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INTELLIGENCE FOR THE PUBLIC SECTOR.

Q4DECEMBER 2010

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BY DANIEL BUTLER, YALE UNIVERSITY

One difference between political science researchers and political practitioners is that political scientists are primarily interested in testing theories while practitioners want to know what decision to make to best achieve their goals. These different emphases are not necessarily mutually exclusive. But the focus of political science on using correlations among observational data means that many of their findings have been less useful to policy makers who want to know how outcomes would change if they implemented policy A instead of policy B. This divide between political scientists and political practitioners is changing because of the increased use of field experiments. Experiments in general are important because they allow us to reach causal conclusions similar to those that po-

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litical practitioners want to know about (e.g., how do get-out-the-vote campaigns affect voter turnout?). Field experiments are particularly exciting because unlike more traditional lab experiments, they are conducted in the actual real world setting or more colloquially, “in the field.” Thus, the political practitioner knows what the expected effect of implementing a given action or policy will be in the real world because the experiment was conducted in the real world.

Over the past several years, my colleagues and I at Yale’s Institution for Social and Policy Studies have had the chance to collaborate with political practitioners to implement a number of field experiments. Here I report on the results of one such experiment conducted in the U.S. in the state of Kentucky.

I.
YOUTH CIVIC PARTICIPATION AND KENTUCKY’S LAW

Numerous commentators have raised concern about the fact that civic participation rates are particularly low among young adults. In 1988, the Kentucky legislature tried to deal with this issue by adding requirements to their election code (see statute 116.046 of the Kentucky code) that required county clerks to provide public high schools with voter registration forms and high school principals to designate someone to be responsible for informing students and staff about these forms and then helping them fill out the form. As with most laws, the legislators who passed this law relied on others (in this case, the high school principals and county clerks) for its actual implementation. An important question in political science (and for many political practitioners) is how do legislators who pass laws get bureaucrats to actually implement the laws they pass?

Researchers proposed that there were at least two different approaches legislators might use to achieve bureaucratic compliance: “police patrols” and “fire alarms.”[1] The “police patrol” approach refers to the situation in which legislators use measures such as audits and hearings to directly monitor bureaucrats. While such a direct approach allows the legislators to identify and punish (and thus discourage) cases of noncompliance, it is also extremely costly in terms of time and resources. They argue that a less costly but equally effective approach is to set up “fire alarms.” Legislators take a less active role in oversight and instead rely on citizens and organized interest groups to let them know (or pull the fire alarm) when bureaucrats fail to abide by the law. Although this argument about the effectiveness of “fire alarms” has been influential in the academic community, it has not been experimentally tested in the real world.

In 2009, I worked with an organized interest group that is trying to increase civic involvement among youth in the U.S. to test whether they could increase compliance with statute 116.046 of the Kentucky election code by notifying high school principals and county election clerks that they were considering auditing their levels of compliance and making them public. In other words, we used a field experiment to test whether the threat of pulling the “fire alarm” increased bureaucratic compliance.

II.
DETAILS OF THE EXPERIMENT AND THE RESULTS

For the experiment, we randomly assigned 60 of Kentucky’s 120 counties to the treatment group and the other 60 counties to the control group. Due to the small sample size, we matched counties into pairs that closely mirrored each other along a number of characteristics (including number of high schools in the county, previous registration rates in the county, and county population), and then randomized within each pair which county would be part of the treatment group and which would be part of the control group. We randomized at the county level because the county boundaries in Kentucky cleanly identify the jurisdictions of both the high school principals and country clerks we studied. In the case of county clerks, there is one clerk for each of the 120 counties in Kentucky. While there are more than 120 public high schools, each county has at least one public high school and the high school boundaries do not cross county borders.

After assigning counties to the treatment and control conditions, the interest group we worked with then sent a letter to each of the high school principals and county clerks in the treatment counties in January 2009. These letters outlined the existing law and then suggested that the interest group would try to audit their compliance with the statute and then make those results public to the local media.

Because the primary purpose of statute 116.046 is to boost registration rates among high school seniors, we checked whether sending these letters had any effect on the number of student aged individuals who registered to vote. We were able to perform this test because the Kentucky voter file, which is public information, includes the date of birth and county of each registrant. We ordered a copy of the Kentucky voter file on July 1, 2009 so that it included all of the registrants up to June 30, 2009. We chose this date as a cut off point because if the treatment is to have an effect, it should have an effect during the school year which generally ends in either May or June.

