Mediation - Regression analyses

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"))  
  
dat\_weights <- dat |>   
 dplyr::filter(m\_national\_sample == 1) |>   
 srvyr::as\_survey\_rep(  
 repweights = dplyr::contains("\_rep"),  
 weights = m1natwt,  
 combined\_weights = TRUE,  
 # why: https://stats.stackexchange.com/questions/409463/duplicating-stata-survey-design-using-svrepdesign-from-survey-package-in-r  
 type = "JKn",  
 scales = 1,  
 rscales = 1,  
 mse = TRUE  
 )

# Regression Models

## Race -> IPV

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

mod\_race\_ipv <- survey::svyglm(  
 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,  
 design = dat\_weights,  
 family = "gaussian"  
)  
  
summary(mod\_race\_ipv)

Call:  
survey::svyglm(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, design = dat\_weights,   
 family = "gaussian")  
  
Survey design:  
Called via srvyr  
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.113696 0.060590 1.876 0.0779 .  
m\_raceBlack -0.016179 0.017522 -0.923 0.3688   
m\_age 0.002524 0.001614 1.564 0.1363   
m\_educationHS and above -0.021335 0.023083 -0.924 0.3683   
m\_alcohol<1 / month -0.002351 0.022263 -0.106 0.9171   
m\_alcohol>1 / month -0.011126 0.058036 -0.192 0.8502   
m\_drugs<1 / month -0.006035 0.029619 -0.204 0.8410   
m\_drugs>1 / month 0.111928 0.049279 2.271 0.0364 \*  
m\_employmentUnemployed -0.014624 0.013176 -1.110 0.2825   
m\_children 0.003571 0.007653 0.467 0.6467   
m\_household\_income$15,000 to $34,999 0.001153 0.022377 0.052 0.9595   
m\_household\_income$35,000 or more -0.022558 0.027144 -0.831 0.4175   
m\_homeRented 0.005661 0.022191 0.255 0.8017   
m\_welfare\_last\_yearYes 0.039058 0.021693 1.800 0.0896 .  
m\_health -0.015485 0.008050 -1.924 0.0713 .  
m\_religious 0.003323 0.005488 0.605 0.5529   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
(Dispersion parameter for gaussian family taken to be 30.78189)  
  
Number of Fisher Scoring iterations: 2

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

m\_race Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 White 0.119 0.01140 10.4 <0.001 0.0963 0.141  
 Black 0.102 0.00883 11.6 <0.001 0.0852 0.120  
  
Columns: m\_race, estimate, std.error, statistic, p.value, conf.low, conf.high

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

Term Contrast Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 m\_race Black - White -0.0162 0.0175 -0.923 0.356 -0.0505 0.0182  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, conf.low, conf.high

Without including covariates:

mod\_race\_ipv\_nocov <- survey::svyglm(  
 formula = ipv\_prop ~ m\_race,  
 design = dat\_weights,  
 family = "gaussian"  
)  
  
summary(mod\_race\_ipv\_nocov)

Call:  
survey::svyglm(formula = ipv\_prop ~ m\_race, design = dat\_weights,   
 family = "gaussian")  
  
Survey design:  
Called via srvyr  
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.102518 0.009480 10.814 4.79e-12 \*\*\*  
m\_raceBlack 0.008164 0.013626 0.599 0.553   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
(Dispersion parameter for gaussian family taken to be 32.82536)  
  
Number of Fisher Scoring iterations: 2

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

m\_race Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 White 0.103 0.00948 10.8 <0.001 0.0839 0.121  
 Black 0.111 0.00803 13.8 <0.001 0.0949 0.126  
  
Columns: m\_race, estimate, std.error, statistic, p.value, conf.low, conf.high

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

Term Contrast Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 m\_race Black - White 0.00816 0.0136 0.599 0.549 -0.0185 0.0349  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, conf.low, conf.high

## Race -> Informal Support

Is race associated with different informal support rates?

