

## Preliminary Analyses

```
# loading census data
az_census <- read.csv("data/az_census.csv") %>%
  clean_names() %>%
  filter(year == 6) %>%
  group_by(ctyname) %>%
  mutate(tot_pop = sum(tot_pop)) %>%
  mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
         black = (sum(bac_male) + sum(bac_female))/tot_pop,
         ia = (sum(iac_male) + sum(iac_female))/tot_pop,
         asian = (sum(aac_male) + sum(aac_female))/tot_pop,
         na = (sum(nac_male) + sum(nac_female))/tot_pop,
         hisp = (sum(h_male) + sum(h_female))/tot_pop,
         hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
  select(stname, ctyname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
  unique() %>%
  mutate(state = "AZ")

ak_census <- read.csv("data/ak_census.csv") %>%
  clean_names() %>%
  filter(year == 6) %>%
  group_by(ctyname) %>%
  mutate(tot_pop = sum(tot_pop)) %>%
  mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
         black = (sum(bac_male) + sum(bac_female))/tot_pop,
         ia = (sum(iac_male) + sum(iac_female))/tot_pop,
         asian = (sum(aac_male) + sum(aac_female))/tot_pop,
         na = (sum(nac_male) + sum(nac_female))/tot_pop,
         hisp = (sum(h_male) + sum(h_female))/tot_pop,
         hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
  select(stname, ctyname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
  unique() %>%
  ungroup() %>%
  mutate(state = "AK")

ct_census <- read.csv("data/ct_census.csv") %>%
  clean_names() %>%
  filter(year == 6) %>%
  group_by(ctyname) %>%
  mutate(tot_pop = sum(tot_pop)) %>%
  mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
         black = (sum(bac_male) + sum(bac_female))/tot_pop,
         ia = (sum(iac_male) + sum(iac_female))/tot_pop,
         asian = (sum(aac_male) + sum(aac_female))/tot_pop,
         na = (sum(nac_male) + sum(nac_female))/tot_pop,
         hisp = (sum(h_male) + sum(h_female))/tot_pop,
         hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
```

```

select(stname, ctname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
unique() %>%
ungroup() %>%
mutate(state = "CT")

fl_census <- read.csv("data/fl_census.csv") %>%
clean_names() %>%
filter(year == 6) %>%
group_by(ctname) %>%
mutate(tot_pop = sum(tot_pop)) %>%
mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
       black = (sum(bac_male) + sum(bac_female))/tot_pop,
       ia = (sum(iac_male) + sum(iac_female))/tot_pop,
       asian = (sum(aac_male) + sum(aac_female))/tot_pop,
       na = (sum(nac_male) + sum(nac_female))/tot_pop,
       hisp = (sum(h_male) + sum(h_female))/tot_pop,
       hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
select(stname, ctname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
unique() %>%
ungroup() %>%
mutate(state = "FL")

mo_census <- read.csv("data/mo_census.csv") %>%
clean_names() %>%
filter(year == 6) %>%
group_by(ctname) %>%
mutate(tot_pop = sum(tot_pop)) %>%
mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
       black = (sum(bac_male) + sum(bac_female))/tot_pop,
       ia = (sum(iac_male) + sum(iac_female))/tot_pop,
       asian = (sum(aac_male) + sum(aac_female))/tot_pop,
       na = (sum(nac_male) + sum(nac_female))/tot_pop,
       hisp = (sum(h_male) + sum(h_female))/tot_pop,
       hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
select(stname, ctname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
unique() %>%
ungroup() %>%
mutate(state = "MO")

nc_census <- read.csv("data/nc_census.csv") %>%
clean_names() %>%
filter(year == 6) %>%
group_by(ctname) %>%
mutate(tot_pop = sum(tot_pop)) %>%
mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
       black = (sum(bac_male) + sum(bac_female))/tot_pop,
       ia = (sum(iac_male) + sum(iac_female))/tot_pop,
       asian = (sum(aac_male) + sum(aac_female))/tot_pop,
       na = (sum(nac_male) + sum(nac_female))/tot_pop,
       hisp = (sum(h_male) + sum(h_female))/tot_pop,
       hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
select(stname, ctname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
unique() %>%

```

```

ungroup() %>%
mutate(state = "NC")

nd_census <- read.csv("data/nd_census.csv") %>%
  clean_names() %>%
  filter(year == 6) %>%
  group_by(ctyname) %>%
  mutate(tot_pop = sum(tot_pop)) %>%
  mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
         black = (sum(bac_male) + sum(bac_female))/tot_pop,
         ia = (sum(iac_male) + sum(iac_female))/tot_pop,
         asian = (sum(aac_male) + sum(aac_female))/tot_pop,
         na = (sum(nac_male) + sum(nac_female))/tot_pop,
         hisp = (sum(h_male) + sum(h_female))/tot_pop,
         hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
  select(stname, ctyname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
  unique() %>%
  ungroup() %>%
  mutate(state = "ND")

ny_census <- read.csv("data/ny_census.csv") %>%
  clean_names() %>%
  filter(year == 6) %>%
  group_by(ctyname) %>%
  mutate(tot_pop = sum(tot_pop)) %>%
  mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
         black = (sum(bac_male) + sum(bac_female))/tot_pop,
         ia = (sum(iac_male) + sum(iac_female))/tot_pop,
         asian = (sum(aac_male) + sum(aac_female))/tot_pop,
         na = (sum(nac_male) + sum(nac_female))/tot_pop,
         hisp = (sum(h_male) + sum(h_female))/tot_pop,
         hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
  select(stname, ctyname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
  unique() %>%
  ungroup() %>%
  mutate(state = "NY")

or_census <- read.csv("data/or_census.csv") %>%
  clean_names() %>%
  filter(year == 6) %>%
  group_by(ctyname) %>%
  mutate(tot_pop = sum(tot_pop)) %>%
  mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
         black = (sum(bac_male) + sum(bac_female))/tot_pop,
         ia = (sum(iac_male) + sum(iac_female))/tot_pop,
         asian = (sum(aac_male) + sum(aac_female))/tot_pop,
         na = (sum(nac_male) + sum(nac_female))/tot_pop,
         hisp = (sum(h_male) + sum(h_female))/tot_pop,
         hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
  select(stname, ctyname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
  unique() %>%
  ungroup() %>%
  mutate(state = "OR")

