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Public Opinion, Attitude Stability, and Education Policy

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Abstract

Do Americans hold a consistent set of opinions about their public schools and how to improve them? From 2013 to 2018, over 5,000 unique respondents participated in more than one consecutive iteration of the annual, nationally representative *Education Next* poll, offering an opportunity to examine individual-level attitude stability on education policy issues over a sixyear period. The proportion of participants who provide the same response to the same question over multiple consecutive years greatly exceeds the amount expected to occur by chance alone. We also find that teachers offer more consistent responses than their non-teaching peers. By contrast, we do not observe similar differences in attitude stability between parents of school-age children and their counterparts without children.

Word Count: 2,998

Elementary and secondary schooling in the U.S. has developed a reputation for policy churn: the ineffectual and wasteful cycle of "silver bullets" and "magic fixes" that will, onceand-for-all, solve our educational woes. Some pin the blame for the spinning wheels of school reform on geographically mobile and politically ambitious educational leaders responding rationally to short-term political incentives (Hess, 1999). Others believe the problem stems from deep-seated policy disagreements between major stakeholders and the absence of consensusbuilding leadership from elected officials like mayors and governors (Marschall & Shah, 2005). But what if educators are simply following the lead of a mercurial public? Do Americans possess a consistent set of attitudes and beliefs about their public schools and how to improve them, or do their views shift as one educational fad is replaced by the next?

The question of attitude stability has been the subject of extensive inquiry among political scientists and public opinion researchers. Mass opinion on major political issues as measured by large-scale surveys is remarkably steady over time (Page & Shapiro, 1992; Zaller, 1992). However, the stability of public opinion in the aggregate can conceal considerable instability at the individual level across multiple survey administrations. In his canonical 1964 article, Converse argues that individuals' responses to the same political questions in subsequent surveys are scarcely more consistent than random chance. Most survey respondents, he contends, simply offer "non-attitudes" when asked about political issues (1970, p. 176). Converse's initial study set off a debate between scholars presenting evidence that individuals' attitudes on political matters have become more consistent over time (Achen, 1975; Ansolabehere et al., 2008; Judd & Milburn, 1980; Pierce & Rose, 1974) and those presenting evidence confirming his claims (Converse, 2000; Converse & Markus, 1979; Lewis-Beck et al., 2008). Early on, these debates largely focused on measurement (Erikson, 1978; Feldman, 1989), but increasingly scholars have looked to differences across issues to explain the mixed record of stability (Druckman & Leeper, 2012; Krosnick, 1991). This notion also has its roots in Converse's early work, where he pointed to "issue publics"—individuals especially attuned to particular issue areas—as likely to exhibit more stable attitudes (1964, p. 52).

Our brief research note examines individual-level attitude stability in the context of U.S. education policy. There is a small but growing literature about public opinion on education issues. These studies document longitudinal shifts in mass opinion, differences between demographic groups, and the effects of policy information on related policy preferences (e.g., Bali, 2016; Barrows et al., 2016; Frankenberg & Jacobsen, 2011, Houston, 2019, 2021; Loveless, 1997; McClellan et al., 2018; Peterson et al., 2014; Schueler & West, 2016). However, none of these studies feature the ongoing panel data necessary to track individuals' responses over time. In this analysis, we are able to explore individual-level attitude stability across multiple education policy issues over a period of up to six years.

We also consider how attitude stability varies for two groups with large stakes in K-12 education: teachers and parents of school-age children. Some researchers argue that issue publics possess a great deal of issue-specific information which stabilizes their belief systems (Converse, 1964; Krosnick, 1990; Hutchings, 2003). In the context of education policy, previous research suggests that teachers are likely to form a cohesive issue public by virtue of the fact that education policies can directly impact their long-term occupational satisfaction and economic well-being (Kogan et al., 2018; Peterson et al., 2014; Moe, 2011). Parents, too, would seem to have a strong stake in education policy insofar as it affects the quality of the school their children attend. However, parental engagement with schools is constantly changing as a child matures from one grade level to the next, and most policy proposals, if enacted, are unlikely to have an

immediate impact on the specific well-being of their own child.

The contrast between teachers and parents mirrors the contrast in interest group politics between "producers" (groups that represent individuals in their occupational roles) and "consumers" (groups that represent individuals who make use of services generated by producers) (Beer, 1956; Eckstein, 1960; Peterson, 1971). Like other producer groups, teachers have a great deal at stake over the long run, encouraging ongoing and consistent engagement with the issues. Like other consumer groups, parents also have much at stake, but their focus is episodic and balanced against other concerns.

Methods

Data

For our analysis of attitude stability, we use the annual *Education Next* (EN) poll of the Harvard Program on Education Policy and Governance. Specifically, we use the 2013-2018 iterations of the survey. During this period, GfK administered the survey via its KnowledgePanel®. Each year, the poll includes samples of respondents from the previous year as well as fresh cross-sectional samples. For example, a respondent in the 2013 survey may be sampled for re-interview in 2014, potentially sampled again for re-interview in 2015, and so on. Meanwhile a new participant in 2015 may be sampled for re-interview in 2016 and so on.

The 2013-2018 EN polls feature the following samples of U.S. adults: 5,569 participants in 2013; 5,266 in 2014; 4,083 in 2015; 4,181 in 2016; 4,214 in 2017; and 4,601 in 2018. Using the data from these six polls, we identify participants who completed surveys in multiple consecutive years. We observe 5,139 participants who completed two consecutive surveys; 3,090 who completed three consecutive surveys; 1,831 who completed four consecutive surveys; 1,350 who completed five consecutive surveys; and 613 who completed six consecutive surveys.¹ Each EN poll features representative oversamples of teachers, Black adults, and Hispanic adults to facilitate detailed subgroup analyses. Survey weights are available in each year to adjust for these oversamples, but these weights are not applicable to the subset of the participants who complete multiple consecutive surveys. We do not re-weight the data, resulting in initial samples that modestly overrepresent these groups.

Our analysis of attitude stability focuses on twelve survey items that feature identical question wordings each year (see Appendix A). As a point of reference, we also examine participants' responses to a question about their status as born-again Christians—a relatively stable group identity analogous to Converse's (1964) analysis of party identification.²

Each EN poll contains multiple experiments in which some participants are randomly assigned to receive slightly different question wordings. We use only the subsets of the overall samples that receive the identical question wording for a given survey item in each year.

