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Bridgett A. King
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Polling Place Quality and Access

Robert Stein, Christopher Mann and Charles Stewart III

Introduction

Polling places, their location, staff, equipment, and operations are thought to be consequential to the voting experience, including voter turnout and voter confidence that their vote will be counted as they intended (Alvarez et al. 2008; Akteson and Saunders 2007; Barreto et al. 2009;

Additional co-authors Zachary Birenbaum (Rice), Anson Fung (Rice), Jeb Greenberg (Rice), Farhan Kawsar (Rice), Lonna Atkeson (Universit of New Mexico), Gayle Alberda (Fairfield University), R. Michael Alvarez (Caltech), Emily Beaulieu (Kentucky), Nathaniel A. Birkhead (Kansas State), Frederick J. Boehmke (Iowa), Joshua Boston (Washington University), Barry C. Burden (Wisconsin), Francisco Cantu (Houston), Rachael Cobb (Suffolk University), David Darmofal (University of South Carolina), Thomas C. Ellington (Wesleyan College),

R. Stein (✉)
Rice University, Houston, TX, USA
e-mail: stein@rice.edu

C. Mann
Skidmore College, Saratoga Springs, NY, USA

C. Stewart III
Massachusetts Institute of Technology, Cambridge, MA, USA

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Bowler et al. 2015; Herron and Smith 2016; Spencer and Markovits 2010). This assessment is based on studies of voting place locations in single jurisdictions. To date, there have been no multi-jurisdictional studies of polling place practices, although some data about polling places are collected in the Survey of the Performance of American Elections (Stewart 2017).

This chapter reports the findings from a national study of polling places and polling place practices in 26 election jurisdictions and 17 states across the United States during the 2016 presidential election. We evaluate polling places on three dimensions including their accessibility to voters, the quality of the facility/location, and barriers to voting. We measure the variation on these characteristics between and within jurisdictions in order to determine the origin of variance in polling place attributes and practices. We find that polling place operations, facilities, and practices in 2016 exhibit an overall high quality. Contrary to prior research on these characteristics in a case study of Los Angeles County in 2004 (Barreto et al. 2009), we do not find that polling place quality varies by race, ethnicity, or the socioeconomic composition of voters at each polling location. Variation in polling place operations, facilities, and practices in 2016 appears to be a function of county and state level factors.

Previous Research

Previous research on polling places has identified access to the polling place, the quality of polling place facilities, and polling place operations as consequential to the voting experience (Barreto et al. 2009; Spencer

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Terri Susan Fine (University of Central Florida), Charles J. Finocchiaro (South Carolina), Michael Gilbert (University of Virginia), Victor Haynes (Claremont Graduate University), Brian Janssen (University of Iowa), David Kimball (University of Missouri, St. Louis), Charles Kromkowski (University of Virginia), Elena Llaudet (Suffolk University), Kenneth R. Mayer (Wisconsin), Matthew R. Miles (BYU-Idaho), David Miller (Washington University), Lindsay Nielson (Bucknell), Yu Ouyang (Purdue University Northwest), Costas Panagopoulos (Northeastern), Andrew Reeves (Washington University), Min Hee Seo (Washington University), Haley Simmons (University of Mississippi), Corwin Smidt (Michigan State), Rachel VanSickle-Ward (Pitzer College), Jennifer Nicoll Victor (George Mason University), Abby Wood (USC, Gould School of Law), Julie Wronski (University of Mississippi).

and Markovits 2010) and penultimate to voter participation. The Barreto et al. (2009) study of Los Angeles (L.A.) County, CA polling places during the 2004 primary election serves as the touchstone for our own national study. They report significant variation in polling place access, quality, and operations within Los Angeles County. Their principal finding was that ["L]ow-income and minority communities tend to have 'lower quality' precincts, which tended to depress voter turnout" (2009, 445). We ask what variation, if any, is observed in polling places across, rather than just within voting jurisdictions (here, counties) and whether this variation is attributable to conditions within or between voting jurisdictions and their respective states.

Reliance on polling place studies in single jurisdictions risks confounding the effects of polling attributes with differences in other factors across counties and states. Studying polling places across states and jurisdictions allows us to apportion the variance in polling place attributes and performance to state and county effects that might be omitted and unobserved in studies of just one voting jurisdiction. Accurately attributing the source of variation in polling place attributes and operations is important to identify where policy interventions might be adopted to enhance the quality and performance of polling places.

