Experience in Place: Citizen Responses to Spatially Targeted Policies

Abstract

While research on political behavior draws primarily pessimistic conclusions about Americans’ propensity for informed policy response, we develop a theory of geographically concentrated policy feedback to demonstrate how local experiences of government outcomes matter for both accountability and engagement in ways previously unexplored. Focusing on the case of Chicago, where the school district closed 49 schools in 2013 (the most in a single year by any city in U.S. history), we use election results, the Cooperative Congressional Election Study, and original data on public school closures to evaluate how large scale, geographically concentrated public school closures shape the broader political behavior of the communities affected. Our analysis reveals that proximity to a school closure is positively associated with decreased support for the elected official responsible for the policy, and increased political participation. These findings bridge literature on policy feedback, public opinion, and urban politics to support a model of place-based policy learning that demonstrates citizens collective action as consistent with collective interest, and suggest a new model for analyzing citizens’ policy experiences at the local level.
Studies of Americans' voting behavior make one skeptical about whether local voters serve their theoretical role as retrospective evaluators of government performance. The low levels of political information, immoveable partisanship, and negative affective polarization common among all voters seem likely to be intensified in local political environments. Americans tend to be even less informed and interested in such context, where political outcomes are even more skewed toward those with more resources or steered by power brokers (Bartels 1996, Achen and Bartels 2016, Mason 2018, Hopkins 2018, Oliver 2012, Stone 1989).

But at the same time, waves of intense political activism (eg, Black Lives Matter, #JusticeforLaquan) have washed over many of America’s cities in recent years, particularly in black and brown communities where the usual resources that predict individual-level engagement are less common. This isn’t necessarily new—cities have been hotbeds of grassroots mobilization since at least the dawn of the industrial age—but in the American context it seems fairly unexpected. These deeply engaged and often fairly sophisticated actions, which are often prompted by particular policy or social events, sit uneasily with how political scientists tend to view how Americans engage with politics, locally and in general. Some of these differences appear in places where state-society interactions are often more contentious, and where direct negative experiences with public policy in daily life make the urgency of informed participation clearer (Soss and Weaver 2017).

Research on policy feedback and political behavior provides some explanation of this seemingly paradoxical phenomenon, demonstrating that when individuals have direct experiences with policies, these experiences teach them about politics and shapes their attitudes and engagement toward it (see Mettler and Soss 2004). These findings suggest, for example, that low-information voters may be able to derive the information they need to make informed political decisions from their direct experiences with them, even if they lack more conventional forms of formal education or political knowledge (Cramer and Toff 2017, Lerman and McCabe 2017). For the most part, however, these studies engage with
how Americans respond to national policies (e.g., welfare, Medicare) rather than those that directly impact their communities (e.g., affordable housing, schools), so examining intense responses to local policies is warranted. Furthermore, it is unclear how these findings apply to citizens who are not direct targets of the policy but merely reside in a community where the policy is concentrated. In other words, communal experiences may explain the local participation of the low knowledge, low resource groups, but most of this work has yet to examine this.

In this paper, we depart somewhat from the pessimistic view of citizens at the local level and develop a theory of geographically concentrated policy feedback that illuminates how local experiences of government outcomes matter for both accountability and engagement. Further, we demonstrate that such spatially targeted policies matter most for those who we ordinarily would expect to participate least: African Americans with low levels of political or social resources.

Using original data on a geographically concentrated public policy change—a wave of school closings in the heavily segregated South and West sides of Chicago—we find that living in an area targeted by the policy is associated with decreased support for the incumbent mayor and increased political participation. We focus on Chicago, school closures, and black residents because this is a place where we can observe geographically-based policy effects: school closures affecting almost exclusively black neighborhoods in a city with profound racial segregation and a history of racially polarized politics. In doing so, we demonstrate that through experiences with concentrated policy change in their community, or what we call “experiences in place,” residents gain important information and insights useful for forming political attitudes and inciting local political mobilization. Altogether, these findings bridge theories of policy feedback, urban politics, and political behavior to highlight how local, context-based policy experiences enable citizens to make informed political decisions consistent with their collective interest, particularly in marginalized communities like those that faced school closures.
Local Political Behavior and Policy Feedback

Most of what we know about voters draws on nationally representative samples and examine nationally-based behavior. Evaluations of voters' rationality are split but incline toward pessimism. To start, Americans in general typically demonstrate low levels of political knowledge; the description in Bartels (1996) of the “political ignorance of the American voter” has held up fairly well under decades of subsequent investigation. Attitudes on specific policies are often characterized as random and shifting, or as functions of prior group-based, ideological, partisan predispositions rather than well-reasoned judgments. This seems particularly true of citizens with little interest in or information about politics, traits often associated with low levels of formal education (Delli Carpini and Keeter 1996, Bartels 2002, 2005). Strong and perhaps unmoveable partisan and ideological positions also impede clear-eyed policy evaluation, as voters choose sides and retrospectively justify the positions and/or misjudge the performance of their favored and disfavored political actors (Green et al. 2002, Gelman and Baldassarri 2008, Shapiro and Bafumi 2009, Mason 2018).

The prognosis does not seem to improve closer to home. Nearly all longstanding models of local political systems emphasize elite control of outcomes, with little electoral responsiveness or considered, rational electoral behavior by voters (Gosnell 1937, Banfield and Wilson 1963, Stone 1989). More recent insights expand and help explain some of this pessimism about the reliability of sophisticated electoral control in local politics. An increasingly nationalized media environment has obscured the salience of local policy issues and made Americans generally less interested in or knowledgeable about local affairs (Hopkins 2018). Features of small democracies such as low campaign spending, off-cycle low salience, and obscure offices on the ballot tend to diminish their salience and voters
incentives for casual attention and participation. The result of this can be extremely low turnout that skews biases, especially overrepresenting those with high levels of interests in property values and city budgets or contracts (Berry and Gersen 2011, Anzia 2014, Oliver 2012, Einstein et al. 2018). In sum, research suggests that local politics tends towards something that falls well short of engaged, informed, grassroots democracy reflective of the populace at large (Trounstine 2008, Stone 1989).

Nonetheless, an alternative model of the relationship between policy and political behavior, that of policy feedback, demonstrates how citizens’ direct experiences with the policies themselves provide them with information valuable for shaping their subsequent attitudes and behavior (Mettler 2011, Jacobs and Weaver 2015, Soss 1999). Mettler (2005), for instance, finds that veterans’ experiences with the benefits from the GI bill shape their increased civic engagement. Campbell (2005) finds a similar relationship for recipients of social security. More recently, Lerman and McCabe (2017), find that personal experiences with public health insurance programs shapes individuals’ public opinion on Medicare and the Affordable Care Act, with particularly strong effects for low information voters; this buttresses policy feedback claims, demonstrating that citizens’ personal experiences can be especially useful among low information voters and can “lead to meaningful opinion formation or attitude change among out-party individuals.” (Lerman and McCabe 2017, pg.624) These findings suggest that attitudinal changes may have subsequent implications on subsequent engagement on otherwise poor low information groups.

Together, these studies of policy feedback demonstrate the significant role of personal experience for political behavior among low and high information populations. While these works highlight the significant role of personal experiences for citizens’ political behavior, most of them focus on national level issues such as Medicare and Social Security. The result is that it remains unclear how experiences with policies shape political behavior at the local level, if at all. Furthermore, the existing literature focuses on those who are direct targets of policies, and thus have explicit personal experiences with them. Accord-
ingly, this work does not account for those who may not be direct targets of a policy but live in a community where a policy’s effects are concentrated. For example, one could imagine a scenario where an individual may not have been a direct target of the New York “Stop and Frisk” policy but lived in a community, such as eastern Brooklyn, that was disproportionately targeted by the policy. In the classic literature on personal experiences and political behavior, this type of community-level experience would not be captured, but that individual is nevertheless exposed to the policy’s communal effects may explain group political mobilization of those who do not fit into defined policy groups (i.e. welfare recipients). Finally, much of the work on the role of personal experience assumes that citizens’ encounters with these policies are static rather than changing. The result is that we know very little about how citizens respond to policy change, or shocks, in their community. Indeed, one might expect that when citizens are faced with geographically concentrated policy change in their community they may respond more strongly than those who are not experiencing this same policy. These neighborhood-level experiences may provide residents with an alternative impetus to participation as a result of community, rather than elite influences.