```

```

pa_census <- read.csv("data/pa_census.csv") %>%
  clean_names() %>%
  filter(year == 6) %>%
  group_by(ctyname) %>%
  mutate(tot_pop = sum(tot_pop)) %>%
  mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
         black = (sum(bac_male) + sum(bac_female))/tot_pop,
         ia = (sum(iac_male) + sum(iac_female))/tot_pop,
         asian = (sum(aac_male) + sum(aac_female))/tot_pop,
         na = (sum(nac_male) + sum(nac_female))/tot_pop,
         hisp = (sum(h_male) + sum(h_female))/tot_pop,
         hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
  select(stname, ctyname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
  unique() %>%
  ungroup() %>%
  mutate(state = "PA")

sd_census <- read.csv("data/sd_census.csv") %>%
  clean_names() %>%
  filter(year == 6) %>%
  group_by(ctyname) %>%
  mutate(tot_pop = sum(tot_pop)) %>%
  mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
         black = (sum(bac_male) + sum(bac_female))/tot_pop,
         ia = (sum(iac_male) + sum(iac_female))/tot_pop,
         asian = (sum(aac_male) + sum(aac_female))/tot_pop,
         na = (sum(nac_male) + sum(nac_female))/tot_pop,
         hisp = (sum(h_male) + sum(h_female))/tot_pop,
         hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
  select(stname, ctyname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
  unique() %>%
  ungroup() %>%
  mutate(state = "SD")

ut_census <- read.csv("data/ut_census.csv") %>%
  clean_names() %>%
  filter(year == 6) %>%
  group_by(ctyname) %>%
  mutate(tot_pop = sum(tot_pop)) %>%
  mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
         black = (sum(bac_male) + sum(bac_female))/tot_pop,
         ia = (sum(iac_male) + sum(iac_female))/tot_pop,
         asian = (sum(aac_male) + sum(aac_female))/tot_pop,
         na = (sum(nac_male) + sum(nac_female))/tot_pop,
         hisp = (sum(h_male) + sum(h_female))/tot_pop,
         hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
  select(stname, ctyname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
  unique() %>%
  ungroup() %>%
  mutate(state = "UT")

wa_census <- read.csv("data/wa_census.csv") %>%
  clean_names() %>%

```

```

filter(year == 6) %>%
group_by(ctyname) %>%
mutate(tot_pop = sum(tot_pop)) %>%
mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
       black = (sum(bac_male) + sum(bac_female))/tot_pop,
       ia = (sum(iac_male) + sum(iac_female))/tot_pop,
       asian = (sum(aac_male) + sum(aac_female))/tot_pop,
       na = (sum(nac_male) + sum(nac_female))/tot_pop,
       hisp = (sum(h_male) + sum(h_female))/tot_pop,
       hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
select(stname, ctyname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
unique() %>%
ungroup() %>%
mutate(state = "WA")

```

```

wi_census <- read.csv("data/wi_census.csv") %>%
clean_names() %>%
filter(year == 6) %>%
group_by(ctyname) %>%
mutate(tot_pop = sum(tot_pop)) %>%
mutate(white = (sum(wa_male) + sum(wa_female))/tot_pop,
       black = (sum(bac_male) + sum(bac_female))/tot_pop,
       ia = (sum(iac_male) + sum(iac_female))/tot_pop,
       asian = (sum(aac_male) + sum(aac_female))/tot_pop,
       na = (sum(nac_male) + sum(nac_female))/tot_pop,
       hisp = (sum(h_male) + sum(h_female))/tot_pop,
       hba = (sum(hbac_male) + sum(hbac_female))/tot_pop) %>%
select(stname, ctyname, tot_pop, white, black, ia, asian, na, hisp, hba) %>%
unique() %>%
ungroup() %>%
mutate(state = "WI")

```

```

prosecutors <- readxl::read_xlsx("data/Prosecutor-Elected-Officials-2019.xlsx") %>%
clean_names() %>%
filter(state %in% c("AZ", "AK", "CT", "FL", "MO", "NY", "NC", "ND", "OR", "PA", "SD", "UT", "WA", "WI"))
mutate(ctyname = ifelse(state == "PA", paste(electoral_district, "County"), paste(electoral_district,
select(state, ctyname, office_name, official_name, party_roll_up, white_non_white, race, gender)

```

```

## measures for justice
az_loc <- read.csv("data/Arizona_State_Data/locations-az.csv")
ak_loc <- read.csv("data/Arkansas_State_Data/locations-ar.csv")
ct_loc <- read.csv("data/Connecticut_State_Data/locations-ct.csv")
fl_loc <- read.csv("data/Florida_State_Data/locations-fl.csv")
mo_loc <- read.csv("data/Missouri_State_Data/locations-mo.csv")
ny_loc <- read.csv("data/New_York_State_Data/locations-ny.csv")
nc_loc <- read.csv("data/North_Carolina_State_Data/locations-nc.csv")
nd_loc <- read.csv("data/North_Dakota_State_Data/locations-nd.csv")
or_loc <- read.csv("data/Oregon_State_Data/locations-or.csv")
pa_loc <- read.csv("data/Pennsylvania_State_Data/locations-pa.csv")
sd_loc <- read.csv("data/South_Dakota_State_Data/locations-sd.csv")
ut_loc <- read.csv("data/Utah_State_Data/locations-ut.csv")
wa_loc <- read.csv("data/Washington_State_Data/locations-wa.csv")
wi_loc <- read.csv("data/Wisconsin_State_Data/locations-wi.csv")

```

```

az_mfj <- read.csv("data/Arizona_State_Data/data-2011-2015-az.csv") %>%
  rename(id = location_id) %>%
  left_join(az_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "AZ") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(az_census)

```

```
## Joining, by = "id"
```

```
## Joining, by = c("state", "ctyname")
```

```

ak_mfj <- read.csv("data/Arkansas_State_Data/data-2011-2015-ar.csv") %>%
  rename(id = location_id) %>%
  left_join(ak_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "AK") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(ak_census)

```

```
## Joining, by = "id"
```

```
## Joining, by = c("state", "ctyname")
```

```

ct_mfj <- read.csv("data/Connecticut_State_Data/data-2011-2015-ct.csv") %>%
  rename(id = location_id) %>%
  left_join(ct_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "CT") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(ct_census)

```

```
## Joining, by = "id"
```

```
## Joining, by = c("state", "ctyname")
```

```

fl_mfj <- read.csv("data/Florida_State_Data/data-2009-2013-fl.csv") %>%
  rename(id = location_id) %>%
  left_join(fl_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "FL") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(fl_census)