Overview of the Project

Research teams recruited from local colleges and universities and located in over 26 election jurisdictions and 17 states across the US observed polling place operations and voters as they entered the queue at their respective polling places on November 8, 2016.[1] A common set of protocols was used across all jurisdictions participating in the data collection (Mann et al. 2018). The jurisdictions that comprise our data set constitute a sample of convenience, because they depend on who

[1]In addition to studying polling place attributes and operations, students observed and timed voters as they waited to vote, voted or left, i.e., abandoned the voting line. These data are reported elsewhere (Stein et al. 2019).

Table 6.1 Jurisdictions and polling places

Jurisdiction	Polling places
Los Angeles, CA	38
Fairfield, CT	11
Orange, FL	20
Bibb, GA	8
Madison, ID	9
Johnson, IA	28
Riley, KS	16
Fayette, KY	43
Suffolk, MA	25
Ingham, MI	25
St Louis, MO	94
Albany, NY	30
Bronx, NY	3
Kings, NY	5
New York, NY	18
Rensselaer, NY	19
Saratoga, NY	16
Sullivan, NY	1
Westchester, NY	8
Union, PA	7
Richland, SC	14
Harris, TX	18
Albemarle, VA	7
Henrico, VA	21
Fairfax, VA	35
Dane, WI	9
Total	528

responded to the call to participate in the study. The obvious bias induced by this sampling method, compared to drawing a representative sample of voters or polling places, is that jurisdictions without a college or university are unlikely to be included in the study. However, as the list of jurisdictions in Table 6.1 makes clear, the jurisdictions that were in the study were distributed geographically across the country and across urban, suburban, and rural locations. Thus, while not representative, the collection of precincts is varied enough that important empirical insights can perhaps be gleaned from the data. The jurisdictions studied closely approximate the demographic makeup of the 2016 electorate, as illustrated in Table 6.2.

Table 6.2 Demographics of study jurisdictions and 2016 national exit poll

Variable	National[a] (%)	Study jurisdictions (%)
65+	16	20
White	72	76
African-American	12	15
Hispanic	11	6
Other	4	4
College graduate	50	42

[a]National exit poll, 2016 presidential election https://www.cnn.com/election/2016/results/exit-polls

Within jurisdictions, polling places were selected randomly by participating faculty. The unit of random sampling was the polling place rather than physical location, since multiple polling places may be physically located in a single facility (e.g., library, school, community center). In some cases, multiple polling places were selected at a single location. There were instances where local conditions necessitated deviating from random selection; this was most often due to difficulty traveling to voting location or wanting to observe campus voting locations. When such circumstances occurred, the teams were instructed not to select locations expected to have problems or lines (to ensure that selection did not constitute sampling on the dependent variable).

The protocol for observing polling place attributes and operations was based on previous research (Barreto et al. 2009; Herron and Smith 2016; Spencer and Markovits 2010; Stewart 2015). Pairs of student-researchers were assigned to observe election day polling places for two-hour periods. Researchers were tasked with collecting several pieces of information about voters' experience including length of lines, time waiting to vote, and time to cast a ballot. Each research team was also responsible for filling out a form that described the physical characteristics of the polling place they visited. This form is based on the Barreto et al. (2009) study of polling places with additions based on other research about polling place characteristics (Alvarez et al. 2013; Berger et al. 2008; Brady and McNulty 2011; Kropf and Kimball 2011; Presidential Commission on Election Administration 2014; Schur and Adya 2013; Spencer and Markovits 2010). The observer's form recorded information about the approach to the polling place (visibility from

street, ease of parking, etc.), exterior polling place characteristics (outdoor light, access to parking, accessibility of entrance, etc.), interior polling place characteristics (lighting conditions, waiting area signage, etc.), polling place operations (informational instructions, working machines and scanners, etc.), and a sketch of the polling place layout.

Taking our lead from Barreto et al. (2009), we were interested in knowing how easy it was for the voter to find and access their election day polling place, whether the location was easy to use, and whether there were any barriers and/or enhancements to voting in the polling places. We measure a voter's accessibility to their polling place with five 'check list' items including:

1. The polling place address in clear sight (1 = yes, 0 = no)
2. The polling place was readily visible from the street (1 = yes, 0 = no)
3. Flags, banners, or signs made the polling place visible (1 = yes, 0 = no)
4. The polling location was (very easy = 4, somewhat easy = 3, somewhat difficult = 2, very difficult = 1)
5. The outside lighting was adequate (1 = yes, 0 = no)