In this paper, we examine the role of community-based experiences to demonstrate how citizens engage with policy change and hold local political leaders accountable. We consider these community-based experiences based on citizens’ encounters as a member of a community where that policy is concentrated; this is especially true for policies that are rooted in place and affect neighborhood or community institutions. When we consider this communal perspective, it alters the theoretical expectations of what we should and can observe if such policy feedback is occurring; we base our theory in part on how residents of areas affected by policy changes respond to them. Using proximity-based measures of exposure to policy changes, we test a theory of geographically concentrated feedback effects, or what we call an “experience in place” model of public policy and local political behavior. This theory is particularly salient for those minority communities that are typ-
ically segregated in resource-poor neighborhoods. The next section below describes the process in more detail.

Experience in Place and Spatially Targeted Policies

We use the concept of experience in place to describe the process by which typically marginalized citizens faced with a policy change concentrated in their community respond politically in ways consistent with their collective policy interests and expressed preferences. Their engagement is based not on their policy experiences with distantly-formulated policy, but rather their contextual experiences as members of the community in which the policy occurred.

But first, it is important to clarify how our conceptualization of citizens’ policy experiences supplements existing research. In the literature on policy feedback, personal experience is typically defined by a citizens’ direct encounters with a specific policy. These personal experiences are typically measured based on self-reports of those who identify as a recipient of the policy. Lerman and McCabe (2017), for example, measure personal experience by counting those who report having public health insurance.

These traditional measures of direct policy experiences are clearly important, but do not account for those who are not direct targets of the policy but may still live in communities where a specific policy is concentrated. In this case, citizens within affected communities may come to identify as policy targets, despite not having direct, bureaucratically recorded experiences with the policy, likely due to their shared demographics, characteristics and geographic location with the directly targeted population. Accordingly, we describe the encounters of these groups that live in areas with a concentrated policy change as “contextual.” In contrast to personal experiences, our conception of contextual experience applies to policies that are geographically concentrated and thus impact
some communities more than others and their effects spill over beyond the most directly affected. The geographically concentrated policy changes and the contextual experiences it produces are at the center of an experience-in-place model of policy feedback.

For a policy to be geographically concentrated and contextual, it must be occurring in some areas of a city or state more than others, and its effects and implementation must be discernible and have some effect even on those that do not have direct interactions with the state. In the case of Stop and Frisk in New York, for example, the policy occurred largely in Brooklyn and the Bronx. In these communities, residents were stopped by the police more than 4 times as often as in Midtown and Chelsea.\(^1\) Heavy police presences associated with this policy did more than stop particular individuals, however; they place all residents of the neighborhood under more intense and frequent surveillance. Many policies have concentrated contextual effects, especially at the local level. We argue that the experience of living in or around this area has important feedback effects on political behavior. In particular, members of the community, not just direct policy recipients, learn about the policy and organize to hold political leaders responsible for it. In doing so, they become more informed and engaged citizens.

In the case of Chicago, the focus of this paper, the policy of public school closures was concentrated in particular areas of the city — the South and West sides. Additionally, by law, the school district was required to collect community input on each closure decision. Accordingly, the school district held community meetings in the affected communities. These meetings provided opportunities for resources (i.e. access to school officials, information) for community members in areas targeted for closure that they could then use to learn about the policy and organize around it. Classic and more recent literature on community meetings demonstrates how they can serve as spaces for political learning in both positive and negative ways (Arnstein 1969, Skogan et al. 1999, Fung 2006). On one hand they can act as mechanisms of knowledge sharing and mobilization as they help to bring disparate groups together under a cohesive identity and common cause. On the
other hand, if citizens come to meetings thinking they will get a response and the meetings are in fact set up as “shams” or what Arnstein calls “window dressing participation,” they can demobilize citizens and thus negatively impact already marginalized groups. In this paper, we show that meetings set up for closure are associated with the former.\(^2\)

We document how individuals who live in communities targeted for closure, measured in terms of proximity to a closed school, responded to them by engaging in formal politics. In particular, we show that they became more likely to attend a community meeting, organize for an elected school board, vote, and reduce their support of the incumbent mayor (who has control over the schools). These effects do not appear to be limited to the parents of children in the affected schools. We suggest that it is their contextual experiences, as members of the community targeted by the policy, that enable this political engagement to occur. These contextual experiences, or experiences in place, enable them to take informed political action consistent with their collective interests. This is particularly salient for marginalized, or rather low-resource, groups as community meetings provide a local and in this case cost-free mechanism by which to participate in issues directly affecting their community. Because of this and the fact that the policy is geographically concentrated within a segregated city, citizens beyond those directly affected are able and likely willing to participate in the community meeting process.\(^3\)

As a result, citizens—including, or perhaps especially, those with weak attachments to national or conventional electoral politics—come to engage in and understand the stakes of politics through their experiences with policies that are imposed from above and which directly affect their lives and communities. Beginning from a point of low engagement and low information, citizens shift their behavior and attitudes in ways predictably related to those policies: they mobilize politically and oppose those policies. This may entail increased participation in costly forms of non-electoral participation (because fighting a particular policy change may be orthogonal to replacing public officials), but we also expect these changes to be manifest in electoral behavior over time as residents come to
attribute responsibility for the policies from which they seek relief. While this mobilization may not necessarily succeed in overturning the undesired policy (in part for the same reason the community was targeted in the first place), the change in community attitudes may spill over into other areas of politics and persist as residents sustain activity in opposition to the policy and its authors. A graphical summary of the model is depicted in Figure 1.

Given the above description, the model suggests important substantive scope conditions for how widely the effects of concentrated policies will be felt. Significantly, according to our model, otherwise similar communities that are not affected by these geographically-targeted local policies will not change in the same ways; the policy feedback effects will be geographically concentrated. This is because the targeted policy affects a community in a concentrated and biased way, not just individuals who are sprinkled evenly across a polity, as is more typical for those affected by social security or welfare policies disbursed directly to households. In other words, we do not argue that the experience in place model will explain behavior for nationalized issues or among every group of actors; we further believe that it is unlikely that this model will explain much about responses to policies without a spatial-community element, which either do not locally connect individuals to each other or the effects of which are not concentrated in space. This is not a universal theory of policy response or opinion formation, but we believe it
is an important one for understanding important and often overlooked dynamic communities and policy areas. This model, we argue, contributes to an understanding of how citizens respond to policy changes over which they had little initial control or knowledge, especially in marginalized communities.