```

```
## Joining, by = "id"
```

```
## Joining, by = c("state", "ctyname")
```

```

mo_mfj <- read.csv("data/Missouri_State_Data/data-2011-2015-mo.csv") %>%
  rename(id = location_id) %>%
  left_join(mo_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "MO") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(mo_census)

```

```

## Joining, by = "id"
## Joining, by = c("state", "ctyname")

```

```

ny_mfj <- read.csv("data/New_York_State_Data/data-2011-2015-ny.csv") %>%
  rename(id = location_id) %>%
  left_join(ny_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "NY") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(ny_census)

```

```

## Joining, by = "id"
## Joining, by = c("state", "ctyname")

```

```

nc_mfj <- read.csv("data/North_Carolina_State_Data/data-2009-2013-nc.csv") %>%
  rename(id = location_id) %>%
  left_join(nc_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "NC") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(nc_census)

```

```

## Joining, by = "id"
## Joining, by = c("state", "ctyname")

```

```

nd_mfj <- read.csv("data/North_Dakota_State_Data/data-2011-2015-nd.csv") %>%
  rename(id = location_id) %>%
  left_join(nd_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "ND") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(nd_census)

```

```

## Joining, by = "id"
## Joining, by = c("state", "ctyname")

```

```

or_mfj <- read.csv("data/Oregon_State_Data/data-2011-2015-or.csv") %>%
  rename(id = location_id) %>%
  left_join(or_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "OR") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(or_census)

```

```

## Joining, by = "id"
## Joining, by = c("state", "ctyname")

```

```

pa_mfj <- read.csv("data/Pennsylvania_State_Data/data-2009-2013-pa.csv") %>%
  rename(id = location_id) %>%
  left_join(pa_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "PA") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(pa_census)

```

```

## Joining, by = "id"
## Joining, by = c("state", "ctyname")

```

```

sd_mfj <- read.csv("data/South_Dakota_State_Data/data-2013-2017-sd.csv") %>%
  rename(id = location_id) %>%
  left_join(sd_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "SD") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(sd_census)

```

```

## Joining, by = "id"
## Joining, by = c("state", "ctyname")

```

```

ut_mfj <- read.csv("data/Utah_State_Data/data-2013-2017-ut.csv") %>%
  rename(id = location_id) %>%
  left_join(ut_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "UT") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(ut_census)

```

```

## Joining, by = "id"
## Joining, by = c("state", "ctyname")

```



```

wa_mfj <- read.csv("data/Washington_State_Data/data-2009-2013-wa.csv") %>%
  rename(id = location_id) %>%
  left_join(wa_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "WA") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(wa_census)

```

```

## Joining, by = "id"
## Joining, by = c("state", "ctyname")

```

```

wi_mfj <- read.csv("data/Wisconsin_State_Data/data-2011-2015-wi.csv") %>%
  rename(id = location_id) %>%
  left_join(wi_loc) %>%
  filter(type == "county") %>%
  mutate(ctyname = paste(name, "County")) %>%
  mutate(state = "WI") %>%
  select(state, ctyname, measure_id, filter_id, numerator, denominator, value) %>%
  left_join(wi_census)

```

```

## Joining, by = "id"
## Joining, by = c("state", "ctyname")

```

*# binding all*

```

full <- rbind(az_mfj, ak_mfj, ct_mfj, fl_mfj, mo_mfj, ny_mfj, nc_mfj, nd_mfj,
              or_mfj, pa_mfj, sd_mfj, ut_mfj, wa_mfj, wi_mfj) %>%
  mutate(value = as.numeric(value)) %>%
  left_join(prosecutors)

```

```
## Warning: NAs introduced by coercion
```

```
## Joining, by = c("state", "ctyname")
```

*# filtering for measures of all defendants*

```

all_defendants <- full %>%
  filter(filter_id == 1)

```

## Sentencing Length: Notes

The relationship between Black population share and length of imposed prison sentence for nonviolent felonies and misdemeanors is very statistically significant and very large.

*## Length of Imposed Prison Sentence: Nonviolent Felonies ##*

```

measure_26 <- all_defendants %>%
  filter(measure_id == 28) %>%
  filter(value > 0)

```

```
black_26 <- lm(value ~ black, data = measure_26)
```

```
summary(black_26)
```

```
##
## Call:
## lm(formula = value ~ black, data = measure_26)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -72.800 -18.299  -3.747   8.107 131.401
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   26.502      2.026  13.079 < 2e-16 ***
## black        110.710     19.468   5.687 3.51e-08 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 26.53 on 257 degrees of freedom
## (1 observation deleted due to missingness)
## Multiple R-squared:  0.1118, Adjusted R-squared:  0.1083
## F-statistic: 32.34 on 1 and 257 DF, p-value: 3.514e-08
```

```
measure_26 %>%
  ggplot(aes(y = value, x = black, color = white_non_white)) +
  geom_point() +
  geom_smooth(method = "lm") +
  theme_classic()
```

