Mediation - Regression analyses, Unweighted

First, we load the data and the necessary packages:

library(here)  
library(tidyverse)  
library(survey)  
library(srvyr)  
library(marginaleffects)  
library(mediation)  
  
# for the mediation simulations  
set.seed(20679593)  
  
dat <- readRDS(file = here::here("01\_data-processing", "data\_private", "data\_final\_imputed\_cases.RDS"))

# Regression Models

## Race -> IPV

Without considering informal support, is race associated with different IPV rates?

mod\_race\_ipv <- lm(  
 formula = ipv\_prop ~ m\_race +  
 m\_age + m\_education + m\_alcohol + m\_drugs +  
 m\_employment + m\_children + m\_household\_income +  
 m\_home + m\_welfare\_last\_year + m\_health + m\_religious,  
 data = dat,  
   
)  
  
summary(mod\_race\_ipv)

Call:  
lm(formula = ipv\_prop ~ m\_race + m\_age + m\_education + m\_alcohol +   
 m\_drugs + m\_employment + m\_children + m\_household\_income +   
 m\_home + m\_welfare\_last\_year + m\_health + m\_religious, data = dat)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.19383 -0.09623 -0.04369 0.05115 0.88413   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.0621386 0.0242935 2.558 0.01061 \*   
m\_raceBlack 0.0014024 0.0071282 0.197 0.84405   
m\_age 0.0022929 0.0007029 3.262 0.00112 \*\*  
m\_educationHS and above -0.0258642 0.0083629 -3.093 0.00201 \*\*  
m\_alcohol<1 / month 0.0175659 0.0116928 1.502 0.13319   
m\_alcohol>1 / month 0.0087920 0.0245642 0.358 0.72044   
m\_drugs<1 / month 0.0150640 0.0198729 0.758 0.44853   
m\_drugs>1 / month 0.0004214 0.0249432 0.017 0.98652   
m\_employmentUnemployed -0.0006771 0.0072950 -0.093 0.92606   
m\_children -0.0011344 0.0030645 -0.370 0.71130   
m\_household\_income$15,000 to $34,999 0.0077320 0.0090526 0.854 0.39314   
m\_household\_income$35,000 or more -0.0163961 0.0107446 -1.526 0.12718   
m\_homeRented 0.0143245 0.0073723 1.943 0.05216 .   
m\_welfare\_last\_yearYes 0.0228299 0.0081969 2.785 0.00540 \*\*  
m\_health -0.0015586 0.0036346 -0.429 0.66811   
m\_religious 0.0013787 0.0024953 0.553 0.58066   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.1436 on 1939 degrees of freedom  
Multiple R-squared: 0.03082, Adjusted R-squared: 0.02332   
F-statistic: 4.111 on 15 and 1939 DF, p-value: 1.761e-07

marginaleffects::avg\_predictions(mod\_race\_ipv, variables = "m\_race", vcov = "HC")

m\_race Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 White 0.114 0.00541 21.1 <0.001 326.8 0.104 0.125  
 Black 0.116 0.00463 25.0 <0.001 455.3 0.107 0.125  
  
Columns: m\_race, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_comparisons(mod\_race\_ipv, variables = "m\_race", vcov = "HC")

Term Contrast Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 m\_race Black - White 0.0014 0.00761 0.184 0.854 0.2 -0.0135 0.0163  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

Without including covariates:

mod\_race\_ipv\_nocov <- lm(  
 formula = ipv\_prop ~ m\_race,  
 data = dat,  
   
)  
  
summary(mod\_race\_ipv\_nocov)