mod\_race\_informal\_support <- survey::svyglm(  
 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,  
 design = dat\_weights,  
 family = "gaussian"  
)  
  
summary(mod\_race\_informal\_support)

Call:  
survey::svyglm(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, design = dat\_weights, family = "gaussian")  
  
Survey design:  
Called via srvyr  
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.907412 0.060186 15.077 2.86e-11 \*\*\*  
m\_raceBlack -0.032294 0.020478 -1.577 0.1332   
m\_age -0.003493 0.001635 -2.136 0.0475 \*   
m\_educationHS and above 0.076347 0.032963 2.316 0.0333 \*   
m\_alcohol<1 / month 0.004529 0.024297 0.186 0.8543   
m\_alcohol>1 / month -0.014256 0.121214 -0.118 0.9078   
m\_drugs<1 / month -0.114696 0.114618 -1.001 0.3310   
m\_drugs>1 / month -0.227312 0.266603 -0.853 0.4057   
m\_employmentUnemployed 0.014104 0.017526 0.805 0.4321   
m\_children -0.011039 0.008082 -1.366 0.1898   
m\_household\_income$15,000 to $34,999 0.020980 0.034574 0.607 0.5520   
m\_household\_income$35,000 or more 0.019268 0.037436 0.515 0.6134   
m\_homeRented -0.021064 0.016409 -1.284 0.2165   
m\_welfare\_last\_yearYes -0.035045 0.033395 -1.049 0.3087   
m\_health 0.013315 0.010261 1.298 0.2117   
m\_religious 0.012564 0.006086 2.065 0.0546 .   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
(Dispersion parameter for gaussian family taken to be 60.66245)  
  
Number of Fisher Scoring iterations: 2

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

m\_race Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 White 0.940 0.0114 82.3 <0.001 0.918 0.962  
 Black 0.908 0.0171 53.1 <0.001 0.874 0.941  
  
Columns: m\_race, estimate, std.error, statistic, p.value, conf.low, conf.high

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

Term Contrast Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 m\_race Black - White -0.0323 0.0205 -1.58 0.115 -0.0724 0.00784  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, conf.low, conf.high

Without including covariates:

mod\_race\_informal\_support\_nocov <- survey::svyglm(  
 formula = informal\_support\_prop ~ m\_race,  
 design = dat\_weights,  
 family = "gaussian"  
)  
  
summary(mod\_race\_informal\_support\_nocov)

Call:  
survey::svyglm(formula = informal\_support\_prop ~ m\_race, design = dat\_weights,   
 family = "gaussian")  
  
Survey design:  
Called via srvyr  
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.967842 0.005962 162.33 < 2e-16 \*\*\*  
m\_raceBlack -0.070392 0.017868 -3.94 0.000432 \*\*\*  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
(Dispersion parameter for gaussian family taken to be 67.35018)  
  
Number of Fisher Scoring iterations: 2

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

m\_race Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 White 0.968 0.00596 162.3 <0.001 0.956 0.98  
 Black 0.897 0.01682 53.4 <0.001 0.864 0.93  
  
Columns: m\_race, estimate, std.error, statistic, p.value, conf.low, conf.high

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

Term Contrast Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 m\_race Black - White -0.0704 0.0179 -3.94 <0.001 -0.105 -0.0354  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, conf.low, conf.high

## Race + Informal Support -> IPV

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

mod\_race\_informal\_support\_ipv <- survey::svyglm(  
 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,  
 design = dat\_weights,  
 family = "gaussian"  
)  
  
summary(mod\_race\_informal\_support\_ipv)

Call:  
survey::svyglm(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, design = dat\_weights, family = "gaussian")  
  