Analytic Approach

Our primary analysis focuses on calculating the proportion of participants who provide the same response to a survey item over multiple consecutive years. The most stringent test of this question retains all five original answer options for each survey item. We are also interested in attitude stability when combining qualitatively similar answer options. With respect to questions that ask participants if they support or oppose a policy, we consider the following answer category configurations:

- 1. Five categories: strongly support, somewhat support, somewhat oppose, strongly oppose, neither support nor oppose
- 2. Three categories: support, oppose, neither support nor oppose
- 3. Two categories: support, not support

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4. Two categories: oppose, not oppose

We employ analogous configurations for the survey items with different answer options.

Our unit of analysis is participant-year. If the same participant took the EN poll in 2013, 2014, and 2015, they would appear twice in the two-year analysis: once for 2013-2014 and again for 2014-2015. Our primary estimate of interest is the number of participant-years who answer the same question in the same way over the total number of participant-years who answer the same question over the same time period. To account for participant clustering, we employ Eicker-Huber-White cluster-robust standard errors.

We use two benchmarks to gauge attitude stability for the various survey items. First, as previously mentioned, we examine the proportion of same responses to the born-again question over multiple years. Second, we calculate the probability of giving the same answer in *y* consecutive years if responses are random:

$$\frac{\sum_i p_i \left(\frac{p_i}{q}\right)^{\gamma-1}}{q},$$

in which *i* indexes the number of answer categories, *p* is the number of answer options in category *i*, and *q* is the total number of answer options.³

Findings

Demographics of Participants in Multiple Surveys

Table 1 displays the demographic characteristics of participants who appear in multiple consecutive survey administrations. The final column displays the demographic characteristics of all participants in the 2018 survey, which features a nationally representative sample of U.S. adults. The subset of participants who appear in two consecutive survey administrations diverges from the U.S. adult population in a few ways. These participants are more likely to be college graduates, voters in school board elections, and teachers. We do not observe large divergences in

the two-year sample by race and ethnicity despite the oversamples of Black and Hispanic adults. This appears to be the result of differential attrition along racial and ethnic lines. When we consider the subsets of participants who appear in three or more consecutive surveys, the proportion of White participants steadily increases, while the proportion of Black and Hispanic participants declines.

(Table 1 about here)

Attitude Stability Benchmarks

We use two benchmarks to compare attitude stability. First, we consider a low bar: the proportion of same responses that we would observe over multiple consecutive years if participants' responses were random. Plot 1 of Figure 2 displays these values for the four different answer category configurations (values for this figure and all subsequent figures are available in tabular form in Appendix B). If participants' responses are simply random noise, we would expect only a trivial percentage of responses to be the same after a few years. With two answer categories (two-fifths of the options in one category and three-fifths of the options in the other), we expect 52 percent of responses to be the same after two years, 28 percent after three years, 16 percent after four years, eight percent after five years, and five percent after six years. With three answer categories (two-fifths of the options in the first category, one-fifth in the second, and two-fifths in the third), we expect 36 percent of responses to be the same after two years, 14 percent after three years, five percent after four years, two percent after five years, and one percent after six years. With all five answer categories, we expect 20 percent of responses to be the same after two years, four percent after three years, one percent after four years, 0.2 percent after five years, and 0.03 percent after six years.

(Figure 1 about here)

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We also consider a high bar for attitude stability: the proportion of same responses to a question about participants' identity as a born-again Christian. Plot 2 of Figure 1 displays these values. The EN poll asks this question with only two answer categories ("yes" and "no"). Ninety-one percent of responses are the same after two years. This value decreases modestly to 88 percent after three years, 87 percent after four years, 85 percent after five years, and 85 percent again after six years. High rates of attitude stability are possible for survey items that measure well-established and relatively static aspects of participants' identities.

Attitude Stability by Issue

The core of our analysis focuses on the rates of response stability for twelve survey items that measure attitudes towards various education issues. Figure 2 displays these values for the four different answer category configurations. While two answer categories can be valuable for questions that split public opinion relatively evenly (e.g., vouchers, merit-based pay, and teacher unions), this approach is problematic when public opinion on an issue is more one-sided (e.g., spending and teacher salaries). In these cases, our choices about how to group answer options into two categories can artificially inflate or deflate our estimates of attitude stability. Consider attitudes towards education spending (without information about per-pupil expenditures in their district) when answer options are categorized as "decrease" or "not decrease." Ninety-four percent of responses are the same after two years—a higher percentage than for the born-again question over the same time period. This high rate of attitude stability is a function of the fact that very few participants suggest that the U.S. should decrease spending on education, and therefore only a small percentage of participants shift their responses when we categorize the answer options this way. When we categorize answer options as "increase" or "not increase," the rate of attitude stability after two years declines to 75 percent.

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(Figure 2 about here)

To avoid this issue, we prefer the three- and five-answer category configurations. The former groups answer options into qualitatively similar categories, allowing participants to shift between options such as "strongly support" and "somewhat support" without their responses being flagged as unstable. The latter, meanwhile, offers the most rigorous possible test of attitude stability (at the risk of being over-sensitive to minor changes). With three answer categories, the rates of attitude stability range from 63-80 percent after two years, 46-74 percent after three years, 36-53 percent after four years, 30-52 percent after five years, and 25-46 percent after six years. With five answer categories, the rates of attitude stability range from 48-67 percent after two years, 30-55 percent after three years, 22-31 percent after four years, 18-25 percent after five years, and 14-22 percent after six years. In all instances, attitude stability on these survey items exceeds what we would expect from chance alone. For example, consider the lowest rate of attitude stability in our analysis: attitudes towards merit-based pay when we retain all five answer options. Among participants who appear in every survey from 2013-2018, 14 percent give the exact same response to this question every year. This is dramatically higher than what we would expect if responses were random (0.03 percent).

We tend to observe higher rates of attitude stability on questions that require less familiarity with specific education policy debates (local grades, national grades, spending, and teacher salaries), and lower rates of attitude stability on more esoteric items (charter schools, vouchers, the Common Core, merit-based pay, teacher tenure, and teacher unions). However, differences between survey items may not only reflect differences in attitude stability but also differences in measurement error.