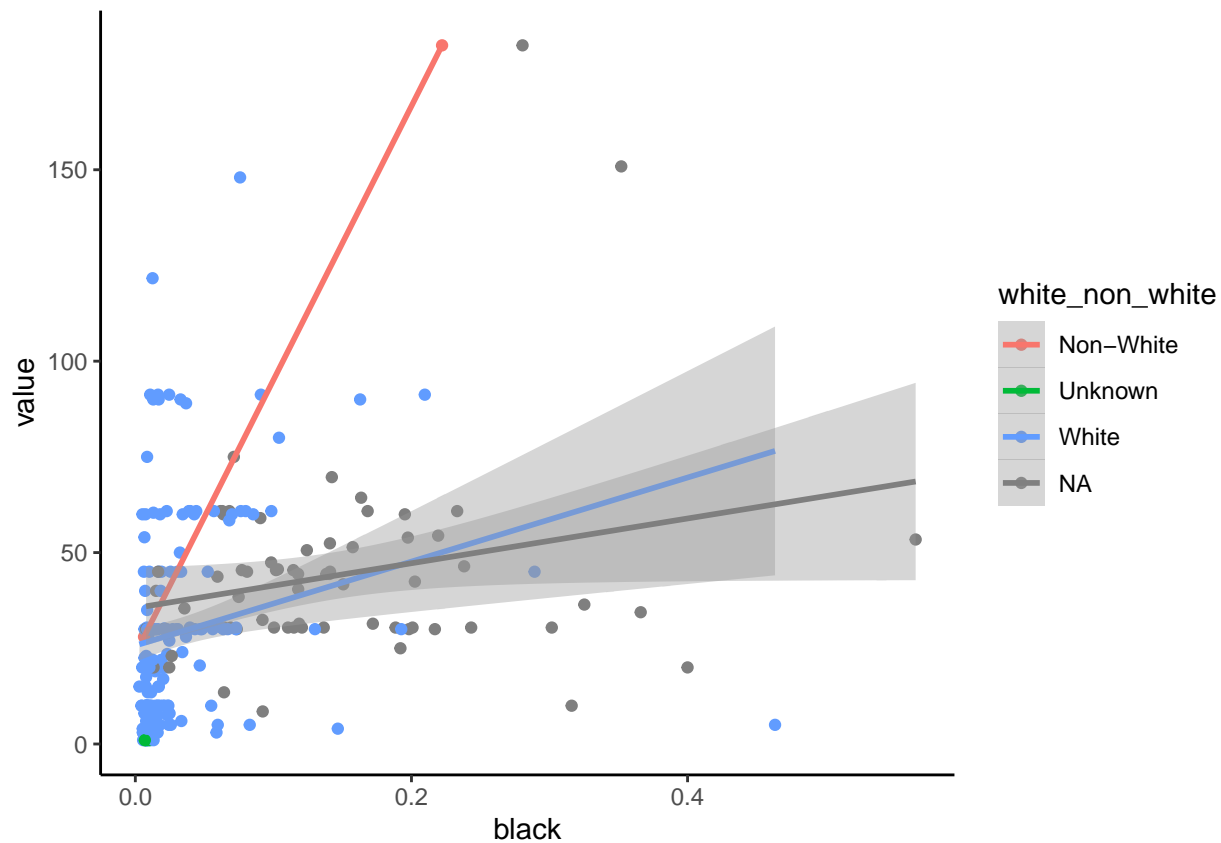
```
## 'geom_smooth()' using formula 'y ~ x'
```

```
## Warning: Removed 1 rows containing non-finite values (stat_smooth).
```

```
## Warning in qt((1 - level)/2, df): NaNs produced
```

```
## Warning: Removed 1 rows containing missing values (geom_point).
```

```
## Warning in max(ids, na.rm = TRUE): no non-missing arguments to max; returning -
## Inf
```



```
measure_26 %>%
  ggplot(aes(y = value, x = log(black), color = white_non_white)) +
  geom_point() +
  theme_classic() +
  geom_smooth(method = "lm")

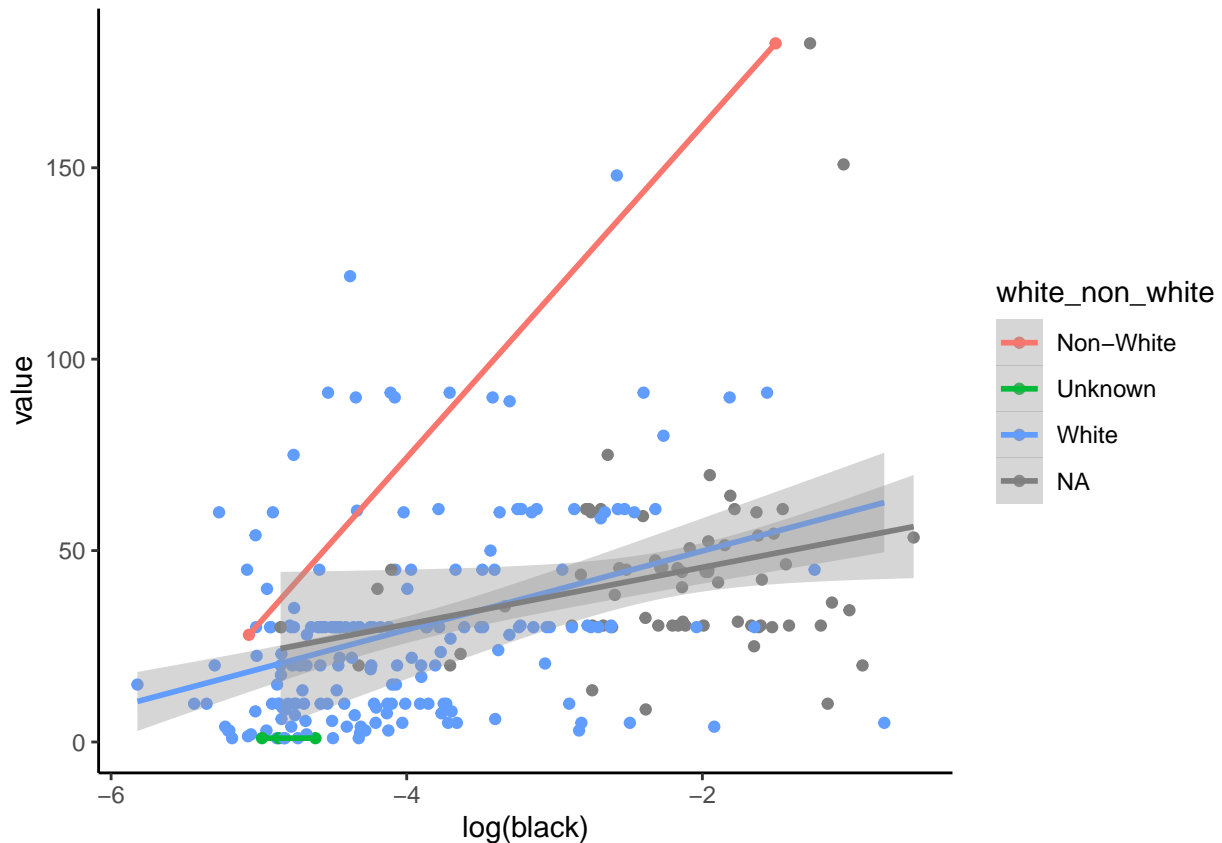
## 'geom_smooth()' using formula 'y ~ x'

## Warning: Removed 1 rows containing non-finite values (stat_smooth).

## Warning in qt((1 - level)/2, df): NaNs produced

## Warning: Removed 1 rows containing missing values (geom_point).

## Warning in max(ids, na.rm = TRUE): no non-missing arguments to max; returning -
## Inf
```



```
## Length of Imposed Jail Sentence: Nonviolent Misdemeanors ##
```

```
measure_28 <- all_defendants %>%
  filter(measure_id == 28) %>%
  filter(value > 0)
```

```
black_28 <- lm(value ~ black, data = measure_28)
```

```
black_wpros_28_log <- lm(value ~ log(black)*white_non_white, data = measure_28) # huge distortions bc b
```

```
black_wpros_28 <- lm(value ~ black*white_non_white, data = measure_28) # huge distortions bc basically
```

```
summary(black_28)
```

```
##
```

```
## Call:
```

```
## lm(formula = value ~ black, data = measure_28)
```

```
##
```

```
## Residuals:
```

```
##      Min       1Q   Median       3Q      Max
## -72.800 -18.299  -3.747   8.107  131.401
```

```
##
```

```
## Coefficients:
```

```
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   26.502      2.026  13.079 < 2e-16 ***
## black        110.710     19.468   5.687 3.51e-08 ***
```

```
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Residual standard error: 26.53 on 257 degrees of freedom
## (1 observation deleted due to missingness)
## Multiple R-squared: 0.1118, Adjusted R-squared: 0.1083
## F-statistic: 32.34 on 1 and 257 DF, p-value: 3.514e-08
```

```
measure_28 %>%
  ggplot(aes(y = value, x = black, color = white_non_white)) +
  geom_point() +
  geom_smooth(method = "lm") +
  theme_classic()
```

