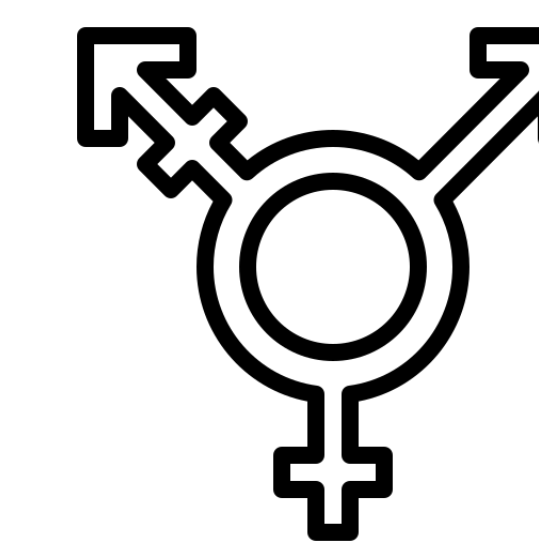




# DATA 400 – Annual Science Student Research Symposium

## Religiosity and LGBTQ+ Hate Crime in the United States

Oliver Reidmiller, Maia Vachon, Mai Nguyen



### Introduction

**Research Question:** Does religious affiliation affect LGBTQ+ hate crime in the United States?

- + are there other influential variables?
- + is hate crime accurately reported?
- + how does this change over time?

### Objectives

- To understand the complex relationships that influence LGBTQ+ hate crime in the US
- To see how certain time periods (elections, COVID-19, etc.) impact on LGBTQ+ hate crime

### Data

**Hate crime:** filtered to only include LGBTQ+ related incidents 2014-2022

**Religion:** sum of places of worship per state (2020), four largest religious affiliations (Protestant, Catholic, Mormon, Jewish) and other (2014)

#### Additional variables

- State populations
- Political voting party
- Education level (high school, college, post-graduate)
- Unemployment rate
- Race (white, black, Hispanic, other)
- Marriage legalization year