Survey design:  
Called via srvyr  
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.162601 0.066279 2.453 0.0260 \*  
m\_raceBlack -0.017919 0.017634 -1.016 0.3247   
informal\_support\_prop -0.053895 0.028383 -1.899 0.0758 .  
m\_age 0.002336 0.001641 1.424 0.1737   
m\_educationHS and above -0.017220 0.022547 -0.764 0.4561   
m\_alcohol<1 / month -0.002107 0.022406 -0.094 0.9262   
m\_alcohol>1 / month -0.011895 0.059672 -0.199 0.8445   
m\_drugs<1 / month -0.012217 0.028611 -0.427 0.6751   
m\_drugs>1 / month 0.099677 0.037379 2.667 0.0169 \*  
m\_employmentUnemployed -0.013864 0.013346 -1.039 0.3144   
m\_children 0.002976 0.007588 0.392 0.7001   
m\_household\_income$15,000 to $34,999 0.002283 0.022065 0.103 0.9189   
m\_household\_income$35,000 or more -0.021520 0.027522 -0.782 0.4457   
m\_homeRented 0.004526 0.021911 0.207 0.8390   
m\_welfare\_last\_yearYes 0.037169 0.021096 1.762 0.0972 .  
m\_health -0.014767 0.007825 -1.887 0.0774 .  
m\_religious 0.004000 0.005597 0.715 0.4851   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
(Dispersion parameter for gaussian family taken to be 30.60568)  
  
Number of Fisher Scoring iterations: 2

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

m\_race Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 White 0.119 0.0112 10.6 <0.001 0.0973 0.141  
 Black 0.101 0.0091 11.1 <0.001 0.0836 0.119  
  
Columns: m\_race, estimate, std.error, statistic, p.value, conf.low, conf.high

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

m\_race informal\_support\_prop Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 White 0.000 0.1693 0.02806 6.04 <0.001 0.1143 0.224  
 White 0.333 0.1514 0.01975 7.66 <0.001 0.1127 0.190  
 White 0.667 0.1334 0.01312 10.17 <0.001 0.1077 0.159  
 White 1.000 0.1154 0.01153 10.01 <0.001 0.0928 0.138  
 Black 0.000 0.1514 0.02804 5.40 <0.001 0.0965 0.206  
 Black 0.333 0.1335 0.01934 6.90 <0.001 0.0956 0.171  
 Black 0.667 0.1155 0.01186 9.74 <0.001 0.0922 0.139  
 Black 1.000 0.0975 0.00929 10.50 <0.001 0.0793 0.116  
  
Columns: m\_race, informal\_support\_prop, estimate, std.error, statistic, p.value, conf.low, conf.high

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

Term Contrast Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 m\_race Black - White -0.0179 0.0176 -1.02 0.31 -0.0525 0.0166  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, conf.low, conf.high

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

informal\_support\_prop Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 0.000 0.160 0.02664 5.99 <0.001 0.1074 0.212  
 0.333 0.142 0.01744 8.12 <0.001 0.1075 0.176  
 0.667 0.124 0.00882 14.02 <0.001 0.1064 0.141  
 1.000 0.106 0.00552 19.15 <0.001 0.0949 0.117  
  
Columns: informal\_support\_prop, estimate, std.error, statistic, p.value, conf.low, conf.high

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

Term Contrast Estimate Std. Error z Pr(>|z|) 2.5 %  
 informal\_support\_prop Max - Min -0.0539 0.0284 -1.9 0.0576 -0.11  
 97.5 %  
 0.00173  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, conf.low, conf.high

Without including covariates:

mod\_race\_informal\_support\_ipv\_nocov <- survey::svyglm(  
 formula = ipv\_prop ~ m\_race + informal\_support\_prop ,  
 design = dat\_weights,  
 family = "gaussian"  
)  
  
summary(mod\_race\_informal\_support\_ipv\_nocov)

Call:  
survey::svyglm(formula = ipv\_prop ~ m\_race + informal\_support\_prop,   
 design = dat\_weights, family = "gaussian")  
  
Survey design:  
Called via srvyr  
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.189972 0.031331 6.063 1.17e-06 \*\*\*  
m\_raceBlack 0.001804 0.014251 0.127 0.90013   
informal\_support\_prop -0.090360 0.031380 -2.880 0.00728 \*\*   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
(Dispersion parameter for gaussian family taken to be 32.27546)  
  
