Sample Comparative Analysis

In this document we run some exploratory analyses to look into the differences in results for the national and not national samples. Inclusion criteria are otherwise the same.

here() starts at /Users/vascobrazao/Documents/Online projects/IPV\_FFCWS/mothers\_social\_support

── Attaching core tidyverse packages ──────────────────────── tidyverse 2.0.0 ──  
✔ dplyr 1.1.4 ✔ readr 2.1.5  
✔ forcats 1.0.0 ✔ stringr 1.5.1  
✔ ggplot2 3.5.0 ✔ tibble 3.2.1  
✔ lubridate 1.9.3 ✔ tidyr 1.3.0  
✔ purrr 1.0.2   
── Conflicts ────────────────────────────────────────── tidyverse\_conflicts() ──  
✖ dplyr::filter() masks stats::filter()  
✖ dplyr::lag() masks stats::lag()  
ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors

# Summary

* IPV on Race:
  + no covariates: results practically the same; formal tests of interactions not significant
  + with covariates: results practically the same; formal tests of interactions not significant
* Informal support on Race:
  + no covariates: very weak evidence that the relationship is stronger in the national sample
  + with covariates: weak evidence that the relationship is stronger in the national sample; in the not-national sample, Black women have slightly *more* supports, while they have *fewer* supports in the national sample
* IPV on Race and Informal Support:
  + no covariates: the effect of informal support is stronger in the national sample, and indistinguishable from 0 in the non-national sample
  + with covariates: the effect of informal support is stronger in the national sample, and indistinguishable from 0 in the non-national sample

# IPV on Race

First, is the rate of IPV in general different across samples?

Call:  
lm(formula = ipv\_prop ~ 0 + sample, data = dat\_imputed\_together)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.12227 -0.11511 -0.03894 0.05156 0.88489   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
samplenational 0.115111 0.003255 35.36 <2e-16 \*\*\*  
samplenot national 0.122273 0.005207 23.48 <2e-16 \*\*\*  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.1439 on 2717 degrees of freedom  
Multiple R-squared: 0.3988, Adjusted R-squared: 0.3983   
F-statistic: 901 on 2 and 2717 DF, p-value: < 2.2e-16

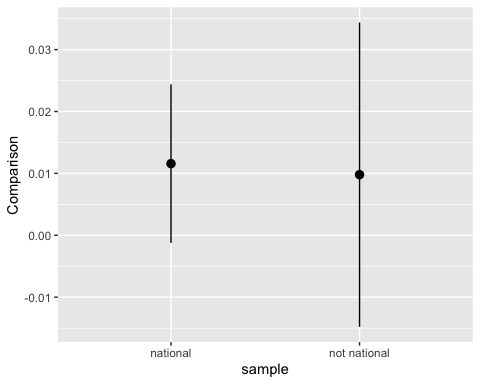
Term Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 national - not national -0.00716 0.00614 -1.17 0.243 2.0 -0.0192 0.00487  
  
Columns: term, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

The rates are very very similar.

Is the effect of race on IPV (without covariates) different across samples?

Call:  
lm(formula = ipv\_prop ~ m\_race \* sample, data = dat\_imputed\_together)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.12444 -0.10883 -0.03707 0.04626 0.89117   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.108827 0.004812 22.615 <2e-16 \*\*\*  
m\_raceBlack 0.011578 0.006532 1.772 0.0764 .   
samplenot national 0.005818 0.012069 0.482 0.6298   
m\_raceBlack:samplenot national -0.001783 0.014141 -0.126 0.8997   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.1439 on 2715 degrees of freedom  
Multiple R-squared: 0.00188, Adjusted R-squared: 0.0007768   
F-statistic: 1.704 on 3 and 2715 DF, p-value: 0.164

Term Contrast sample Estimate Std. Error z  
 m\_race mean(Black) - mean(White) national 0.01158 0.00653 1.772  
 m\_race mean(Black) - mean(White) not national 0.00979 0.01254 0.781  
 Pr(>|z|) S 2.5 % 97.5 %  
 0.0763 3.7 -0.00122 0.0244  
 0.4348 1.2 -0.01479 0.0344  
  
Columns: term, contrast, sample, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high, predicted\_lo, predicted\_hi, predicted   
Type: response



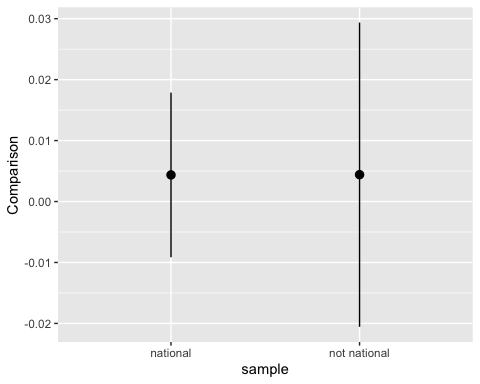
We can see that IPV is a little higher for Black women in both samples, with no meaningful difference between samples.

