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TITLE Poll Workers and Polling Places

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Paper Prepared for the Conference Bush v Gore, 10 Years Later: Election Administration in the United States April 16-17, 2011 Laguna Beach, California In the year after the 2000 presidential election debacle in Florida, there was a sharp focus by many organizations, commissions, and interest groups to determine how to address the problems associated with ensuring that the events of November 2000 did not occur again (e.g., Carter and Ford 2001; VTP 2001). Not surprisingly, the discussion of these entities focused strongly around two important issues. First, there was a sharp focus on the issues related to voting technologies. Given that the difficulty, if not impossibility, of determining how to count certain ballots and the intent of the voter in marking such ballots, determining how to design a voting system that addressed this problem so that it would not occur again seemed paramount. Second, it was also clear, based on the events in Florida and in other states, that many voters had never been able to get to the point of being able to mark – or mismark! – a ballot because problems with the voter registration system had not allowed them to be authenticated as valid voters.

By focusing on addressing problems related to voting technology and voter registration, election reform in 2001 and 2002 attempted to address to technologies used in voting – the way people vote – and the processes that were used to address voting issues, such as allowing provisional voting when voter registration errors occurred. The Help America Vote Act (HAVA) focused most of its funding and reforms on modernizing voter registration systems by creating statewide voter registration systems and procedures for addressing problems with voter registration through provisional voting requirement and on modernizing voting systems by banning punch card voting in federal elections and requiring the adoption of new voting systems that were auditable and provided users with feedback regarding any errors they might have made in voting.

However, as several authors have noted, voting and other operations management are about the intersection between people, processes, and technology (e.g., Alvarez and Hall 2008). HAVA focused almost exclusively on the last two factors: processes and technology. However, there is strong evidence that has emerged over the past decade that the people component of elections – especially the poll workers who actually run the elections – are of critical importance to making elections functional events and one in which the public has confidence. After all, it is the poll worker who has to set up any voting technology used in the polling place and subsequently explain how to use that system to voters. These same poll workers also have to implement any voter registration system that is developed and implement the "failsafe" procedures such as provisional voting that are used if there are problems with a person's voter registration.

Unfortunately, for much of the past decade, there has been little research regarding poll workers in the United States (c.f., Hall, Monson, and Patterson 2007, 2008, 2009; Magleby, Monson, and Patterson 2008). Instead, the media continuously repeats of urban myths about poll workers – such as the average age of poll workers is 70-years-old, that most poll workers have been doing their job for dozens of years, of that most poll workers lack any technological savvy and find new voting equipment to be too hard to use. A quick search of the Internet or Lexis-Nexis produces numerous examples of how these myths have existed since the 2000 election and continues through today. Even more troubling, there have been only a few efforts to link poll worker characteristics and training to the effective implementation of voting technologies or election procedures.

Given the important role that poll workers play in elections, such a gap in our understanding of the voting process is quite troubling. In this paper, we summarize the literature on poll workers and our understanding of the critical role that they play in elections. We focus first on what we know about the demographic characteristics of poll workers – based on poll worker surveys – that have been implemented since 2000. Second, we consider what we know about the linkages between poll worker training and the subsequent quality of elections, such as problems at the polls with voting equipment or implementing election laws regarding voter identification or provisional voting. Third, we consider how poll workers are viewed from the perspective of the voter. Here, we focus on the quality of the poll worker-voter interaction and how that interaction affects the way in which poll workers are evaluated and how elections overall are evaluated. We close by considering what research questions are still in need of greater study.

Voting as a Process

As is shown in Figure 1, voting is an activity where a person (the voter) interacts with a technology (the ballot/voting system), by following a process that is set out in law. Except in the case of absentee voting, this process is mediated by a set of actors, the poll workers. In a jurisdiction of any size – and most voters are in relatively large electoral jurisdictions (more than 50,000 voters) – the poll workers are the face of the electoral process, outside staff-level supervision of individuals from the local election office (LEO). This delegation means that poll workers are the ones who are responsible setting up and implementing the voting system used in each polling location and the interpretation of the election law and procedures in that jurisdiction. For the voter, this means that their ability to exercise the franchise is mediated by

workers who represent the state but are not permanent or professional government employees.

[Figure 1 here]

This delegation of election activities from the LEO to the poll worker creates a principal-agent problem for the election officials (Alvarez and Hall 2004). The election officials have to delegate responsibility for polling place operations to the poll workers but the mechanisms for overcoming principal-agent problems – staff selection, monitoring, training, clear standard operating procedures – are attenuated by the single-day nature of elections. Poll workers in a problem precinct can be better trained for the next election but the voter may not get much solace from this if they were not able to vote in *this* election.

The consequences of the principal-agent problem have been highlighted in numerous newspaper articles.² To give just two examples, there are many documented cases of poll workers failing to complete the outer envelopes of provisional balloting envelopes correctly, which invalidates the provisional vote, disenfranchising the voter. There are also cases were voters in consolidated precincts (where two or more precincts are consolidated into a single polling location) have been given the wrong ballots and such actions have potentially affected the outcome of a local election. In both cases, the election officials are generally not in a

¹ Obviously, in early voting, which can last many weeks, election officials can address many principal agent problems because the fewer number of early voting sites means that local election officials can engage in better oversight with permanent LEO staff who are at early voting sites. In addition, jurisdictions like Washington, DC often rotate precinct captains – the lead poll worker in a precinct – through early voting sites before they work on election day to observe their performance.

² See Hall, Monson, and Patterson 2008, 2010 and http://electionupdates.caltech.edu for summaries of these problems.

position to fix the problems after the fact. As is discussed later, such problems can reduce voter confidence in the election process.

These individuals also interpret state election laws and determine how such laws will be implemented. In several reports and studies, Atkeson et al. (2007, 2009, 2010) have found that poll workers often implement voter identification laws incorrectly and with an effect that introduces bias into the system. Specifically, in a study of the implementation of voter identification laws in New Mexico, they found that poll workers of all races and all political persuasions asked Hispanics – especially Hispanic men – to show identification more than other subpopulations.³ Part of the reason this occurs is because poll workers in New Mexico have discretion over how to implement the state's voter identification law, which allows for multiple means of authenticating a voter's identity. Such discretion can lead to diversity in implementation of a given law.