Call:  
lm(formula = ipv\_prop ~ m\_race, data = dat)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.12041 -0.10883 -0.03707 0.04626 0.89117   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.108827 0.004858 22.402 <2e-16 \*\*\*  
m\_raceBlack 0.011578 0.006594 1.756 0.0793 .   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.1453 on 1953 degrees of freedom  
Multiple R-squared: 0.001576, Adjusted R-squared: 0.001065   
F-statistic: 3.083 on 1 and 1953 DF, p-value: 0.07929

marginaleffects::avg\_predictions(mod\_race\_ipv\_nocov, variables = "m\_race", vcov = "HC")

m\_race Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 White 0.109 0.00479 22.7 <0.001 377.6 0.0994 0.118  
 Black 0.120 0.00452 26.7 <0.001 517.6 0.1116 0.129  
  
Columns: m\_race, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_comparisons(mod\_race\_ipv\_nocov, variables = "m\_race", vcov = "HC")

Term Contrast Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 m\_race Black - White 0.0116 0.00658 1.76 0.0786 3.7 -0.00132 0.0245  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

## Race -> Informal Support

Is race associated with different informal support rates?

mod\_race\_informal\_support <- lm(  
 formula = informal\_support\_prop ~ m\_race +  
 m\_age + m\_education + m\_alcohol + m\_drugs +  
 m\_employment + m\_children + m\_household\_income +  
 m\_home + m\_welfare\_last\_year + m\_health + m\_religious,  
 data = dat,  
   
)  
  
summary(mod\_race\_informal\_support)

Call:  
lm(formula = informal\_support\_prop ~ m\_race + m\_age + m\_education +   
 m\_alcohol + m\_drugs + m\_employment + m\_children + m\_household\_income +   
 m\_home + m\_welfare\_last\_year + m\_health + m\_religious, data = dat)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.96429 0.00456 0.04833 0.09305 0.30567   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.949105 0.033698 28.165 < 2e-16 \*\*\*  
m\_raceBlack -0.020900 0.009888 -2.114 0.034668 \*   
m\_age -0.002552 0.000975 -2.618 0.008924 \*\*   
m\_educationHS and above 0.041185 0.011600 3.550 0.000394 \*\*\*  
m\_alcohol<1 / month -0.003525 0.016219 -0.217 0.827989   
m\_alcohol>1 / month -0.009477 0.034073 -0.278 0.780943   
m\_drugs<1 / month -0.014205 0.027566 -0.515 0.606389   
m\_drugs>1 / month -0.047376 0.034599 -1.369 0.171072   
m\_employmentUnemployed -0.009921 0.010119 -0.980 0.326990   
m\_children -0.018687 0.004251 -4.396 1.16e-05 \*\*\*  
m\_household\_income$15,000 to $34,999 0.007963 0.012557 0.634 0.526039   
m\_household\_income$35,000 or more 0.008838 0.014904 0.593 0.553239   
m\_homeRented -0.041028 0.010226 -4.012 6.25e-05 \*\*\*  
m\_welfare\_last\_yearYes -0.020057 0.011370 -1.764 0.077879 .   
m\_health 0.014945 0.005042 2.964 0.003071 \*\*   
m\_religious 0.006926 0.003461 2.001 0.045551 \*   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.1992 on 1939 degrees of freedom  
Multiple R-squared: 0.08386, Adjusted R-squared: 0.07677   
F-statistic: 11.83 on 15 and 1939 DF, p-value: < 2.2e-16

marginaleffects::avg\_predictions(mod\_race\_informal\_support, variables = "m\_race", vcov = "HC")

m\_race Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 White 0.939 0.00660 142 <0.001 Inf 0.926 0.952  
 Black 0.918 0.00673 136 <0.001 Inf 0.905 0.931  
  
Columns: m\_race, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_comparisons(mod\_race\_informal\_support, variables = "m\_race", vcov = "HC")

Term Contrast Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 m\_race Black - White -0.0209 0.00982 -2.13 0.0333 4.9 -0.0401 -0.00166  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

Without including covariates:

mod\_race\_informal\_support\_nocov <- lm(  
 formula = informal\_support\_prop ~ m\_race,  
 data = dat,  
   