To see what would happen if we had *not* filtered out the not-national sample, we will run our models of IPV on race and all the covariates with the two separate samples and also together and look at the estimates.

|  | National | Not National | Together |
| --- | --- | --- | --- |
| (Intercept) | 0.062 | 0.131 | 0.083 |
|  | [0.010, 0.114] | [0.048, 0.214] | [0.039, 0.126] |
|  | p = 0.020 | p = 0.002 | p = <0.001 |
| m\_raceBlack | 0.001 | 0.014 | 0.005 |
|  | [-0.014, 0.016] | [-0.013, 0.040] | [-0.007, 0.018] |
|  | p = 0.854 | p = 0.315 | p = 0.404 |
| m\_age | 0.002 | 0.003 | 0.003 |
|  | [0.001, 0.004] | [0.001, 0.005] | [0.001, 0.004] |
|  | p = 0.002 | p = 0.004 | p = <0.001 |
| m\_educationHS and above | -0.026 | -0.024 | -0.025 |
|  | [-0.044, -0.008] | [-0.053, 0.004] | [-0.040, -0.010] |
|  | p = 0.005 | p = 0.096 | p = 0.001 |
| m\_alcohol<1 / month | 0.018 | 0.010 | 0.016 |
|  | [-0.006, 0.041] | [-0.039, 0.058] | [-0.005, 0.038] |
|  | p = 0.145 | p = 0.692 | p = 0.138 |
| m\_alcohol>1 / month | 0.009 | 0.036 | 0.011 |
|  | [-0.054, 0.071] | [-0.067, 0.139] | [-0.040, 0.063] |
|  | p = 0.782 | p = 0.494 | p = 0.668 |
| m\_drugs<1 / month | 0.015 | 0.056 | 0.027 |
|  | [-0.029, 0.060] | [-0.019, 0.131] | [-0.012, 0.065] |
|  | p = 0.507 | p = 0.143 | p = 0.174 |
| m\_drugs>1 / month | 0.000 | -0.072 | -0.019 |
|  | [-0.056, 0.057] | [-0.173, 0.029] | [-0.066, 0.027] |
|  | p = 0.988 | p = 0.164 | p = 0.416 |
| m\_employmentUnemployed | -0.001 | 0.003 | 0.002 |
|  | [-0.015, 0.013] | [-0.019, 0.026] | [-0.010, 0.014] |
|  | p = 0.924 | p = 0.773 | p = 0.763 |
| m\_children | -0.001 | -0.007 | -0.003 |
|  | [-0.007, 0.005] | [-0.014, 0.001] | [-0.007, 0.002] |
|  | p = 0.700 | p = 0.080 | p = 0.251 |
| m\_household\_income$15,000 to $34,999 | 0.008 | -0.011 | 0.002 |
|  | [-0.012, 0.028] | [-0.041, 0.019] | [-0.014, 0.019] |
|  | p = 0.445 | p = 0.472 | p = 0.773 |
| m\_household\_income$35,000 or more | -0.016 | -0.017 | -0.017 |
|  | [-0.039, 0.006] | [-0.055, 0.021] | [-0.036, 0.003] |
|  | p = 0.149 | p = 0.378 | p = 0.090 |
| m\_homeRented | 0.014 | -0.001 | 0.010 |
|  | [0.000, 0.028] | [-0.025, 0.022] | [-0.002, 0.022] |
|  | p = 0.046 | p = 0.905 | p = 0.116 |
| m\_welfare\_last\_yearYes | 0.023 | 0.007 | 0.018 |
|  | [0.005, 0.041] | [-0.021, 0.036] | [0.003, 0.033] |
|  | p = 0.012 | p = 0.602 | p = 0.020 |
| m\_health | -0.002 | -0.013 | -0.006 |
|  | [-0.009, 0.006] | [-0.024, -0.002] | [-0.012, 0.001] |
|  | p = 0.687 | p = 0.019 | p = 0.082 |
| m\_religious | 0.001 | -0.006 | -0.001 |
|  | [-0.004, 0.007] | [-0.014, 0.001] | [-0.005, 0.004] |
|  | p = 0.602 | p = 0.100 | p = 0.750 |
| Num.Obs. | 1955 | 764 | 2719 |
| R2 | 0.031 | 0.046 | 0.030 |
| R2 Adj. | 0.023 | 0.027 | 0.024 |
| AIC | -2021.5 | -836.5 | -2874.0 |
| BIC | -1926.7 | -757.6 | -2773.5 |
| Log.Lik. | 1027.767 | 435.240 | 1453.991 |
| RMSE | 0.14 | 0.14 | 0.14 |
| Std.Errors | Custom | Custom | Custom |