In the largest study of the voting experience ever conducted, the Caltech/MIT Voting
Technology Project (VTP) found that a sizable population of voters are not asked for
identification consistent with state law (Alvarez et al. 2009). This is true both in states with
strict voter identification laws and those with minimal voter identification laws. In states with
strict voter identification laws, approximately 25% of voters in these states showed photo
identification only because it was convenient, not because they were asked. By contrast,
approximately one-quarter of all voters in states with liberal voter identification laws

³ Interestingly, Hispanic men who were asked for identification were also more confident that their ballots were counted correctly compared others.

responded that they would not have been allowed to vote had they not produced a photo ID.⁴
The VTP analysis also found that, as was the case in the study by Atkeson et al., that minority voters were asked to show photo identification more than were White voters.⁵

The motivations for studying poll workers, therefore, relate to questions of importance to political scientists interested in election outcomes, policy scholars interested in policy implementation, and public administrators who are interested in understanding questions of management and networks. These individuals are the direct interface between the voter and the process by which we select governmental leaders and make direct policy decisions through votes on referenda and constitutional amendments. Yet, after the 2000 election, it took almost eight years before we knew even basic information about who these individuals are and what factors affect their performance.

The American Poll Worker

When poll workers are discussed in the popular media, one phrase is often used, without any citation or substantiation: the average age of poll workers is 70-years-old. The most interesting aspect of this statement is that it is made authoritatively, even though there have been only a few poll worker surveys conducted since 2000 –none of them were national surveys of poll workers – and none of them suggest that poll workers are as old as the urban myth states.

⁴ This analysis controlled for the fact that first-time voters are required under HAVA to show identification the first time that they vote in most circumstances.

⁵ Specifically, 70% of African Americans, 65% of Hispanics, and 51% of Whites were asked to show photo identification.

As mentioned above, many research efforts have been undertaken after the implementation of HAVA to study all aspects of the poll worker experience. Due to the local variation inherent in election administration, studies are typically confined to smaller geographies: focused, regional efforts as opposed to cross-national studies where local level implementation details would be lost. Here, we will consider these results in the aggregate. Chronologically, the first survey focused on assessing a DRE voting technology implementation in Cuyahoga County, Ohio collected data from poll workers after a 2006 primary election (Monson et al. 2006). Later that year, surveys were conducted with workers from primary and general elections in several counties from Ohio and Utah (Patterson et al. 2008) and, general elections in New Mexico (Alvarez et al. 2007). A large study on the New Mexico 2008 election included a survey of poll workers from several counties (Atkeson et al. 2009). Also for the 2008 election, Ohio poll workers were surveyed (Mockabee et al. 2009). LA County workers were surveyed around their participation in online training (Alvarez et al. 2010) and after the 2010 general election (Alvarez et al. 2011).

Taken together, these surveys give shape to the attributes of the post-HAVA poll worker. We consider the various demographic factors of the American poll worker below and then consider the implications of these findings in the section on voter confidence.

Age

First we consider whether the average age of the American poll worker really is 70-years. In May 2006, Ohio poll workers were older than election technicians: mean age 69 versus 55 years (Monson et al. 2006, 31); here, the booth workers do fit the media-propagated stereotype of the senior citizen poll worker. However, in the 2006 Ohio general election, workers' median

ages were lower (from 55 to 67) when analyzed across three counties (Patterson et al. 2008, 21). In 2006 in New Mexico, the modal age category for workers was 55 -64 years with 33% of respondents; the next largest share of the distribution was 45 – 54 years with 24% of respondents (Alvarez et al. 2007, 47). In 2008, New Mexico and Ohio workers had an average age of 58 years (Atkeson et al. 2009, xii; Mockabee et al, 2008, 21). Poll workers trained in anticipation of the 2010 primary election in Los Angeles had a mean age of 52 years (Alvarez et al. 2010, 8) and those that served in the 2010 general election there had a lower mean age of 48 years (Alvarez et al. 2011). Although poll workers tend to have higher average or median ages than their communities' general populations, research indicates that they do not trend as old as they are typically represented in the media.

Gender

Poll workers are more likely to be female: this holds true for the post-HAVA poll worker across all the reports we analyzed (Monson et al. 2006; MacDonald & Glaser 2007; Patterson et al. 2008; Alvarez et al. 2007; MacDonald & Glaser 2007; Atkeson et al. 2009; Mockabee et al. 2009; Alvarez et al. 2010; Alvarez et al. 2011). The majority of Ohio 2006 primary workers were female, though the concentration is less pronounced for election technicians: 71% of poll workers and 55% of voting technicians are female (Monson et al. 2006, 31). In 2006 elections in Ohio and Utah, 67% - 79% of workers were female (Patterson et al. 2008, 20). In 2006, New Mexico poll workers were predominantly female: 65% of respondents (Alvarez et al. 2007, 47). In 2008, 69% of New Mexico workers were female (Atkeson et al. 2009, xii) and 64-71% of Ohio workers were female when considered by counties of analysis (Mockabee et al. 2009, 21). For

2010 LA County surveys, 60% of pre-election respondents were female (Alvarez et al. 2010, 9) and 65% of post-election respondents were female (Alvarez et al 2011).

