

Hate Crime Risk Factors

An analysis of 2013 FBI data



I Why this topic?

In 2013, the FBI reported 6,933 hate crime offenses

2013 was a particular point of interest in American politics

- Shortly after President Obama's re-election
- Pre-legalization of same sex marriage
- Black Lives Matter

What we want to know: Which minority groups were more likely to be victimized by a hate crime in 2013? Where were these offenses most likely to occur -- in states that voted Republican in the 2012 election, or Democrat states?

II Introducing our data

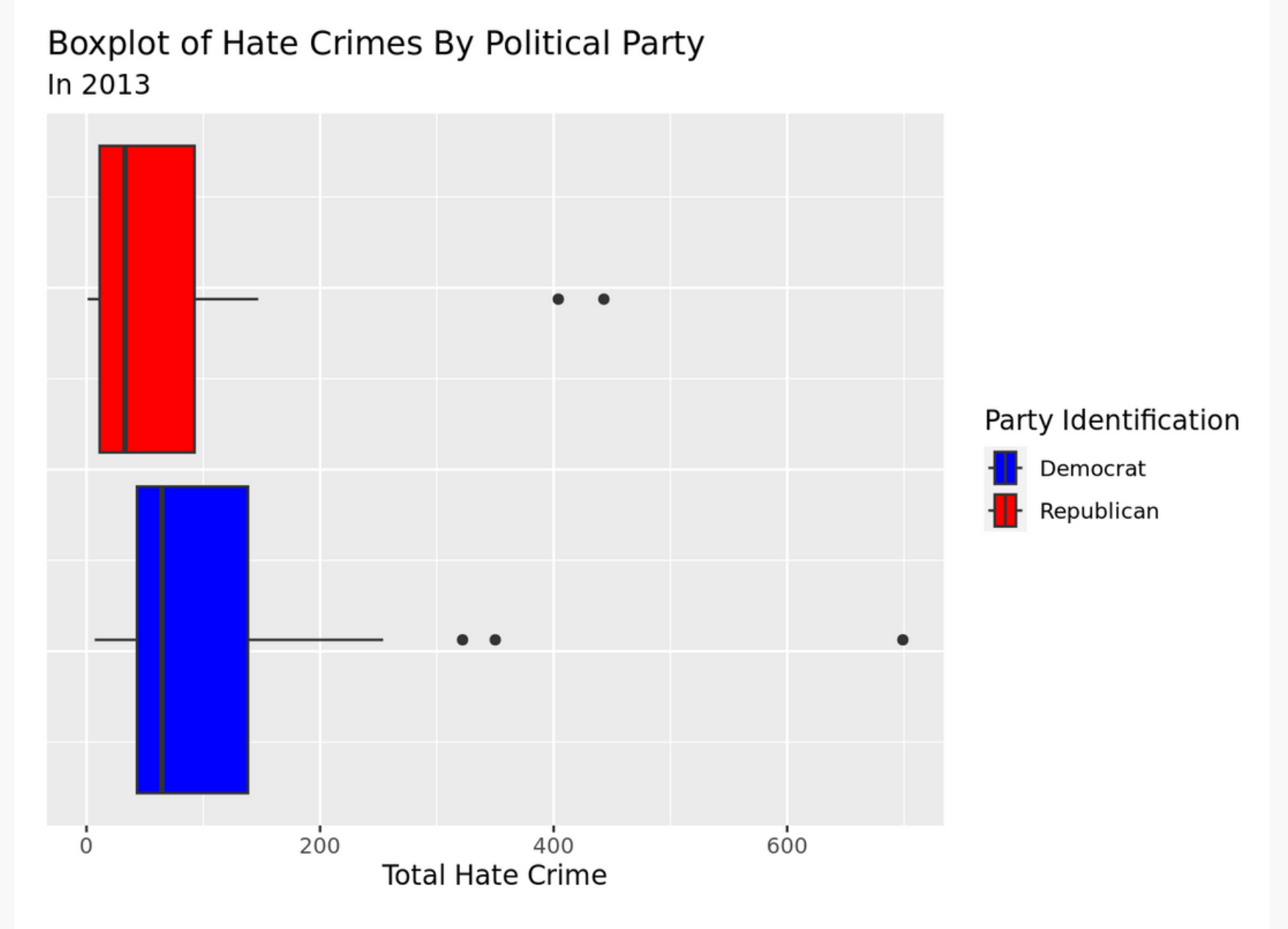
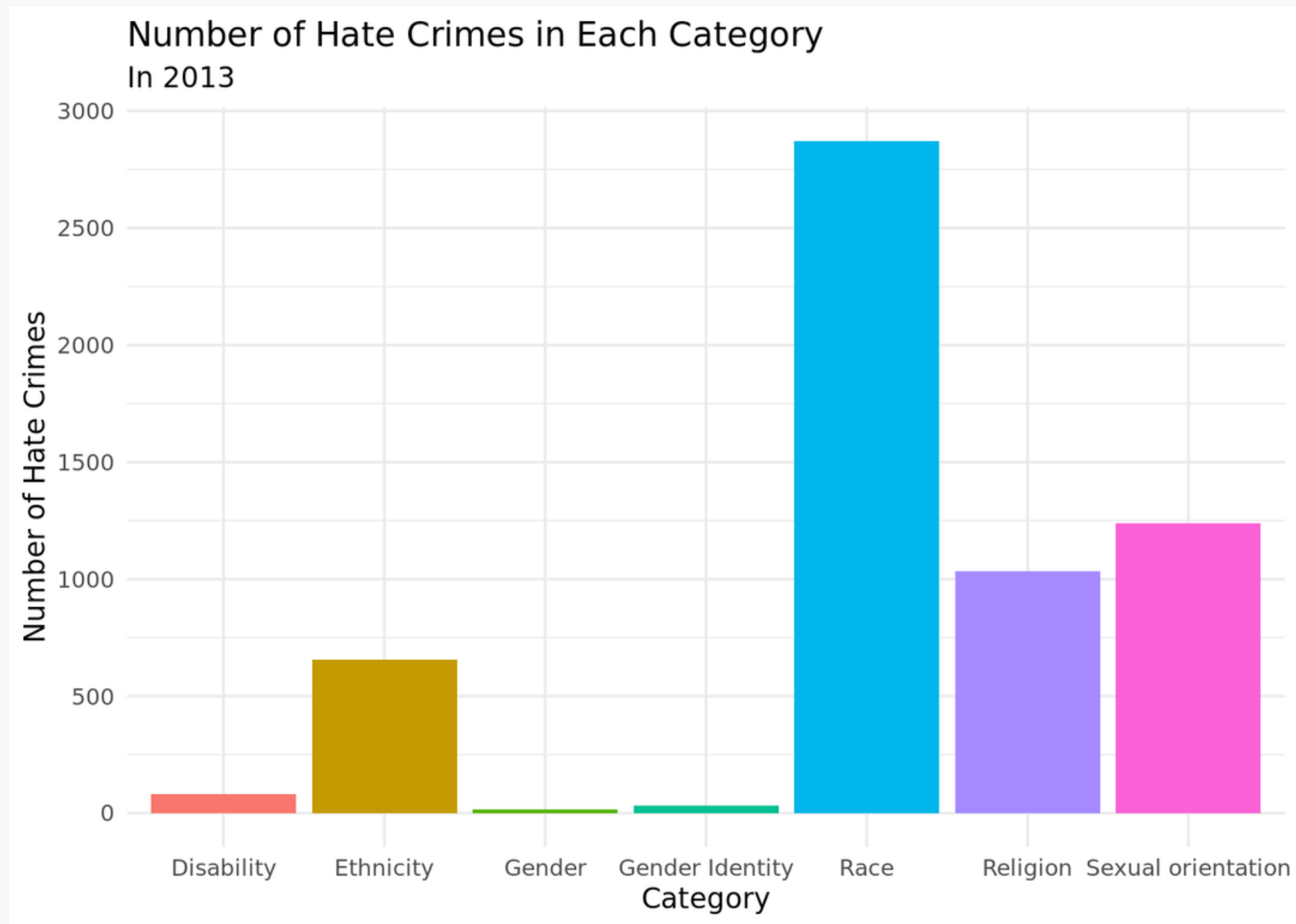
FBI Hate Crime Statistics (2013)

