

Voting by Education in 2008

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Traditionally, the Republican Party has been made up of the elite, while the Democratic Party has received the votes of common people. The 2008 election, however, pitted military veteran John McCain against Harvard law graduate (and University of Chicago lecturer) Barack Obama. And, especially after the bitter Hillary Clinton/Obama primary election campaign, there was interest in the political attitudes of voters with different levels of education. We decided to go beyond raw crosstabs and look at vote by education, age, and ethnicity. Here is what we found:

In *Red State, Blue State, Rich State, Poor State: Why Americans Vote the Way They Do*, we used multilevel modeling to estimate opinion for small groups, but, here, we are simply plotting weighted survey data (with the Pew Research survey weighting augmented by further weighting adjustments to match state-level demographic and voting breakdowns) and letting the reader smooth the graphs by eye in some of the low-sample-size categories among the ethnic minorities (Figure 1).

We designed the graphs to speak for themselves, but we offer a few comments, first on the technical level of statistical graphics and, second, on the political background.

Our grid of 16 plots is an example of the “small multiples” idea advocated by pioneering graphics researchers Jacques Bertin and Edward Tufte. We used a common scale (scaling the bounds of the y-axis from 0% to 100% and carefully bypassing the default options in R, which would have resulted in difficult-to-interpret axes with far too many labels on the scale) and added a guide line at 50% for each. We labeled the outside axes carefully—the defaults in R won’t do the job here—and added enough notes at the bottom to make the entire package self-contained, a must for graphs that will be cut and copied on the web, sometimes without attribution or links back to the original source.

As for the political context, the generally nonmonotonic relation between education and vote preference is not new: For the past several national elections, Democrats have done well among the voters with the lowest and highest levels of education. It’s a good idea to break up the estimates by age (because of trends in education levels over time and because many people in the youngest age category are still in the middle of their educations) and ethnicity (because of the high correlations between low education, minority status, and Democratic voting).

Despite the patterns we see for education levels, voting by income remains strongly patterned along traditional lines, with Democrats continuing to win the vast majority

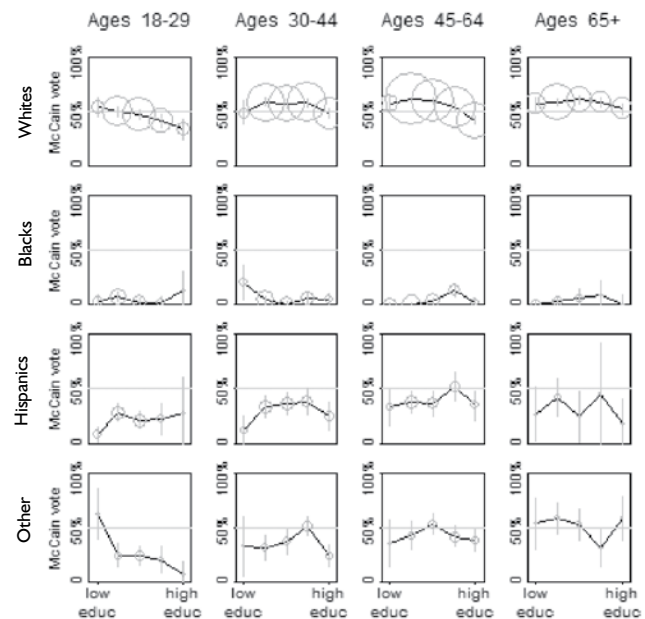


Figure 1. Republican vote in 2008 by education, among age/ethnic groups

Education categories: no high school, high school, some college, college grad, postgrad. Estimates based on Pew research pre-election polls. Error bars show +/- two standard errors. Area of each circle is approximately proportional to number of voters in the category.

Graph courtesy of the National Science Foundation, Department of Energy, and Institute for Education Sciences

of low-income voters and Republicans doing best among the top 10%–20%. Much more can be done in this area with regression models and further graphs. The plots shown here simply illustrate how much can be learned by a simple (but not trivial) grid of line plots. ■

Further Reading

- Bertin, J. 1967, 1983. *Semiology of graphics*. Trans. W. J. Berg. Madison: University of Wisconsin Press.
- Gelman, A., and Ghitza, Y. 2010. *Who votes? How did they vote? And what were they thinking?* New York: Columbia University.
- Gelman, A., D. Park, B. Shor, and J. Cortina. 2009. *Red state, blue state, rich state, poor state: Why Americans vote the way they do*. 2nd ed. Princeton, New Jersey: Princeton University Press.
- Tufte, E. R. 1990. *Envisioning information*. Cheshire, Connecticut: Graphics Press.