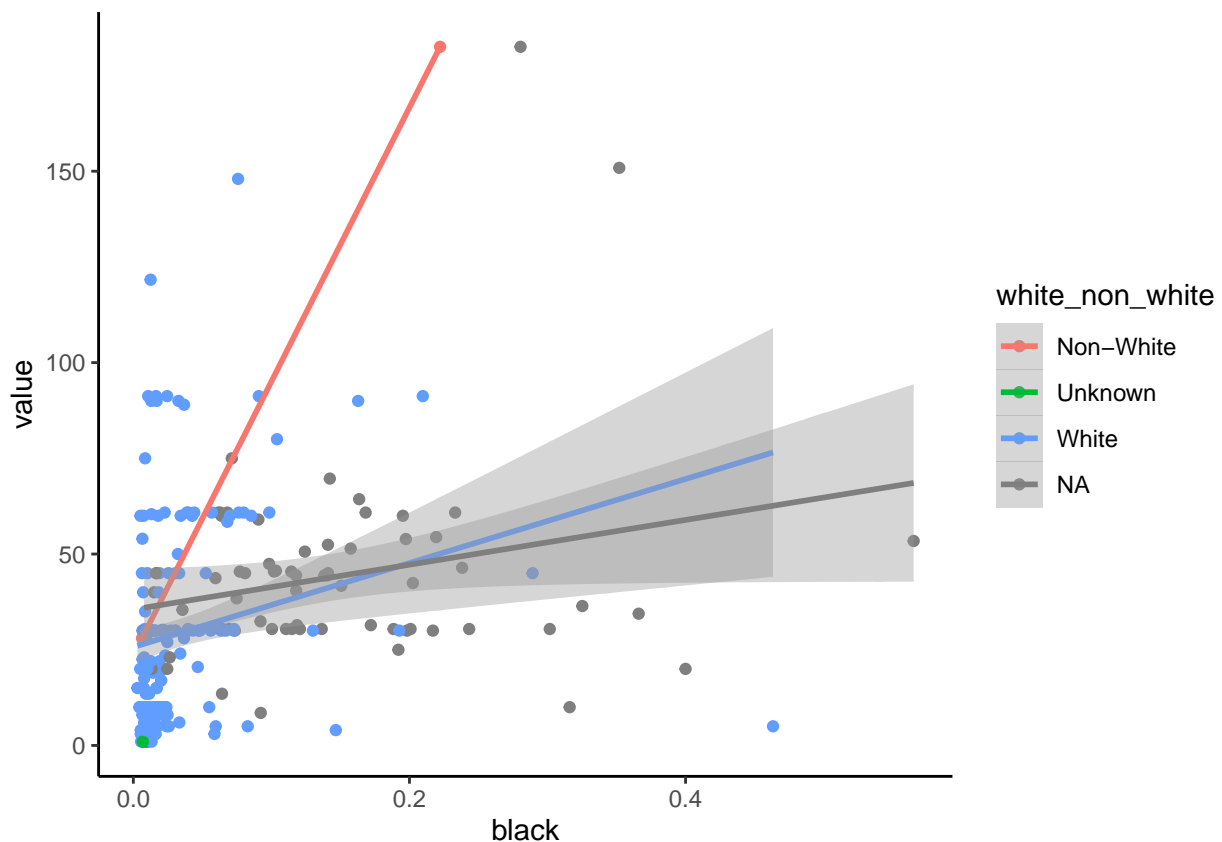
```
## 'geom_smooth()' using formula 'y ~ x'
```

```
## Warning: Removed 1 rows containing non-finite values (stat_smooth).
```

```
## Warning in qt((1 - level)/2, df): NaNs produced
```