Race

The majority of both types of workers in the 2006 Ohio primary survey were white: 67% for booth workers and 62% for technicians (Monson et al. 2006, 31). This pattern holds for the Utah and Ohio 2006 elections: 67-87% white in Ohio and 96-98% white in Utah. Cuyahoga County, Ohio had the most diversity with 31% of poll workers being African American (Patterson et al. 2008, 100). In 2006, New Mexico poll workers were mostly white (55%), yet 37% of workers were Hispanic (Alvarez et al. 2007, 48). The 2008 New Mexico survey had some of the lowest proportions of white poll workers: as low as 46% and as high as 67% when analyzed within counties; in one county Hispanic workers made up 46% of all respondents (Atkeson et al. 2009, 79). In the Ohio 2008 election survey, minorities make up even less of the poll worker sample in Butler and Delaware counties: 88% and 95% white, respectively (Mockabee et al. 2008, 21). In LA County in 2010, white poll workers are observed in lesser concentrations: 46% of primary election respondents (Alvarez et al. 2010, 9), 44% of general respondents (Alvarez et al. 2011). Although the majority of post-HAVA poll workers have been white, we expect that, given current demographic trends, in coming years the proportions will continue to shift to a more diverse workforce.

Training and Problems at the Polls

The primary mechanism that LEOs have to mitigate against problems at the polls is via poll worker training. However, as Hall, Monson, and Patterson (2008) note, very little of the

standard practice of training front line workers in either the public or private sectors can be applied to poll workers. For example, the "tell-show-do" method – where supervisors explain a process, demonstrate it and the trainees practice it – can be done in remote training but not in on-the-job training for poll workers; there just are not enough supervisors to engage in such training on election day. In addition, unless the LEO conducts debriefings after the election, they are unlikely to be able to develop a learning culture and then use that culture to improve the training.

Using a polled set of poll worker surveys, we examined the factors that affected the poll worker's confidence that the votes in the election were counted accurately, focusing specifically on factors related to training. The poll workers could select among four gradations of confidence ranging from 'Very confident' to 'Not at all confident'. Most workers were confident in final counts; 1,385 (46.1%) were very confident and another 1,262 (42.0%) were confident. Just over 10% of workers had less confidence in counts: 192 (6.3%) were not very confident and 167 (5.6%) selected the lowest category of not at all confident.

Many things could affect a workers perceptions of the integrity of the vote count: problems with polling place setup and closing, inability to operate voting machinery, not garnering enough information and guidance from training opportunities, difficulty authenticating voters, worker uncertainty in administering provisional voting procedures, etc. When asked about problems, we found the following:

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⁶ One way that LEOs can get around this problem is to train workers during early voting, which is sometimes used to evaluate or train precinct managers and limited numbers of Election Day poll workers.

- Over 70% of poll workers disagreed or strong disagreed with the statement that "there were problems setting up the polling place."
- Over 80% of workers disagreed or strongly disagreed with the statement that "there were problems closing down the polling place."

When these two problems at the polls variables is considered in association with the question of whether the poll worker is confident that the votes were counted accurately, we see that, if a poll worker is confident in the vote counts, than it is likely that the worker also disagreed that there were problems. In addition, we compared the relationship between the vote count confidence question and the question "the training was easy to understand." We found that over 85% of workers either strongly agreed or agreed that the training was easy to understanding. Looking at the association between this training variable and the vote count confidence variable, we see that higher levels of confidence occur with a belief that the training was understandable.

Poll Workers and Voter Confidence

Obviously, understanding the issues faced by poll workers in elections is important, especially from a public administration and a management perspective. However, what is also important is the way in which the voter-poll worker interaction affects voter confidence in the election process and their attitudes about elections in the United States. For the voter, their poll workers are the face of elections, the individuals who make the election work. In the 2000 election, little consideration had been given to this issue but recent research has found several important linkages that help to explain the factions that explain the importance between the

poll worker-voter interactions. These linkages have important implications for managing elections and ensuring that voters.

As was noted above, research on the poll worker-voter interaction has used several theories to explain why this interaction is important. Alvarez and Hall (2004) noted, the poll worker is in a very clear principal-agent relationship with the local election official. This interaction is the sole interaction a voter has with the election process and is one where the LEO is dependent on the poll worker to ensure that the voter has a high quality experience. Hall, Monson, and Patterson (2010) extended this by noting that the poll worker is also a street-level bureaucrat, who makes decisions about how to implement election law in a way that can often reflect their own biases, such as voter identification laws. Poll workers use their discretion in ways that can affect voter confidence in the electoral process both positively and negatively.

Claassen et al. (2008) also note that voting is a government service activity and that applying the service delivery literature to understanding the voting experience can explain ways in which voters respond to the voting experience like they do to any other service experience. Given that the poll workers are responsible for the set up of polling places and the operations of the location, they are critical for providing a quality experience to the voter who comes out to vote, especially on Election Day. In all three of these works, voting is an experiential activity – one in which the local election official can exert only limited influence because of delegation – and the quality of this interaction affects the confidence of the voter.

Claassen et al. (2008) used exit poll data to evaluate the quality of the services offered at polling places to determine how service delivery affected voter confidence in the electoral

system. They examined some factors that voters used to evaluate their poll workers. These factors included time waiting to vote, if voting seemed private, and if poll workers seemed well-trained. In turn, they found that voters who gave a high evaluation of the voter-poll worker interaction rated their voting experience much higher and expressed much higher confidence in the electoral system.

More recently, researchers have been able to examine two new facets of the voter-poll worker interaction. Hall and Stewart (2011) used data from the *2008 Survey of the*Performance of American Elections (SPAE), a 50-state survey with 10,000 respondents (400 in each state), that examined the voting experience in the 2008 presidential election. Unlike previous studies of voting experiences, this work is a 48-state evaluation of voter interactions with poll workers (Oregon and Washington State were excluded because neither state has significant in-person voting) and also evaluates early voting, something previous studies have not done. In addition, the SPAE asked voters a set of questions regarding the race and age of the poll workers in the polling place. This allowed the researchers to evaluate the affects of the race and age of poll workers on the evaluation of poll worker performance. Given that, as was shown previously, poll workers tend to not be highly representative of their communities — especially along the racial dimension, where they tend to be whiter than average — the question arises as to whether this lack or representativeness affects voter evaluations of their poll workers. As Hall and Stewart (2011) note,

⁷ The 2008 Survey of the Performance of American Elections was funded by The Pew Charitable Trusts/JEHT Foundation Make Voting Work Initiative. The views expressed in the work of Hall and Stewart are those of the authors and do not necessarily reflect the views of the Pew Center on the States or The Pew Charitable Trusts.

voters form judgments not simply on the characteristics of the poll worker considered in isolation, but also interactively. That is, voters form judgments based on *shared* characteristics of race and age. This effect is related to the notion of representative bureaucracy (Selden 1997), particularly the variant identified as passive representation (Mosher 1982). Voters are also likely to judge poll workers based on the totality of the voting experience, independent of the quality of the interaction between them and the poll workers they encounter.