)  
  
summary(mod\_race\_informal\_support\_nocov)

Call:  
lm(formula = informal\_support\_prop ~ m\_race, data = dat)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.95153 0.04847 0.04847 0.09237 0.09237   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.951529 0.006898 137.949 < 2e-16 \*\*\*  
m\_raceBlack -0.043894 0.009363 -4.688 2.95e-06 \*\*\*  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.2062 on 1953 degrees of freedom  
Multiple R-squared: 0.01113, Adjusted R-squared: 0.01062   
F-statistic: 21.98 on 1 and 1953 DF, p-value: 2.949e-06

marginaleffects::avg\_predictions(mod\_race\_informal\_support\_nocov, variables = "m\_race", vcov = "HC")

m\_race Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 White 0.952 0.00570 167 <0.001 Inf 0.940 0.963  
 Black 0.908 0.00713 127 <0.001 Inf 0.894 0.922  
  
Columns: m\_race, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_comparisons(mod\_race\_informal\_support\_nocov, variables = "m\_race", vcov = "HC")

Term Contrast Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 m\_race Black - White -0.0439 0.00913 -4.81 <0.001 19.3 -0.0618 -0.026  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

## Race + Informal Support -> IPV

When using race and informal support, are they, respectively, predictive of IPV?

mod\_race\_informal\_support\_ipv <- lm(  
 formula = ipv\_prop ~ m\_race + informal\_support\_prop +  
 m\_age + m\_education + m\_alcohol + m\_drugs +  
 m\_employment + m\_children + m\_household\_income +  
 m\_home + m\_welfare\_last\_year + m\_health + m\_religious,  
 data = dat,  
   
)  
  
summary(mod\_race\_informal\_support\_ipv)

Call:  
lm(formula = ipv\_prop ~ m\_race + informal\_support\_prop + m\_age +   
 m\_education + m\_alcohol + m\_drugs + m\_employment + m\_children +   
 m\_household\_income + m\_home + m\_welfare\_last\_year + m\_health +   
 m\_religious, data = dat)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.22039 -0.09456 -0.04161 0.04683 0.88979   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.1322485 0.0286935 4.609 4.31e-06 \*\*\*  
m\_raceBlack -0.0001414 0.0071007 -0.020 0.98411   
informal\_support\_prop -0.0738694 0.0162900 -4.535 6.12e-06 \*\*\*  
m\_age 0.0021044 0.0007006 3.004 0.00270 \*\*   
m\_educationHS and above -0.0228219 0.0083481 -2.734 0.00632 \*\*   
m\_alcohol<1 / month 0.0173055 0.0116344 1.487 0.13706   
m\_alcohol>1 / month 0.0080920 0.0244417 0.331 0.74063   
m\_drugs<1 / month 0.0140147 0.0197748 0.709 0.47859   
m\_drugs>1 / month -0.0030782 0.0248304 -0.124 0.90135   
m\_employmentUnemployed -0.0014100 0.0072603 -0.194 0.84604   
m\_children -0.0025148 0.0030644 -0.821 0.41194   
m\_household\_income$15,000 to $34,999 0.0083203 0.0090082 0.924 0.35579   
m\_household\_income$35,000 or more -0.0157432 0.0106917 -1.472 0.14106   
m\_homeRented 0.0112938 0.0073658 1.533 0.12537   
m\_welfare\_last\_yearYes 0.0213483 0.0081624 2.615 0.00898 \*\*   
m\_health -0.0004546 0.0036246 -0.125 0.90021   
m\_religious 0.0018903 0.0024854 0.761 0.44701   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.1429 on 1938 degrees of freedom  
Multiple R-squared: 0.041, Adjusted R-squared: 0.03308   
F-statistic: 5.178 on 16 and 1938 DF, p-value: 9.229e-11

marginaleffects::avg\_predictions(mod\_race\_informal\_support\_ipv, variables = "m\_race", vcov = "HC")

m\_race Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 White 0.115 0.00539 21.4 <0.001 334.0 0.105 0.126  
 Black 0.115 0.00459 25.1 <0.001 458.5 0.106 0.124  
  