274 observations

### Methods/ Results

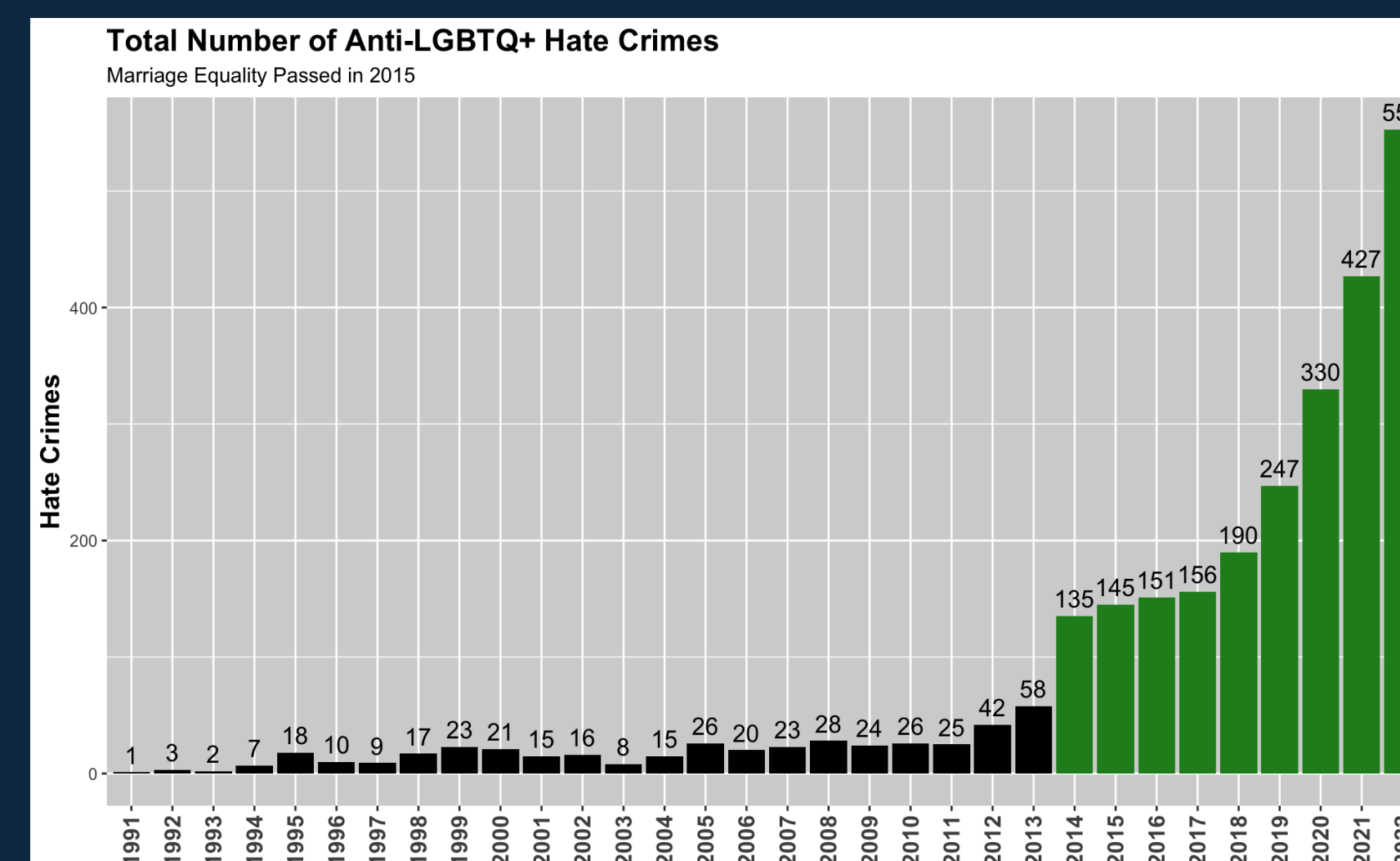


Figure 1: LGBTQ+ Hate Crime Over Time

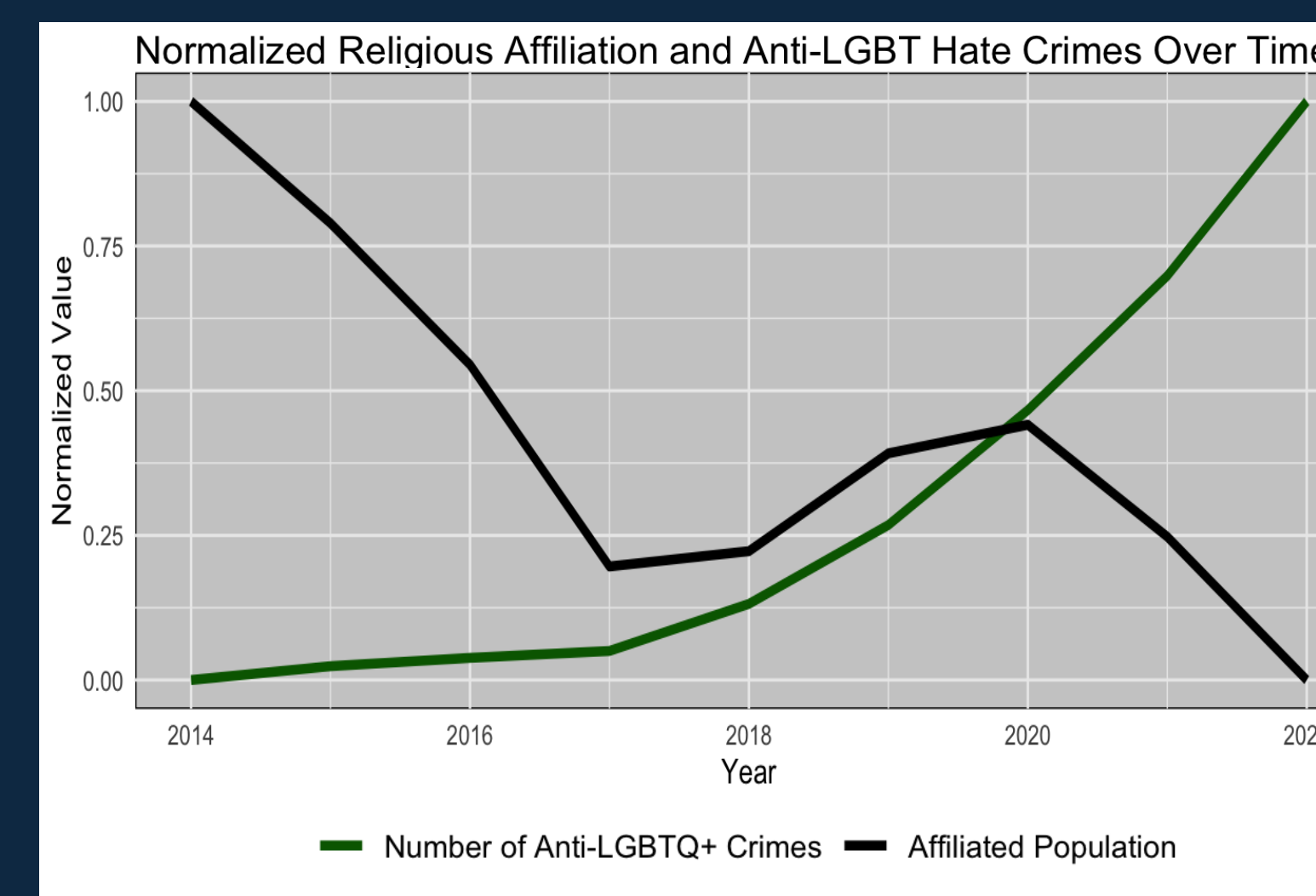


Figure 2: Religion and Hate Crime Over Time

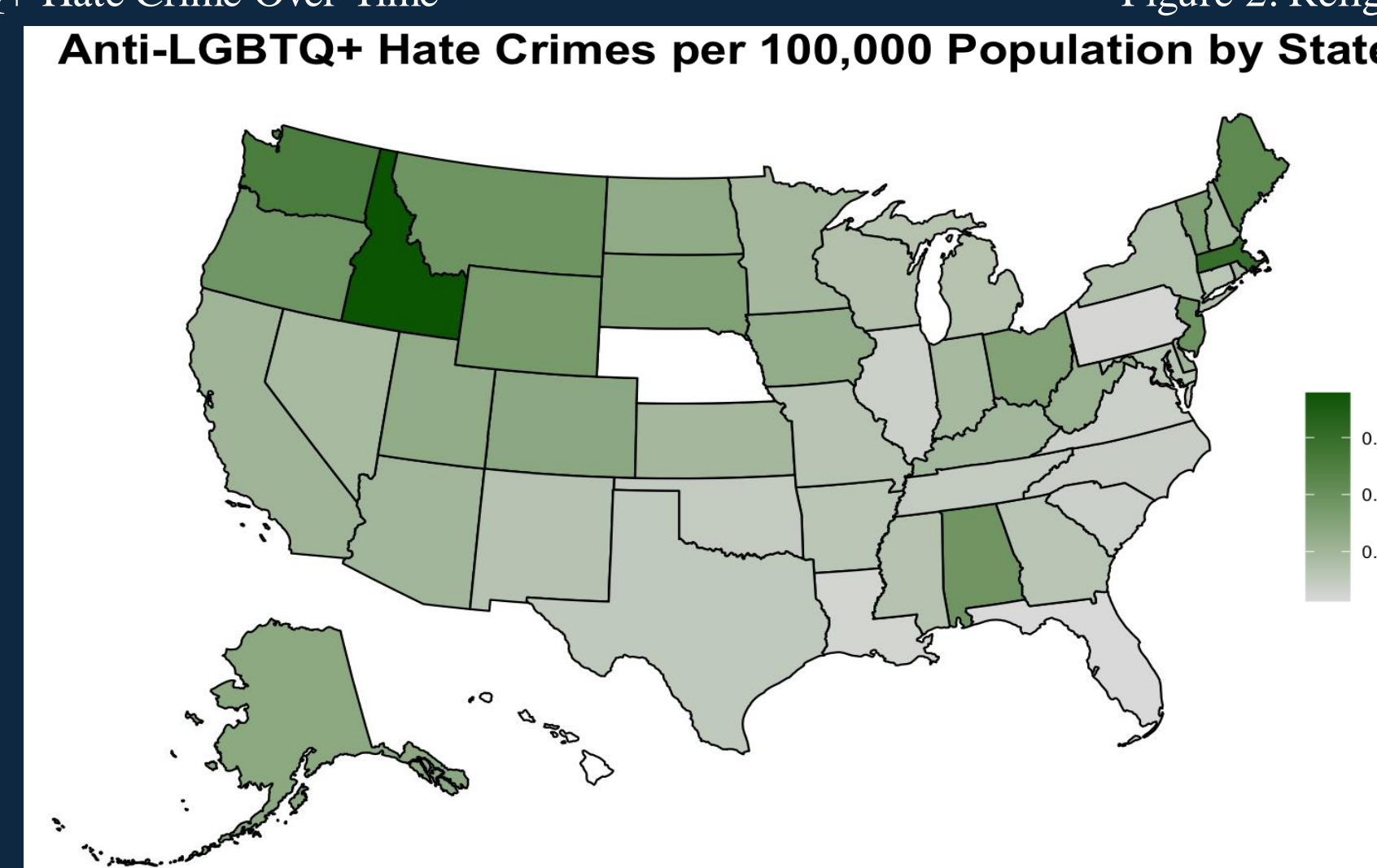


Figure 3: Average LGBTQ+ Hate Crime Rate Map

Variables	(1) Hate Crime	(2) Religious Affiliation	(3) Controlled Variables	(4) State Controlled	(5) Time Controlled
White Protestant	0.247	1.097***		-0.0630	-0.208
Non White Protestant	0.360	0.600		-0.490	-0.671
White Catholic	0.159	1.012***		0.527	0.371
Non White Catholic	0.311	0.865**		0.125	-0.0800
Mormon	0.137	1.001**		-0.376	-0.517
Jewish	1.316	2.637***		1.575	1.343
Other Religions	1.334***	1.238**		0.540	0.576
Unaffiliated	0.327	1.483***		-0.112	-0.439
Population to Church Ratio 100k	-0.000965**	-0.000885*	-0.000510	-0.00968	-0.00429
High School or Less	0.931		1.180	0.267	-0.288
College	1.431*		1.578**	0.661	0.0970
Post Graduate	1.084		1.483*	-0.156	-1.105
White Non Hispanic	0.442		0.335	0.462	-0.183