The analysis by Hall and Stewart had several key findings, as shown in Figure 2. First, race is an important factor in how voters evaluate their poll workers. Specifically, voters who have a same-race experience are more likely to rate their poll worker as excellent compared to voters who have a cross-race experience. This was true, however, only in election-day voting but not in early voting. Part of the reason for the difference may be that, when voters vote on election day, the precinct is normally in their neighborhood. Given the segregation that is common in American housing, a different race poll worker is viewed as an "other" or "intruder" who does not belong. By contrast, in early voting, the voter is going to a government building or similar locale where they expect to encounter a government employee; there is no expectation these individuals will look like the voter. (Note that early voters are 3 percentage

⁸ Passive representation refers to the effect that shared demographic and social characteristics can have in assuring citizens that their interests are being served by public servants, simply because citizens believe public servants who are "like them" will treat them fairly. This is in contrast with *active* representation, in which the public is assured their interests are being served when socio-demographic characteristics are shared because they assume (or observe) public servants going out of their way to advocate actively on behalf of citizens *because of* these social characteristics. Because we have no way of observing details about the behavior of poll workers being reported in the survey we analyze, we assume any effects that arise from shared demographics will be due to the passive representational sort.

points more satisfied with their poll workers compared to Election Day voters). The congruence of voter-poll worker race increased satisfaction in the poll worker encounter by 10 percentage points over the baseline, an impressive improvement in voter satisfaction.

[Figure 2 here]

Second, and related to the first point, voters who know their poll worker rate poll worker them much higher than poll workers who are not known to the voter. Interestingly though, this is not very common. Only one in five Election Day voters and one in ten early voters stated that they knew their poll worker. However, when it does occur, there is a 16 percentage point increase in voter satisfaction with their poll worker over the baseline. This may be a function of voters not wanting to attribute bad outcomes to people they know, which is an understood phenomenon in the psychology literature (Hall and Stewart 2011).

Third, there were also age affects that were important in poll worker evaluations.

Voters do not tend to rate very old or very young poll workers highly. They instead rate poll workers of middle age – between 30 and 70 – highly. This was not affected by the age of the voter; neither very old nor very young voters rated their counterparts highly. Again, there was a mitigating factor with early voting, in that younger poll workers who worked early voting were not rated as low as they were in Election Day voting. However, very old poll workers were also rated low in early voting. In Figure 2, when a voter encounters a voter perceived to be under 50, they are 7 percentage points more satisfied with their poll worker experience and when they encounter an older poll worker they more than 15 percentage points less satisfied, compared to the baseline.

Finally, problems at the polls greatly affect the evaluation that voters give about their poll workers. Voters are very sensitive to problems that occur during voting and they hold their poll workers responsible for such problems. Problems at the polls have several affects on the voter. The voter does not like experiencing such problems and they (1) evaluate their poll workers much lower and (2) they are much less confident that their vote was counted accurately. If a voter is authenticated correctly, it increases satisfaction in their poll worker by 5 percentage points. If they encounter a problem — a voting machine not working, a problem with their registration, not being able to find their polling place, or feeling intimidated voting — they are 23 percentage points less likely to rate their poll worker highly. Finally, if they wait in a long line to vote (waiting over 30 minutes), they are 11 percentage points less likely to rate a poll worker as excellent.

Finally, we know that voter confidence is predicted by the quality of the voting experience, including their interaction with their poll worker. As Hall, Monson, and Patterson (2010) noted, the factors that best predict voter confidence on Election Day in Utah and Ohio in 2006 were partisanship (Republicans were more confident than were Democrats) and the quality of the voter-poll worker interactions. Voters who were very satisfied with their poll worker were also much more likely to think that their votes would be counted accurately and also to have stronger views on the fairness of the outcome of the election. As we see in Figure 3, moving to having an "excellent" evaluation of the poll worker leads a hypothetical respondent to have a sizable improvement in confidence – between a 10 and 36 percentage point improvement. This finding makes intuitive sense. If a voter has a good experience voting, and they know that the poll worker is the person who will be getting the ballots ready for

counting, they will be more confident that the votes will in fact be counted correctly. If there are problems with a poll worker doing simple tasks or they otherwise question the quality of the poll worker, they may question too whether the poll worker will make an error that affects confidence.

If we conduct a similar analysis using the data from the 2008 Survey of the Performance of American Elections, we see that poll workers are important to voter confidence. In Table 1, we present the results of a logistic regression, where the dependent variable is whether the voter is very confident that their vote is counted accurately. We include in the model demographic variables, political variables, and experiential variables regarding the voting experience. The easiest way to interpret these variables is by looking at the first differences, presented in Figure 4. Here, we see that having a bad experience with a poll worker can be extremely detrimental to voter confidence. Voters who have a low rating of their poll worker were 25 percentage points less likely to be very confident in the votes in the election being counted accurately compared to other voters. This holds true even controlling for other problems, such as encountering a problem in the precinct, waiting in line, having a different race poll worker, and the like.

[Table 1 here and Figure 4 here]

We can also do the same analysis but in a two-stage model, where we first predict the probability that someone would rate their poll worker's performance as high as a function of voter attributes, the poll worker's attributes, poll worker-voter comparisons, and voting experience variables, as was done in Hall and Stewart (2011). We can then compute a

⁹ These variables are all coded the same as in Hall and Stewart 2011.

second model, where we predict the probability that someone would have high confidence in vote counts as a function of voter attributes, if the voter voted on Election Day, and the predicted probability that the voter would rate a poll workers performance as excellent. In this analysis, we see that poll workers are again important to voter confidence, similar to what we found previously.