Columns: m\_race, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_predictions(mod\_race\_informal\_support\_ipv, variables = c("m\_race", "informal\_support\_prop"), vcov = "HC")

informal\_support\_prop m\_race Estimate Std. Error z Pr(>|z|) S 2.5 %  
 1.000 White 0.110 0.00545 20.17 <0.001 298.2 0.0992  
 1.000 Black 0.110 0.00469 23.39 <0.001 399.6 0.1005  
 0.667 White 0.134 0.00811 16.57 <0.001 202.5 0.1186  
 0.667 Black 0.134 0.00752 17.87 <0.001 234.8 0.1196  
 0.000 White 0.184 0.02088 8.80 <0.001 59.3 0.1428  
 0.000 Black 0.184 0.02058 8.92 <0.001 60.9 0.1432  
 0.333 White 0.159 0.01419 11.21 <0.001 94.5 0.1313  
 0.333 Black 0.159 0.01380 11.52 <0.001 99.6 0.1319  
 97.5 %  
 0.121  
 0.119  
 0.150  
 0.149  
 0.225  
 0.224  
 0.187  
 0.186  
  
Columns: m\_race, informal\_support\_prop, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_comparisons(mod\_race\_informal\_support\_ipv, variables = "m\_race", vcov = "HC")

Term Contrast Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 m\_race Black - White -0.000141 0.00755 -0.0187 0.985 0.0 -0.0149 0.0147  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_predictions(mod\_race\_informal\_support\_ipv, variables = "informal\_support\_prop", vcov = "HC")

informal\_support\_prop Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 1.000 0.110 0.00337 32.60 <0.001 771.7 0.103 0.116  
 0.667 0.134 0.00683 19.68 <0.001 284.0 0.121 0.148  
 0.000 0.184 0.02037 9.01 <0.001 62.1 0.144 0.224  
 0.333 0.159 0.01346 11.81 <0.001 104.6 0.133 0.185  
  
Columns: informal\_support\_prop, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_comparisons(mod\_race\_informal\_support\_ipv, variables = list("informal\_support\_prop" = "minmax"), vcov = "HC")

Term Contrast Estimate Std. Error z Pr(>|z|) S 2.5 %  
 informal\_support\_prop Max - Min -0.0739 0.0211 -3.49 <0.001 11.0 -0.115  
 97.5 %  
 -0.0324  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

Without including covariates:

mod\_race\_informal\_support\_ipv\_nocov <- lm(  
 formula = ipv\_prop ~ m\_race + informal\_support\_prop ,  
 data = dat,  
   
)  
  
summary(mod\_race\_informal\_support\_ipv\_nocov)

Call:  
lm(formula = ipv\_prop ~ m\_race + informal\_support\_prop, data = dat)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.20598 -0.10426 -0.02836 0.05497 0.89574   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.198535 0.015784 12.578 < 2e-16 \*\*\*  
m\_raceBlack 0.007440 0.006573 1.132 0.258   
informal\_support\_prop -0.094278 0.015798 -5.968 2.85e-09 \*\*\*  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.144 on 1952 degrees of freedom  
Multiple R-squared: 0.01947, Adjusted R-squared: 0.01846   
F-statistic: 19.38 on 2 and 1952 DF, p-value: 4.649e-09

marginaleffects::avg\_predictions(mod\_race\_informal\_support\_ipv\_nocov, variables = "m\_race", vcov = "HC")

m\_race Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 White 0.111 0.00481 23.1 <0.001 388.9 0.102 0.121  
 Black 0.119 0.00443 26.8 <0.001 522.4 0.110 0.127  
  