We notice that the estimate for the effect of race is 10 times larger in the non-national sample, but the confidence interval is very large too, more than overlapping with the CI from the national sample. Still, we can run a model with an interaction between race and sample and all the covariates.

Call:  
lm(formula = ipv\_prop ~ m\_race \* sample + 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\_imputed\_together)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.19661 -0.09702 -0.04197 0.05143 0.88099   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 8.255e-02 2.046e-02 4.034 5.64e-05 \*\*\*  
m\_raceBlack 4.364e-03 6.892e-03 0.633 0.526640   
samplenot national 4.699e-03 1.199e-02 0.392 0.695128   
m\_age 2.549e-03 5.812e-04 4.385 1.20e-05 \*\*\*  
m\_educationHS and above -2.517e-02 6.945e-03 -3.623 0.000296 \*\*\*  
m\_alcohol<1 / month 1.654e-02 1.024e-02 1.615 0.106364   
m\_alcohol>1 / month 1.132e-02 2.026e-02 0.559 0.576358   
m\_drugs<1 / month 2.664e-02 1.673e-02 1.592 0.111403   
m\_drugs>1 / month -1.941e-02 2.095e-02 -0.927 0.354173   
m\_employmentUnemployed 1.627e-03 6.113e-03 0.266 0.790148   
m\_children -2.710e-03 2.429e-03 -1.116 0.264695   
m\_household\_income$15,000 to $34,999 2.392e-03 7.533e-03 0.318 0.750814   
m\_household\_income$35,000 or more -1.691e-02 8.865e-03 -1.907 0.056617 .   
m\_homeRented 9.666e-03 6.195e-03 1.560 0.118814   
m\_welfare\_last\_yearYes 1.762e-02 6.835e-03 2.577 0.010017 \*   
m\_health -5.510e-03 3.002e-03 -1.835 0.066542 .   
m\_religious -6.092e-04 2.097e-03 -0.291 0.771449   
m\_raceBlack:samplenot national 4.437e-05 1.402e-02 0.003 0.997475   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.1422 on 2701 degrees of freedom  
Multiple R-squared: 0.02999, Adjusted R-squared: 0.02389   
F-statistic: 4.913 on 17 and 2701 DF, p-value: 1.385e-10



Here, too, we see no evidence that the non-national sample diverges in any interesting way from the national sample.

# Informal support on race

First, is the rate of informal support in general different across samples?

Call:  
lm(formula = informal\_support\_prop ~ 0 + sample, data = dat\_imputed\_together)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.92771 0.07229 0.07229 0.07229 0.07679   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
samplenational 0.927707 0.004708 197.1 <2e-16 \*\*\*  
samplenot national 0.923211 0.007531 122.6 <2e-16 \*\*\*  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.2082 on 2717 degrees of freedom  
Multiple R-squared: 0.952, Adjusted R-squared: 0.9519   
F-statistic: 2.693e+04 on 2 and 2717 DF, p-value: < 2.2e-16

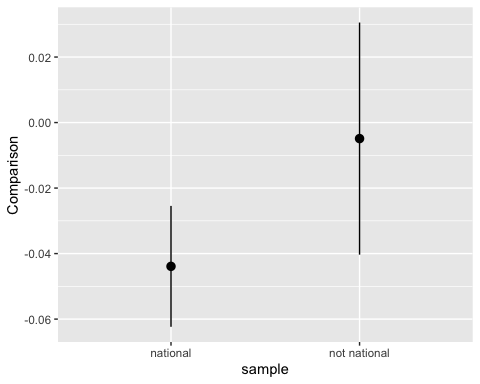
Term Estimate Std. Error z Pr(>|z|) S 2.5 % 97.5 %  
 national - not national 0.0045 0.00888 0.506 0.613 0.7 -0.0129 0.0219  
  
Columns: term, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response

The rates are very similar.