Issue Publics

We also explore the extent to which attitude stability varies by participants' demographic characteristics. For these analyses, we employ the three-answer category configuration, and we examine attitude stability up to four consecutive years.⁴

(Figure 3 about here)

On multiple survey items, teachers hold more stable attitudes than non-teachers. Specifically, teachers hold more stable attitudes on local school quality, educational spending (without expenditure information), teacher salaries (both with or without information about teacher salaries in their state), charter schools, vouchers, merit-based pay, teacher tenure, and teacher unions. Alternatively, there is no meaningful difference in attitude stability on national school quality, educational spending (with expenditure information), or the Common Core standards. Attitude stability for both teachers and non-teachers exceeds what we would expect from chance alone.

By contrast, we do not observe many differences in attitude stability by the presence of a school-age child at home. In only one instance—the grades that participants would assign their local public schools—does attitude stability clearly diverge. Adults with young children in their household are more likely to hold more consistent views on the quality of local schools than their counterparts without children. Both groups' attitudes are more consistent than responses offered at random.

(Figure 4 about here)

We also explore differences in attitude stability by whether or not participants voted in their community's last school board election (self-reported), race/ethnicity, and political party identification (see Appendix B and C for accompanying tables and figures). Not surprisingly, voters in school board elections hold more stable attitudes on a range of education policy issues than their non-voting peers: local school quality, charter schools, merit-based pay, teacher tenure, and teacher unions. On the same subset of issues, we observe modestly higher rates of attitude stability among White participants compared to their Black and Hispanic peers. Regarding party identification, Democrats hold slightly more consistent attitudes on spending and teacher salaries than Republicans (although this advantage disappears for the versions of these questions that contain information about current spending and salaries). Meanwhile, Republicans are more consistent regarding charter schools, merit-based pay, teacher tenure, and teacher unions.

Recall that our analytic samples contain higher proportions of White participants, college graduates, voters in school board elections, and teachers than the U.S. adult population. Because we observe higher rates of attitude stability on some issues among these groups, our analysis slightly overestimates attitude stability in the population. However, the between-group differences are modest—typically only a few percentage points. The largest difference appears between teachers and non-teachers on the question of merit-based pay: 70 percent of teachers hold the same attitude after four consecutive years compared to only 45 percent of non-teachers. This 25-percentage-point difference, while considerable, cannot account for the 45-percentage-point difference between the proportion of same responses on this question after four years that we observe in our entire sample (50 percent) and the proportion we would expect to see if responses were random (five percent).

Conclusions

Far from the oft-cited assertion that the public holds random "non-attitudes" on political issues, we find considerable rates of consistency over time—even for relatively esoteric issues and even among individuals with less direct attachment to them. The proportion of same responses to a given question over time varies by survey item and the number of consecutive

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years examined, but it always exceeds what we would expect from chance alone. In many cases, attitude stability on education policy issues more closely approximates the stability of one's religious identity than a random walk.

Our analysis also indicates that teachers hold notably more stable attitudes on education policy issues than non-teachers. By contrast, the attitudes of parents of school-age children are roughly as consistent as the attitudes of their counterparts without children. This is consistent with the argument that groups with long-term and ongoing occupational stakes in a public service are better able to articulate and advocate for their collective interests than groups who consume or make use of those services.

Notes

¹ GfK provided a unique numeric identifier to link respondents across years. We examined participants' demographic characteristics across survey administrations. We excluded those whose numeric identifiers matched but whose demographic characteristics appeared to fluctuate in unusual ways (3.6 percent of observations).

² GfK collected participants' other demographic information (education, age, race/ethnicity, income, etc.) as well as party identification—the group identity that Converse used in his 1964 analysis—on an ongoing basis while they were a part of the KnowledgePanel®. Because these items were not measured within the EN polls themselves, the frequency of their measurement may differ across respondents. The religious identification question, by contrast, appears in the EN poll's main survey instrument each year.

³ For example, consider the probability of giving the same answer in five consecutive years if there are three answer categories (support, oppose, and neither) and the support and oppose categories have two answer options apiece (strongly and somewhat): $\frac{2(\frac{2}{5})^4 + 1(\frac{1}{5})^4 + 2(\frac{2}{5})^4}{5} = 0.0208$. If their answers are random, participants will respond "support" two-fifths of the time in year one (combining the "strongly support" and "somewhat support" options). Each of the four subsequent years offers another two-fifths chance of responding "support" again. The probability of this occurring is $(\frac{2}{5})^4$. Analogously, participants will respond "oppose" two-fifths of the time and "neither" one-fifth of the time in year one. In each case, we take the initial probability to the fourth power to calculate the probability of giving the same response in five consecutive years. We then take a weighted average of these three different response trajectories.

⁴ The results are similar when retaining all five possible answer options.

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Tables

Consecutive Years						2018
% in Year 1	2	3	4	5	6	Survey
White	63.32	65.21	80.94	82.52	80.42	64.45
Black	14.19	15.28	6.01	5.41	5.71	12.12
Hispanic	17.81	14.92	7.54	6.74	7.67	16.22
Income < \$50k	39.21	39.71	35.17	33.93	32.14	35.75
Income \$50k - \$100k	37.26	36.73	38.78	37.85	41.11	32.04
Income > \$100k	23.53	23.56	26.05	28.22	26.75	32.21
Less than High School	7.16	5.73	4.10	3.85	3.75	10.36
High School	22.03	23.69	23.27	24.30	23.49	28.50
Some College	26.62	26.44	24.74	24.96	23.49	29.06
BA or higher	44.19	44.14	47.90	46.89	49.27	32.09
Democrat	55.01	55.02	50.25	50.44	54.16	53.13
Republican	41.45	41.94	46.81	46.96	42.90	41.66
Teacher	14.59	14.98	17.70	14.81	15.82	2.83
Child at Home	26.43	21.36	20.26	18.89	19.41	21.43
School Board Voter	41.26	43.05	45.24	47.24	46.61	32.90
Born Again	38.04	36.32	32.67	31.94	30.74	37.79
Age (mean)	49.32	51.55	52.13	52.74	52.28	48.31
Participants	5,139	3,090	1,831	1,350	613	4,601
Participant-Years	12,316	6,854	3,781	1,957	613	4,601

Table 1. Demographics of Participants in Multiple Surveys

Participant-Years12,3166,8543,7811,957613Note. Values in the 2018 Survey column are adjusted using survey weights to account for representative oversamples of teachers, Black adults, and Hispanic adults.1,957613

Figures

Figure 1. Attitude Stability Benchmarks



Note. These plots display the proportion of same responses over multiple consecutive survey administrations. Shaded area represents 95% CI.