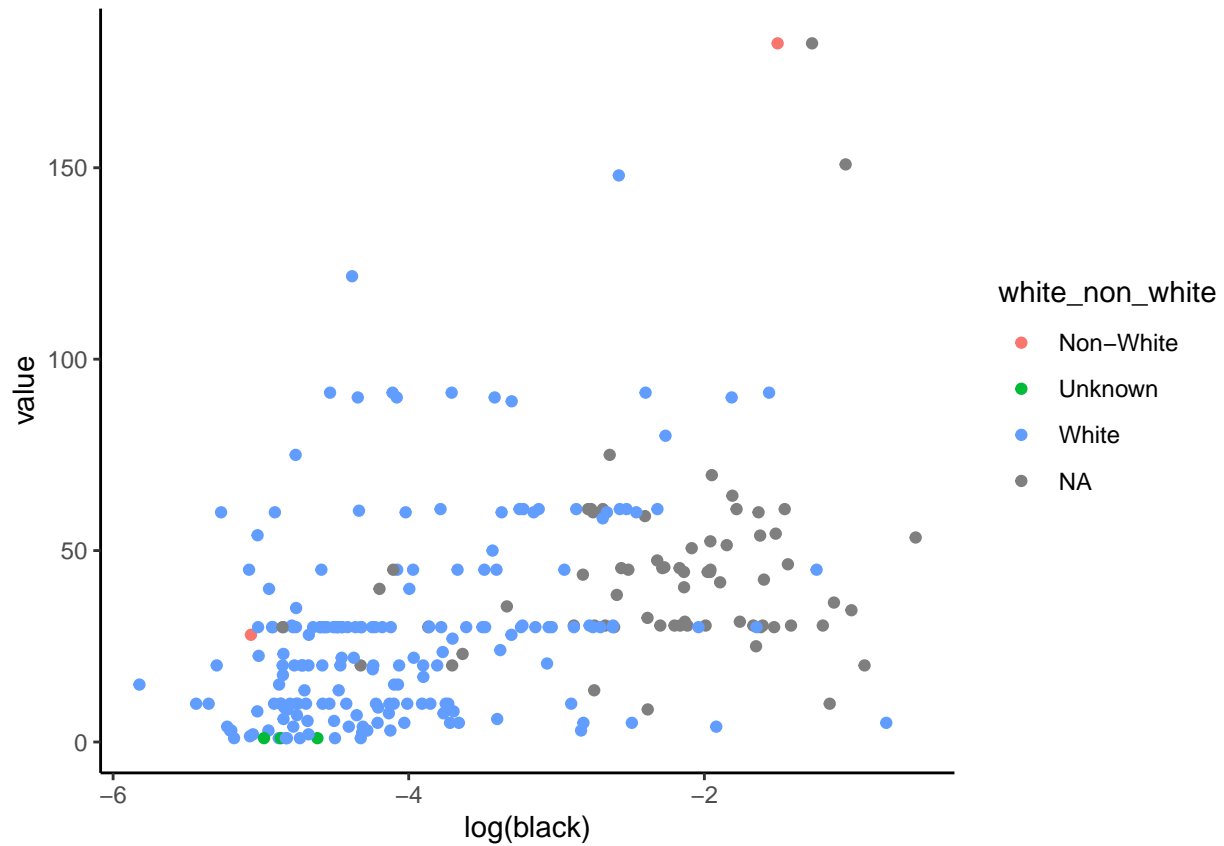
```
## Warning: Removed 1 rows containing missing values (geom_point).
```

```
## Warning in max(ids, na.rm = TRUE): no non-missing arguments to max; returning -
## Inf
```



```
measure_28 %>%
  ggplot(aes(y = value, x = log(black), color = white_non_white)) +
  geom_point() +
  theme_classic()
```

```
## Warning: Removed 1 rows containing missing values (geom_point).
```



## Gender

```
gender_26 <- lm(value ~ gender, data = measure_26)
summary(gender_26)
```

```
##
## Call:
## lm(formula = value ~ gender, data = measure_26)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -30.737 -20.161  -1.911   1.506 150.763
##
## Coefficients:
```

```
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)    31.737      3.902   8.133 5.54e-14 ***
## genderMale     -2.826      4.567  -0.619   0.537
## genderUnknown -30.737     20.088  -1.530   0.128
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 27.87 on 188 degrees of freedom
## (69 observations deleted due to missingness)
## Multiple R-squared:  0.01301,    Adjusted R-squared:  0.00251
## F-statistic: 1.239 on 2 and 188 DF,  p-value: 0.292
```

```
measure_26 %>%
  ggplot(aes(y = value, x = black, color = white_non_white)) +
  geom_point() +
  geom_smooth(method = "lm") +
  theme_classic()
```