Is the effect of race on informal support (without covs) very different across samples?

Call:  
lm(formula = informal\_support\_prop ~ m\_race \* sample, data = dat\_imputed\_together)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.95153 0.04847 0.07787 0.09237 0.09237   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.951529 0.006936 137.178 < 2e-16 \*\*\*  
m\_raceBlack -0.043894 0.009416 -4.662 3.29e-06 \*\*\*  
samplenot national -0.024507 0.017396 -1.409 0.1590   
m\_raceBlack:samplenot national 0.039002 0.020383 1.913 0.0558 .   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.2074 on 2715 degrees of freedom  
Multiple R-squared: 0.008061, Adjusted R-squared: 0.006965   
F-statistic: 7.355 on 3 and 2715 DF, p-value: 6.59e-05

Term Contrast sample Estimate Std. Error z  
 m\_race mean(Black) - mean(White) national -0.04389 0.00942 -4.662  
 m\_race mean(Black) - mean(White) not national -0.00489 0.01808 -0.271  
 Pr(>|z|) S 2.5 % 97.5 %  
 <0.001 18.3 -0.0623 -0.0254  
 0.787 0.3 -0.0403 0.0305  
  
Columns: term, contrast, sample, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high, predicted\_lo, predicted\_hi, predicted   
Type: response



Here we see slightly bigger differences. It seems that in the national sample there is a stronger effect of race on informal support, although the interaction is not significant.

To see what would happen if we had *not* filtered out the not-national sample, we will run our models of informal support on race and all the covariates with the two separate samples and also together and look at the estimates.

|  | National | Not National | Together |
| --- | --- | --- | --- |
| (Intercept) | 0.949 | 0.943 | 0.951 |
|  | [0.879, 1.020] | [0.825, 1.060] | [0.890, 1.011] |
|  | p = <0.001 | p = <0.001 | p = <0.001 |
| m\_raceBlack | -0.021 | 0.007 | -0.015 |
|  | [-0.040, -0.002] | [-0.032, 0.047] | [-0.031, 0.002] |
|  | p = 0.033 | p = 0.726 | p = 0.082 |
| m\_age | -0.003 | -0.004 | -0.003 |
|  | [-0.004, -0.001] | [-0.008, -0.001] | [-0.005, -0.001] |
|  | p = 0.009 | p = 0.015 | p = <0.001 |
| m\_educationHS and above | 0.041 | 0.000 | 0.029 |
|  | [0.014, 0.068] | [-0.042, 0.043] | [0.006, 0.052] |
|  | p = 0.003 | p = 0.987 | p = 0.013 |
| m\_alcohol<1 / month | -0.004 | -0.096 | -0.023 |
|  | [-0.038, 0.031] | [-0.186, -0.005] | [-0.056, 0.010] |
|  | p = 0.841 | p = 0.038 | p = 0.166 |
| m\_alcohol>1 / month | -0.009 | 0.092 | 0.022 |
|  | [-0.107, 0.088] | [-0.033, 0.217] | [-0.055, 0.099] |
|  | p = 0.849 | p = 0.148 | p = 0.580 |
| m\_drugs<1 / month | -0.014 | 0.022 | -0.007 |
|  | [-0.087, 0.059] | [-0.082, 0.127] | [-0.066, 0.052] |
|  | p = 0.703 | p = 0.673 | p = 0.823 |
| m\_drugs>1 / month | -0.047 | -0.125 | -0.067 |
|  | [-0.170, 0.075] | [-0.308, 0.059] | [-0.168, 0.034] |
|  | p = 0.449 | p = 0.183 | p = 0.192 |
| m\_employmentUnemployed | -0.010 | -0.011 | -0.010 |
|  | [-0.029, 0.009] | [-0.042, 0.021] | [-0.026, 0.006] |
|  | p = 0.298 | p = 0.500 | p = 0.204 |
| m\_children | -0.019 | -0.007 | -0.014 |
|  | [-0.029, -0.008] | [-0.022, 0.007] | [-0.022, -0.005] |
|  | p = <0.001 | p = 0.317 | p = 0.002 |
| m\_household\_income$15,000 to $34,999 | 0.008 | 0.003 | 0.009 |
|  | [-0.020, 0.036] | [-0.042, 0.047] | [-0.015, 0.032] |
|  | p = 0.577 | p = 0.904 | p = 0.463 |
| m\_household\_income$35,000 or more | 0.009 | 0.049 | 0.020 |
|  | [-0.022, 0.039] | [0.000, 0.098] | [-0.005, 0.046] |
|  | p = 0.570 | p = 0.050 | p = 0.122 |
| m\_homeRented | -0.041 | -0.024 | -0.037 |
|  | [-0.058, -0.024] | [-0.054, 0.006] | [-0.051, -0.022] |
|  | p = <0.001 | p = 0.123 | p = <0.001 |
| m\_welfare\_last\_yearYes | -0.020 | 0.001 | -0.015 |
|  | [-0.045, 0.005] | [-0.040, 0.042] | [-0.036, 0.006] |
|  | p = 0.110 | p = 0.963 | p = 0.153 |
| m\_health | 0.015 | 0.022 | 0.017 |
|  | [0.003, 0.026] | [0.002, 0.041] | [0.008, 0.027] |
|  | p = 0.011 | p = 0.034 | p = <0.001 |
| m\_religious | 0.007 | 0.006 | 0.006 |
|  | [0.000, 0.014] | [-0.006, 0.018] | [0.000, 0.012] |
|  | p = 0.057 | p = 0.315 | p = 0.035 |
| Num.Obs. | 1955 | 764 | 2719 |
| R2 | 0.084 | 0.074 | 0.071 |
| R2 Adj. | 0.077 | 0.055 | 0.066 |
| AIC | -742.1 | -240.4 | -986.6 |
| BIC | -647.3 | -161.6 | -886.2 |
| Log.Lik. | 388.045 | 137.217 | 510.314 |
| RMSE | 0.20 | 0.20 | 0.20 |
| Std.Errors | Custom | Custom | Custom |