Figure 2. Attitude Stability by Issue

Note. Plots display the proportion of same responses over multiple consecutive survey administrations. Values omitted when n < 100. Shaded area represents 95% CI.



Figure 3. Attitude Stability by Teacher Status (Three Answer Categories)

Note. Plots display the proportion of same responses over multiple consecutive survey administrations (three answer categories). Values omitted when n < 100. Shaded area represents 95% CI.



Figure 4. Attitude Stability by Presence of School-Age Child at Home (Three Answer Categories)

Note. Plots display the proportion of same responses over multiple consecutive survey administrations (three answer categories). Values omitted when n < 100. Shaded area represents 95% CI.

Appendix A

Full question wordings below (answer options in parentheses):

Local Grades: Students are often given the grades A, B, C, D, and Fail to denote the quality of their work. Suppose the public schools themselves were graded in the same way. What grade would you give the public schools in your community? (A, B, C, D, fail)

National Grades: How about the public schools in the nation as a whole? What grade would you give them? (A, B, C, D, fail)

Spending: Do you think that government funding for public schools in your district should increase, decrease, or stay about the same? (greatly increase, increase, stay about the same, decrease, greatly decrease)

Spending (Informed): According to the most recent information available, \$XXX is being spent each year per child attending public schools in your district. Do you think that government funding for public schools in your district should increase, decrease, or stay about the same? (greatly increase, increase, stay about the same, decrease, greatly decrease)

Teacher Salaries: Do you think that public school teacher salaries should increase, decrease, or stay about the same? (greatly increase, increase, stay about the same, decrease, greatly decrease)

Teacher Salaries (Informed): Public school teachers in your state are paid an average annual salary of \$XXX. Do you think that public school teacher salaries should increase, decrease, or stay about the same? (greatly increase, increase, stay about the same, decrease, greatly decrease)

Charter Schools: As you may know, many states permit the formation of charter schools, which are publicly funded but are not managed by the local school board. These schools are expected to meet promised objectives, but are exempt from many state regulations. Do you support or oppose the formation of charter schools? (strongly support, somewhat support, somewhat oppose, strongly oppose, neither support nor oppose)

Vouchers: A proposal has been made that would give all families with children in public schools a wider choice, by allowing them to enroll their children in private schools instead, with government helping to pay the tuition. Would you support or oppose this proposal? (strongly support, somewhat support, somewhat oppose, strongly oppose, neither support nor oppose)

Common Core: As you may know, in the last few years states have been deciding whether or not to use the Common Core, which are standards for reading and math that are the same across the states. In the states that have these standards, they will be used to hold public schools accountable for their performance. Do you support or oppose the use of the Common Core standards in your state? (strongly support, somewhat support, somewhat oppose, strongly oppose, neither support nor oppose)

Merit-Based Pay: Do you support or oppose basing part of the salaries of teachers on how much

their students learn? (strongly support, somewhat support, somewhat oppose, strongly oppose, neither support nor oppose)

Teacher Tenure: Teachers with tenure cannot be dismissed unless a school district follows detailed procedures. [RANDOMIZE ORDER: Some say that tenure protects teachers from being fired for arbitrary reasons./Others say that it makes it too difficult to replace ineffective teachers.] Do you support or oppose giving tenure to teachers? (strongly support, somewhat support, somewhat oppose, strongly oppose, neither support nor oppose)

Teacher Unions: [RANDOMIZE ORDER: Some people say that teacher unions are a stumbling block to school reform./Others say that unions fight for better schools and better teachers.] What do you think? Do you think teacher unions have a generally positive effect on schools, or do you think they have a generally negative effect? (strongly positive effect, somewhat positive effect, somewhat negative effect, strongly negative effect, neither positive nor negative effect)

Born Again: Would you say that you have been born again or have had a born-again experience — that is, a turning point in your life when you committed yourself to Jesus Christ? (yes, no)

Appendix B

Tuble D1. Milling Buoling	Deneminarks		Consecutive Year.	5	
Survey Question	2	3	4	5	6
Random (2 Categories)	0.520	0.280	0.155	0.088	0.051
Random (3 Categories)	0.360	0.136	0.053	0.021	0.008
Random (5 Categories)	0.200	0.040	0.008	0.002	0.0003
Born Again	0.913	0.879	0.867	0.853	0.851
σ	0.003	0.006	0.008	0.010	0.015
n	12021	6656	3657	1879	584

Table B1. Attitude Stability Benchmarks

Note. Born Again coded "Yes, No." Standard errors clustered by participant.

Table B2. Proportion of Same Responses (Two Answer Categories: Support, Not Support)

•	• `	U	Consecutive Year	s	
Survey Question	2	3	4	5	6
Local Grades	0.767	0.643	0.572	0.509	0.466
σ	0.005	0.008	0.011	0.014	0.020
n	12191	6789	3744	1930	603
National Grades	0.796	0.694	0.630	0.584	0.545
σ	0.005	0.008	0.011	0.014	0.020
n	12182	6772	3729	1922	598
Spending	0.753	0.617	0.566	0.513	0.429
σ	0.009	0.022	0.045	0.092	0.202
n	2490	666	166	39	7
Spending (Informed)	0.732	0.599	0.530	0.381	0.333
σ	0.009	0.021	0.043	0.088	0.167
n	2568	699	183	42	9
Teacher Salaries	0.828	0.786	0.839	0.769	0.500
σ	0.009	0.026	0.055	0.157	0.500
n	1938	313	62	13	2
Teacher Salaries (Informed)	0.798	0.697	0.613	0.467	0.000
σ	0.010	0.031	0.075	0.142	0.000
n	1968	300	62	15	1
Common Core	0.714	0.562	0.524	0.500	0.375
σ	0.009	0.022	0.045	0.086	0.183
n	2878	678	166	42	8
Charter Schools	0.751	0.647	0.590	0.577	0.613
σ	0.006	0.013	0.027	0.044	0.089
n	5721	1807	503	163	31
Vouchers	0.766	0.656	0.667	0.000	NA
σ	0.014	0.039	0.168	0.000	NA
n	1093	157	12	1	0
Merit-Based Pay	0.748	0.634	0.568	0.516	0.468
σ	0.005	0.009	0.013	0.019	0.028
n	10222	5384	2404	985	314
Teacher Tenure	0.788	0.685	0.622	0.591	0.592
σ	0.005	0.009	0.014	0.021	0.038
n	8089	4240	1932	728	169
Teacher Unions	0.782	0.674	0.605	0.567	0.558
σ	0.005	0.008	0.012	0.016	0.028
<i>n</i>	10977	6084	3103	1350	321

