



# U.S. Incarceration, Exoneration, and Politics by the Numbers



# Why examine prison statistics?

- The U.S. locks up more people per capita than **any other nation**.
- A total 2.3 million (698 for every 100,000) U.S. residents live in confinement.
- Not everyone who goes to **jail** has been convicted of anything.
- Not everyone in **prison** belongs there (as exoneration data and trial-waiting times make clear).
- **Political and profit motives** (e.g., investments in private prisons) drive much decisionmaking behind incarceration policy.
- The public is **underinformed** about the complex interplay of factors that shape and influence who lives behind bars and who gets to be free.

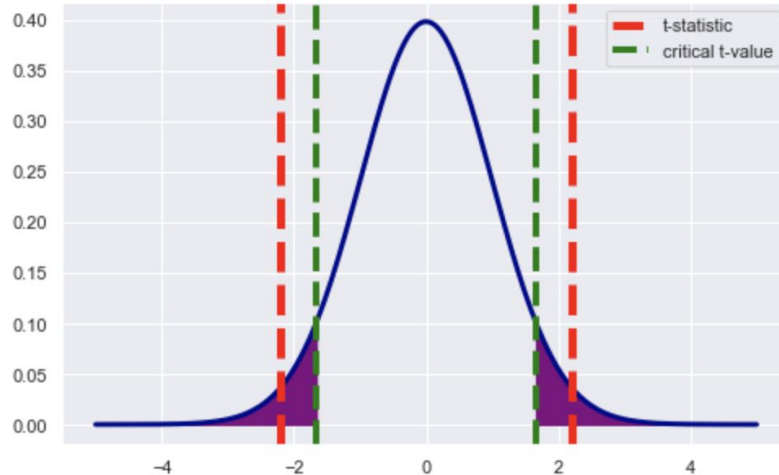
# Information Obscured, Data Wrangled

Some common problems include:

- Nonstandard terminology and labels
- Differing methodologies and units of measurement
- Disparate recording periods
- Obfuscatory data retention (and non-retention) practices
- Immense scope of the subject matter

We aggregated data from the Bureau of Justice Statistics, the ProPublica Congress API, and the National Institute of Justice research on exonerations for crimes to begin to explore some of the relationships between the data and the criminal justice system.

# Hypothesis 1: The mean prison population has increased from 2012 to 2016



Visually we can see that our calculated t-statistic is more extreme on both sides than the t-critical value. This would tell us that we should reject our null hypothesis.

# Hypothesis 2: The incarcerated population differs according to the state's Senators' party affiliation

**Method:** ANOVA

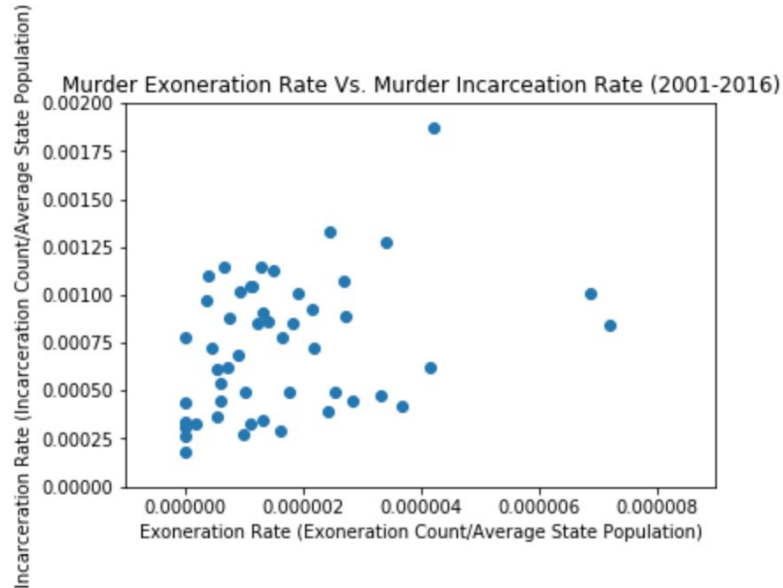
**Findings:** For the 114th Congress,

- F value = 2.81
- p value = 0.07

**Result:** Cannot reject null hypothesis. Further data collection warranted to increase power of hypothesis test.

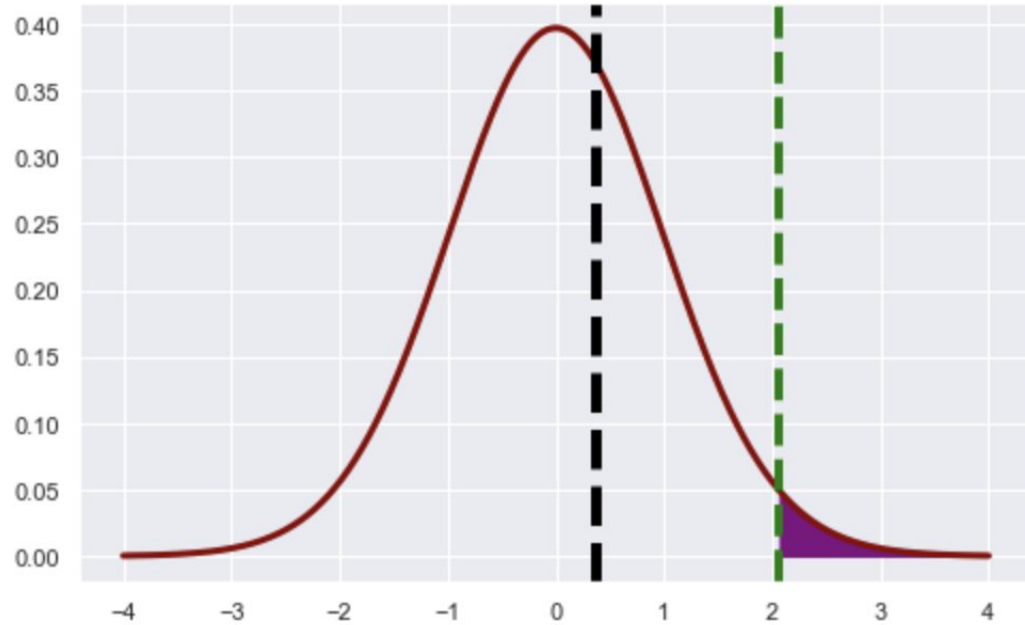
- Use both multiple Congresses and political valence (to increase observations and therefore power)
- Repeated measures ANOVA (because prison population is expected to be similar over time)

### Synthesis 3: The exoneration rate for murder correlates with the rate of incarceration for murder



# Hypothesis 4: Eastern states have a lower rate of exonerations than Western states





The t-critical value is 2.07.  
The t-statistic value is 0.36.  
The p-value is 0.72.



# Takeaways

- The data on incarcerated and supervised people are **messy, widely-dispersed, inconsistent**, and **difficult** to piece together -- whether unintentionally (e.g., because of the number of institutions involved in the multi-jurisdictional federal system) or by design.
- The political leanings of a state's most influential politicians warrants further investigation as a potential factor in the U.S.'s high rates of incarceration.
- Crude measures of geography alone do not predict overall exoneration rates, which makes sense *post hoc* in that many different innocence commissions, governmental committees, and nongovernmental organizations have been formed in disparate jurisdictions to investigate wrongful conviction (probably more closely aligned with political will than with physical location). **Doing one's homework on domain knowledge really matters here.**