Who Is a Potential Supporter of Democratic Candidate for 2022 Minnesota Gubernatorial Election?

Byeongmo Kang
University of Minnesota Twin-Cites

Statement of Purpose

This is a report commissioned by the Minnesota Governor Tim Walz's campaign office. The purpose of the report is to inform Governor Walz's campaign for the Minnesota 2022 election based on the results of the 2018 election data. Through the report, the Walz Office aims to find out who supports Governor Walz among Minnesota voters. Also, the goal is to find out what campaign promotion strategies should be put in place to attract supporters for the governor.

Study Background and Study Design

The study examines the characteristics of Walz's supporters in the Minnesota gubernatorial election in 2022. With only one and a half years left before the election, it aims to find out which voters will support Walz through choice and concentration. The Walz Campaign Office is interested in (1) what are the characteristics of supporters of Governor Walz and (2) what is a good strategy for promoting voters.

The data came from the results of the 2018 Minnesota governor election. The number of voters extracted is 400 (n=400). According to the data, 219 people supported Governor Walz and 181 supported Jeff Johnson. Voters were classified into seven categories. The party was divided into three main parties: Democratic-Farmer-Labor (DFL), Independent, and Republican. There were 154 DFL supporters, 101 Independent supporters, and 145 Republican supporters. The youngest elector was 18 years old, the oldest was 85 years old, and the average age was 54.53 years old. Among the voters, 135 were college-level voters, and 265 were not. The electoral gender was 203 men and 197 women. Electoral races were classified as white, black and other. There were 323 white voters, 25 black voters, and 52 other voters. Among the voters, there were 24 Hispanics and 376 non-Hispanic voters. Finally, 153 of the voters lived in urban areas, 144 in suburban areas, and 103 in rural areas. See the data summary in Table 1 in the Appendix.

Results and Analysis

We identified which voters supported Walz in 2018 through logistic regression. According to Bruin, "Logistic regression, also called a logit model, is used to model dichotomous outcome variables." (2000) This method identified whether or not voters with certain characteristics in seven classified groups were likely to support Walz. The results from the logistic regression are shown in Table 2 below.

Table 2. Summary of logistic regression

	Estimate	p-value
Intercept	0.629252	0.352075
Independent Party	-1.369599	$7.14 * 10^{-6}$
Republican Party	-2.465107	$1.12 * 10^{-15}$
Age	-0.003168	0.627624
Attend College	1.541569	$2.10 * 10^{-8}$
Female	0.337503	0.158576
Other Race	-0.092775	0.875225
White Race	-0.285786	0.576708
Hispanic1	-0.204078	0.667403
Suburban	0.653355	0.032952
Urban	1.023469	0.000986
Null deviance	550.90 on 399 degrees of freedom	
Residual deviance	430.94 on 389 degrees of freedom	

First, we compared and analyzed voters' supporting parties. The logistic regression model shows that the Independent support party was statistically significant (p-value=$7.14 * 10^{-6}$, Table 2). Independent supporters were less likely to support Governor Walz than DFL supporters by 74.58% (95% CI: [-86.17%, -54.14%], Table 3). The logistic regression model shows that that Republican support party was statistically significant (p-value= $1.12 * 10^{-15}$,Table 2). Republican supporters were less likely to support Governor Walz than DFL supporters by 91.50% (95% CI: [- 95.44%, -84.74%], Table 3). In other words, DFL supporters are more likely to support Governor Walz.

Second, we analyzed Walz's approval rating based on voter's age. The logistic regression model does not show that the age of voters was statistically significant (p-value = 0.627624, Table 2). However, as voters get older, they tend not to support Governor Walz.

Third, we analyzed Walz's approval rating based on the educational background of voters. The logistic regression model shows that the educational background of voters was statistically significant (p-value= $2.10 * 10^{-8}$, Table 2). It was analyzed that voters who attended from college were more likely to support the Governor than voters who did not attend from college by 367.19% (CI: [175.80%, 713.03%], Table 3).

Fourth, we analyzed Walz's approval ratings based on voter's gender. The logistic regression model does not show that the gender of voters was statistically significant (p-value=0.158576, Table 2). However, female voters tend to support Governor Walz more than male voters.

