# Utilizing Feelings Towards Groups for Improved Voting Predictions



# Aurora Siegel

# Hypothesis

Voter feelings towards newer and hot-button issue-related groups in the media are more predictive of voting behavior than feelings towards long-standing groups such as race and religion.

# Methodology

The Democracy Fund Voter Study Group [1] report of 5,642 representative voters was investigated. Limitations of this dataset include:

- -No age demographic information.
- -Representation issues to the survey being conducted online.
- -Trust respondents to accurately report the candidate they voted.

Analysis was done using a Logistic Regression on [0, 1] normalized variables. Performance was measured over a 10-fold train/test split. All models included party and demographic control variables. To verify the strength of feeling thermometer variables we also included important issue variables in some models.

#### Dependent Variable - Clinton

The goal is to predict which 2016 U.S. presidential candidate a voter would vote for. The 5,642 voters who reported voting for either Trump or Clinton, encoded as 0 and 1 respectively, were used.

### Independent Variables - Feeling Thermometer

This study's independent variables were measured through a feelings thermometer that scaled from 0 (very cold or unfavorable feeling) to 100 (very warm or favorable feeling).

Race/Reli	gion Group Identities	Hot-But	ton Group Identities
Black	Christian	Wall St.	Immigrant
White	Muslim	Union	Black Lives Matter
Hispanic	Jew	Gays	Alt-Right
Asian		Police	Feminist