**School Closings and EIP**

School closures present a compelling policy area in which to examine citizens’ responses to spatially concentrated policy change. School closures are increasingly common across the country. About 2,000 public schools across the U.S. close each year. While the precise pedagogical merits of this approach are beyond the scope of this paper, closures provide a lens through which to observe and test this experience in place model of policy feedback mobilization because they involve a policy with which most citizens have a great deal of experience, are rarely desired by those whom they most directly affect (Tilsley 2017). Residents of areas affected by school closures tend to have lower levels of educational attainment and participate less in formal politics (see Appendices). Thus, they might also be more likely to use their personal experiences, rather than be moved by partisanship and/or elite framing. And while scholars of policy feedback have touched on education policy (Bruch and Soss 2018, Rose 2018), they have tended not to focus on it, instead attending to welfare, social security, health policy and criminal justice (Lerman and Weaver 2014, Campbell 2002, Soss 2002). This may be due to the decentralized complexity of education governance at the K-12 level, but this oversight is unfortunate because K-12 education is an area of government with which the vast majority of Americans have years of direct, daily experience (as students, parents, or teachers).5

In addition to the theories of policy feedback effects described above, the study of school closures also lends itself to an analysis rooted in the geography of policy and public opinion. This approach draws from the insight that some programs link the government to
communities through the provision of public good or policy expenditures that are rooted in space. This is very often the case for local governments, whose jurisdiction is confined to a narrow territory and for whom consideration of land use and inter-neighborhood conflicts are often the most salient elements of politics (Logan and Molotch 1987, Gerber and Phillips 2003). Appreciation of such political geography has always been central to the field of urban political science, and analytic techniques using advances in Geographic Information Systems to more precisely operationalize spatial relationships between theoretically linked phenomena have lately allowed analysts leverage in modeling spatial theories of public opinion and behavior. In particular, scholars have theorized (and observed) that under certain circumstances, individuals’ attitudes or behaviors vary according to their proximity to a policy-relevant event; this is part of a broader spatial turn in the social sciences, as scholars recall the theoretical importance of geographical context. (Ethington and McDaniel 2007) In the analyses below, we theorize that spatially-concentrated policy decisions—the closings of particular schools—will have spatially-structured effect on residents’ political behavior and attitudes toward government.

The Case: School Closures and Electoral Context

In the analyses that follow, we test this model by examining the way Chicagoans responded to place-based targeted school closures. Since 1995, selection of Chicago Public Schools (CPS) board members and CPS CEO has been centralized in the office of the Mayor of Chicago. In 2012, the CPS board initiated the largest wave of public school closures in U.S. history. The closures were not immediate or automatic: by law, the school district must collect input on school closure decisions from those potentially affected. This takes place at a series of meetings over a multi-month period at local churches and community centers in which CPS officials discuss the decision with the affected communities. These meetings were facilitated by school officials and were the only formal venue to voice op-
position to the plan.

We attended many of these meetings and observed that attendees shared information with each other about how closure decisions were made. These meetings were well-attended, and community members who attended and spoke were overwhelmingly against school closures. Their critiques focused on both the rationale (efficiency) and the decision-making process (by an unelected school board). For example, we observed one parent on Chicago’s West Side make the following rationale about the decision: “What is it? I’ll tell you what it is, you know, it’s about the $98 million that charters like UNO are getting, and our schools are not getting. We are not going to allow you keep watching while our resources are taken somewhere else.” It is clear from the statement that she is providing a counter-narrative of why closure decisions are being made by attributing them to charter school investments. When parents and community members attend these meetings, they gain exposure to this type of information and utilize it to shape their political evaluations. Indeed, we witnessed parents draw on these same appeals repeatedly, despite their divergence from the narrative put forth by CPS, thereby leading to negative perceptions of decisionmakers: “It’s because you keep giving charter schools . . . all of our dollars, so stop being confused, and stop trying to confuse us.” Meeting participants also appeared to draw lessons from their actual experiences at these meetings. For example, we observed several participants comment on the small size of the venue selected by CPS, with statements like the following: “But you knew it would be a big meeting. It’s been huge all over the city and now you’re going to try to tell us . . . No! We want to hear from our elected officials.” Participants went on to frame their experiences as an example of how they were being devalued by elected officials, as one parent stated, “I just don’t like how [CPS officials] are treating us at this meeting . . . sending us here and there . . .” In sum, our observations of these meetings suggest that many of those who participate in them learned information in situ about the policy decision and politics more generally.

Despite community opposition, 49 schools were closed in a single wave in 2012-
Figure 2: **School closures and Demography.** Dots indicate the location of schools closed in 2012-13. Background shading reflects census tract percent African American in 2010 census (darker shades indicate higher percent). *Source: U.S. Census and authors’ school closure data.*

2013. These closures were not randomly scattered across the city, but concentrated within particular communities: 88 percent of the closed schools were located on the South and West sides of the city, where the majority of the population is Black and low-income. Figure 2 depicts the locations of schools closed in 2012-13.

More broadly, school reform has been near the center of local politics for the past two decades. The arrival of charter schools, intermittent closures, teacher contract disputes, and the perceived distance of the centralized school board have been recurrent issues. Though technically a separate local government, the CPS board is chosen by the mayor. This means that the mayor is the only elected official responsible for setting schools policy. During Emanuel’s first term, the wave of closures exacerbated this conflict. At this time, there were also two advisory ballot measures calling for a change to an elected, geographically decentralized school board, first in 2012 and again in 2015. These ballot measures and mayor's position as the only elected public official with control over the school board (and thus CPS policy) provides us with leverage for examining the ways Chicagoans responded to place-based targeted school closures, because Chicagoans had
two opportunities to vote on each, before and after the major wave of closings.

**Hypotheses: The Political Effects of School Closures**

Our analysis examines whether this salient, place-targeted closure policy had political effects beyond the school walls. In particular, we are curious whether members of these particular communities that were targeted for closure, which are historically disadvantaged and without many of the political and socioeconomic resources of other communities within the city, responded to closure policy in ways consistent with an experience-in-place model of policy feedback. That is, citizens located within a particular context, in which a policy occurred, come to mobilize and participate in political actions congruent with their collective interests, regardless of their direct experiences with the policy. Observation of the community meetings during the closure period indicate that at least some Chicagoans in closure areas did learn from the process and take political action to oppose closures. We are investigating in part whether these observations were unusual or typical. Among the observable implications drawn from the experience-in-place model for Chicago are the following:

1) When citizens encounter a policy change concentrated in their community that negatively affects their community, they will seek information about the change and mobilize against it. Thus we hypothesize that political participation will increase among people who live in the areas affected by school closures (Hypothesis 1).

   a) In Chicago, the mechanism for such learning is attendance at the meetings held by CPS prior to school closure actions, so we believe that participation in community meetings should be particularly increased in policy-targeted areas (Hypothesis 1a).

   b) If provided an electoral forum to oppose the closures, we expect affected areas to increase their participation. Thus we expect increased voter turnout in closure areas.
(Hypothesis 1b)

2) Having identified the policymaker and mechanisms responsible for the changed policy, citizens affected by closure will shift their behavior against the actor(s) responsible for the undesired policy.

   a) Because school closures occurred under a mayor-appointed school board, we expect residents of closure areas to increase their support for an institutional change to an elected schoolboard after the wave of closures. (Hypothesis 2a)

   b) Because the mayor appoints the school board and is the only elected official responsible for the policy change, we expect electoral support for the incumbent mayor to decline in closure areas. (Hypothesis 2b)

Our final expectation is not necessarily related to the experience-in-place model, but we believe it will suffuse any analysis of local politics in marginalized communities like this one. Because of Chicago’s high levels of racial segregation, and the concentrated spatial pattern of school closings in areas with predominantly African American residents, we expect the relationships above to be stronger among African Americans than other Chicagoans where we can observe such distinctions.

Data and Analysis

It is impossible to see everything that has happened in this process directly. While we have observed Chicagoans participate in closure debates first hand, and have developed the intuitions behind our hypotheses from those observations, in the following analyses we use public opinion and elections data from the period around the closings to test the generalizability of these insights. We compare over-time changes in territorially-based groups with varying exposure to the school-closure policy. In essence, we are comparing changes in political behavior before and after the wave of 2012-13 closures across areas of Chicago that
either did or did not experience the closures. Of course, this is obviously not a tightly con-
trolled experiment—the closed schools were not randomly selected, and the opinion and
voter data are observational—but the underlying logic of comparison is similar in that we
focus on variable change across policy conditions.¹⁰ We hypothesize that the “treatment”
of school closures will be associated with the effects described in the previous section.