Table B3. Proportion of Same Responses (Two Answer Categories: Oppose, Not Oppose)

	• `	U	Consecutive Year	s	
Survey Question	2	3	4	5	6
Local Grades	0.868	0.811	0.781	0.734	0.703
σ	0.004	0.007	0.009	0.012	0.019
n	12191	6789	3744	1930	603
National Grades	0.810	0.720	0.670	0.621	0.595
σ	0.004	0.008	0.011	0.014	0.020
n	12182	6772	3729	1922	598
Spending	0.940	0.917	0.873	0.897	1.000
σ	0.005	0.013	0.030	0.050	0.000
n	2490	666	166	39	7
Spending (Informed)	0.916	0.863	0.798	0.762	0.778
σ	0.006	0.016	0.037	0.080	0.147
n	2568	699	183	42	9
Teacher Salaries	0.962	0.939	0.919	0.923	1.000
σ	0.005	0.015	0.035	0.078	0.000
n	1938	313	62	13	2
Teacher Salaries (Informed)	0.941	0.937	0.919	0.867	1.000
σ	0.006	0.019	0.047	0.092	0.000
n	1968	300	62	15	1
Common Core	0.774	0.642	0.596	0.595	0.625
σ	0.008	0.021	0.044	0.086	0.183
n	2878	678	166	42	8
Charter Schools	0.791	0.705	0.640	0.607	0.613
σ	0.006	0.013	0.026	0.043	0.089
n	5721	1807	503	163	31
Vouchers	0.762	0.662	0.833	1.000	NA
σ	0.014	0.039	0.115	0.000	NA
n	1093	157	12	1	0
Merit-Based Pay	0.762	0.649	0.576	0.513	0.459
σ	0.005	0.009	0.013	0.019	0.028
n	10222	5384	2404	985	314
Teacher Tenure	0.766	0.653	0.585	0.540	0.521
σ	0.006	0.010	0.015	0.022	0.039
n	8089	4240	1932	728	169
Teacher Unions	0.796	0.682	0.610	0.571	0.558
σ	0.005	0.008	0.012	0.016	0.028
<u> </u>	10977	6084	3103	1350	321

Note. Local Grades and National Grades coded "DF, ABC." Spending and Teacher Salaries coded "Decrease, Not Decrease." Teacher Unions coded "Negative, Not Negative." All other questions coded "Oppose, Not Oppose." Standard errors clustered by participant.

Table B4. Proportion of Same Responses (Three Answer Categories)

I	I \	8	Consecutive Year	5	
Survey Question	2	3	4	5	6
Local Grades	0.667	0.518	0.439	0.365	0.315
σ	0.005	0.008	0.011	0.013	0.019
n	12191	6789	3744	1930	603
National Grades	0.626	0.456	0.362	0.296	0.246
σ	0.005	0.008	0.011	0.013	0.018
n	12182	6772	3729	1922	598
Spending	0.712	0.562	0.482	0.410	0.429
σ	0.010	0.022	0.046	0.091	0.202
n	2490	666	166	39	7
Spending (Informed)	0.666	0.506	0.377	0.190	0.222
σ	0.010	0.021	0.041	0.075	0.147
n	2568	699	183	42	9
Teacher Salaries	0.796	0.738	0.758	0.692	0.500
σ	0.010	0.028	0.061	0.163	0.500
n	1938	313	62	13	2
Teacher Salaries (Informed)	0.743	0.650	0.565	0.400	0.000
σ	0.011	0.032	0.076	0.137	0.000
n	1968	300	62	15	1
Common Core	0.644	0.493	0.452	0.452	0.375
σ	0.010	0.022	0.045	0.086	0.183
n	2878	678	166	42	8
Charter Schools	0.679	0.573	0.529	0.515	0.581
σ	0.007	0.014	0.027	0.045	0.090
n	5721	1807	503	163	31
Vouchers	0.690	0.586	0.667	0.000	NA
σ	0.015	0.040	0.168	0.000	NA
n	1093	157	12	1	0
Merit-Based Pay	0.685	0.561	0.496	0.437	0.382
σ	0.006	0.009	0.014	0.019	0.027
n	10222	5384	2404	985	314
Teacher Tenure	0.702	0.581	0.521	0.488	0.462
σ	0.006	0.010	0.015	0.022	0.038
n	8089	4240	1932	728	169
Teacher Unions	0.678	0.538	0.458	0.426	0.421
σ	0.006	0.009	0.012	0.016	0.028
<u> </u>	10977	6084	3103	1350	321

Table B5. Proportion of Same Responses (Five Answer Categories)