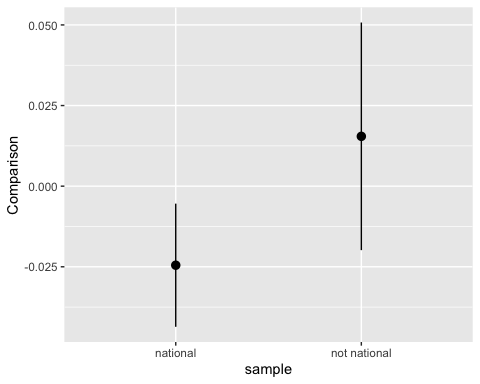
Comparing estimates and R2, we see that our model does slightly *worse* in the not-national sample — it appears that our covariates do not explain informal support as well in the not-national sample as they do in the national sample, but this difference is rather small, and the RMSE is the same.

Let’s also check for an interaction between race and sample.

Call:  
lm(formula = informal\_support\_prop ~ m\_race \* sample + 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\_imputed\_together)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.96455 0.00921 0.05315 0.09353 0.29016   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)   
(Intercept) 0.9540313 0.0289316 32.975 < 2e-16 \*\*\*  
m\_raceBlack -0.0245131 0.0097442 -2.516 0.011939 \*   
samplenot national -0.0223615 0.0169511 -1.319 0.187221   
m\_age -0.0031269 0.0008218 -3.805 0.000145 \*\*\*  
m\_educationHS and above 0.0285757 0.0098194 2.910 0.003642 \*\*   
m\_alcohol<1 / month -0.0232582 0.0144804 -1.606 0.108351   
m\_alcohol>1 / month 0.0208985 0.0286462 0.730 0.465736   
m\_drugs<1 / month -0.0058283 0.0236515 -0.246 0.805374   
m\_drugs>1 / month -0.0663579 0.0296170 -2.241 0.025137 \*   
m\_employmentUnemployed -0.0110086 0.0086428 -1.274 0.202869   
m\_children -0.0141365 0.0034339 -4.117 3.96e-05 \*\*\*  
m\_household\_income$15,000 to $34,999 0.0084962 0.0106499 0.798 0.425069   
m\_household\_income$35,000 or more 0.0199350 0.0125342 1.590 0.111850   
m\_homeRented -0.0365478 0.0087587 -4.173 3.10e-05 \*\*\*  
m\_welfare\_last\_yearYes -0.0150047 0.0096641 -1.553 0.120629   
m\_health 0.0173091 0.0042439 4.079 4.66e-05 \*\*\*  
m\_religious 0.0067223 0.0029648 2.267 0.023446 \*   
m\_raceBlack:samplenot national 0.0399664 0.0198223 2.016 0.043874 \*   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.2011 on 2701 degrees of freedom  
Multiple R-squared: 0.0726, Adjusted R-squared: 0.06676   
F-statistic: 12.44 on 17 and 2701 DF, p-value: < 2.2e-16