To test the hypotheses described above, we rely on three data resources that con-
nect measures of attitudes and behavior to time and space in order to contrast those that
live in communities with school closure to those who do not. First, to evaluate individual-
level relationships and mechanisms, we use the waves of the Cooperative Congressional
Election Study (CCES), which include spatial location data in the form of respondents’
ZIP codes, and questions about political participation and local government performance.
These measures, combined with the very large CCES samples, which include hundreds of
total Chicagoans drawn from all parts of the city in each of its waves, allow us to test
our hypotheses at the individual level and examine fine-grained shifts in attitudes related
to the spatial policy change. We analyze changes in the waves just before and after the
biggest closure wave (2010 and 2014, respectively).¹¹

Second, we use a new dataset based on precinct-level results from the Chicago
Board of Elections and spatially-joined Census data that ties demography to electoral out-
comes. This data, from the Chicago Democracy Project (CDP), allows us to estimate over-
time political changes in small-area aggregations, and to evaluate actual political behavior
in the form of election results (as opposed to reported behavior, as in survey collection).
We use the same analytical logic on this data, comparing changes in behavior from the
local elections just before the closure wave (2011 for mayor and 2012 for school board
referendum) to the election just after it (2015 for the revisiting of each).

To examine voters’ and respondents’ proximity to a community affected by school
closures, we develop an original dataset of schools closed in Chicago in 2012 and 2013.
These data (which we geocode using their addresses) are used to construct two measures
of community-based experiences with public school closures in Chicago. For CCES analyses, we link the schools’ ZIP codes to respondents, to estimate whether a respondent lives in a ZIP code with at least one closure. For electoral results analyses, we calculate the distance from the centroid of an electoral precinct to the nearest closed school. These measures allow us to analyze the concentrated geographic effects at the lowest level possible given the available data. Table 1 summarizes which data and measures we use in the analyses.

### School Closures and Meeting Participation

To test our first hypothesis (1a) we compare levels of participation in closure- and non-closure-areas of Chicago in 2010 and 2014. We can assess political participation before and after the closures directly using the CCES. This survey has a battery of political participation questions that it has repeated in each wave since 2008. The questions ask whether respondents have participated in various ways recently. If the wave of closures in 2012-13 had the predicted effects, we should see relatively larger increases in participation in closure areas, especially in costly ways such as attending the meetings associated with closures.

Using the battery of participation questions from the CCES, this is indeed what we observe. Figure 3 shows how participation rates changed from 2010-2014 among black re-

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Table 1: Data sources for analyses.
spondents from closure and non-closure areas of the city, as well as non-black respondents generally. The estimates represented in the figure are predicted probabilities of participation based on regression models of participation in each of the activities. Each arrow represents the predicted probability of activity for each group in 2010 (the circle end of the arrow) and in 2014 (the pointy end of the arrow, to show how participation shifted). In each set, from left to right, there is a black arrow to show levels among black respondents from ZIP codes with closures in 2012-13, a dark grey arrow to show levels among black respondents from non-closure ZIPs in the city and a light grey arrow for respondents from non-black Chicagoans (the vast majority of whom were from non-closure ZIPs). The magnitude of the group’s change on that measure is given in the figure at the end of the arrow as well. We focus the analysis on black respondents to control for race because of the persistent racialized character of Chicago politics, and the racialized valence that closure policies took on as it became clear that they were taking place mainly in predominantly black areas of the South and West sides.

Three observations are of note in this Figure. First, before the closure wave, closure area residents (and most other African Americans) were more likely than other Chicagoans not to participate in any of the ways asked. However, these numbers converged, as African Americans became less likely to not participate, and non-black Chicagoans became more likely to.

Most significantly for our theory are the different group changes in meeting participation rates (highlighted with a rectangle). Before the closures, black Chicagoans in closure ZIPS were the least likely to have attended a political meeting; after, they were the most likely group. Predicted meeting attendance among black Chicagoans not in closure ZIPS does not change. For our analysis, the estimated difference between black respondents in and out of closure ZIPs is particularly interesting for assessing the causal role of closures in fostering participation (Hypothesis 1a above). The expected difference in changed probability of meeting attendance between black respondents in and out of clo-
Figure 3: Changes in Participation by Race and Closure Status, 2010-2014 Each set of arrows represents the participation rate of the activity indicated on the x-axis. Each arrow shows the percent of participants in the given form of participation at the base of the column in 2010 (the circle end of the arrow) and in 2014 (the pointy end of the arrow, to show how participation shifted). In each set, from left to right, there is a black arrow to show levels among black respondents from ZIP codes with closures in 2012-13, a dark grey arrow to show levels among black respondents from non-closure ZIPs in the city and a light arrow for respondents from non-black Chicagoans (the vast majority of whom were from non-closure ZIPs). The magnitude of the group’s expected change on that measure is give in the figure at the end of the arrow as well. Source: CCES 2010 and 2014, and CPS Schools Closure Data. Group means estimated using Chicago-based census weights. Actual figures in Appendix.

School Closures and Electoral Change

As school closings dramatically reshaped communities and citizens learned more about the process, they also made significant changes in their electoral behavior. In this section, we present evidence of these three changes. We again leverage timing and space to examine
changes in electoral outcomes. Using precinct-level returns from the Chicago Democracy Project (CDP) database, we compare closely related elections just before and after the wave of closures in 2012-13.

**School Board Ballot Measures, 2012 and 2015**

The first of these is support for a non-binding ballot measure advocating an elected school board. This measure was proposed twice, in similar though not identical form, in 2012 and 2015. Because of technicalities in Chicago’s ballot rules, the measures were not on the ballot across the entire city: activists had to campaign separately to get the measure on each precinct’s ballot. This procedural hitch makes analysis slightly trickier—we cannot just compare support for the measure before and after, because it was not on the ballot in the same places—but it also affords an extra opportunity to gain analytical leverage because of the observed patterns in where the measure was considered: simply getting it on the ballot may be interpreted as a sign of sophisticated, organized reaction against school closure policy.16

The locations in which these measures appeared on the ballot are shown in the
<table>
<thead>
<tr>
<th>Precinct Type</th>
<th>Total N</th>
<th>Near Closures (%)</th>
<th>Middle-Distance (%)</th>
<th>Far from Closures (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilizing</td>
<td>2647</td>
<td>76.0</td>
<td>70.1</td>
<td>48.5</td>
</tr>
<tr>
<td>De-Mobilizing</td>
<td>63</td>
<td>1.4</td>
<td>1.6</td>
<td>1.7</td>
</tr>
<tr>
<td>Always Mobilized</td>
<td>433</td>
<td>14.2</td>
<td>8.9</td>
<td>8.9</td>
</tr>
<tr>
<td>Never Mobilized</td>
<td>923</td>
<td>8.4</td>
<td>18.8</td>
<td>41.0</td>
</tr>
</tbody>
</table>

Table 2: Total Precinct Fragments and percentages in each ballot measure category. Proximity categories are top-third, middle-third, and bottom-third of distance between precinct fragment centroid and nearest school closure.

maps in Figure 4. The areas of the city with the measure on the ballot increased and shifted, covering more of the city in 2015 (1,489 precincts, as opposed to 327 in 2012) and including much more of the South Side, one of the areas where closings were concentrated; these wards mostly did not have the measure on the ballot in 2012. Support for the measure where it was on the ballot was very high. Support ranged from 73 percent to 93 percent in 2012, and from 83 to 93 in 2015. Because of these two facts, the biggest change in the ballot measure vote was listing: many communities where the school board measure did not seem important enough to consider in 2012 seem to have become more interested in the idea by 2015.