I	- 1		Consecutive Year	S	
Survey Question	2	3	4	5	6
Local Grades	0.550	0.367	0.268	0.199	0.146
σ	0.005	0.008	0.010	0.011	0.014
n	12191	6789	3744	1930	603
National Grades	0.583	0.410	0.315	0.253	0.217
σ	0.005	0.008	0.010	0.012	0.017
n	12182	6772	3729	1922	598
Spending	0.581	0.410	0.313	0.256	0.286
σ	0.011	0.022	0.042	0.082	0.184
n	2490	666	166	39	7
Spending (Informed)	0.578	0.403	0.290	0.095	0.111
σ	0.010	0.021	0.037	0.056	0.111
n	2568	699	183	42	9
Teacher Salaries	0.660	0.514	0.452	0.385	0.500
σ	0.011	0.033	0.075	0.166	0.500
n	1938	313	62	13	2
Teacher Salaries (Informed)	0.668	0.550	0.516	0.400	0.000
σ	0.011	0.033	0.076	0.137	0.000
n	1968	300	62	15	1
Common Core	0.478	0.296	0.217	0.167	0.125
σ	0.010	0.020	0.038	0.065	0.125
n	2878	678	166	42	8
Charter Schools	0.517	0.358	0.288	0.239	0.323
σ	0.007	0.013	0.025	0.040	0.085
n	5721	1807	503	163	31
Vouchers	0.486	0.318	0.250	0.000	NA
σ	0.016	0.039	0.135	0.000	NA
n	1093	157	12	1	0
Merit-Based Pay	0.510	0.336	0.251	0.185	0.143
σ	0.006	0.008	0.011	0.015	0.020
n	10222	5384	2404	985	314
Teacher Tenure	0.544	0.380	0.293	0.243	0.201
σ	0.007	0.010	0.013	0.018	0.031
n	8089	4240	1932	728	169
Teacher Unions	0.541	0.362	0.273	0.230	0.215
σ	0.006	0.008	0.011	0.014	0.023
n	10977	6084	3103	1350	321

Note. Local Grades and National Grades coded "A, B, C, D, F." Spending and Teacher Salaries coded "Greatly Increase, Increase, Stay the Same, Decrease, Greatly Decrease." Teacher Unions coded "Strongly Positive, Somewhat Positive, Neither, Somewhat Negative, Strongly Negative." All other questions coded "Strongly Support, Somewhat Support, Neither, Somewhat Oppose, Strongly Oppose." Standard errors clustered by participant.

i	X X	Consecutive Years	
Survey Question	2	3	4
Local Grades	0.729	0.605	0.530
σ	0.013	0.021	0.027
n	1951	1127	649
National Grades	0.635	0.465	0.361
σ	0.012	0.020	0.025
n	1944	1121	643
Spending	0.797	0.705	0.667
σ	0.022	0.050	0.089
n	390	112	33
Spending (Informed)	0.695	0.509	0.286
σ	0.025	0.056	0.089
n	417	114	28
Teacher Salaries	0.877	0.714	1.000
σ	0.021	0.073	0.000
n	284	42	4
Teacher Salaries (Informed)	0.844	0.755	0.700
σ	0.026	0.072	0.153
n	301	53	10
Common Core	0.678	0.542	0.382
σ	0.024	0.052	0.097
n	454	118	34
Charter Schools	0.758	0.656	0.582
σ	0.017	0.034	0.062
n	902	299	98
Vouchers	0.826	0.810	1.000
σ	0.031	0.090	0.000
n	167	21	2
Merit-Based Pay	0.816	0.750	0.701
σ	0.012	0.019	0.028
n	1652	896	441
Teacher Tenure	0.773	0.672	0.597
σ	0.014	0.023	0.035
n	1352	705	320
Teacher Unions	0.747	0.639	0.568
σ	0.013	0.021	0.028
n	1794	1025	553

 Table B6. Proportion of Same Responses (Teachers – Three Answer Categories)

	Consecutive Years		
Survey Question	2	3	4
Local Grades	0.656	0.500	0.420
σ	0.005	0.009	0.012
n	10240	5662	3095
National Grades	0.624	0.454	0.363
σ	0.006	0.009	0.012
n	10238	5651	3086
Spending	0.697	0.532	0.436
σ	0.011	0.024	0.050
n	2100	554	133
Spending (Informed)	0.661	0.506	0.394
σ	0.011	0.023	0.045
n	2151	585	155
Teacher Salaries	0.782	0.742	0.741
σ	0.011	0.030	0.064
n	1654	271	58
Teacher Salaries (Informed)	0.725	0.628	0.538
σ	0.012	0.036	0.086
n	1667	247	52
Common Core	0.637	0.482	0.470
σ	0.010	0.024	0.051
n	2424	560	132
Charter Schools	0.664	0.556	0.516
σ	0.008	0.015	0.030
n	4819	1508	405
Vouchers	0.665	0.551	0.600
σ	0.016	0.043	0.191
n	926	136	10
Merit-Based Pay	0.660	0.523	0.450
σ	0.006	0.010	0.015
n	8570	4488	1963
Teacher Tenure	0.687	0.563	0.506
σ	0.007	0.011	0.016
n	6737	3535	1612
Teacher Unions	0.664	0.518	0.434
σ	0.006	0.010	0.013
n	9183	5059	2550

Table B7. Proportion of Same Responses (Non-Teachers – Three Answer Categories)

		Consecutive Years	
Survey Question	2	3	4
Local Grades	0.698	0.574	0.515
σ	0.010	0.018	0.025
n	2736	1354	717
National Grades	0.597	0.420	0.333
σ	0.011	0.018	0.023
n	2733	1346	712
Spending	0.717	0.537	0.400
σ	0.019	0.046	0.104
n	601	149	35
Spending (Informed)	0.676	0.477	0.325
σ	0.020	0.046	0.084
n	583	149	40
Teacher Salaries	0.780	0.707	0.833
σ	0.021	0.060	0.120
n	468	75	12
Teacher Salaries (Informed)	0.730	0.625	0.529
σ	0.022	0.074	0.144
n	459	64	17
Common Core	0.641	0.440	0.517
σ	0.019	0.048	0.111
n	682	141	29
Charter Schools	0.654	0.535	0.510
σ	0.015	0.030	0.059
n	1255	376	104
Vouchers	0.699	0.485	0.000
σ	0.030	0.088	0.000
n	236	33	3
Merit-Based Pay	0.687	0.553	0.500
σ	0.011	0.019	0.030
n	2261	1105	472
Teacher Tenure	0.685	0.558	0.468
σ	0.013	0.023	0.034
n	1754	826	363
Teacher Unions	0.658	0.512	0.432
σ	0.012	0.019	0.027
n	2385	1223	614

Table B8. Proportion of Same Responses (School-Age Child – Three Answer Categories)