[Table 2 here]

Conclusions and Implications

The work on poll workers has only occurred in small increments in a small number of jurisdictions nationally. With the exception of the poll worker questions that were included on the 2008 Survey of the Performance of American Elections, there have been no national efforts to understand the role of poll workers in American elections. However, from these various studies, certain policy lessons can be drawn but certain research questions also remain. As Hall and Stewart (2011), note, the 2008 survey does suggest certain clear policy lessons can be learned from the asking voters about their experience with poll workers. First and foremost, voting is an interpersonal activity and election officials need to be sensitive to this fact as they select polling places and poll workers. Voters are sensitive, especially in the Election Day context, to the race of their poll workers and their ages. It also suggests that efforts to recruit teachers, principals, and other "middle manager" types into the voting process would be good; voters like people in that age group as poll workers.

Second, several of these studies suggest the importance of poll worker training. Given the sensitivity of voters to problems at the polls and the fact that training is closely linked to

poll worker confidence as well as to the incidence of problems opening and closing the polls, training remains an important part of the election process. There are some indications that certain types of training may work better than others – small group, hands-on training may be better than large group lecture – but there is a need to study if different types of training make for a better experience for either voters or poll workers.

Third, there is some indication in the 2008 survey results that the voting experience is different for early voting compared to Election Day voting. Early voting has grown dramatically over the past decade, but our understanding of the implications of this change, from a management and experiential perspective, has been limited. Given that voters view the interpersonal aspects of early voting different in some respects compared to Election Day voting, it would be helpful to study this component of the voting process more effectively and extensively.

Finally, Alvarez and Hall (2006) wrote that standard operating procedures are a critical component of the voting process. More recently, work on election audits also suggests that evaluating the processes that occur in election management – including activities that occur in polling places and the manuals and checklists that contain the election management protocols – should be a critical part of any post-election evaluation of the voting process. However, little work has been done on what kind of protocols, manuals, or checklists make the election go more smoothly for either the voter or the poll worker. Given that, 10 years after Florida, we still have a highly decentralized voting system with great variation in administration across counties within states, determining how to best manage elections, the types of materials that

ensure that election results are accurate, and ways to ensure that steps in the process are not missed, would all be valuable improvement to the research on elections.

Finally, it would be helpful if policy makers recognized that, when they change election laws, voting technologies, and voting procedures, they have to invest in the people side of the equation as well. Investing in training may not be sexy and considering the affect that the implementation of new voting laws and procedures have on poll workers may be secondary, but when policy makers implement change without considering the people part of the voting process, they are remiss.

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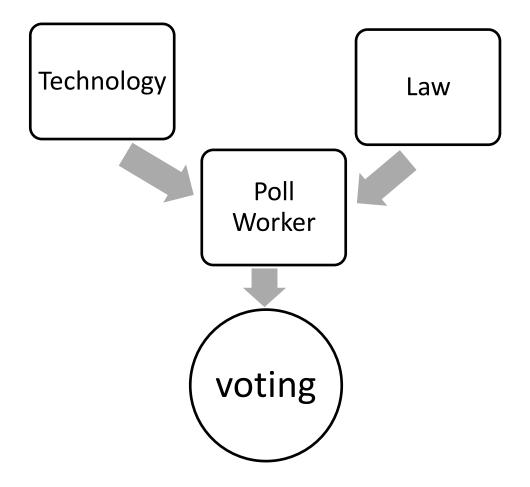
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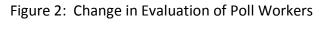
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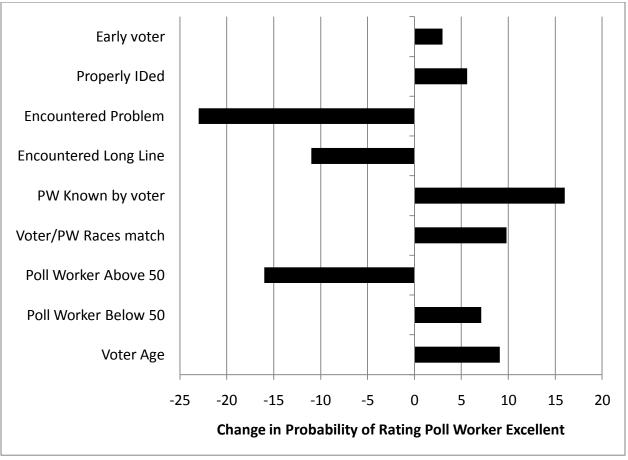
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Taken from data in Hall and Stewart (2011).