This conclusion is supported when we compare whether precincts had the measure in each cycle. In a given precinct, there are four possible patterns of ballot measure listing across 2012-15. Mobilizing precincts did not have the ballot measure in 2012, but did have it in 2015, indicating a mobilization to consider the shift (most of the South Side is like this in the map). De-mobilizing precincts had it on the ballot in 2012 but not in 2015, indicating a falloff in mobilization on the issue over time (See the far Northwest side). Always Mobilized precincts had it on the ballot in both years, indicating a higher level of interest in the first place, which was sustained (These precincts are mostly on the Near Northwest Side). Never Mobilized precincts had it on the ballot in neither year, indicating low levels of mobilization in both years (the small areas near downtown fit this description).
Table 2 shows the relationship between ballot measure mobilization and proximity to school closures. The columns reflect a three-part division of the distance between a precinct and the nearest closed school: the closest third, middle third, and farthest third. Mobilization for the second ballot measure was related to proximity. Among the precincts nearest a closed school, 76 percent were Mobilizing and only 8 percent kept the measure off the ballot; among those farthest from a closure, only 48.5 percent were mobilizing and 41 percent did not mobilize to vote on the ballot. This is a difference of nearly 20 percent when compared with areas closer to closures. In a companion regression analysis of precincts that did not have the 2012 ballot measure, an additional mile of distance from a school closure is associated with an approximately 7 percent decrease in the likelihood that the precinct added the measure to the ballot in 2015, even when we account for precinct-level demography, crime rates, poverty, and school populations.  

Mayoral Vote

In our final analysis, we turn to changes in mayoral elections. In addition to increased mobilization on school policy, we hypothesize that voters experiencing school closures will decrease their support for the elected official with authority over the decision. In this case, Mayor Rahm Emanuel was elected just before the closures in 2011, and ran for re-election in 2015, just after the closures. As in the analysis of school board referenda, this before-and-after timing gives leverage for analysis. Unlike the school board referenda, Emanuel was on the ballot in every precinct in both elections. Figure 5 shows the location of school closures represented as small triangles and the change in support for Emanuel by precinct fragment from 2011-2015 represented by shades of grey, with darker shades representing bigger decreases in support; Emanuel’s support fell in nearly every part of the city.

This figure shows an apparent association between school closures and change in support for Emanuel in those two elections. Of course, especially given the city’s high
levels of class and racial segregation, we should look more closely to be more confident of this relationship. To do so, we examine changes in support for Emanuel at the precinct level, in the CDP data, which also includes demographic covariates spatially matched to the voting geography.

Our theoretical expectations are that salient policy change with localized negative effects will lead to two spatially-dependent relationships. Proximity to the target area should be associated with: first, political mobilization (higher turnout, Hypothesis 1b); and, second, lower support for the actor that made the policy change (Hypothesis 2b). Figure 6 shows the bivariate relationship between distance and changes in turnout and support for Emanuel over 2011-2015. In each subfigure, negative values indicate a drop in the key outcome (e.g., values below zero indicate decreased turnout) from 2011 to 2015. The distance along the x-axis is measured in miles, such that a precinct fragment that was very close to a closed school is close to the left-hand side of the frame. About half of all fragments are within 1.5 miles of a school closure.
Broadly, we can see that there may be a small negative relationship between

distance from a closed school and turnout, and that the relationship between distance and change in support for Emanuel appears much stronger. Though support for Emanuel dropped overall and almost everywhere (this is why most points in the vote choice graph are below zero), the change was stronger in areas closer to a school closing. In the 50 percent of precincts within 1.5 miles of a closing, Emanuel’s support fell about 13 percent. In the other half of precincts, farther away from a closing, the drop was about 3 percent. In the right-hand figure, the relationship is not as dramatic. Turnout fell by 10 percent on average in areas farther from a closing, but by only 7 percent in the closer precincts.

Figure 6 shows that the relationships between the key outcomes and distance to a school closing are noisy, and our knowledge of the city and the pattern of closings in Figure 5 suggests the possibility that the observed changes may be due to other factors such as race or class. However, when we use a multivariate regression to account for alternative factors that might explain declining support for Emanuel—including precinct-level measures crime rates, public school attendance, housing unaffordability, poverty, percent black, percent Latinx, and median household income, the relationships of interest (between proximity and turnout, and between proximity and support for the incumbent)—
remain substantively the same. The results remain the same even when we include these alternative explanations and examine only subsets of precincts whose residents are primarily black or Latinx. These results are presented in the Appendix. For each of the models estimated, the relationship between distance to a school closure and the outcome is both significant and in the expected direction.\textsuperscript{18} Broadly, these analyses support the theoretical expectations above.

As in the bivariate plot, in the regression models Emanuel’s change in support was larger nearer to school closures—his support declined about 13-16 percentage points \textit{more} in precincts very near a closing than similar precincts 5 miles away; this supports Hypothesis 2b. These results also support Hypothesis 1b, though the relationships are not as strong; though marginal effects estimates vary slightly over the models, there was about a 1 percent greater decline in turnout for each mile from a school closure, with a greater difference between 2011 and the 2015 runoff election (when the school board referendum was no longer on the ballot). These twinned findings—that Emanuel’s support fell more and turnout declined less near closed schools—provide support for the experience in place model. A major change in a salient, local policy was associated with electoral changes that were spatially related to the site of the geographically-targeted policy change.

\section*{Discussion}

The results presented above support a model of policy experiences in place, leveraging time and space to observe the relationship between place-based policy events and behavioral changes among citizens. In 2010 and 2011, residents in what would become school closure areas were the least likely to participate in politics and were also highly supportive of the new mayoral contender Rahm Emanuel. In 2012 and 2013, a large wave of school closings was implemented by the Chicago Public Schools. During the time of the closures,
informational meetings were held that allowed citizens to learn about the closure policy, voice concerns about it, and ultimately to organize against it. From 2010 to 2014, participation in areas affected by school closures increased more than elsewhere in the city, an increase that was driven by affected Blacks attending more political meetings. These individual-level processes were consistent with aggregate-level electoral changes that took place across the wave of school closures: areas near closed schools were more likely to mobilize for a ballot measure designed to support local schools; voter turnout increased slightly with proximity to a closure, and support for the incumbent mayor’s re-election bid fell substantially in those same areas. These electoral outcomes are consistent with election-day exit polling, which indicated that Chicago Public Schools policy was the most frequently indicated concern among voters, and that a majority of voters opposed closures.\(^{19}\)

Of course, the evidence presented is not perfect. The available data entail both noisy measures, observational data, and require bridging across survey and electoral sources.\(^{20}\) Future work on place-based policy feedback may also benefit from incorporating a systematic analysis of qualitative data that includes questions on direct experiences with public school closure to buttress the individual-level analyses. Nonetheless, with the data available we can connect some of the dots; the observed patterns are consistent with the theoretical predictions of the experience-in-place model generated from our observations of how Chicagoans responded to closures.

By revealing the ways in which place-based educational policy experiences can have impacts on the participation of citizens and political choices at the individual and aggregate level, this study provides insights for continued work across multiple areas of inquiry. While we test this theory by focusing in the issue of public-school closures, we expect that this model may provide a blueprint for analyses of other important geographically targeted policy across the U.S., such as Stop and Frisk. Furthermore, we expect this work to have empirical and substantive implications for research on the political responses to real-world
policy shocks among otherwise low-information, low-participation citizens.