We then identified individuals who, based on their date of birth, should have been seniors in high school during the 2008-2009 school year. In Kentucky, the law requires that children be enrolled in kindergarten by age 6 and allows them to enter school at age 5 as long as their 5th birthday is on or before October 1 of the current school year.[2] This means that we limited our sample to those individuals who were born between September 1, 1990 and October 1, 1991.

Using this sample, we tested whether the voter registration rates of high school aged individuals was higher in the treatment group counties (i.e., where the high school principals and county clerks received letters from the interest group). The key result is shown

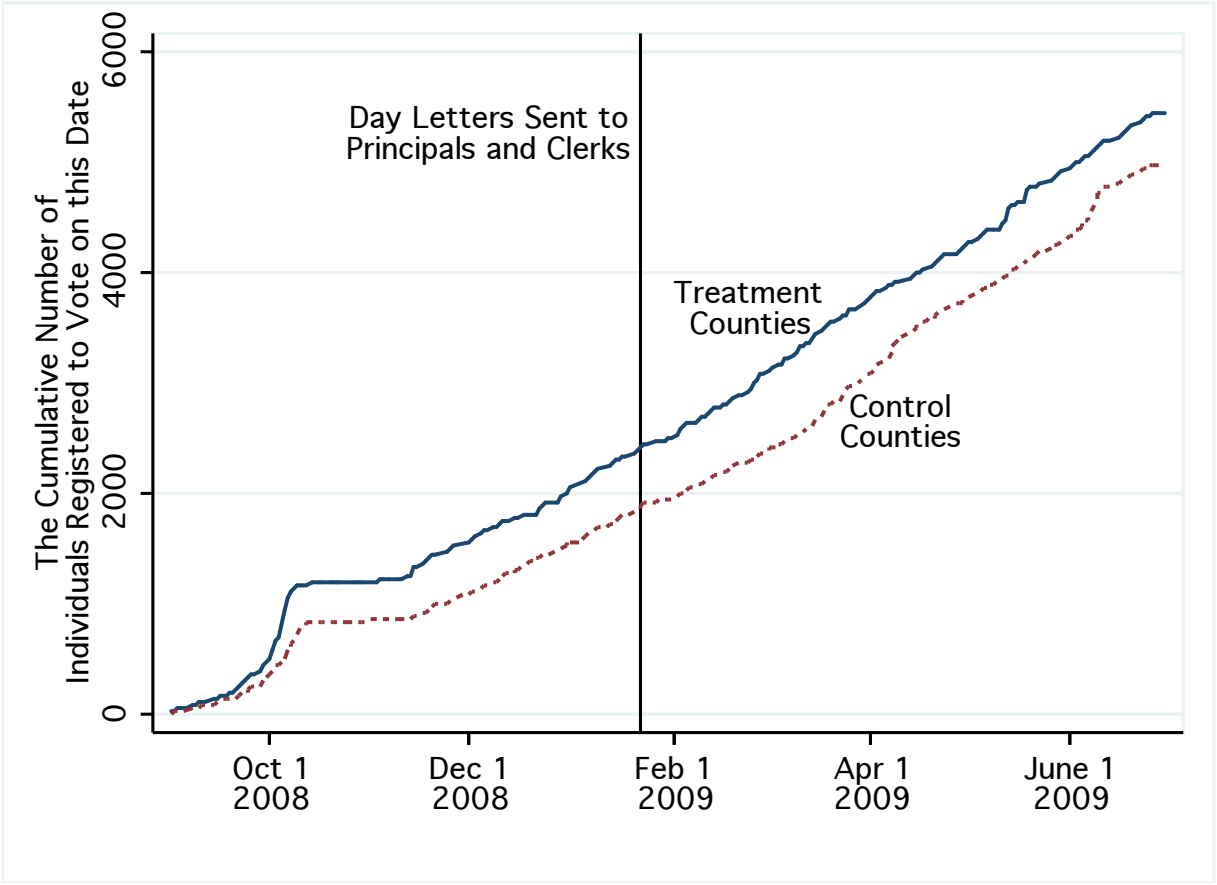

FIGURE 1 Comparing the cumulative number of high school aged individuals registered to vote during the school year in the treatment and control counties.

in Figure 1, in which the x-axis is the date and the y-axis is the cumulative number of high school aged individuals who have registered to vote up to that point during the school year. The solid line gives the cumulative number of high school aged registrants in the treatment counties and the dashed line the number of high school aged registrants in the control counties. Finally, the vertical line indicates the date the letters were sent to the officials in the treatment counties. Because the letters were sent in January, we can see the relative registration rates in the two groups of counties before and after the letters were sent.