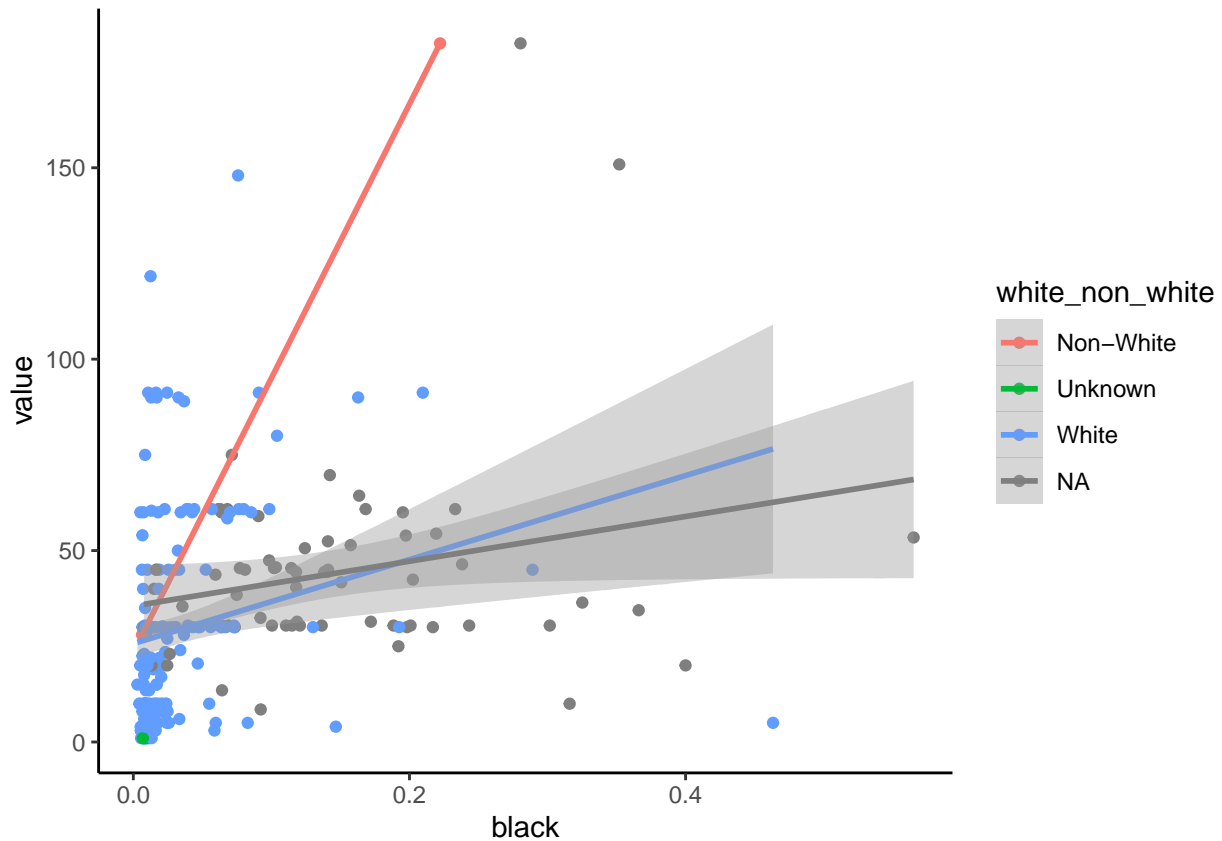
```
## 'geom_smooth()' using formula 'y ~ x'
```

```
## Warning: Removed 1 rows containing non-finite values (stat_smooth).
```

```
## Warning in qt((1 - level)/2, df): NaNs produced
```

```
## Warning: Removed 1 rows containing missing values (geom_point).
```

```
## Warning in max(ids, na.rm = TRUE): no non-missing arguments to max; returning -
## Inf
```



```
measure_26 %>%
  ggplot(aes(y = value, x = log(black), color = white_non_white)) +
  geom_point() +
  theme_classic() +
  geom_smooth(method = "lm")

## 'geom_smooth()' using formula 'y ~ x'

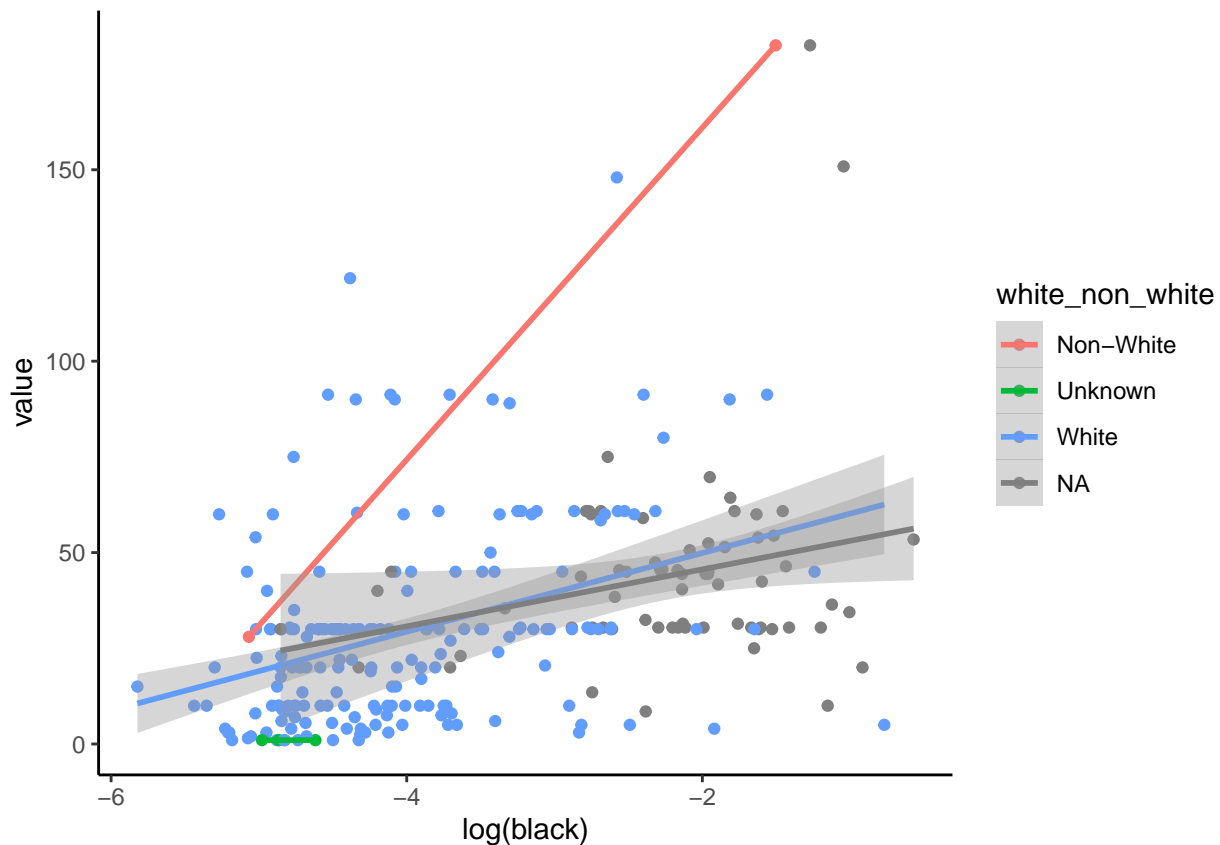
## Warning: Removed 1 rows containing non-finite values (stat_smooth).

## Warning in qt((1 - level)/2, df): NaNs produced

## Warning: Removed 1 rows containing missing values (geom_point).

## Warning in max(ids, na.rm = TRUE): no non-missing arguments to max; returning -
## Inf
```





## Other

```
# Nonviolent Misdemeanors Sentenced to Jail

measure_27 <- full %>%
  filter(filter_id == 1 & measure_id == 27) %>%
  filter(value > 0)

black_27 <- lm(value ~ black, data = measure_27)
black_wpros_27 <- lm(value ~ black*white_non_white, data = measure_27)

# not significant
summary(black_27)

##
## Call:
## lm(formula = value ~ black, data = measure_27)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -35.116 -17.140  -0.399  13.291  56.993
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
```

```
## (Intercept) 35.647 1.602 22.256 <2e-16 ***
## black -29.899 16.808 -1.779 0.0762 .
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 23.57 on 308 degrees of freedom
## (1 observation deleted due to missingness)
## Multiple R-squared: 0.01017, Adjusted R-squared: 0.006956
## F-statistic: 3.164 on 1 and 308 DF, p-value: 0.07625
```

```
summary(black_wpros_27)
```