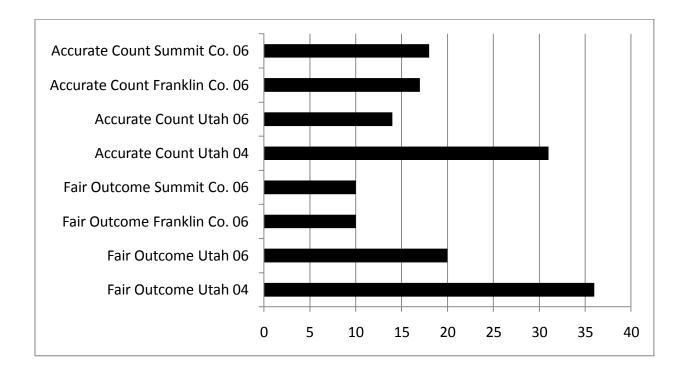


Figure 4 - First Differences, Voter Confidence

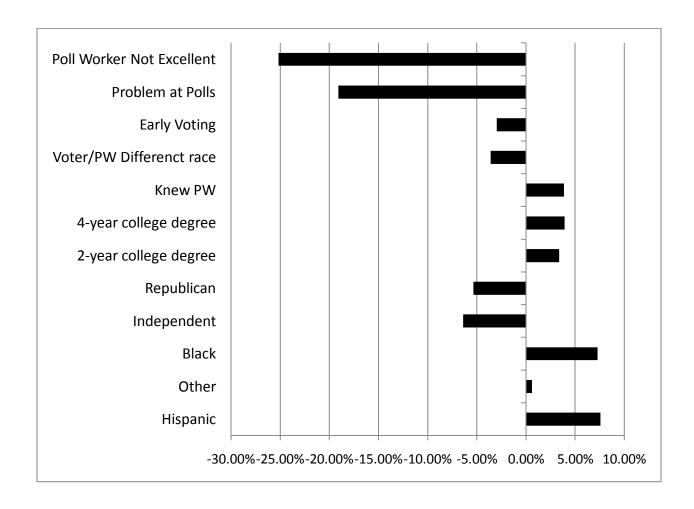


Table 1: Factors Affecting Voter Confidence in Vote Counts

		Estimate	Std.	р	
			Error	'	
Intercept		0.3776	0.1830	0.0390	*
Age		0.0093	0.0023	0.0000	*
Gender	Male	-	-	-	
	Female	-0.2072	0.0579	0.0003	*
Race	White	-0.4874	0.1206	0.0001	*
	Hispanic	0.0348	0.1942	0.8576	
	Other	-0.4556	0.1721	0.0081	*
	Black	-	-	-	
Party affiliation	Independent	-0.3251	0.0730	0.0000	*
	Republican	-0.2780	0.0704	0.0001	*
	Democract	-	-	-	
Education	No HS degree	-	-	-	
	HS degree	0.0170	0.0738	0.8179	
	Some college	0.1648	0.1087	0.1297	
	2-year college	0.2079	0.0792	0.0087	*
	degree				
	4-year college	0.2411	0.1044	0.0209	*
	degree				
Knew poll worker	Yes	0.2385	0.0822	0.0037	*
	No	-	-	-	
Poll worker's race same as voter's race	Same race	0.1909	0.0688	0.0055	*
	Differenct race	-	-	-	
Poll worker's age close to voter's age	Same age categroy	0.0236	0.0585	0.6869	
	Different age	-	-	-	
	category				
Voted on Election Day	ED polls	0.1592	0.0688	0.0206	*
	Early polls	-	-	-	
Voter type	Long-time	-0.0219	0.1291	0.8650	
	First-time	-	-	-	
Poll line wait	Over 30 minutes	-0.0435	0.0807	0.5898	
	30 minutes or less	-	-	-	
Problems encountered at the polls	Problems	-0.8559	0.1064	0.0000	*
	No problems	-	-	-	
Poll worker performance	Excellent	1.0664	0.0591	0.0000	*
	Not excellent	-	-	-	
Complete cases	7,406				
Incomplete cases	352				
AIC	7757.9				