Term Contrast sample Estimate Std. Error z  
 m\_race mean(Black) - mean(White) national -0.0245 0.00974 -2.516  
 m\_race mean(Black) - mean(White) not national 0.0155 0.01801 0.858  
 Pr(>|z|) S 2.5 % 97.5 %  
 0.0119 6.4 -0.0436 -0.00541  
 0.3908 1.4 -0.0198 0.05075  
  
Columns: term, contrast, sample, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high, predicted\_lo, predicted\_hi, predicted   
Type: response

Term Estimate Std. Error z Pr(>|z|) S 2.5 %  
 national - not national -0.04 0.0198 -2.02 0.0438 4.5 -0.0788  
 97.5 %  
 -0.00112  
  
Columns: term, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high   
Type: response



Here we do find an interaction. In the national sample Black women have fewer social supports, while in the not national sample they have *more* social supports (but this latter effect is not signficant). Further, we find a signficant interaction, whereas the difference between Black and White women is 0.04 points smaller in the national sample.

# IPV on Race and Informal Support

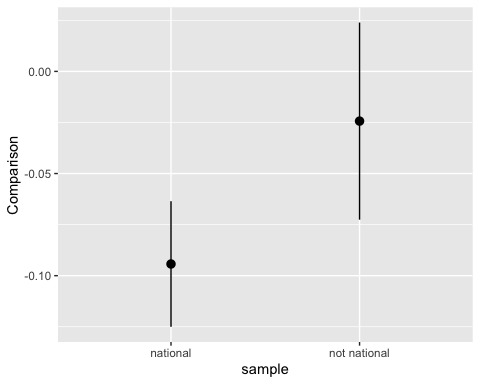
Next we look at models predicting IPV that include both race and informal support.

Are the effect of race and informal support on IPV (without covariates) different across samples?

Call:  
lm(formula = ipv\_prop ~ (m\_race + informal\_support\_prop) \* sample,   
 data = dat\_imputed\_together)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.20598 -0.10426 -0.03921 0.05497 0.89574   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)  
(Intercept) 0.198535 0.015672 12.668 < 2e-16  
m\_raceBlack 0.007440 0.006527 1.140 0.2544  
informal\_support\_prop -0.094278 0.015685 -6.011 2.1e-09  
samplenot national -0.061334 0.029791 -2.059 0.0396  
m\_raceBlack:samplenot national 0.002236 0.014067 0.159 0.8737  
informal\_support\_prop:samplenot national 0.069946 0.029193 2.396 0.0166  
   
(Intercept) \*\*\*  
m\_raceBlack   
informal\_support\_prop \*\*\*  
samplenot national \*   
m\_raceBlack:samplenot national   
informal\_support\_prop:samplenot national \*   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.143 on 2713 degrees of freedom  
Multiple R-squared: 0.01535, Adjusted R-squared: 0.01353   
F-statistic: 8.457 on 5 and 2713 DF, p-value: 5.945e-08

Term Contrast sample Estimate Std. Error z  
 m\_race mean(Black) - mean(White) national 0.00744 0.00653 1.140  
 m\_race mean(Black) - mean(White) not national 0.00968 0.01246 0.776  
 Pr(>|z|) S 2.5 % 97.5 %  
 0.254 2.0 -0.00535 0.0202  
 0.437 1.2 -0.01475 0.0341  
  
Columns: term, contrast, sample, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high, predicted\_lo, predicted\_hi, predicted   
Type: response

Term Contrast sample Estimate Std. Error  
 informal\_support\_prop mean(Max) - mean(Min) national -0.0943 0.0157  
 informal\_support\_prop mean(Max) - mean(Min) not national -0.0243 0.0246  
 z Pr(>|z|) S 2.5 % 97.5 %  
 -6.011 <0.001 29.0 -0.1250 -0.0635  
 -0.988 0.323 1.6 -0.0726 0.0239  
  
Columns: term, contrast, sample, estimate, std.error, statistic, p.value, s.value, conf.low, conf.high, predicted\_lo, predicted\_hi, predicted   
Type: response