Fifth, we analyzed Walz's approval rating based on voter's race. The logistic regression model does not show that voters' support for Walz Governor by race was statistically significant (p-value from other race: 0.875225, p-value from white race: 0.576708, Table 2). However, black voters tend to support Governor Walz more than white and other race voters.

Sixth, we analyzed Walz's approval rating among Hispanic voters. The logistic regression model does not show that the Hispanic voter analysis was statistically significant (p-value= 0.667403, Table 2). However, Hispanic voters tend to support Walz less than non-Hispanic voters.

Finally, we analyzed Walz's approval rating based on voters' residence. The logistic regression model shows that the voter analysis in suburban areas was statistically significant (p-value: 0.032952, Table 2). Furthermore, the logistic regression model shows that voter analysis in Urban was statistically significant (p-value: 0.000986, Table 2). Voters living in urban areas were more likely to support Governor Walz than those living in rural areas by 178.28% (95% CI: [52.43%, 416.5%], Table 3). In other words, voters living in rural areas are less likely to support Governor Walls than voters living in urban and suburban.

Table 3. Summary of Walz Approval Probability

	Walz Approval Probability	CI:2.5%	CI:97.5%
Independent Party	-74.58%	-86.17%	-54.14%
Republican Party	-91.5%	-95.44%	-84.74%
Attend College	367.19%	175.8%	713.03%
Suburban	92.2%	5.88%	252.77%
Urban	178.28%	52.43%	416.5%

Discussion

Governor Walz's support was high from DFL supporters, supporters with a college background, and supporters living in urban and suburban areas. For the re-election of Governor Walz, young college-level voters should be targeted. According to our analysis, the voter's education level was highly statistically significant. College-level voters are more than three times more likely to support Governor Walz than those who do not. The way to target this is through Social Network Services (SNS), continuous communication with college students and college-level voters. According to Kiyohara, "In the 2008 U.S. presidential election, Barack Obama used MySpace and Twitter to promote his campaign". (2009) Obama's active use of SNS enabled him to communicate with many voters. In particular, according to Park, "SNS is mainly used by young people before their 30s. This allowed high voter turnout among college-level voters in their 20s and 30s who were indifferent to the election to increase in the 2010 South Korean parliamentary election". (2014) Using SNS creates an opportunity to communicate with college-level young voters. Therefore, SNS is a best way to promote to young college students.

On top of that, speeches at universities in urban and suburban areas promote Governor Walz to college level voters. This could secure potential voters who can become Walz supporters through speech at universities. If the Walz office has reached them online by using SNS, meeting college students in person will give them a chance to make a big impression offline as well. Giving speeches at universities will be an opportunity to communicate with college students and college level voters. This will be a great way to promote their election campaign to win the support of Governor Walz.

This study has several limitations. The threshold is that the data are the results of the 2018 election. According to the analysis, political party alignment affects supporters' perception of Walz's the most out of all seven variables. Within four years, voters' supporting parties may change. However, variables such as educational background and residence do not change easily. Therefore, the 2018 data may not be up to date or reliable. After all, we think the recent data on party support from voters will lead to more accurate research.

Another limitation is that the data given did not represent all voters. Only 400 people voted in the 2018 Minnesota governor election were extracted. Even more, only two candidates were voted out. This does not have information from all voters, so there is a limit to universality

and generalization.

Conclusion

The study was conducted to inform Governor Tim Walz's campaign for the 2022 Minnesota governor election. As a result, election publicity should be implemented around DFL supporters, voters living in urban and suburban areas, and university students or graduates. As a means of campaign promotion, strategies include SNS promotion and speeches at universities to win support of young college students, college workers, and highly educated voters. In conclusion, Governor Walz's constant communication with college-level voters and exposure to college-level voters will be a good campaign promotion strategy.

References

Bruin,J(2006). Logit Regression | R Data Analysis Examples. Retrieved from https://stats.idre.ucla.edu/r/dae/logit-regression/

Kiyohara, S(2009). A Study on How Technological Innovation Affected the 2008 US Presidential Election: Young Voters' Participation and Obama's Victory. *2009 Ninth Annual International Symposium on Applications and the Internet,* p. 223-226

Park, S(2014). The SNS usage and electoral participation of young Koreans. *Korea university graduate school* p.63-72