Number of Fisher Scoring iterations: 2

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

m\_race Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 White 0.106 0.00942 11.3 <0.001 0.0877 0.125  
 Black 0.108 0.00863 12.5 <0.001 0.0910 0.125  
  
Columns: m\_race, estimate, std.error, statistic, p.value, conf.low, conf.high

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

m\_race informal\_support\_prop Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 White 0.000 0.1900 0.03133 6.06 <0.001 0.1286 0.251  
 White 0.333 0.1599 0.02158 7.41 <0.001 0.1176 0.202  
 White 0.667 0.1297 0.01299 9.99 <0.001 0.1043 0.155  
 White 1.000 0.0996 0.00951 10.48 <0.001 0.0810 0.118  
 Black 0.000 0.1918 0.03040 6.31 <0.001 0.1322 0.251  
 Black 0.333 0.1617 0.02058 7.85 <0.001 0.1213 0.202  
 Black 0.667 0.1315 0.01192 11.03 <0.001 0.1082 0.155  
 Black 1.000 0.1014 0.00892 11.37 <0.001 0.0839 0.119  
  
Columns: m\_race, informal\_support\_prop, estimate, std.error, statistic, p.value, conf.low, conf.high

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

Term Contrast Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 m\_race Black - White 0.0018 0.0143 0.127 0.899 -0.0261 0.0297  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, conf.low, conf.high

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

informal\_support\_prop Estimate Std. Error z Pr(>|z|) 2.5 % 97.5 %  
 0.000 0.191 0.03000 6.37 <0.001 0.1322 0.250  
 0.333 0.161 0.01981 8.12 <0.001 0.1220 0.200  
 0.667 0.131 0.01019 12.83 <0.001 0.1107 0.151  
 1.000 0.101 0.00584 17.23 <0.001 0.0891 0.112  
  
Columns: informal\_support\_prop, estimate, std.error, statistic, p.value, conf.low, conf.high

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

Term Contrast Estimate Std. Error z Pr(>|z|) 2.5 %  
 informal\_support\_prop Max - Min -0.0904 0.0314 -2.88 0.00398 -0.152  
 97.5 %  
 -0.0289  
  
Columns: term, contrast, estimate, std.error, statistic, p.value, conf.low, conf.high