Figure 1 shows that the registration rate was slightly higher in the treatment counties over the period. However, this difference is not statistically significant and was there even before the treatment letters were sent out. This difference is driven by the fact that Jefferson County, which is the most populous county, was assigned to the treatment group. When dropping Jefferson and Fayette County (because they were matched together for the block randomization described above), we find that there is no difference at all between the treatment and control counties.

We also found a very similar pattern to the results of Figure 1 when comparing the registration rates of non-high school aged individuals in the treatment and control counties (not shown here). Because the non-high school aged individuals should be unaffected by the treatment, observing the same pattern among this older set of citizens further suggests that the slight difference between the treatment and control counties in Figure 1 had nothing to do with the treatment.

We also compared the registration rates over the whole period (i.e., rather than graphing it by time of registration) for the treatment and control counties. We compared the registration rates in two ways. First, we looked at the total number of high school aged individuals who registered. Second, we divided the total number of high school aged individuals who registered by the number of high school students who graduated from a public high school in 2009 (we call this the "registration rate"). Dividing by the number of high school graduates is meant to help control for the fact that there are simply more people in the treatment counties because it includes Louisville. These results are given in the top two rows of Table 1. Again, there is no difference between the treatment and control groups, especially when you look at the registration rates: both treatment and control groups have registration rates equal to approximately 36 percent.

While there was no difference between the treatment and control groups in terms of their actual registration rates, that does not necessarily mean that the treatment had no effect. It could be that the high school principals and county clerks in all of the counties are already fully complying with statute 116.046 and that the low registration rate simply reflects the natural registration rate of high school seniors. Or that the officials in the treatment county were more likely to comply with the statute but their compliance had no effect on actual registration rates because the students were unresponsive to their efforts.

I tried to differentiate between these possibilities by mailing questionnaires to the high school social studies teachers at each high

	TREATMENT GROUP	CONTROL GROUP	DIFFERENCE
Total Number of High School aged Individuals who registered	124 (N=60)	109 (N=60)	15 (p=0.70)
Registration Rate in 2009	36.3% (N=60)	35.8% (N=60)	0.5 (p=0.84)
Survey: Percent of Schools with an Individual Assigned to Help with Registration	46.2% (N=26)	50.0% (N=24)	-3.8 (p=0.79)
Survey: How Active School Officials were in Helping Individuals Register to Vote (10-point scale, higher=better) - Before Election	7.0 (N=26)	6.5 (N=23)	0.5 (p=0.57)
Survey: How Active School Officials were in Helping Individuals Register to Vote (10-point scale, higher=better) - After Election	4.2 (N=25)	4.4 (N=23)	-0.2 (p=0.86)

TABLE 1 Results comparing the treatment and control counties

school. The questionnaire was part of a one page letter that I sent in which I explained how I was "conducting research on what efforts high schools take to increase political interest and involvement among their students and staff." No mention was made of statute 116.046 or to the letters that were sent to the high school principals in the treated counties because I wanted respondents to answer these questions honestly. This is also why I sent these letters to the social studies teachers instead of the high school principals. The letter included three brief survey questions: (1) Is there any individual appointed in your school to help students and school personnel register to vote? (2) On a scale of 1-10, how active were they before the November election? And (3), On a scale of 1-10, how active were they after the November election? The last three rows of Table 1 show the differences in how schools from the treatment and control groups responded to these questions.

These surveys show two significant results. First, only about half of schools that responded are complying with the law. There is definitely room for improvement. Second, the schools in the treatment group are no better than the schools in the control group. If anything, they seem to be doing worse. The letter from the interest group had no effect on their behavior.

III.
WHY DID THE THREAT OF PULLING THE 'FIRE ALARM' FAIL TO INCREASE COMPLIANCE?

We set out to test whether interest groups could increase bureaucrats' level of compliance with existing laws by suggesting that they were going to publicize the bureaucrats' behavior. In this case, we found no evidence that the interest group's action had an effect. Perhaps the bureaucrats simply did not care if their levels of noncompliance were made public because there were no penalties attached to noncompliance. Alternatively, this interest group may not have been known well enough within Kentucky to have an effect. Perhaps bureaucrats are more responsive to local interest groups. Still another possibility is that "fire alarms" do not work. Perhaps bureaucrats are only responsive to oversight efforts of those who control their budgets. This study shows how political scientists and political practitioners can collaborate to improve governance by finding out what practices work best in the field. Such collaborations are likely to create some of the most important advances in governance in the decades to come.

DANIEL BUTLER is an assistant professor of political science and a fellow at the Institution for Social and Policy Studies, both at Yale University. He holds a PhD from Stanford University. Much of his current research uses field and natural experiments to study the relationship between legislators and their constituents. Dan can be reached at daniel.butler@yale.edu.