Table 2: Poll Workers and Voter Confidence, Another Look

performance	Stage 1: Predicting satisfaction with PW		Estimate	Std Error	р	
Age						
No. No.			-0.4707	0.1874	0.0120	*
Hispanic 0.0508 0.1685 0.7633 0.7633 0.7633 0.7663 0.7634 0.7634			0.0161	0.0021	0.0000	*
Name	Female		0.1447	0.0530	0.0063	*
White		Hispanic	0.0508	0.1685	0.7633	
Hispanic	Race	Other	0.0707	0.1555	0.6493	
Hispanic		White	0.1137	0.1014	0.2620	
Other Missing/Unknown 0.1151 0.1191 0.3337 White 0.0511 0.0987 0.6044	Poll worker's race	Hispanic	-0.1181	0.1974		
Missing/Unknown 0.1151 0.1191 0.3337 White 0.0511 0.0987 0.6044		Other	0.1578	0.1763	0.3708	
Poll worker's age		Missing/Unknown	0.1151	0.1191	0.3337	
S1 to 70		White	0.0511	0.0987	0.6044	
S1 to 70	Poll worker's age	31 to 50	0.0867	0.1240	0.4843	
New poll worker 0.8912 0.0839 0.0000 *		51 to 70	-0.0312		0.7984	
New poll worker 0.8912 0.0839 0.0000 *		Over 70	-0.7436	0.1554	0.0000	*
Poll worker's race same as voter's race 0.3035 0.0857 0.0004 * Poll worker's age close to voter's age 0.0302 0.0554 0.5865 Not a first-time voter 0.1638 0.1149 0.1540 Waited over 30 minutes in line -0.5250 0.0718 0.0000 * Problems encountered at the polls -0.9425 0.1008 0.0000 * Problems encountered at the polls -0.9425 0.1008 0.0000 * Problems encountered at the polls -0.9425 0.1008 0.0000 * Problems encountered at the polls -0.9425 0.1008 0.0000 * Problems encountered at the polls -0.9425 0.1008 0.0000 * Problems encountered at the polls -0.9425 0.1008 0.0000 * Problems encountered at the polls -0.9425 0.1008 0.0000 * Problems encountered at the polls -0.9425 0.1088 0.00149 * Problems encountered at the polls -0.4590 0.1885 0.0149 * Problems encountered at the polls -0.4590 0.1885 0.0149 * Problems encountered at the polls -0.4590 0.1885 0.0149 * Problems -0.2462 0.0569 0.0000 * Problems -0.2462 0.0569 0.0000 * Problems -0.2462 0.0569 0.0000 * Problems -0.4929 0.1168 0.0000 * Problems -0.4929 0.1168 0.0000 * Problems -0.3267 0.0712 0.0000 * Problems -0.2766 0.0686 0.0001 * Problems -0.2766 0.0666 0.0635 Problems -0.2766 0.0666 0	Knew poll worker					*
Not a first-time voter 0.1638 0.1149 0.1540	·	as voter's race		0.0857		*
Not a first-time voter 0.1638 0.1149 0.1540						
Waited over 30 minutes in line -0.5250 0.0718 0.0000 * Problems encountered at the polls -0.9425 0.1008 0.0000 * Complete cases 7,675		-				
Problems encountered at the polls -0.9425 0.1008 0.0000 * Complete cases 7,675 7,782	Waited over 30 minutes	in line				*
Complete cases 7,675 Incomplete cases 83 Second stage: predicting strong confidence in vote counts Estimate Ferror Intercept -0.4590 0.1885 0.0149 * Age 0.0014 0.0024 0.5525 - Female -0.2462 0.0569 0.0000 * Race Other -0.0334 0.1880 0.8589 - Mite -0.5039 0.1671 0.0026 * White -0.4929 0.1168 0.0000 * Republican -0.3267 0.0712 0.0000 * Republican -0.2766 0.0686 0.0001 * Education HS degree 0.0232 0.0718 0.7466 Some college 0.1725 0.1061 0.1041 Education -0.2766 0.0686 0.0001 * Education -0.2766 0.0666 0.0001 * Year college degree						*
Second stage: predicting strong confidence in vote counts Std. Perror Ferror Std. Perror Std. Std. Std. Perror Std.						
Second stage: predicting strong confidence in vote counts	i Complete cases	1,073				
vote counts Error Intercept -0.4590 0.1885 0.0149 * Age 0.0014 0.0024 0.5525 - Female -0.2462 0.0569 0.0000 * Race Other -0.0334 0.1880 0.8589 Other -0.5039 0.1671 0.0026 * White -0.4929 0.1168 0.0000 * Party affiliation Independent -0.3267 0.0712 0.0000 * Republican -0.2766 0.0686 0.0001 * Republican -0.2766 0.0686 0.0001 * Education HS degree 0.0232 0.0718 0.7466 Some college 0.1725 0.1061 0.1041 2-year college degree 0.2597 0.1012 0.0102 * Tenure in residence In months 0.0004 0.0003 0.0967 Voted on Election Day 0.1236 0.0666 0.0635 P <	•		_			
Intercept	Incomplete cases	83	Estimate	Std.	n	
Age 0.0014 0.0024 0.5525 Female -0.2462 0.0569 0.0000 * Base Hispanic -0.0334 0.1880 0.8589 * Other -0.5039 0.1671 0.0026 * White -0.4929 0.1168 0.0000 * Republican -0.2766 0.0686 0.0001 * Republican -0.2766 0.0686 0.0001 * HS degree 0.0232 0.0718 0.7466 0.0001 * Some college 0.1725 0.1061 0.1041 0.1041 0.0102 * Tenure in residence In months 0.0004 0.0003 0.0967 Voted on Election Day 0.1236 0.0666 0.0635 Predicted probability on high poll worker performance 2.8964 0.2646 0.0000 * Complete cases 7,382	Incomplete cases Second stage: predicting	83	Estimate		р	
Female	Incomplete cases Second stage: predicting vote counts	83		Error		*
Race Hispanic -0.0334 0.1880 0.8589 Other -0.5039 0.1671 0.0026 * White -0.4929 0.1168 0.0000 * Party affiliation Independent -0.3267 0.0712 0.0000 * Republican -0.2766 0.0686 0.0001 * Republican -0.2766 0.0686 0.0001 * Some college 0.0232 0.0718 0.7466 0.1041 2-year college degree 0.2002 0.0766 0.0090 * Tenure in residence In months 0.0004 0.0003 0.0967 Voted on Election Day 0.1236 0.0666 0.0635 Predicted probability on high poll worker 2.8964 0.2646 0.0000 * Complete cases 7,382	Incomplete cases Second stage: predicting vote counts Intercept	83	-0.4590	Error 0.1885	0.0149	*
Race Other -0.5039 0.1671 0.0026 * White -0.4929 0.1168 0.0000 * Party affiliation Independent -0.3267 0.0712 0.0000 * Republican -0.2766 0.0686 0.0001 * HS degree 0.0232 0.0718 0.7466 Some college 0.1725 0.1061 0.1041 0.1041 0.1041 0.0002 0.0766 0.0090 * 0.0002 0.0766 0.0090 * 0.0002 0.0102 0.0002 * 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 * 0.0002 * 0.0002 * 0.0002 * 0.0002 * 0.0002 * * 0.0002 * 0.0002 * 0.0002 * * 0.0002 * * 0.0002 * * 0.0002 * * 0.0002 * * 0.0002 * * 0.00002 * <t< td=""><td>Incomplete cases Second stage: predicting vote counts Intercept Age</td><td>83</td><td>-0.4590 0.0014</td><td>Error 0.1885 0.0024</td><td>0.0149 0.5525</td><td></td></t<>	Incomplete cases Second stage: predicting vote counts Intercept Age	83	-0.4590 0.0014	Error 0.1885 0.0024	0.0149 0.5525	
White -0.4929 0.1168 0.0000 * Party affiliation Independent -0.3267 0.0712 0.0000 * Republican -0.2766 0.0686 0.0001 * HS degree 0.0232 0.0718 0.7466 0.07466 0.0041 Some college 0.1725 0.1061 0.1041 0.1041 0.0002 0.0766 0.0090 * 2-year college degree 0.2597 0.1012 0.0102 * Tenure in residence In months 0.0004 0.0003 0.0967 Voted on Election Day 0.1236 0.0666 0.0635 Predicted probability on high poll worker performance 2.8964 0.2646 0.0000 * Complete cases 7,382	Incomplete cases Second stage: predicting vote counts Intercept Age	strong confidence in	-0.4590 0.0014 -0.2462	0.1885 0.0024 0.0569	0.0149 0.5525 0.0000	
Party affiliation	Incomplete cases Second stage: predicting vote counts Intercept Age Female	strong confidence in Hispanic	-0.4590 0.0014 -0.2462 -0.0334	0.1885 0.0024 0.0569 0.1880	0.0149 0.5525 0.0000 0.8589	*