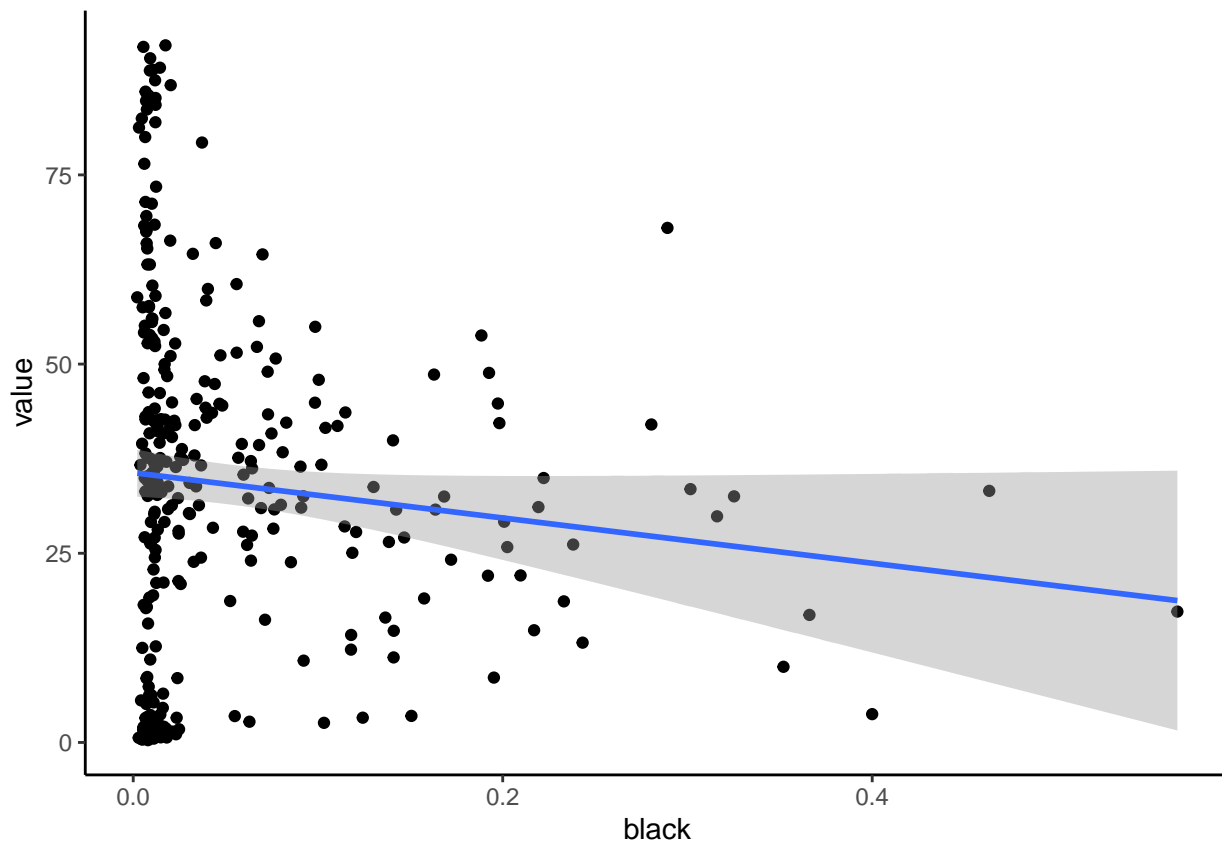
```
##
## Call:
## lm(formula = value ~ black * white_non_white, data = measure_27)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -35.09 -20.83   0.11  15.23  56.60
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)      33.684      18.557   1.815  0.0708 .
## black           6.265      144.577   0.043  0.9655
## white_non_whiteUnknown -34.285      25.317  -1.354  0.1770
## white_non_whiteWhite   1.464      18.658   0.078  0.9375
## black:white_non_whiteUnknown 1487.632      809.307   1.838  0.0673 .
## black:white_non_whiteWhite   24.775      149.389   0.166  0.8684
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 25.56 on 236 degrees of freedom
## (69 observations deleted due to missingness)
## Multiple R-squared: 0.02222, Adjusted R-squared: 0.001508
## F-statistic: 1.073 on 5 and 236 DF, p-value: 0.3761
```

```
measure_27 %>%
  ggplot(aes(y = value, x = black)) +
  geom_point() +
  geom_smooth(method = "lm") +
  theme_classic()
```

```
## 'geom_smooth()' using formula 'y ~ x'
```

```
## Warning: Removed 1 rows containing non-finite values (stat_smooth).
```

```
## Warning: Removed 1 rows containing missing values (geom_point).
```



```
## Pretrial Diversion of Nonviolent Felonies ##
```

```
measure_125 <- all_defendants %>%
  filter(measure_id == 125) %>%
  filter(value > 0)
```

```
black_125 <- lm(value ~ black, data = measure_125)
```

```
summary(black_125) # p = 0.069
```

```
##
```

```
## Call:
```

```
## lm(formula = value ~ black, data = measure_125)
```

```
##
```

```
## Residuals:
```

```
##      Min       1Q   Median       3Q      Max
## -7.861 -4.774 -1.181   3.239 24.439
```

```
##
```

```
## Coefficients:
```

```
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   8.1131     0.4945   16.41  <2e-16 ***
## black        -6.8711     3.7543   -1.83   0.0687 .
```

```
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
```

```
## Residual standard error: 6.083 on 196 degrees of freedom
```

```
## (1 observation deleted due to missingness)
## Multiple R-squared: 0.0168, Adjusted R-squared: 0.01179
## F-statistic: 3.35 on 1 and 196 DF, p-value: 0.06874
```

```
## Non-Custodial Promise to Appear Instead of Custodial Arrest ##
```

```
measure_1 <- all_defendants %>%
  filter(measure_id == 1) %>%
  filter(value > 0)

black_1 <- lm(value ~ black, data = measure_1)

summary(black_1) # not significant
```

```
##
## Call:
## lm(formula = value ~ black, data = measure_1)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -25.1680 -11.0532  -0.0737  12.1084  29.0652
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   26.260      3.986   6.588 1.92e-08 ***
## black         -5.184      21.541  -0.241   0.811
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 15.91 on 54 degrees of freedom
## Multiple R-squared: 0.001071, Adjusted R-squared: -0.01743
## F-statistic: 0.05792 on 1 and 54 DF, p-value: 0.8107
```

```
## Nonviolent Misdemeanor Cases with Nonmonetary Release ##
```

```
measure_7 <- all_defendants %>%
  filter(measure_id == 7) %>%
  filter(value > 0)

black_7 <- lm(value ~ black, data = measure_7)

summary(black_7) # not statistically significant
```

```
##
## Call:
## lm(formula = value ~ black, data = measure_7)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -47.354  -6.806   3.272   9.713  20.595
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
```

```

## (Intercept) 72.556      1.377 52.709 <2e-16 ***
## black      5.920      19.646  0.301   0.764
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 13.15 on 131 degrees of freedom
## (1 observation deleted due to missingness)
## Multiple R-squared:  0.0006927, Adjusted R-squared:  -0.006936
## F-statistic: 0.0908 on 1 and 131 DF, p-value: 0.7636

```