The model and case at hand affirm the role of place-based experiences, measured by proximity to the policy event, in shaping political preferences. This type of research is critical for expanding the way in which one defines, and measures, experience to include meanings beyond direct formal encounters with a policy implementor to an embedded contextual engagement through one’s community and/or neighborhood. It also extends this literature by demonstrating the behavioral changes that result after a policy event. Second, our findings contribute to literature on policy feedback by demonstrating how education policies, related to removal of public schools, have broader consequences for electoral and non-electoral participation, thereby expanding not only the policy areas for which this literature focuses, to incorporate K-12 school policy, but also the outcomes of interest examined, specifically community meeting participation. Perhaps most important, this paper bridges research on policy feedback with that on local politics by demonstrating the contextual nature of experiences with public policy and its subsequent influence on political behavior in particular geographic areas. Third, our findings contribute to work on the relationship between policy experience, political knowledge, and political behavior by positing a potential mechanism for how participation in policy processes enable citizens from low information and politically homogeneous backgrounds to make informed decisions about issues of interest to themselves and their social group, suggesting that the information specific policy experiences provide to low knowledge citizens may act as a replacement to more mediated or abstract forms of political knowledge. Finally, given the role of schools policy in our particular case and the substantial mobilization observed in response, we also suspect that this analysis may help shed light on how oppositional local groups, including neighborhood activists and left coalitions, use policy changes to mobilize voters against incumbents in contemporary urban politics more generally.

Ultimately, citizens’ political attitudes and behavior are shaped by the communities in which they are embedded and the institutions that anchor those communities. Pub-
lic schools represent these types of institutions for many Americans, especially those with lower levels of other resources or interest in national politics. Accordingly, when we focus on issues such as schools that citizens engage with as part of their social and neighborhood context, we gain insights into the effects of place-based policy experiences. From these kinds of targeted investigations, we can develop more nuanced and potentially accurate understandings of the political preferences and behavior for all citizens.

Notes

1 December 2010 Supplementary Expert Report by Jeffrey Fagan, United States District Court, Southern District of New York, in the case of David Floyd et al v City of New York, 08 Civ. 01034 (SAS)

2 Citizens are impacted by harsh policies constantly, but why do they organize sometimes and not other times? Our argument is that policy shock, followed by a specific mechanism to organize around it—community meetings, in this case—made a difference.

3 For Blacks, and to some extent other minority groups, race has played a powerful role in building a collective political identity around important political issues through group consciousness (Dawson 1995). Thus, it might also be the case that group consciousness is being activated by the announcement of school closures and the ensuing actions of community groups. In other words, it is plausible that changed behavior may be more about the racialized nature of closings activating group consciousness or linked fate than citizens’ experiences with concentrated policy change. Nonetheless, individuals can still decide not to participate regardless of collective identity for a number of reasons, including general disengagement, disaffection and low internal efficacy and/or resources. Furthermore, group consciousness can wax and wane across policy issues. As McClain et al. (2009) (p. 471) observe, “it is important for scholars to understand better the contexts that activate and those that might limit or stymie the development of group consciousness.” By examining the racialized nature of a nominally non-racial policy, we are able to understand how this policy simultaneously develops and activates, or rather reactivates, consciousness crucial for the collective political action displayed towards school closures. In this regard, we acknowledge that many targeted public policies, specifically school closings, provide an opportunity for this type of group consciousness raising to occur. Still, while we acknowledge race and group consciousness matters, we believe these attitudes are often are modified by (or conditional on) citizens contextual policy experiences. Accordingly, we demonstrate how
low income minority groups are making political decisions not only based on racial cues but also within the through their engagement with specific policies happening in their community.


5 A few exceptions to this comment include Mettler (2014), Rose (2018), and Bruch and Soss (2018). Even so, Mettler (2014) examines how higher education exacerbates inequality, and Rose (2018) examines the effects of higher education policies on the gender dynamics of American citizenship. Accordingly, neither of these studies examine the impact of K-12 educational policy experiences on political attitudes, even though citizens have some of their most direct and routine experiences at school and with school policy. While Bruch and Soss (2018) analyze K-12 education policy, they focus on students and youth directly affected, rather than the surrounding community. In fact, these studies in general do not account for the fact that these education policies have a geographic component.

6 Recent examples include Newman and Hartman (2017) on the spatial effects of mass shootings on opinion on gun control, Enos (2016) on the relationship between large public housing project location and white voting behavior, and Hopkins (2010) on the complex relationship between place and attitudes on immigration.

7 CPS Community Meeting Transcripts: Meeting at community center in Austin neighborhood, 03/01/2013

8 CPS Community Meeting Transcripts: Meeting at Chess School 02/19/2013

9 Emphasis observed; these are transcript of spoken statements.

10 This treatment was not random, but no communities opted into it, so by observing changes theoretically linked to the closure policy, we can get a glimpse of its effects with at least mitigated selection effects.

11 Our data include 328 and 563 respondents from Chicago ZIP codes in 2010 and 2014, respectively. Because the CCES is designed to be nationally representative, not locally, we created and employ Chicago-specific weights on the CCES data used in the analysis below; see Appendix for details.

12 ZIP Code is the smallest available level of geographic identifier in the data. It is an imperfect approximation for exposure to a closed school (school catchment areas are not based on ZIP codes, but it is the best available measure.)

13 The questions include participation in political meetings, putting up a sign, working for a campaign, and donating to a campaign. Each of these is included in Figure 3. For reference, the questions are CC417a1 through CC417a5 in the 2010 CCES, and repeated in subsequent waves.

14 The regression models were probit prediction models of the participatory activities listed across the bottom, with covariates for whether or not a respondent lived in a closure ZIP code, race, income, and education. Precise estimates of predicted probabilities are presented in Appendix.

15 Note that the most common measure of political participation, self-reported voter turnout, is not among
the measures included here. The levels of turnout reported by survey respondents was extremely high (over 80 percent in 2014). This is almost certainly an overestimate. We analyze actual turnout in mayoral elections in the next section.

16 In fact, getting on the ballot appears to be a better assessment of variation in support for the measure because where it was on the ballot support was almost uniformly extremely high. For a ballot measure, technically called an advisory referendum, to get on the ballot in a precinct or ward, at least 8 percent of registered voters in the territory in which the measure will appear. For each of Chicago’s approximately 2000 precincts, this is typically 50-75 signatures. While these numbers may reflect increased activity by activists or organizers predisposed to support the referenda, the expansion of such action into huge swaths of the city suggests heightened mobilization in these new areas because signatories must be local residents, not from elsewhere in the city. Full rules governing this procedure are available at the Chicago Board of Elections, chicagoelections.com.

17 See Appendix Figure 6 for Regression analysis of ballot measure mobilization. There is a slightly more support for the 2015 ballot measure in areas close to closure, but overall support levels were so high in almost every area that it is difficult to make useful judgments about that. The increased rates of ballot measure mobilization near closures seems more compelling and a better test of hypothesis 2c.

18 Table 4 shows the results of OLS regression analyses of each of the dependent variables on distance and other likely alternative explanations.

19 Available toplines in the poll are consistent with our analysis. Without direct access to that proprietary data, we cannot confirm more precisely the relationship between closures, opinion, residence, and vote choice in the exit polls. Bosman, Julie. “Rahm Emanuel Wins Runoff Election to Secure 2nd Term as Chicago Mayor” New York Times, April 7, 2015.