	Consecutive Years		
Survey Question	2	3	4
Local Grades	0.659	0.504	0.421
σ	0.006	0.009	0.012
n	9455	5435	3027
National Grades	0.634	0.465	0.369
σ	0.006	0.009	0.012
n	9449	5426	3017
Spending	0.711	0.569	0.504
σ	0.011	0.025	0.051
n	1889	517	131
Spending (Informed)	0.663	0.515	0.392
σ	0.011	0.024	0.046
n	1985	550	143
Teacher Salaries	0.801	0.748	0.740
σ	0.011	0.030	0.069
n	1470	238	50
Teacher Salaries (Informed)	0.748	0.657	0.578
σ	0.012	0.036	0.087
n	1509	236	45
Common Core	0.645	0.507	0.438
σ	0.011	0.024	0.050
n	2196	537	137
Charter Schools	0.686	0.583	0.534
σ	0.008	0.015	0.031
n	4466	1431	399
Vouchers	0.687	0.613	0.889
σ	0.017	0.045	0.111
n	857	124	9
Merit-Based Pay	0.685	0.563	0.495
σ	0.006	0.010	0.015
n	7961	4279	1932
Teacher Tenure	0.706	0.586	0.533
σ	0.007	0.011	0.016
n	6335	3414	1569
Teacher Unions	0.683	0.545	0.464
σ	0.006	0.010	0.013
n	8592	4861	2489

Table B9. Proportion of Same Responses (No School-Age Child – Three Answer Categories)

	Consecutive Years		
Survey Question	2	3	4
Local Grades	0.662	0.490	0.436
σ	0.014	0.017	0.023
n	1077	824	468
National Grades	0.621	0.456	0.339
σ	0.015	0.017	0.022
n	1078	821	466
Spending	0.715	0.600	0.421
σ	0.035	0.064	0.116
n	172	60	19
Spending (Informed)	0.612	0.408	0.364
σ	0.035	0.057	0.105
n	196	76	22
Teacher Salaries	0.785	0.678	0.600
σ	0.025	0.061	0.163
n	265	59	10
Teacher Salaries (Informed)	0.714	0.634	0.667
σ	0.030	0.076	0.333
n	231	41	3
Common Core	0.610	0.451	0.442
σ	0.021	0.042	0.070
n	543	144	52
Charter Schools	0.716	0.597	0.561
σ	0.014	0.024	0.047
n	1080	434	114
Vouchers	0.732	0.528	1.000
σ	0.033	0.084	0.000
n	179	36	1
Merit-Based Pay	0.688	0.572	0.546
σ	0.014	0.017	0.023
n	1075	821	465
Teacher Tenure	0.734	0.579	0.551
σ	0.019	0.024	0.032
n	552	418	243
Teacher Unions	0.729	0.617	0.498
σ	0.014	0.017	0.024
n	1069	818	452

Table B10. Proportion of Same Responses (School Board Voter - Three Answer Categories)

· · ·	• •	Consecutive Years	
Survey Question	2	3	4
Local Grades	0.619	0.420	0.359
σ	0.012	0.015	0.020
n	1518	1087	563
National Grades	0.603	0.396	0.339
σ	0.013	0.015	0.020
n	1521	1084	557
Spending	0.707	0.530	0.607
σ	0.029	0.050	0.094
n	256	100	28
Spending (Informed)	0.618	0.427	0.222
σ	0.030	0.051	0.082
n	259	96	27
Teacher Salaries	0.789	0.725	0.818
σ	0.021	0.050	0.122
n	370	80	11
Teacher Salaries (Informed)	0.702	0.586	0.714
σ	0.024	0.065	0.125
n	376	58	14
Common Core	0.585	0.386	0.316
σ	0.018	0.036	0.076
n	739	184	38
Charter Schools	0.636	0.510	0.496
σ	0.012	0.021	0.044
n	1526	549	131
Vouchers	0.675	0.568	0.750
σ	0.030	0.076	0.250
n	246	44	4
Merit-Based Pay	0.637	0.507	0.455
σ	0.012	0.015	0.021
n	1522	1077	558
Teacher Tenure	0.684	0.537	0.494
σ	0.017	0.021	0.031
n	769	540	269
Teacher Unions	0.674	0.524	0.393
σ	0.012	0.015	0.021
n	1506	1072	552

Table B11. Proportion of Same Responses (Non-Voter - Three Answer Categories)

Survey Question	Consecutive Years			
	2	3	4	
Local Grades	0.684	0.535	0.449	
σ	0.006	0.010	0.012	
n	8443	5041	3052	
National Grades	0.637	0.469	0.367	
σ	0.006	0.010	0.012	
n	8442	5033	3047	
Spending	0.711	0.547	0.462	
σ	0.012	0.026	0.052	
n	1779	517	132	
Spending (Informed)	0.676	0.533	0.395	
σ	0.012	0.024	0.045	
n	1812	525	147	
Teacher Salaries	0.800	0.741	0.761	
σ	0.012	0.033	0.071	
n	1277	220	46	
Teacher Salaries (Informed)	0.763	0.679	0.600	
σ	0.013	0.038	0.088	
n	1338	215	45	
Common Core	0.657	0.513	0.426	
σ	0.012	0.026	0.050	
n	1846	474	136	
Charter Schools	0.709	0.599	0.530	
σ	0.009	0.017	0.031	
n	3653	1230	411	
Vouchers	0.698	0.591	0.636	
σ	0.018	0.049	0.179	
n	725	110	11	
Merit-Based Pay	0.707	0.583	0.507	
σ	0.007	0.011	0.015	
n	6936	3884	1942	
Teacher Tenure	0.733	0.621	0.560	
σ	0.007	0.012	0.016	
n	5823	3214	1574	
Teacher Unions	0.696	0.559	0.477	
σ	0.007	0.010	0.013	
n	7567	4467	2521	

Table B12. Proportion of Same Responses (White – Three Answer Categories)