The quality of the polling place location was defined in terms of seven characteristics including:

1. Adequate parking nearby (1 = yes, 0 = no)
2. Polling place entrance was handicapped accessible (1 = yes, 0 = no)
3. Restrooms were clearly marked (1 = yes, 0 = no)
4. Interior well lit for reading (1 = yes, 0 = no)
5. How small or large was the inside of the polling place (1 = very small, 2 = somewhat small, 3 = medium, 4 = somewhat large, 5 = very large)
6. What kind of waiting area was present (1 = none, 2 = small standing area, 3 = large standing area, 4 = sofas and chairs)
7. Additional amenities for voters (1 = yes, 0 = no)[2]

[2]Barreto et al. (2009) report that some polling places in Los Angeles have couches for waiting voters and serve coffee to waiting voters.

Barriers to voting included whether instructions were posted in the polling location to assist voters to check into vote (0 = yes, 1 = no), to operate voting machines or ballot scanners (0 = yes, 1 = no), and how to complete a ballot (0 = yes, 1 = no) and whether all voting machines and scanners were working (0 = yes, 1 = no).[3]

Findings

We obtained information on the attributes of 528 polling places used on election day in 2016 in 26 jurisdictions and 17 states. The distribution of polling traits that Barreto et al. (2009) identified as measures of accessibility, quality, and barriers to voting are reported in Tables 6.3, 6.4, and 6.5, respectively. We also report the distribution of the same traits for Los Angeles County polling places for the 2004 primary election and for our sample ($N = 38$) of 2016 Los Angeles County polling locations (Table 6.6).[4]

Polling Place Accessibility

Our findings point to a greater degree of accessibility than Barreto et al. (2009) observed in Los Angeles in the 2004 primary election, as measured by the adequacy of outdoor lighting and the overall ease of locating the site. This finding is true when we compare Barreto et al.'s 2004 sample of L.A. County polling places with our 2016 sample of L.A.

[3]In addition, Barreto et al. (2009) identified whether poll workers lived nearby the polling place (1 = yes, 0 = no) and whether a photo ID was asked for when checking into vote. We have excluded these two items from our composite score of polling place barriers to voting. We are uncertain how poll workers who live in the neighborhood are either a barrier or enhancement to voting. No discussion of this measure is included Barreto et al. (2009). A portion of our sample of voting jurisdictions is in states that require photographic identification in order to vote. Consequently, this is not a discretionary action on the part of either poll workers or county election officials. Barreto et al. (2009) also report whether a "Voter Bill of Rights" was visibly posted.

[4]The dimensionality of the three sets of indices varies considerably. The Cronbach Alpha scores for accessibility are 0.52, 0.45 for polling place quality and 0.7 for barriers to voting.

Table 6.3 Polling place accessibility

Trait	2016 National Sample		2016 L.A.[a]		2004 L.A.
	Count	%	Count	%	%
Adequate outside lighting					
No	56	11.86	0	0	23.5
Yes	416	88.1	21	100	76.5
Polling place was easy to find					
Very difficult	3	0.6	0	0	3.6
Somewhat difficult	36	7.1	5	19	12.2
Somewhat easy	148	29.4	6	23	36.3
Very easy	320	63	15	57.6	48.0
Clearly marked address					
No	195	40.0	8	32	22.1
Yes	293	60.0	17	68	77.9
Visible from street					
No	57	11.3	4	15.3	11.0
Yes	446	88.7	22	84.6	89.0
Flags, signs visible					
No	69	13.8	3	12	24.5
Yes	430	86.2	22	88	75.8

[a]Total number of precincts vary due to missing data

County polling places. The results of our findings about accessibility are reported in Table 6.3.

Nearly two-thirds (65.5%) of our national sample of polling locations were rated 'very easy' to find and less than 8% were rated as either 'somewhat difficult' or 'difficult to find.' Only 47% of 2004 Los Angeles polling places were rated very easy to find. Twice as many Los Angeles County polling places in 2004 (16%) than observed in our 2016 national sample were rated 'very difficult' or 'somewhat difficult' to find.

