 & 0.71 & 0.27 \\
## Q64 & 0.68 & 0.28 \\
## Q65 & 0.69 & 0.28 \\
## Q66 & 0.63 & 0.33 \\
## \hline \\[-1.8ex]
## \end{tabular}
## \end{table}
```

```r
## TABLE 5: risky health-behavior intentions
# # recode variables from 0 to 1
intentions <- mutate(intentions, (!!all_vars(intentions))/7)
intentions <- data.frame(intentions)
# print table
stargazer(intentions, summary = T, digits = 2, summary.stat = c("mean", "sd"))
```

```
##
## % Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harva
## % Date and time: Tue, Nov 24, 2020 - 14:35:47
## \begin{table}[!htbp] \centering
##   \caption{}
##   \label{}
## \begin{tabular}{@{\extracolsep{5pt}}lcc}
## \\[-1.8ex]\hline
## \hline \\[-1.8ex]
## Statistic & \multicolumn{1}{c}{Mean} & \multicolumn{1}{c}{St. Dev.} \\
## \hline \\[-1.8ex]
## Q67 & 0.57 & 0.30 \\
## Q77 & 0.76 & 0.27 \\
## Q76 & 0.48 & 0.30 \\
## Q72 & 0.66 & 0.30 \\
## face.mask & 0.44 & 0.31 \\
## Q73 & 0.59 & 0.31 \\
## Q74 & 0.49 & 0.31 \\
## Q69 & 0.58 & 0.33 \\
## \hline \\[-1.8ex]
## \end{tabular}
## \end{table}
```

```
## TABLE 6: experimental stimuli
# Text is taken from the questionnaire
```