

# Urban vs Rural

*ML*

*1/30/2020*

```
library(tidyverse)
library(pander)

cz <- read.csv("https://raw.githubusercontent.com/mjclawrence/soci385/master/data/commuting_zones.csv")

cz_subset <- cz %>%
  select(mobility, gini, urban, hh_income, racial_seg)

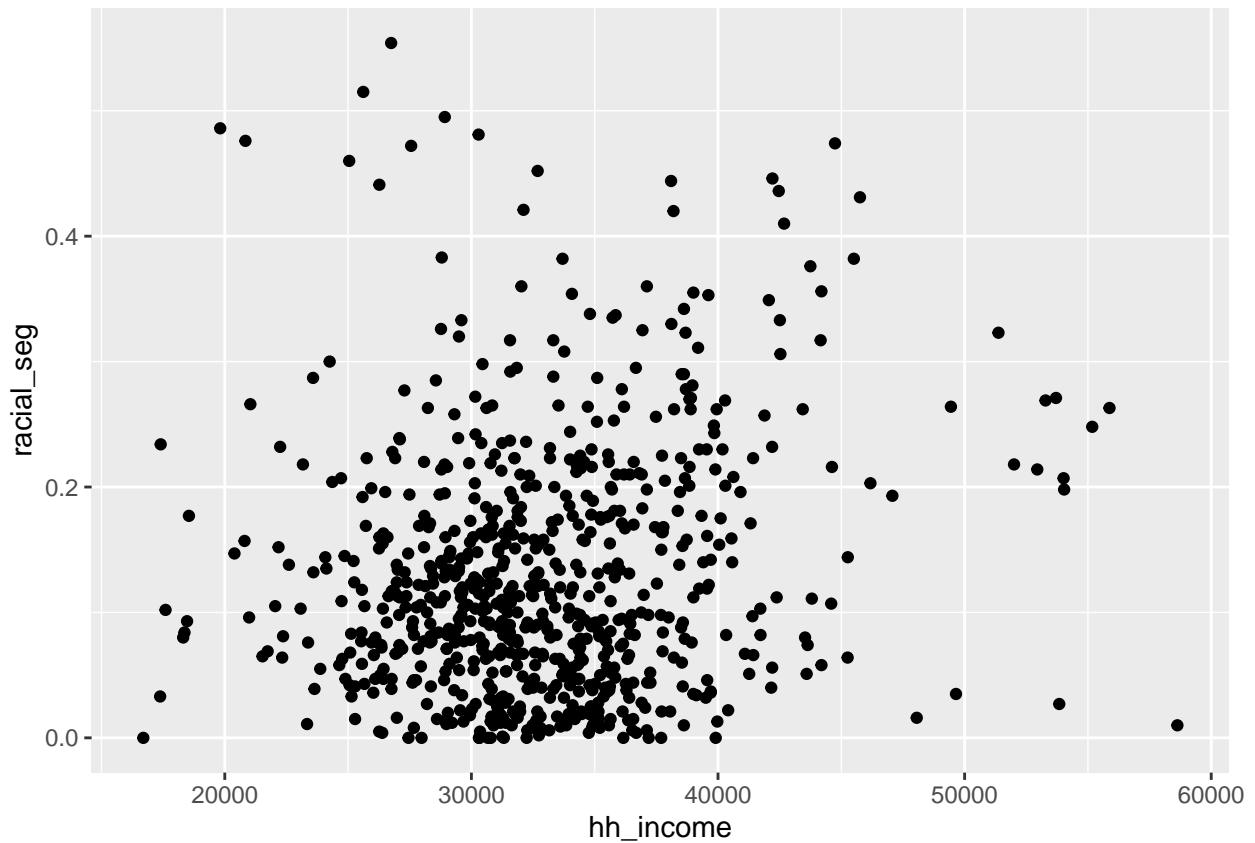
cor(cz_subset$hh_income, cz_subset$racial_seg,
    use = "complete")

## [1] 0.1445054

cz_subset <- cz_subset %>%
  mutate(urban = factor(urban,
                        levels=c("0", "1"),
                        labels=c("Rural", "Urban")))

urban_rural_plot <- ggplot(cz_subset, aes(x = hh_income,
                                           y = racial_seg))

urban_rural_plot + geom_point()
```



Would this association be the same in urban and rural commuting zones?

```
urban_rural_facets <- ggplot(cz_subset, aes(x = hh_income, y = racial_seg))

urban_rural_facets + geom_point(aes(color = urban)) +
  geom_smooth(method = lm, color = "black") +
  facet_grid(.~urban) +
  scale_color_manual(values = c("Red", "Blue")) + guides(color = FALSE) +
  labs(x = "Median Household Income", y = "Racial Segregation",
       title = "Rural-Urban Differences in Association Between \nMedian Household Income and Racial Segregation",
       subtitle = "Data from Opportunity Insights")
```

Rural–Urban Differences in Association Between  
Median Household Income and Racial Segregation

Data from Opportunity Insights