Between sixty and nearly ninety percent of our 2016 national sample of polling places were rated clearly visible by their signage, unobstructed street addresses and their proximity to major roadways. These ratings, with the exception of whether the site clearly displayed its street address, closely match those reported in the 2004 Los Angeles primary. Outside lighting was highly rated in 2016, especially in parking lots adjacent to polling places. Nearly 90% of our national sample of polling places were rated as having adequate outside

Table 6.4 Polling place quality

Trait	2016 National Sample		2016 L.A.[a]		2004 L.A.
	Count	%	Count	%	%
Handicapped entrance access					
No	28	5.7	3	12.5	18.2
Yes	459	94.3	21	87.5	81.1
Ease of finding parking					
Very difficult	23	4.8	0	0	32.7
Somewhat difficult	23	4.8	2	9.1	–
Somewhat easy	66	13.8	5	22.7	–
Very easy	365	76.5	15	68.2	–
Restroom clearly marked					
No	219	45.1	15	57.7	34.1
Yes	267	54.9	11	42.3	65.9
Amenities					
No	310	73.1	15	78.9	84.6
Yes	114	26.9	4	21.1	15.4
Interior well lit					
No	25	5.0	13	50	12.2
Yes	476	95.0	13	50	87.8
Interior size					
Very small	34	6.8	4	15.4	17.7
Somewhat small	109	21.8	6	23.1	18.3
Medium	144	28.7	7	26.9	26.6
Somewhat large	137	27.4	7	26.9	18.7
Very large	77	15.4	2	7.7	18.7
Waiting area					
None	60	13.2	8	13.5	16.7
Small standing area	184	40.7	12	35.3	33.4
Large standing area	142	31.4	11	32.4	21.5
Chairs and sofas	66	14.6	3	8.8	28.4

[a]Total precincts in 2016 Los Angeles County vary due to incomplete polling place coding forms

lighting, an important feature for early morning and late evening voters. Only 77% of the 2004 Los Angeles primary polling places were rated as having adequate outside lighting.

Table 6.5 Polling place barriers to voting

Trait	2016 National Sample		2016 L.A.[a]		2004 L.A.
	Count	%	Count	%	%
Voting instructions posted					
No	91	18.6	22	0	25[1]
Yes	398	81.4	0	100	75
Voting machine instructions posted					
No	111	22.9	19	82.6	–
Yes	373	77.1	4	17.4	
Check in instructions posted					
No	112	23.0	3	13.1	–
Yes	374	77.0	20	86.9	
All machines/scanners working					
No	25	5	0	0	3
Yes	469	95	25	100	97

[1]Barretto et al. (2009) report whether a "Voter Bill of Rights" was visibly posted
[a]Total precincts in 2016 Los Angeles County vary due to incomplete polling place coding forms

Table 6.6 Descriptive statistics: polling place scores

Variable	Obs.	Mean	Std.	Min	Max
Access	446	6.7	1.3	2	8
Quality	418	11.2	2.0	5	15
Barriers	469	0.73	1.11	0	4

A composite accessibility score is constructed from the summation of ratings for our five indices of polling place access. The composite measure ranges between 2 and 8, with a mean of 6.7 and a standard deviation of 13. The proportion of polling places scoring at the higher end of the accessibility score is skewed.

Quality of Polling Places

The quality of polling places in 2016 was on par with the accessibility of these voting locations. This is also true for four of six measures of polling place quality when we compare 2004 and 2016 polling locations in L.A. County. In 2016, interior lighting and restroom signage were

rated significantly lower than in 2004. Our findings about quality are reported in Table 6.4.

In excess of 90% of 2016 polling places were rated as well lit for reading (95%) and handicapped access (94%). Parking at three-fourths of our national sample of polling places was rated 'very easy' to find. Nearly half (42%) of the interior spaces of polling places in 2016 were rated as 'somewhat large' or 'very large.' Waiting areas in 46% of the sample of 2016 polling places had large standing areas and/or chairs and sofas for voters waiting to vote. A quarter of polling places in 2016 provided amenities to voters while they waited to vote, including water, coffee, cookies, and popcorn. Access to clearly marked restrooms was reported in only 54% of 2016 election day polling places, a lower proportion than reported in the 2004 Los Angeles primary election. The 2016 national sample of polling places exhibited higher scores on all other indices of polling place quality than reported for the 2004 Los Angeles primary.

A composite measure of polling place quality in 2016 has a range of 5–17, with an average polling place quality score of 12 and a standard deviation of 2.2. Missing data for several indices of polling place quality (e.g., restrooms and amenities) significantly reduce the proportion of polling places for which we can construct a composite measure of polling place quality ($N = 350$).[5] Unlike accessibility, our composite score for polling place quality is normally distributed with little evidence of any skewness toward either end of the measure.