# 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")  
)

|  | IPV on race | Social support on race | IPV on race and social support |
| --- | --- | --- | --- |
| (Intercept) | 0.114+ | 0.907\*\*\* | 0.163\* |
|  | [-0.014, 0.242] | [0.780, 1.034] | [0.022, 0.303] |
|  | (0.078) | (<0.001) | (0.026) |
| m\_raceBlack | -0.016 | -0.032 | -0.018 |
|  | [-0.053, 0.021] | [-0.075, 0.011] | [-0.055, 0.019] |
|  | (0.369) | (0.133) | (0.325) |
| m\_age | 0.003 | -0.003\* | 0.002 |
|  | [-0.001, 0.006] | [-0.007, 0.000] | [-0.001, 0.006] |
|  | (0.136) | (0.048) | (0.174) |
| m\_educationHS and above | -0.021 | 0.076\* | -0.017 |
|  | [-0.070, 0.027] | [0.007, 0.146] | [-0.065, 0.031] |
|  | (0.368) | (0.033) | (0.456) |
| m\_alcohol<1 / month | -0.002 | 0.005 | -0.002 |
|  | [-0.049, 0.045] | [-0.047, 0.056] | [-0.050, 0.045] |
|  | (0.917) | (0.854) | (0.926) |
| m\_alcohol>1 / month | -0.011 | -0.014 | -0.012 |
|  | [-0.134, 0.111] | [-0.270, 0.241] | [-0.138, 0.115] |
|  | (0.850) | (0.908) | (0.845) |
| m\_drugs<1 / month | -0.006 | -0.115 | -0.012 |
|  | [-0.069, 0.056] | [-0.357, 0.127] | [-0.073, 0.048] |
|  | (0.841) | (0.331) | (0.675) |
| m\_drugs>1 / month | 0.112\* | -0.227 | 0.100\* |
|  | [0.008, 0.216] | [-0.790, 0.335] | [0.020, 0.179] |
|  | (0.036) | (0.406) | (0.017) |
| m\_employmentUnemployed | -0.015 | 0.014 | -0.014 |
|  | [-0.042, 0.013] | [-0.023, 0.051] | [-0.042, 0.014] |
|  | (0.282) | (0.432) | (0.314) |
| m\_children | 0.004 | -0.011 | 0.003 |
|  | [-0.013, 0.020] | [-0.028, 0.006] | [-0.013, 0.019] |
|  | (0.647) | (0.190) | (0.700) |
| m\_household\_income$15,000 to $34,999 | 0.001 | 0.021 | 0.002 |
|  | [-0.046, 0.048] | [-0.052, 0.094] | [-0.044, 0.049] |
|  | (0.960) | (0.552) | (0.919) |
| m\_household\_income$35,000 or more | -0.023 | 0.019 | -0.022 |
|  | [-0.080, 0.035] | [-0.060, 0.098] | [-0.080, 0.037] |
|  | (0.417) | (0.613) | (0.446) |
| m\_homeRented | 0.006 | -0.021 | 0.005 |
|  | [-0.041, 0.052] | [-0.056, 0.014] | [-0.042, 0.051] |
|  | (0.802) | (0.216) | (0.839) |
| m\_welfare\_last\_yearYes | 0.039+ | -0.035 | 0.037+ |
|  | [-0.007, 0.085] | [-0.106, 0.035] | [-0.008, 0.082] |
|  | (0.090) | (0.309) | (0.097) |
| m\_health | -0.015+ | 0.013 | -0.015+ |
|  | [-0.032, 0.001] | [-0.008, 0.035] | [-0.031, 0.002] |
|  | (0.071) | (0.212) | (0.077) |
| m\_religious | 0.003 | 0.013+ | 0.004 |
|  | [-0.008, 0.015] | [0.000, 0.025] | [-0.008, 0.016] |
|  | (0.553) | (0.055) | (0.485) |
| informal\_support\_prop |  |  | -0.054+ |
|  |  |  | [-0.114, 0.006] |
|  |  |  | (0.076) |
| Num.Obs. | 1955 | 1955 | 1955 |
| R2 | 0.063 | 0.126 | 0.068 |
| R2 Adj. | -106.695 | -99.452 | -112.771 |
| BIC | 1117872.3 | 589578.8 | 1196824.2 |
| Log.Lik. | -558871.738 | -294724.971 | -598343.906 |
| F | 2.945 | 3.658 | 3.144 |
| RMSE | 0.15 | 0.20 | 0.14 |
| + 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 = FALSE  
)  
  
# 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 0.001737 -0.000609 0.01 0.18  
ADE -0.017173 -0.053535 0.02 0.33  
Total Effect -0.015436 -0.051219 0.02 0.39  
Prop. Mediated -0.047449 -1.508513 1.17 0.52  
  
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 0.001737 -0.000609 0.005764 ignore  
ADE -0.017173 -0.053535 0.017749 ignore  
Total Effect -0.015436 -0.051219 0.019828 ignore  
Prop. Mediated -0.047449 -1.508513 1.172341 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 = FALSE  
)  
  
# 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 0.00632 0.00155 0.01 0.005 \*\*  
ADE 0.00157 -0.02738 0.03 0.907   
Total Effect 0.00789 -0.02071 0.04 0.593   
Prop. Mediated 0.28803 -5.68375 6.93 0.592   
---  
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 0.006320 0.001551 0.012586 ignore  
ADE 0.001574 -0.027379 0.029842 ignore  
Total Effect 0.007894 -0.020710 0.037062 ignore  
Prop. Mediated 0.288027 -5.683752 6.930863 ignore  
  
Sample Size Used: 1955   
  
  
Simulations: 2000

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