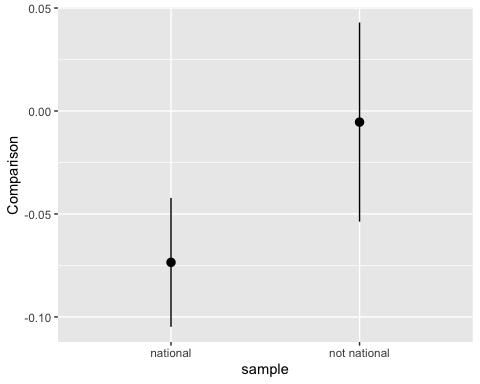
The interaction between sample and informal support is significant. We find a stronger protective effect of informal support in the national sample.

To see what would happen if we had *not* filtered out the not-national sample, we will run our models of IPV on race and all the covariates with the two separate samples and also together and look at the estimates.

|  | National | Not National | Together |
| --- | --- | --- | --- |
| (Intercept) | 0.132 | 0.136 | 0.134 |
|  | [0.069, 0.196] | [0.041, 0.230] | [0.081, 0.186] |
|  | p = <0.001 | p = 0.005 | p = <0.001 |
| m\_raceBlack | 0.000 | 0.014 | 0.005 |
|  | [-0.015, 0.015] | [-0.013, 0.040] | [-0.008, 0.017] |
|  | p = 0.985 | p = 0.315 | p = 0.474 |
| informal\_support\_prop | -0.074 | -0.005 | -0.053 |
|  | [-0.115, -0.032] | [-0.059, 0.050] | [-0.087, -0.020] |
|  | p = <0.001 | p = 0.858 | p = 0.002 |
| m\_age | 0.002 | 0.003 | 0.002 |
|  | [0.001, 0.004] | [0.001, 0.005] | [0.001, 0.004] |
|  | p = 0.004 | p = 0.004 | p = <0.001 |
| m\_educationHS and above | -0.023 | -0.024 | -0.024 |
|  | [-0.041, -0.005] | [-0.053, 0.004] | [-0.039, -0.009] |
|  | p = 0.012 | p = 0.097 | p = 0.002 |
| m\_alcohol<1 / month | 0.017 | 0.009 | 0.015 |
|  | [-0.007, 0.041] | [-0.039, 0.058] | [-0.007, 0.036] |
|  | p = 0.155 | p = 0.707 | p = 0.174 |
| m\_alcohol>1 / month | 0.008 | 0.036 | 0.013 |
|  | [-0.052, 0.068] | [-0.067, 0.140] | [-0.039, 0.064] |
|  | p = 0.791 | p = 0.490 | p = 0.631 |
| m\_drugs<1 / month | 0.014 | 0.056 | 0.026 |
|  | [-0.030, 0.058] | [-0.019, 0.131] | [-0.012, 0.064] |
|  | p = 0.532 | p = 0.142 | p = 0.176 |
| m\_drugs>1 / month | -0.003 | -0.072 | -0.023 |
|  | [-0.059, 0.053] | [-0.175, 0.030] | [-0.070, 0.024] |
|  | p = 0.914 | p = 0.164 | p = 0.339 |
| m\_employmentUnemployed | -0.001 | 0.003 | 0.001 |
|  | [-0.015, 0.012] | [-0.019, 0.026] | [-0.010, 0.013] |
|  | p = 0.842 | p = 0.777 | p = 0.833 |
| m\_children | -0.003 | -0.007 | -0.003 |
|  | [-0.008, 0.003] | [-0.014, 0.001] | [-0.008, 0.001] |
|  | p = 0.393 | p = 0.081 | p = 0.143 |
| m\_household\_income$15,000 to $34,999 | 0.008 | -0.011 | 0.003 |
|  | [-0.011, 0.028] | [-0.041, 0.019] | [-0.013, 0.019] |
|  | p = 0.407 | p = 0.473 | p = 0.730 |
| m\_household\_income$35,000 or more | -0.016 | -0.017 | -0.015 |
|  | [-0.038, 0.006] | [-0.055, 0.021] | [-0.035, 0.004] |
|  | p = 0.165 | p = 0.388 | p = 0.113 |
| m\_homeRented | 0.011 | -0.002 | 0.008 |
|  | [-0.003, 0.025] | [-0.025, 0.022] | [-0.004, 0.020] |
|  | p = 0.113 | p = 0.897 | p = 0.208 |
| m\_welfare\_last\_yearYes | 0.021 | 0.007 | 0.017 |
|  | [0.004, 0.039] | [-0.021, 0.036] | [0.002, 0.032] |
|  | p = 0.018 | p = 0.602 | p = 0.026 |
| m\_health | 0.000 | -0.013 | -0.005 |
|  | [-0.008, 0.007] | [-0.024, -0.002] | [-0.011, 0.002] |
|  | p = 0.906 | p = 0.021 | p = 0.150 |
| m\_religious | 0.002 | -0.006 | 0.000 |
|  | [-0.003, 0.007] | [-0.014, 0.001] | [-0.005, 0.004] |
|  | p = 0.474 | p = 0.102 | p = 0.873 |
| Num.Obs. | 1955 | 764 | 2719 |
| R2 | 0.041 | 0.046 | 0.035 |
| R2 Adj. | 0.033 | 0.026 | 0.030 |
| AIC | -2040.2 | -834.5 | -2887.6 |
| BIC | -1939.8 | -751.0 | -2781.3 |
| Log.Lik. | 1038.084 | 435.261 | 1461.798 |
| RMSE | 0.14 | 0.14 | 0.14 |
| Std.Errors | Custom | Custom | Custom |