- In 2014, the FBI published their hate crime statistics from the 2013 calendar year
- In 2016, the data was aggregated into a public access csv file

Organization & Variables

- Data is organized into local governments and their number of reported hate crime offenses within each category
- We categorized the existing “State” variable into parties ourselves

III EDA Highlights



IV inference Testing: Minority Categories

```
# A tibble: 7 × 5
  term                estimate std.error statistic  p.value
  <chr>                <dbl>    <dbl>    <dbl>    <dbl>
1 (Intercept)         0.0455    0.0595     0.764 4.45e- 1
2 CategoryEthnicity    0.313    0.0841     3.72 1.97e- 4
3 CategoryGender      -0.0356    0.0842    -0.423 6.72e- 1
4 CategoryGender Identity -0.0285    0.0841    -0.338 7.35e- 1
5 CategoryRace         1.53    0.0841    18.2 9.19e-73
6 CategoryReligion     0.520    0.0841     6.18 6.67e-10
7 CategorySexual orientation 0.632    0.0841     7.51 6.16e-14
```

$$\widehat{\text{Number of Hat Crimes}} = 0.05 + 0.32 * \text{Ethnicity} - 0.04 * \text{Gender} - 0.03 * \text{Gender Identity} \\ + 1.53 * \text{Race} + 0.52 * \text{Religion} + 0.63 * \text{Sexual Orientation}$$