20 For instance, to isolate the effect of school closures in the ideal/conventional experimental way, school closures would be randomly assigned; participation, behavior, and closure experience questions would be asked more precisely; and respondents would be part of a multi-wave panel so policy evaluations and localized political knowledge questions would be asked both before and after the policy change to better understand the content and nature of the information observed and its impacts. There are also measurement caveats for this CCES analysis that bear mention. First, our measure of closure experience is based on the lowest-level geographical indicator available in the CCES, the ZIP code. This is a noisy measure. Students are not assigned to schools based on ZIP codes, nor are schools closed or left open on that basis—in ZIPS with closures, some remain open and some closed. But this issue should ostensibly make it harder to detect effects of closures on opinion, since not every member of the closure ZIP is directly affected by closures (though likely every member of a non-closure ZIP is non-affected by those closures). While black respon-
students with children in the house did give lower evaluation of schools policy, it is difficult to tell from the data how exactly this connection is being made: to all community members or just those with students. Our qualitative observations lead us to believe the effects may be community-wide, but the quantitative evidence here is inconclusive. Second, while the meeting attendance analysis used data from just before and after the closings, in 2010 and 2014, the CCES did not ask questions about local government evaluations until 2016. That time lag is also probably a source of error in this analysis, and because the question was only asked in our “after” period, we can only detect relationships in a single cross-sectional levels, not shifts. Third, these local government evaluation questions are vague. Respondents are asked to evaluate “the schools,” and “the mayor,” and to say whether or not they’ve attended a political meeting in the past year. They might be considering very different things when they respond. Given that parents tend to be give positive evaluations of their childrens’ schools (Howell and West 2009), (Jacobsen and Saultz 2012), they may be thinking of the quality of local instruction rather than overall district-wide policies. Similarly, there are plenty of reasons unrelated to schools to be satisfied or dissatisfied with a mayor’s performance, especially in Chicago. The strong independent association between school and mayoral evaluations alleviates our concerns on this front, but ultimately we must remain modest in our certainty around these claims. Third, meeting attendance is also a noisy measure: there are lots of political meetings that respondents might attend, not all related to school closures—especially in areas where schools did not close. This may help explain in part why meeting attendance is not related to school evaluation outside of closure areas. Finally, as with all large samples, the CCES faces issues about representativeness, particularly in subnational samples. While the large number of respondents in this study alleviates concerns about statistical power somewhat, we can never be absolutely certain about the unobservable biases in survey response rates among different kinds of individuals, especially when participation itself is under the microscope.

References


Appendix

This Appendix includes supplementary information about the paper’s analyses.

CCES subsample: Chicago

The CCES employs a matched sampling strategy to get an approximately representative view of American citizens. One major distinctive feature of the CCES approach is the number of respondents per wave. While most national surveys collect fewer than 2000 respondents, the CCES collects tens of thousands. This higher number also means that there are hundreds of respondents from particular geographic subdivisions of the nation, allowing us a potential window into more local questions and populations. On the other hand, the CCES sample is still designed to be nationally representative, not locally representative, so it is possible that merely retaining observations from a particular area (in our case, Chicagoans) will not be representative of that particular area.

Indeed, the CCES respondents from Chicago are only roughly representative of Chicago as a whole. For instance, in 2016, Latinos and African Americans were underrepresented in the sample, while non-hispanic whites were overrepresented. Table 3 compares the 2016 CCES to the 2016 American Community Survey sample for race and household income measures (obtained from IPUMS-USA).

<table>
<thead>
<tr>
<th>Measure</th>
<th>CCES (%)</th>
<th>ACS (%)</th>
<th>Measure</th>
<th>CCES (%)</th>
<th>ACS (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH White</td>
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<td>$0-40,000</td>
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<tr>
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<td>30</td>
<td>$40k-60k</td>
<td>18</td>
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<tr>
<td>Latino</td>
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<td>24</td>
<td>$60k-80k</td>
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<td>Asian/Asian American</td>
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<td>5</td>
<td>$80k-120k</td>
<td>19</td>
<td>17</td>
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<tr>
<td>Other</td>
<td>1</td>
<td>2</td>
<td>$120k+</td>
<td>14</td>
<td>27</td>
</tr>
</tbody>
</table>

Table 3: Comparisons of American Community Survey demographic estimates for Chicago and CCES Chicago subsample.

To correct for these unrepresentative sample differences, we created our own weights
for race-income groups for 2010 and 2014 using IPUMS-USA microdata for Chicago. More details are available in the replication do-file that accompany this submission. Analyses that use the CCES employ these weights.

Aggregate Analysis

The variables in the Aggregate Analyses rely on data created for the Chicago Democracy Project, an ongoing data collection and sharing project. These data come from official sources, joining electoral, census, and city policy data with spatial information.

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
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<tbody>
<tr>
<td>Mi. to closure</td>
<td>-0.00551***</td>
<td>-0.0101***</td>
<td>-0.0128***</td>
<td>0.0246***</td>
<td>0.0312***</td>
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</tr>
<tr>
<td></td>
<td>(0.00)</td>
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<td>(0.00)</td>
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<tr>
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<td>-0.00299</td>
<td>0.0432*</td>
<td>0.0659**</td>
<td>0.0860***</td>
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<td></td>
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<td>(0.01)</td>
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<tr>
<td></td>
<td>(0.00)</td>
<td>(0.00)</td>
<td>(0.00)</td>
<td>(0.00)</td>
<td>(0.00)</td>
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</tr>
<tr>
<td>% in Pov.</td>
<td>0.0290**</td>
<td>0.0239*</td>
<td>0.0263*</td>
<td>0.0143</td>
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<td>% Unaff. Rent</td>
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<td>0.0254</td>
<td>0.0306*</td>
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<td>0.20</td>
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Table 4: Regression Results for Precinct-level changes in turnout and support for Emanuel, 2011-2015. Cell entries are OLS coefficients and standard errors. * p<0.05, ** p<0.01, *** p<0.001. Summary statistics and details of covariates available in Appendix.

For each of the models estimated, the relationship between distance to a school closure and the outcome is both significant and in the expected direction. Columns 3 and 6 list the coefficient and standard error estimates for a limited model restricted to
precinct fragments with populations less than 50% non-hispanic white. The other columns include more covariates and all Precinct Fragments; those labeled “TO” estimate models of changes in turnout. We include covariate measures of school-attending population, crime, ethnoracial composition, median income, poverty, and rent affordability. Full descriptions and descriptive statistics of these variables are in the Appendix. Those labeled “RE” estimate models of changes in vote support for Emanuel. Those labeled “Feb” use the change from 2011 to the first-round election in February of 2015; “Apr” indicates the change from 2011 to the second-round runoff election in April of 2015.21

Electoral Measures: Estimated at the precinct-fragment level due to changes in electoral districts between 2011 and 2015.

1. ΔR.Em. Feb and April: Change in the Rahm Emanuel vote is calculated by subtracting the precinct-level percent of votes cast for Emanuel in 2011 from the percent cast in 2015 (In 2015 there were two rounds of voting)

2. ΔTO Feb and April: Change in turnout is calculated by subtracting precinct ballots cast (as a percentage of registered voters) in 2011 from the percent cast in 2015 (In 2015 there were two rounds of voting)

Census Measures: Census measures for precinct geographies were estimated using an intercept function in GIS: Precinct counts were generated by multiplying the given measures’ count by the proportion of the block group lying in the precinct, aggregating across all block group fragments within a given precinct, and dividing the measure by the appropriate divisor (typically estimated total population). The measures in the analysis are from the 2015 American Community Survey.

2. % Hisp: The estimated percent Hispanic in the precinct in 2015.

3. % in Pov.: The percent of persons living in poverty in the precinct in 2015.

4. % In school: the percent of persons in the precinct attending school.

5. Med. HH Inc. ($10k): The precinct median household income (divided by $10,000)

6. % Unaffordable rent: the percent of renting households paying more than 30% of income in rent, a standard measure of affordability.

**Policy/Social Outcome Measures**

1. Miles to Nearest Closed School: School Closures are tracked in the authors’ database of school closings. We geocode these buildings based on the addresses provided by Chicago Public Schools and match respondents by ZIP code in the CCES. For the aggregate analyses, we use GIS to calculate the Earth-surface distance between Precinct-Fragment centroids and the nearest closed school building in miles.