Columns: m\_race, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_predictions(mod\_race\_informal\_support\_ipv\_nocov, variables = c("m\_race", "informal\_support\_prop"), vcov = "HC")

informal\_support\_prop m\_race Estimate Std. Error z Pr(>|z|) S 2.5 %  
 1.000 White 0.104 0.00476 21.91 <0.001 351.2 0.0949  
 1.000 Black 0.112 0.00453 24.65 <0.001 443.1 0.1028  
 0.667 White 0.136 0.00787 17.24 <0.001 218.9 0.1203  
 0.667 Black 0.143 0.00728 19.67 <0.001 283.8 0.1289  
 0.000 White 0.199 0.02055 9.66 <0.001 70.9 0.1583  
 0.000 Black 0.206 0.01999 10.30 <0.001 80.3 0.1668  
 0.333 White 0.167 0.01397 11.96 <0.001 107.1 0.1397  
 0.333 Black 0.175 0.01339 13.03 <0.001 126.6 0.1483  
 97.5 %  
 0.114  
 0.121  
 0.151  
 0.157  
 0.239  
 0.245  
 0.194  
 0.201  
  
Columns: m\_race, informal\_support\_prop, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_comparisons(mod\_race\_informal\_support\_ipv\_nocov, variables = "m\_race", vcov = "HC")

Term Contrast Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 m\_race Black - White 0.00744 0.00653 1.14 0.255 2.0 -0.00537 0.0202  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_predictions(mod\_race\_informal\_support\_ipv\_nocov, variables = "informal\_support\_prop", vcov = "HC")

informal\_support\_prop Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 1.000 0.108 0.00330 32.8 <0.001 781.5 0.102 0.115  
 0.667 0.140 0.00682 20.5 <0.001 307.9 0.126 0.153  
 0.000 0.203 0.01999 10.1 <0.001 77.8 0.163 0.242  
 0.333 0.171 0.01327 12.9 <0.001 124.1 0.145 0.197  
  
Columns: informal\_support\_prop, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

marginaleffects::avg\_comparisons(mod\_race\_informal\_support\_ipv\_nocov, variables = list("informal\_support\_prop" = "minmax"), vcov = "HC")

Term Contrast Estimate Std. Error z Pr(>|z|) S 2.5 %  
 informal\_support\_prop Max - Min -0.0943 0.0206 -4.58 <0.001 17.7 -0.135  
 97.5 %  
 -0.054  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

# Models side by side

Coefficients are beta coefficients,

modelsummary::modelsummary(  
 models = list(  
 "IPV on race" = mod\_race\_ipv,  
 "Social support on race" = mod\_race\_informal\_support,  
 "IPV on race and social support" = mod\_race\_informal\_support\_ipv  
 ),  
 estimate = "estimate",  
 stars = TRUE,  
 statistic = c("conf.int", "p.value"),  
 vcov = sandwich::vcovHC  
)