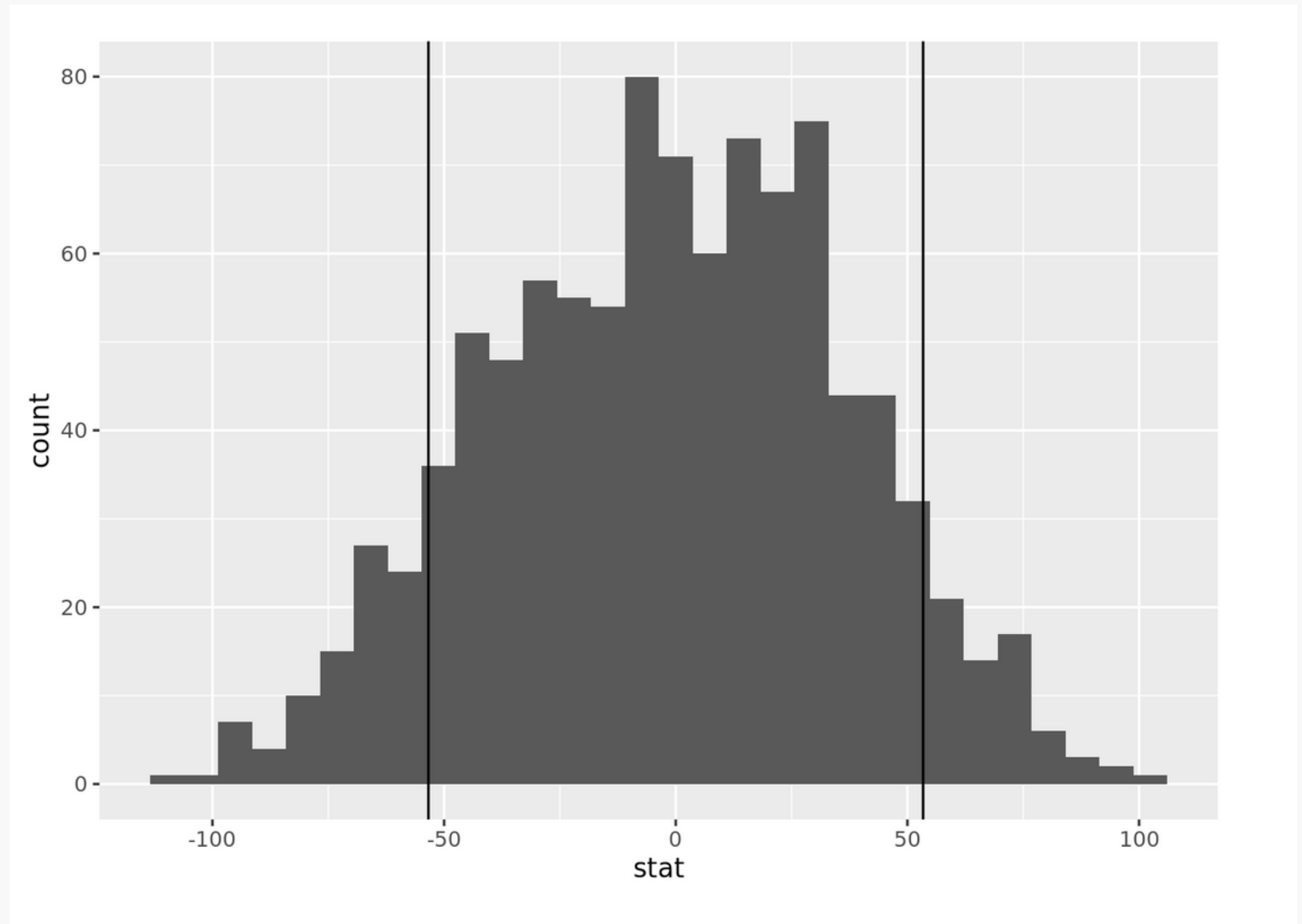
$$\text{Category} = \begin{cases} 1 & \text{if Category is used} \\ 0 & \text{otherwise} \end{cases}$$

V Hypothesis Testing: State Politics

$$H_o : \mu_{democrat} - \mu_{republican} = 0$$

$$H_a : \mu_{democrat} - \mu_{republican} \neq 0$$

p-value = 0.144



Conclusions

- Our data suggests a statistically significant relationship between minority category and hate crime occurrence
- State politics do not show a statistically significant relationship with hate crime frequency

Going forward . . .

- Compare to more recent data
- Focus implementing protective strategies and policies for communities at risk