2. Δ # Crimes: We measure crime using the incident-level crime reports data available through the [City of Chicago’s Data Portal](https://data.cityofchicago.org). We geocode the data for 2010 and 2014 and aggregate “serious crimes” by neighborhood in each year. “Serious crimes” are violent crimes, property crimes, and non-consensual sex crimes. We subtract the total serious crimes in 2010 from 2014, and divide by the baseline 2010 level. Note nearly all neighborhoods experienced a reduction in crime incidents from 2010 to 2014, so nearly all values of this measure are negative. 4
Summary statistics for these measures are provided in Table 5.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>∆ R. Em., Feb.</td>
<td>-0.0937</td>
<td>0.115</td>
<td>-0.421</td>
<td>0.415</td>
</tr>
<tr>
<td>∆ R. Em., Apr.</td>
<td>0.00943</td>
<td>0.112</td>
<td>-0.353</td>
<td>0.447</td>
</tr>
<tr>
<td>∆ TO, Feb.</td>
<td>-0.0803</td>
<td>0.0685</td>
<td>-0.447</td>
<td>0.358</td>
</tr>
<tr>
<td>∆ TO, Apr.</td>
<td>-0.00533</td>
<td>0.0687</td>
<td>-0.339</td>
<td>0.302</td>
</tr>
<tr>
<td>Miles to nearest closed school</td>
<td>1.575</td>
<td>1.470</td>
<td>0.00994</td>
<td>9.395</td>
</tr>
<tr>
<td>% Af. Am.</td>
<td>0.397</td>
<td>0.420</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>% Hisp.</td>
<td>0.254</td>
<td>0.293</td>
<td>0</td>
<td>1.000</td>
</tr>
<tr>
<td>% In School</td>
<td>0.266</td>
<td>0.0844</td>
<td>0.0194</td>
<td>0.901</td>
</tr>
<tr>
<td>∆ #crimes</td>
<td>-0.262</td>
<td>0.0729</td>
<td>-0.441</td>
<td>0.253</td>
</tr>
<tr>
<td>Med. HH Inc. ($10k)</td>
<td>2.463</td>
<td>2.354</td>
<td>0.00292</td>
<td>42.67</td>
</tr>
<tr>
<td>% in Pov.</td>
<td>0.230</td>
<td>0.156</td>
<td>0</td>
<td>0.900</td>
</tr>
<tr>
<td>% Unaffordable Rent</td>
<td>0.153</td>
<td>0.108</td>
<td>0</td>
<td>0.678</td>
</tr>
<tr>
<td>Observations</td>
<td>4062</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5: Table of Summary Statistics, Aggregate Analysis. All measures or estimates at the Precinct-fragment level.
Tables 6 and 7 provide results for the supplementary regression analysis of precincts that did not mobilize in the 2011 School Board ballot measure.

<table>
<thead>
<tr>
<th>SBRefArea15Reg</th>
<th>b/se</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area With SB Ref</td>
<td></td>
</tr>
<tr>
<td>Miles to nearest closed school</td>
<td>-0.317*** (0.02)</td>
</tr>
<tr>
<td>% In School</td>
<td>-0.728* (0.31)</td>
</tr>
<tr>
<td>% Af. Am.</td>
<td>0.649*** (0.10)</td>
</tr>
<tr>
<td>% Hisp.</td>
<td>1.026*** (0.12)</td>
</tr>
<tr>
<td>Med. HH Inc. ($10k)</td>
<td>-0.0601*** (0.01)</td>
</tr>
<tr>
<td>% in Pov.</td>
<td>1.083*** (0.24)</td>
</tr>
<tr>
<td>N’hood Crimes</td>
<td>.31 (.37)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.858*** (0.12)</td>
</tr>
<tr>
<td>Observations</td>
<td>3,570</td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Table 6: Probit regression of probability of mobilizing for 2015 Referendum. Unit of analysis is precinct-fragment. Only fragments that did not mobilize in 2011 included. Cell entries are coefficients and robust standard errors.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miles to nearest closed school</td>
<td>-0.0777***</td>
<td>(-17.76)</td>
</tr>
<tr>
<td>% In School</td>
<td>-0.178*</td>
<td>(-2.34)</td>
</tr>
<tr>
<td>% Af. Am.</td>
<td>0.159***</td>
<td>(6.44)</td>
</tr>
<tr>
<td>% Hisp.</td>
<td>0.251***</td>
<td>(8.64)</td>
</tr>
<tr>
<td>Med. HH Inc. ($10k)</td>
<td>-0.0147***</td>
<td>(-5.19)</td>
</tr>
<tr>
<td>% in Pov.</td>
<td>0.265***</td>
<td>(4.48)</td>
</tr>
<tr>
<td>Observations</td>
<td>3570</td>
<td></td>
</tr>
</tbody>
</table>

Marginal effects; t statistics in parentheses (d) for discrete change of dummy variable from 0 to 1
* p < 0.05, ** p < 0.01, *** p < 0.001

Table 7: Marginal effects of model estimated in Table 6; all other variables held constant at means.

The following Tables provides the numbers behind the participation analysis in Figure 3.
Table 1: Predicted Changes in Participation by Race and Closure Status, 2010–2014

<table>
<thead>
<tr>
<th>Measure</th>
<th>Group</th>
<th>2010</th>
<th>2014</th>
<th>delta</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Participation (%)</td>
<td>BlackClosure</td>
<td>0.71</td>
<td>0.65</td>
<td>-0.06</td>
</tr>
<tr>
<td>No Participation (%)</td>
<td>BlackNonClosure</td>
<td>0.69</td>
<td>0.5</td>
<td>-0.19</td>
</tr>
<tr>
<td>No Participation (%)</td>
<td>NonBlack</td>
<td>0.51</td>
<td>0.59</td>
<td>0.08</td>
</tr>
<tr>
<td>Meeting</td>
<td>BlackClosure</td>
<td>0.11</td>
<td>0.19</td>
<td>0.08</td>
</tr>
<tr>
<td>Meeting</td>
<td>BlackNonClosure</td>
<td>0.15</td>
<td>0.13</td>
<td>-0.02</td>
</tr>
<tr>
<td>Meeting</td>
<td>NonBlack</td>
<td>0.12</td>
<td>0.14</td>
<td>0.02</td>
</tr>
<tr>
<td>Sign</td>
<td>BlackClosure</td>
<td>0.06</td>
<td>0.13</td>
<td>0.07</td>
</tr>
<tr>
<td>Sign</td>
<td>BlackNonClosure</td>
<td>0.1</td>
<td>0.18</td>
<td>0.08</td>
</tr>
<tr>
<td>Sign</td>
<td>NonBlack</td>
<td>0.07</td>
<td>0.15</td>
<td>0.08</td>
</tr>
<tr>
<td>Work For Campaign</td>
<td>BlackClosure</td>
<td>0.11</td>
<td>0.04</td>
<td>-0.07</td>
</tr>
<tr>
<td>Work For Campaign</td>
<td>BlackNonClosure</td>
<td>0.08</td>
<td>0.04</td>
<td>-0.04</td>
</tr>
<tr>
<td>Work For Campaign</td>
<td>NonBlack</td>
<td>0.088</td>
<td>0.075</td>
<td>-0.013</td>
</tr>
<tr>
<td>Donate to Campaign</td>
<td>BlackClosure</td>
<td>0.07</td>
<td>0.15</td>
<td>0.08</td>
</tr>
<tr>
<td>Donate to Campaign</td>
<td>BlackNonClosure</td>
<td>0.17</td>
<td>0.24</td>
<td>0.07</td>
</tr>
<tr>
<td>Donate to Campaign</td>
<td>NonBlack</td>
<td>0.1</td>
<td>0.18</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Figure 7: Cell entries are means of participation in the activity at left for each group, in 2010 and 2014. Weighted by race and income groups to represent Chicago population.

Figure 8: This table includes estimates of the participation analysis based on OLS predicted probabilities, including measures of race, household income, and education. The key pattern (relative increase in predicted participation among closure-area black respondents) holds. Estimated using Clarify in Stata.