|  | IPV on race | Social support on race | IPV on race and social support |
| --- | --- | --- | --- |
| (Intercept) | 0.062\* | 0.949\*\*\* | 0.132\*\*\* |
|  | [0.010, 0.114] | [0.879, 1.020] | [0.069, 0.196] |
|  | (0.020) | (<0.001) | (<0.001) |
| m\_raceBlack | 0.001 | -0.021\* | 0.000 |
|  | [-0.014, 0.016] | [-0.040, -0.002] | [-0.015, 0.015] |
|  | (0.854) | (0.033) | (0.985) |
| m\_age | 0.002\*\* | -0.003\*\* | 0.002\*\* |
|  | [0.001, 0.004] | [-0.004, -0.001] | [0.001, 0.004] |
|  | (0.002) | (0.009) | (0.004) |
| m\_educationHS and above | -0.026\*\* | 0.041\*\* | -0.023\* |
|  | [-0.044, -0.008] | [0.014, 0.068] | [-0.041, -0.005] |
|  | (0.005) | (0.003) | (0.012) |
| m\_alcohol<1 / month | 0.018 | -0.004 | 0.017 |
|  | [-0.006, 0.041] | [-0.038, 0.031] | [-0.007, 0.041] |
|  | (0.145) | (0.841) | (0.155) |
| m\_alcohol>1 / month | 0.009 | -0.009 | 0.008 |
|  | [-0.054, 0.071] | [-0.107, 0.088] | [-0.052, 0.068] |
|  | (0.782) | (0.849) | (0.791) |
| m\_drugs<1 / month | 0.015 | -0.014 | 0.014 |
|  | [-0.029, 0.060] | [-0.087, 0.059] | [-0.030, 0.058] |
|  | (0.507) | (0.703) | (0.532) |
| m\_drugs>1 / month | 0.000 | -0.047 | -0.003 |
|  | [-0.056, 0.057] | [-0.170, 0.075] | [-0.059, 0.053] |
|  | (0.988) | (0.449) | (0.914) |
| m\_employmentUnemployed | -0.001 | -0.010 | -0.001 |
|  | [-0.015, 0.013] | [-0.029, 0.009] | [-0.015, 0.012] |
|  | (0.924) | (0.298) | (0.842) |
| m\_children | -0.001 | -0.019\*\*\* | -0.003 |
|  | [-0.007, 0.005] | [-0.029, -0.008] | [-0.008, 0.003] |
|  | (0.700) | (<0.001) | (0.393) |
| m\_household\_income$15,000 to $34,999 | 0.008 | 0.008 | 0.008 |
|  | [-0.012, 0.028] | [-0.020, 0.036] | [-0.011, 0.028] |
|  | (0.445) | (0.577) | (0.407) |
| m\_household\_income$35,000 or more | -0.016 | 0.009 | -0.016 |
|  | [-0.039, 0.006] | [-0.022, 0.039] | [-0.038, 0.006] |
|  | (0.149) | (0.570) | (0.165) |
| m\_homeRented | 0.014\* | -0.041\*\*\* | 0.011 |
|  | [0.000, 0.028] | [-0.058, -0.024] | [-0.003, 0.025] |
|  | (0.046) | (<0.001) | (0.113) |
| m\_welfare\_last\_yearYes | 0.023\* | -0.020 | 0.021\* |
|  | [0.005, 0.041] | [-0.045, 0.005] | [0.004, 0.039] |
|  | (0.012) | (0.110) | (0.018) |
| m\_health | -0.002 | 0.015\* | 0.000 |
|  | [-0.009, 0.006] | [0.003, 0.026] | [-0.008, 0.007] |
|  | (0.687) | (0.011) | (0.906) |
| m\_religious | 0.001 | 0.007+ | 0.002 |
|  | [-0.004, 0.007] | [0.000, 0.014] | [-0.003, 0.007] |
|  | (0.602) | (0.057) | (0.474) |
| informal\_support\_prop |  |  | -0.074\*\*\* |
|  |  |  | [-0.115, -0.032] |
|  |  |  | (<0.001) |
| Num.Obs. | 1955 | 1955 | 1955 |
| R2 | 0.031 | 0.084 | 0.041 |
| R2 Adj. | 0.023 | 0.077 | 0.033 |
| AIC | -2021.5 | -742.1 | -2040.2 |
| BIC | -1926.7 | -647.3 | -1939.8 |
| Log.Lik. | 1027.767 | 388.045 | 1038.084 |
| RMSE | 0.14 | 0.20 | 0.14 |
| Std.Errors | Custom | Custom | Custom |
| + p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001 | | | |

# Mediation Analysis

mod\_mediation <- mediation::mediate(  
 model.m = mod\_race\_informal\_support,  
 model.y = mod\_race\_informal\_support\_ipv,  
 sims = 2000,  
 treat = "m\_race",  
 mediator = "informal\_support\_prop",   
 robustSE = TRUE  
)  
  
