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Post-stratification is a research methodology used in analyzing survey data to obtain accurate predictions out of a non-representative sample. In the study conducted by Wang, Rothschild, Goel, and German (2), the researchers aimed to utilize post-stratification to give reliable predictions on the results of 2012 election based on a non-representative data source - the election poll conducted on Xbox gaming platform.

Respondents reported eight variables besides their 2012 election votes: Sex, Race, Age, Educational Level, State one lives in, Party ID, Political Ideology and one's 2008 vote. According to what Figure 1 shows, among these demographic variables, Race, State, and 2008 Vote were most representative of the general electorate estimated by the 2012 national exit poll, a population of their research interest. For these three variables shown in Figure 1, the residuals sum of errors of Xbox reports as estimates of the 2012 electorates are on average less than those of the others, meaning that these the Xbox reports on these three variables have been closer in trend to the 2012 national poll reports than the rest of the variables. Therefore, Race, State, and 2008 vote tended to represent the general 2012 electorate the best.

On the other hand, as the authors mentioned, Sex and Age were least representative of the target population because young men dominate the Xbox player population. Comparing the two data sources illustrated in Figure 1, men made up 93% of the Xbox sample but 47% of the general electorate. 18- to 29-years old consisted 65% of the Xbox respondents while only 19% in the electorate. I believe that such discrepancy is mainly due to the different compositions of the population of Xbox players and the general electorate. According to Salter (247), video games are strategically targeting the young male population, and the Xbox official report from Microsoft in 2017 also indicated that most of the Xbox players have been young men aged below

30. Therefore, Xbox respondents' Age and Sex could be greatly non-representative to the real electorate.

According to Figure 1, both Party ID and Education are also non-representative. Nonetheless, I would argue that Education is the third least representative variable because, based on observation, the residual sum of errors tend to be greater for the Education variable than for the Party ID variable. In addition, it is more important to accurately count for the part of the electorate as college graduates than for those identified as Other for Party ID because Figure 1 shows that a larger number of college graduates voted in 2012 than those reported as "Other" for Party ID. Moreover, as suggested in the article, Party ID is strongly correlated to both Sex and Age. When adjusting Age and Sex using post-stratification, it is likely that Party ID could be adjusted to represent the real population of interest simultaneously. Therefore, Sex, Age, and Educational Level are the three least representative variables.

As indicated in the method section (7), Wang and colleagues compared the 2008 National Exit Poll data and the polls conducted on Xbox video game platform to perform a post-stratification. They also used other data sources such as the 2012 Exit Polls and forecasts by Pollster.com data to test the accuracy of the prediction by their adjusted Xbox data. They also collected 2000, 2004, and 2008 presidential election data to adjust for other biases that might occur for asking about participants' daily responses.

The results show that, when comparing the raw Xbox data, Pollster.com forecast data and the post-stratified data, Xbox raw data would predict that Romney would win over the last week before the election (Figure 2; 3). Obama's support would increase greatly from about 45% to 50% around Oct. 22nd, and would then fluctuate over the last three weeks and finally settled at

about 47%. According to Pollster.com, however, the fluctuation would be at minimum during the last three weeks. It would have predicted a close race between Obama and Romney, while the final result on the day before the election would predict Obama's victory by a small percentage (Obama's support rate near 51-52%; Figure 2; 3). The MRP adjusted Xbox estimates would also predict a quite stable trend over the last three week just like predicted by Pollster.com. Nonetheless, it would have predicted Obama's victory by a support rate greater than 52%, higher than that given by Pollster.com.

Work Cited

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