Barriers to Voting

In excess of 75% of all polling places surveyed in 2016 had posted instructions for voting, checking into vote, and using voting machines or optical scanners; this figure is comparable to what was reported for Los Angeles polling locations in 2004. Only a scant 4% of 2016 polling

[5]When we reduce our composite quality score to five indices, dropping restrooms and amenities, we obtain scores for 433 observations which ranges from 5 to 15, with a mean of 11.2 and a standard deviation of 2. We used the indices score for quality in our multivariate analysis.

places were observed to have problems with either polling machines or optical scanners for paper ballots. Polling place barriers to voting in L.A. County were comparably rated in 2004 and 2016. Our findings about barriers to voting are reported in Table 6.5.

Overall, few if any significant barriers to voting were identified in our national sample of voting places. The composite barrier score ranges between zero and five with a mean 0.6 and a standard deviation of 1, indicating voters experienced few if any barriers to voting in our 2016 sample of voting locations.

Accessible, high quality facilities and a lack of barriers to voting characterize polling places in the 2016 presidential election. Is this finding consistent across and within jurisdictions? Barreto, Cohen-Marks, and Woods report that "data …. reveal variation in polling place quality across precincts (2009, 5)." Moreover, the authors go on to conclude that the "quality of polling places varies across the diverse neighborhoods of Los Angeles," where diversity is defined in terms of the racial/ethnic and socioeconomic composition of polling place voters.

The Source of Variation in Polling Place Attributes

Limited to only Los Angeles County, the Barreto et al. (2009) finding cannot reflect differences between jurisdictions. To test whether the variation in polling place attributes in our study is a function of within-county polling place attributes or related to differences among jurisdictions (i.e., counties), we regressed each composite score of polling place attributes on the racial and socioeconomic composition of the electorate in each voting precinct and a dummy variable for the polling place's jurisdiction (i.e., county).[6] If Barreto et al. (2009) are correct, variation in polling place attributes will be significantly related to the

[6]Our sample of election day polling places essentially consists of one jurisdiction per state (26 jurisdiction in 17 states). Consequently, the dummy measure for county could also be interpreted as a state effect. Information on the racial and socioeconomic composition of the electorate in each polling place location comes from *Catalist* (2016) and is limited to a subsample ($N=491$) of our full sample of polling places.

racial and socioeconomic makeup of the polling place, independent of jurisdictional effects.

Table 6.7 reports regression models for the composite scores of polling place accessibility, quality, and barriers to voting. The models were estimated with fixed effects for counties. The key variables of interest are the proportion of voters in each polling precinct by race and ethnicity (i.e., Black, Hispanic, and Other). The excluded category for race/ethnicity is White. The coefficients for Black, Hispanic, and Other shares of precinct voters represent the effect of a larger racial/ethnic share of the electorate on the polling place attribute relative to same White share of the precinct's electorate.

There is little support for the Barreto et al. (2009) finding that polling place attributes were related to the racial and/or socioeconomic composition of a polling places voters. Polling place accessibility is unrelated to any racial, ethnic, or socioeconomic measure. Similarly, polling place quality is unrelated to any racial, ethnic, or socioeconomic measure. Only the proportion of Hispanic persons is significantly and positively related to the barriers to voting at polling places relative to the same share of the electorate that is White. Polling places with a higher proportion of voters who are of Hispanic origin than White face more barriers to voting relative to polling places with the same share of White voters. This effect is statistically insignificant in the fixed effects model.

To assess the proportion of variance in polling place attributes explained by unspecified jurisdictional factors, we have estimated the regression models reported in Table 6.7 with and without fixed effects for jurisdiction. The difference in R-squares between the models with and without county fixed effects provides us with a relative measure of how much variance in polling place attributes is explained by unobserved jurisdictional factors. Over 90% of explained variation in accessibility, quality, and barriers to voting is attributable to jurisdictional level factors and not racial or socioeconomic conditions unique to within-county polling places.