Black Non Hispanic	-0.106		-0.0674	1.025**	0.265
Hispanic	0.118		0.0856	0.293	-0.334
Multiracial	0.491*		0.605**	0.618*	0.0500
Unemployment Rate	-0.171		0.135	-0.329	1.044
Republican	-0.0886		-0.193**	-0.110	-0.373
Poverty Rate	0.379		0.328	-0.256	0.238
Marriage Legalization	0.0363**		0.0304	0.0194	0.169***
Year 2015					0.0405
Year 2016					-0.121***
Year 2017					-0.102***
Year 2018					-0.113***
Year 2019					-0.101**
Year 2020					-0.124**
Year 2021					-0.0646***
LGBT_Pop	0.271		0.102		
Rural_Pop	-0.000263		0.000237		
Constant	-1.662**	-0.915**	-1.524**	0.0492	1.003
Observations	271	274	271	271	271
R-squared	0.279	0.214	0.247	0.269	0.314
Number of state id				48	48

Figure 4: Regression Output

### Regression Interpretations

- Religious Affiliations are significant in model (2), but not in other models.
- Population to Church ratio has negative coefficients across all models, implying that higher church presence relative to population is associated with lower hate crime rates.
- Same-sex marriage was legalized in 2015, explaining the temporal effects between 2015 (positive coefficient) and other years (negative coefficients).

### Conclusions

After controlling for demographics, location, and temporal factors, our findings suggest that religion and religious affiliations do not have a significant impact on Anti-LGBTQ+ hate crimes in the US from 2014-2022.

Moving forward, it would be valuable for research to delve deeper into the underlying reasons for the observed significance of years within the final model.

Expanding parameter scope to encompass additional influencing factors on hate crimes and aggregating data at the county level could offer valuable avenues for exploration.

Ethical considerations

- Bias and Stereotyping
- Harming Religious Communities

### References

**LGBTQ+ Hate Crime Data:** FBI Uniform Crime Reporting Program

**Places of Worship Data:** US Department of Homeland Security

**Religious Affiliation Data:** Pew Research Center

**Population Data:** US Census Bureau

**Demographic Data:** Public Religion Research Institute