Republican -0.2766 0.0686 0.0001 *	Incomplete cases Second stage: predicting vote counts Intercept Age Female	83 strong confidence in Hispanic Other	-0.4590 0.0014 -0.2462 -0.0334 -0.5039	0.1885 0.0024 0.0569 0.1880 0.1671	0.0149 0.5525 0.0000 0.8589 0.0026	*
Education HS degree 0.0232 0.0718 0.7466 Some college 0.1725 0.1061 0.1041 2-year college degree 0.2002 0.0766 0.0090 * 4-year college degree 0.2597 0.1012 0.0102 * Tenure in residence In months 0.0004 0.0003 0.0967 Voted on Election Day 0.1236 0.0666 0.0635 Predicted probability on high poll worker performance 2.8964 0.2646 0.0000 * Complete cases 7,382	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race	Hispanic Other White	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929	0.1885 0.0024 0.0569 0.1880 0.1671 0.1168	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000	* *
Some college 0.1725 0.1061 0.1041 2-year college degree 0.2002 0.0766 0.0090 * 4-year college degree 0.2597 0.1012 0.0102 * Tenure in residence In months 0.0004 0.0003 0.0967 Voted on Election Day 0.1236 0.0666 0.0635 Predicted probability on high poll worker performance 2.8964 0.2646 0.0000 * Complete cases 7,382	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race	Hispanic Other White Independent	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929 -0.3267	0.1885 0.0024 0.0569 0.1880 0.1671 0.1168 0.0712	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000	* * * *
2-year college degree 0.2002 0.0766 0.0090 *	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race	Hispanic Other White Independent Republican	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929 -0.3267 -0.2766	0.1885 0.0024 0.0569 0.1880 0.1671 0.1168 0.0712 0.0686	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000 0.0000	* * * *
4-year college degree 0.2597 0.1012 0.0102 * Tenure in residence In months 0.0004 0.0003 0.0967 Voted on Election Day 0.1236 0.0666 0.0635 Predicted probability on high poll worker performance 2.8964 0.2646 0.0000 * Complete cases 7,382 7,382	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race Party affiliation	Hispanic Other White Independent Republican HS degree	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929 -0.3267 -0.2766 0.0232	0.1885 0.0024 0.0569 0.1880 0.1671 0.1168 0.0712 0.0686 0.0718	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000 0.0000 0.0001	* * * *
Tenure in residence In months 0.0004 0.0003 0.0967 Voted on Election Day 0.1236 0.0666 0.0635 Predicted probability on high poll worker performance 2.8964 0.2646 0.0000 * Complete cases 7,382	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race Party affiliation	Hispanic Other White Independent Republican HS degree Some college	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929 -0.3267 -0.2766 0.0232 0.1725	0.1885 0.0024 0.0569 0.1880 0.1671 0.1168 0.0712 0.0686 0.0718 0.1061	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000 0.0000 0.7466 0.1041	* * * * *
Voted on Election Day0.12360.06660.0635Predicted probability on high poll worker performance2.89640.26460.0000*Complete cases7,382	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race Party affiliation	Hispanic Other White Independent Republican HS degree Some college 2-year college degree	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929 -0.3267 -0.2766 0.0232 0.1725 0.2002	0.1885 0.0024 0.0569 0.1880 0.1671 0.1168 0.0712 0.0686 0.0718 0.1061 0.0766	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000 0.0001 0.7466 0.1041 0.0090	* * * * *
Predicted probability on high poll worker performance 2.8964 0.2646 0.0000 * Complete cases 7,382	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race Party affiliation Education	Hispanic Other White Independent Republican HS degree Some college 2-year college degree 4-year college degree	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929 -0.3267 -0.2766 0.0232 0.1725 0.2002 0.2597	0.1885 0.0024 0.0569 0.1880 0.1671 0.1168 0.0712 0.0686 0.0718 0.1061 0.0766 0.1012	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000 0.0001 0.7466 0.1041 0.0090 0.0102	* * * * *
performance Complete cases 7,382	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race Party affiliation Education Tenure in residence	Hispanic Other White Independent Republican HS degree Some college 2-year college degree 4-year college degree	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929 -0.3267 -0.2766 0.0232 0.1725 0.2002 0.2597 0.0004	0.1885 0.0024 0.0569 0.1880 0.1671 0.1168 0.0712 0.0686 0.0718 0.1061 0.0766 0.1012	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000 0.0001 0.7466 0.1041 0.0090 0.0102	* * * * *
Complete cases 7,382	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race Party affiliation Education Tenure in residence Voted on Election Day	Hispanic Other White Independent Republican HS degree Some college 2-year college degree 4-year college degree In months	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929 -0.3267 -0.2766 0.0232 0.1725 0.2002 0.2597 0.0004 0.1236	Error 0.1885 0.0024 0.0569 0.1880 0.1671 0.1168 0.0712 0.0686 0.0718 0.1061 0.0766 0.1012 0.0003 0.0666	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000 0.0001 0.7466 0.1041 0.0090 0.0102 0.0967 0.0635	* * * * * *
·	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race Party affiliation Education Tenure in residence Voted on Election Day Predicted probability on	Hispanic Other White Independent Republican HS degree Some college 2-year college degree 4-year college degree In months	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929 -0.3267 -0.2766 0.0232 0.1725 0.2002 0.2597 0.0004 0.1236	Error 0.1885 0.0024 0.0569 0.1880 0.1671 0.1168 0.0712 0.0686 0.0718 0.1061 0.0766 0.1012 0.0003 0.0666	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000 0.0001 0.7466 0.1041 0.0090 0.0102 0.0967 0.0635	* * * * * *
111complete cases 3/0	Incomplete cases Second stage: predicting vote counts Intercept Age Female Race Party affiliation Education Tenure in residence Voted on Election Day Predicted probability on performance	Hispanic Other White Independent Republican HS degree Some college 2-year college degree 4-year college degree In months	-0.4590 0.0014 -0.2462 -0.0334 -0.5039 -0.4929 -0.3267 -0.2766 0.0232 0.1725 0.2002 0.2597 0.0004 0.1236	Error 0.1885 0.0024 0.0569 0.1880 0.1671 0.1168 0.0712 0.0686 0.0718 0.1061 0.0766 0.1012 0.0003 0.0666	0.0149 0.5525 0.0000 0.8589 0.0026 0.0000 0.0001 0.7466 0.1041 0.0090 0.0102 0.0967 0.0635	* * * * * *