Here we see again that the effect of informal support is larger in the national sample. This is further confirmed if we run a model interacting race and sample and informal support and sample.

Call:  
lm(formula = ipv\_prop ~ (m\_race + informal\_support\_prop) \* sample +   
 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\_imputed\_together)  
  
Residuals:  
 Min 1Q Median 3Q Max   
-0.22619 -0.09540 -0.04089 0.05008 0.88617   
  
Coefficients:  
 Estimate Std. Error t value Pr(>|t|)  
(Intercept) 0.1525296 0.0254332 5.997 2.27e-09  
m\_raceBlack 0.0023264 0.0068825 0.338 0.735373  
informal\_support\_prop -0.0734960 0.0159647 -4.604 4.34e-06  
samplenot national -0.0601102 0.0296234 -2.029 0.042541  
m\_age 0.0024086 0.0005808 4.147 3.48e-05  
m\_educationHS and above -0.0230153 0.0069364 -3.318 0.000919  
m\_alcohol<1 / month 0.0161459 0.0102170 1.580 0.114155  
m\_alcohol>1 / month 0.0115408 0.0201953 0.571 0.567736  
m\_drugs<1 / month 0.0258533 0.0166708 1.551 0.121063  
m\_drugs>1 / month -0.0224778 0.0208942 -1.076 0.282118  
m\_employmentUnemployed 0.0009672 0.0060932 0.159 0.873895  
m\_children -0.0035895 0.0024283 -1.478 0.139473  
m\_household\_income$15,000 to $34,999 0.0027813 0.0075069 0.371 0.711038  
m\_household\_income$35,000 or more -0.0164119 0.0088415 -1.856 0.063529  
m\_homeRented 0.0074184 0.0061941 1.198 0.231158  
m\_welfare\_last\_yearYes 0.0165952 0.0068148 2.435 0.014949  
m\_health -0.0047072 0.0030008 -1.569 0.116842  
m\_religious -0.0002608 0.0020915 -0.125 0.900763  
m\_raceBlack:samplenot national 0.0033150 0.0139893 0.237 0.812701  
informal\_support\_prop:samplenot national 0.0681149 0.0290263 2.347 0.019015  
   
(Intercept) \*\*\*  
m\_raceBlack   
informal\_support\_prop \*\*\*  
samplenot national \*   
m\_age \*\*\*  
m\_educationHS and above \*\*\*  
m\_alcohol<1 / month   
m\_alcohol>1 / month   
m\_drugs<1 / month   
m\_drugs>1 / month   
m\_employmentUnemployed   
m\_children   
m\_household\_income$15,000 to $34,999   
m\_household\_income$35,000 or more .   
m\_homeRented   
m\_welfare\_last\_yearYes \*   
m\_health   
m\_religious   
m\_raceBlack:samplenot national   
informal\_support\_prop:samplenot national \*   
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
  
Residual standard error: 0.1417 on 2699 degrees of freedom  
Multiple R-squared: 0.03756, Adjusted R-squared: 0.03078   
F-statistic: 5.543 on 19 and 2699 DF, p-value: 1.169e-13



Here, too, we see no evidence that the non-national sample diverges in any interesting way from the national sample.