Survey Question	Consecutive Years			
	2	3	4	
Local Grades	0.604	0.425	0.317	
σ	0.014	0.022	0.040	
n	1395	668	208	
National Grades	0.605	0.427	0.358	
σ	0.015	0.023	0.046	
n	1386	662	204	
Spending	0.700	0.531	0.500	
σ	0.031	0.073	0.169	
n	243	49	8	
Spending (Informed)	0.617	0.475	0.545	
σ	0.033	0.075	0.217	
n	240	61	11	
Teacher Salaries	0.805	0.743	0.800	
σ	0.027	0.079	0.265	
n	251	35	5	
Teacher Salaries (Informed)	0.658	0.485	0.286	
σ	0.032	0.100	0.297	
n	228	33	7	
Common Core	0.627	0.415	0.583	
σ	0.024	0.058	0.181	
n	456	94	12	
Charter Schools	0.618	0.506	0.562	
σ	0.018	0.034	0.105	
n	882	251	32	
Vouchers	0.660	0.529	1.000	
σ	0.041	0.132	0.000	
n	147	17	1	
Merit-Based Pay	0.616	0.472	0.379	
σ	0.016	0.024	0.057	
n	1267	578	132	
Teacher Tenure	0.616	0.436	0.306	
σ	0.020	0.032	0.061	
n	825	381	108	
Teacher Unions	0.636	0.453	0.256	
σ	0.015	0.023	0.045	
n	1309	627	180	

Table B13. Proportion of Same Responses (Black – Three Answer Categories)

	Consecutive Years		
Survey Question	2	3	4
Local Grades	0.634	0.471	0.393
σ	0.013	0.023	0.041
n	1750	729	272
National Grades	0.589	0.394	0.311
σ	0.013	0.022	0.037
n	1750	726	267
Spending	0.747	0.627	0.562
σ	0.026	0.072	0.159
n	336	67	16
Spending (Informed)	0.647	0.355	0.111
σ	0.026	0.056	0.081
n	371	76	18
Teacher Salaries	0.779	0.750	1.000
σ	0.025	0.077	0.000
n	308	36	4
Teacher Salaries (Informed)	0.720	0.657	0.571
σ	0.028	0.092	0.204
n	311	35	7
Common Core	0.607	0.423	0.625
σ	0.025	0.070	0.240
n	430	71	8
Charter Schools	0.608	0.485	0.519
σ	0.017	0.034	0.106
n	926	239	27
Vouchers	0.665	0.571	NA
σ	0.039	0.111	NA
n	170	21	0
Merit-Based Pay	0.640	0.504	0.481
σ	0.014	0.024	0.048
n	1509	635	183
Teacher Tenure	0.598	0.402	0.304
σ	0.017	0.029	0.048
n	1024	418	135
Teacher Unions	0.614	0.462	0.364
σ	0.014	0.024	0.043
n	1566	675	228

 Table B14. Proportion of Same Responses (Hispanic – Three Answer Categories)

· · ·	Consecutive Years		
Survey Question	2	3	4
Local Grades	0.658	0.510	0.431
σ	0.007	0.011	0.015
n	6485	3534	1876
National Grades	0.615	0.438	0.347
σ	0.007	0.011	0.015
n	6471	3519	1865
Spending	0.741	0.589	0.472
σ	0.013	0.030	0.063
n	1340	360	89
Spending (Informed)	0.672	0.509	0.424
σ	0.013	0.029	0.059
n	1345	371	92
Teacher Salaries	0.822	0.799	0.800
σ	0.012	0.033	0.080
n	1051	164	30
Teacher Salaries (Informed)	0.758	0.674	0.696
σ	0.014	0.045	0.112
n	1037	144	23
Common Core	0.641	0.457	0.404
σ	0.013	0.029	0.062
n	1553	372	89
Charter Schools	0.658	0.549	0.516
σ	0.009	0.018	0.040
n	3129	952	223
Vouchers	0.699	0.564	0.667
σ	0.020	0.057	0.211
n	585	78	6
Merit-Based Pay	0.674	0.550	0.501
σ	0.008	0.012	0.019
n	5535	2867	1235
Teacher Tenure	0.675	0.540	0.483
σ	0.009	0.014	0.021
n	4240	2197	989
Teacher Unions	0.663	0.517	0.431
σ	0.007	0.012	0.017
n	5892	3197	1575

Table B15. Proportion of Same Responses (Democrat – Three Answer Categories)

Survey Question	Consecutive Years		
	2	3	4
Local Grades	0.682	0.533	0.454
σ	0.008	0.012	0.016
n	5316	3060	1765
National Grades	0.639	0.474	0.376
σ	0.008	0.012	0.015
n	5321	3060	1765
Spending	0.679	0.523	0.464
σ	0.015	0.034	0.066
n	1075	285	69
Spending (Informed)	0.662	0.503	0.341
σ	0.015	0.031	0.059
n	1152	312	88
Teacher Salaries	0.770	0.669	0.742
σ	0.016	0.045	0.091
n	833	142	31
Teacher Salaries (Informed)	0.732	0.637	0.486
σ	0.017	0.048	0.102
n	865	146	35
Common Core	0.648	0.529	0.514
σ	0.014	0.034	0.068
n	1232	291	74
Charter Schools	0.710	0.608	0.538
σ	0.011	0.021	0.039
n	2397	799	260
Vouchers	0.697	0.610	0.667
σ	0.022	0.057	0.298
n	475	77	6
Merit-Based Pay	0.706	0.581	0.510
σ	0.008	0.014	0.020
n	4357	2364	1095
Teacher Tenure	0.737	0.635	0.569
σ	0.009	0.015	0.022
n	3600	1923	895
Teacher Unions	0.699	0.566	0.490
σ	0.008	0.013	0.018
n	4753	2719	1445

Table B16. Proportion of Same Responses (Republican – Three Answer Categories)

Appendix C



Figure C1. Attitude Stability by School Board Voter Status (Three Answer Categories)

Note. Plots display the proportion of same responses over multiple consecutive survey administrations (three answer categories). Values omitted when n < 100. Shaded area represents 95% CI.



Figure C2. Attitude Stability by Race/Ethnicity (Three Answer Categories)

Note. Plots display the proportion of same responses over multiple consecutive survey administrations (three answer categories). Values omitted when n < 100. Shaded area represents 95% CI.



Figure C3. Attitude Stability by Party Identification (Three Answer Categories)

Note. Plots display the proportion of same responses over multiple consecutive survey administrations (three answer categories). Values omitted when n < 100. Shaded area represents 95% CI.