Table 6.7 Regression coefficient for 2016 polling place attributes

	Access		Quality		Barriers	
	1	2	3	4	5	6
% Other race[a]	0.592	−0.0690	0.483	0.892	−0.0219	1.317
	(0.976)	(1.256)	(1.267)	(1.707)	(0.721)	(0.995)
% African-American	0.914***	0.337	−0.000471	−0.392	−0.0741	0.314
	(0.302)	(0.379)	(0.468)	(0.584)	(0.254)	(0.314)
% Hispanic	0.316	−0.365	−1.452	−1.052	−1.113**	−0.0483
	(0.612)	(0.882)	(1.008)	(1.413)	(0.499)	(0.744)
% Poverty	0.790	−0.533	0.659	0.0600	6.79e-05	0.535
	(0.557)	(0.763)	(0.883)	(1.321)	(0.448)	(0.617)
% Renter	−0.280	0.0946	−0.945*	−0.582	−0.0273	−0.0344
	(0.344)	(0.372)	(0.552)	(0.594)	(0.285)	(0.303)
% College graduates	1.573***	0.709	0.350	−0.0939	−0.546	0.199
	(0.447)	(0.510)	(0.698)	(0.834)	(0.365)	(0.417)
Constant	5.893***	6.627***	11.35***	10.52***	1.018***	−0.118
	(0.240)	(0.633)	(0.380)	(0.927)	(0.197)	(0.575)
Fixed effects	No	Yes	No	Yes	No	Yes
Observations	399	399	377	377	418	418
R-squared	0.042	0.162	0.019	0.113	0.018	0.150

Standard errors in parentheses
***$p<0.01$, **$p<0.05$, *$p<0.1$
[a]The omitted category for race/ethnicity is white

Discussion

The findings from our national sample of polling place practices show the quality and performance of election polling practices to be on balance strong. Our national sample indicated that polling places were accessible, well managed, and with few barriers to voters. Our descriptive findings match what others have reported for single jurisdiction studies (e.g., Barreto et al. 2009) in other elections. We found no evidence that accessibility to polling places, their quality and practices varied by race, ethnicity or the socioeconomic makeup of the persons who voted at our sample of polling places. Variation in the composition of voters according to polling location does not affect polling place quality or practices. We identified the variation in polling place quality and practices to reside at the level of the county and state. This is not unexpected. State governments are largely responsible for legislating how, when, and where elections are conducted. Counties and other sub-state jurisdictions are responsible for implementing these laws. Counties and their election officials have some statutory and administrative discretion in conducting elections as prescribed by state law. Identifying the source of variation in polling place practices might begin with a comparative analysis of state election laws and procedures and their implementation at the county level.

We have not examined the consequences of polling places quality and practices on voting. There are a host of dependent conditions that should be the subject of future research including waiting in line to vote, checking into vote, time to cast a ballot and voter turnout. Barreto et al. (2009) report that poor polling place access, quality, and operations depress polling place turnout. If this is true, is the effect of polling place attributes on turnout direct or mediated? For example, does the inadequacy of waiting room space at a polling place increase time to check in and vote, increasing the number of voters who leave the polling place without voting? Or does the effect of overall polling place quality deter voters from voting in the future? Answers to these questions are consequential for identifying remedies to poor voter participation.

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Robert Stein is a Professor at Rice University and an expert on urban politics and public policy. He is co-author of *Perpetuating the Pork Barrel: Policy Subsystems and American Democracy* (1995, Cambridge University Press), and author of *Urban Alternatives: Public and Private Markets in the Provision of Local Services* (1990, Pittsburgh Press). His work has also appeared in a wide range of scholarly journals. Dr. Stein's current research has been supported by the National Science Foundation and examines the impact of the federal-aid system on the electoral trajectories of office holders at both the subnational and congressional levels. Other research examines collective action among metropolitan area governments and voting behavior.

Christopher Mann is an Assistant Professor of Political Science at Skidmore College in Saratoga Springs, NY. His research has been published in the *Journal of Politics, Political Analysis, Political Behavior, Public Opinion Quarterly*, and other journals. His research focuses on several aspects of elections, campaigns, and voting. Mann conducts research on election administration, particularly the effects of changes to permit (and occasionally restrict) pre-election day voting alternatives. This research includes partnerships with public election agencies to conduct field experiments and analyses of observation data.

Charles Stewart III is the Kenan Sahin Distinguished Professor of Political Science at MIT. Since 2001, Professor Stewart has been a member of the Caltech/MIT Voting Technology Project, leading research efforts that applies scientific analysis to questions about election technology, election administration, and election reform. He is currently the MIT director of the project. Professor Stewart is an established leader in the analysis of the performance of election systems and the quantitative assessment of election performance. Working with the Pew Charitable Trusts, he helped with the development of Pew's Elections Performance Index. Professor Stewart also provided advice to the Presidential Commission on Election Administration. His research on measuring the performance of elections and polling place operations is funded by Pew, the Democracy Fund, and the Hewlett Foundation. He recently published *The Measure of American Elections* (2014, with Barry C. Burden, Cambridge University Press).