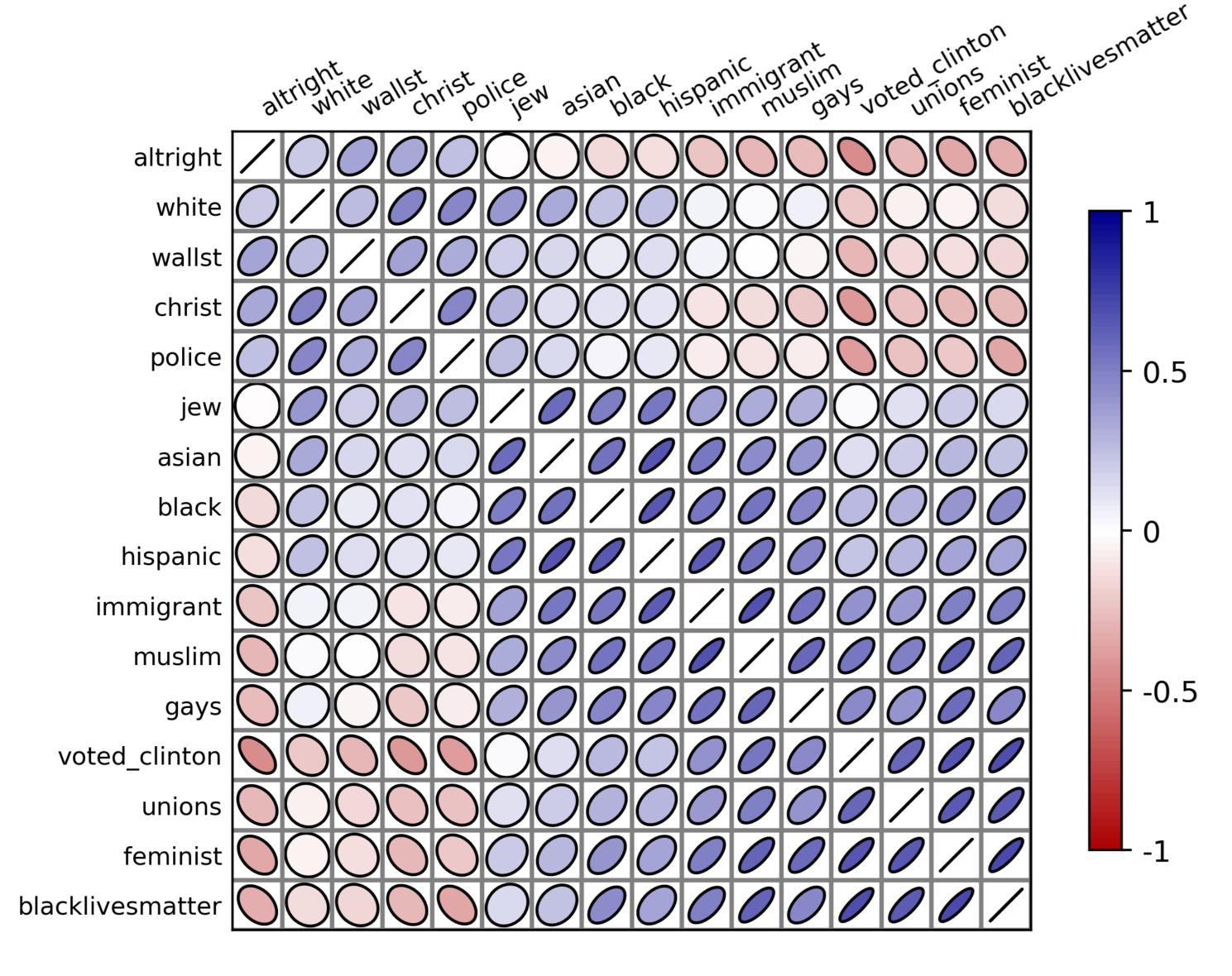


Figure 1: Variable Correlation

#### Results

Model	Mean Accuracy	Mean Accuracy (Issue)
No Feeling Thermometer	80.47%	90.95%
Race/Religion	87.83%	91.38%
Hot-Button	91.90%	93.02%

**Figure 2:** Performance 10-fold Logistic Regression models. T-test reports a p-value of 0.041 that the Hot-Button with Issue model is better than the respective Race/Religion model.

Variable	Coefficient	P-value
Constant	0.9889	0.099
Feelings towards black	-1.1753	0.003
Feelings towards white	0.1589	0.705
Feelings towards hispanic	-0.4972	0.213
Feelings towards asian	-0.4818	0.233
Feelings towards christ	-0.84	0.015
Feelings towards muslim	1.8646	0.000
Feelings towards jew	-0.1891	0.634
Feelings towards gays	0.1523	0.636
Feelings towards immigrant	1.1409	0.001
Feelings towards feminist	2.4349	0.000
Feelings towards black lives matter	2.2431	0.000
Feelings towards wallst	-1.9854	0.000
Feelings towards unions	1.508	0.000
Feelings towards police	-1.1085	0.001
Feelings towards alt-right	-2.7727	0.000
Demographic education	0.3554	0.135
Demographic male	-0.0533	0.680
Demographic income	0.5391	0.030
Demographic white	0.1225	0.693
Demographic black	1.5446	0.000
Demographic asian	0.7029	0.191
Demographic hispanic	0.7258	0.068
Aligns democrat	1.5772	0.000
Aligns republican	-1.3828	0.000
Is important crime	0.3319	0.415
Is important economy	1.2859	0.006
Is important immigration	-1.9346	0.000
Is important religious liberty	-1.2238	0.000
Is important terrorism	-1.7389	0.000
Is important gay rights	0.7859	0.002
Is important money in politics	0.1385	0.551
Is important jobs	-0.9182	0.011
Is important taxes	-1.1551	0.001
Is important abortion	-0.1409	0.496
Is important racial equality	1.2266	0.000
Is important gender equality	1.5613	0.000

Figure 3: Logistic Regression input variables when run on all respondents and with all variables included. Significance to the  $99^{th}$  percentile is bolded.

## Conclusion

Voter opinions on long-term identities (race and religion) are less predictive of voting behavior than their opinions on more recent hot-button groups.

Future work can investigate whether asking about trending topics will mollify the Bradley Effect. Voters might be more willing to divulge opinions if they are not feeling judged.

Pursuing the strong predictive power of variables like Feelings towards Black Lives Matter (88.2%) over including both Feelings towards Blacks and Feelings towards Police together (83.7%) can also be worthwhile.

#### References

[1] Democracy Fund Voter Study Group 2016 data retrieved from https://www.voterstudygroup.org/publication/2016-voter-survey

This work was made possible through the advice and guidance offered by Dr. Ryan Sperry and Karol Zieba. Code to reproduce this poster can be found at <a href="https://github.com/aurorasiegel/feelings">https://github.com/aurorasiegel/feelings</a>