# summary to get the p-values  
summary(mod\_mediation)

Causal Mediation Analysis   
  
Quasi-Bayesian Confidence Intervals  
  
 Estimate 95% CI Lower 95% CI Upper p-value   
ACME 0.001527 0.000117 0.00 0.031 \*  
ADE 0.000204 -0.015731 0.02 0.991   
Total Effect 0.001732 -0.013635 0.02 0.844   
Prop. Mediated 0.078655 -3.712649 2.47 0.839   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Sample Size Used: 1955   
  
  
Simulations: 2000

# code solution to get unrounded upper confidence intervals  
# source: https://stackoverflow.com/questions/53850958/r-mediation-package-digit-behind-comma  
trace(mediation:::print.summary.mediate,   
 at = 11,  
 tracer = quote({  
 printCoefmat <- function(x, digits) {  
 p <- x[, 4] #p-values seem to be stored rounded  
 x[, 1:3] <- sprintf("%.6f", x[, 1:3])  
 x[, 4] <- "ignore" # changed  
 print(x, quote = FALSE, right = TRUE)  
 }   
 }),  
 print = FALSE)

[1] "print.summary.mediate"

mediation:::print.summary.mediate(summary(mod\_mediation))

Causal Mediation Analysis   
  
Quasi-Bayesian Confidence Intervals  
  
 Estimate 95% CI Lower 95% CI Upper p-value  
ACME 0.001527 0.000117 0.003578 ignore  
ADE 0.000204 -0.015731 0.015183 ignore  
Total Effect 0.001732 -0.013635 0.016561 ignore  
Prop. Mediated 0.078655 -3.712649 2.471559 ignore  
  
Sample Size Used: 1955   
  
  
Simulations: 2000

untrace(mediation:::print.summary.mediate)

Without including covariates

mod\_mediation <- mediation::mediate(  
 model.m = mod\_race\_informal\_support\_nocov,  
 model.y = mod\_race\_informal\_support\_ipv\_nocov,  
 sims = 2000,  
 treat = "m\_race",  
 mediator = "informal\_support\_prop",   
 robustSE = TRUE  
)  
  
# summary to get the p-values  
summary(mod\_mediation)

Causal Mediation Analysis   
  
Quasi-Bayesian Confidence Intervals  
  
 Estimate 95% CI Lower 95% CI Upper p-value   
ACME 0.00413 0.00192 0.01 <2e-16 \*\*\*  
ADE 0.00734 -0.00595 0.02 0.277   
Total Effect 0.01147 -0.00179 0.02 0.091 .   
Prop. Mediated 0.33183 -1.75906 2.60 0.091 .   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Sample Size Used: 1955   
  
  
Simulations: 2000

# code solution to get unrounded upper confidence intervals  
# source: https://stackoverflow.com/questions/53850958/r-mediation-package-digit-behind-comma  
trace(mediation:::print.summary.mediate,   
 at = 11,  
 tracer = quote({  
 printCoefmat <- function(x, digits) {  
 p <- x[, 4] #p-values seem to be stored rounded  
 x[, 1:3] <- sprintf("%.6f", x[, 1:3])  
 x[, 4] <- "ignore" # changed  
 print(x, quote = FALSE, right = TRUE)  
 }   
 }),  
 print = FALSE)

[1] "print.summary.mediate"

mediation:::print.summary.mediate(summary(mod\_mediation))

Causal Mediation Analysis   
  
Quasi-Bayesian Confidence Intervals  
  
 Estimate 95% CI Lower 95% CI Upper p-value  
ACME 0.004129 0.001917 0.006928 ignore  
ADE 0.007336 -0.005954 0.020267 ignore  
Total Effect 0.011465 -0.001792 0.024827 ignore  
Prop. Mediated 0.331830 -1.759061 2.602195 ignore  
  
Sample Size Used: 1955   
  
  
Simulations: 2000

untrace(mediation:::print.summary.mediate)