WHICH VOTING SYSTEM DO VOTERS PREFER?

SURVEY REPORT

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ABSTRACT

Public opinion polls reflected Trump and Clinton to be extraordinarily unpopular among Americans, and with the current plurality voting system, voters had virtually no hope of a third party candidate winning the 2016 presidential election. Do the current electoral structural processes impede preferred candidates from winning and does the two-party power structure simply protect the status quo? Some voting experts claim that alternative voting systems more honestly reflect the will of the people, but policy reform requires constituent support. This report describes five sequential studies which together explore the question: would Americans be open to an alternative voting system for presidential elections? Although a majority of the study participants supported the idea of revamping the current voting system, there was a lack of strong support for the specific alternative voting systems tested in these five studies.

1. Introduction

For most Americans, voting is the only means through which they exercise civic power. For a genuine and principled democracy, that may be sufficient, but authorities from several disciplines, including the fields of political science and mathematics, commonly express concern that the prevalent voting system used in most U.S. elections does not facilitate a fair level of representation. For example, The United States' electoral practices received a moderately low score by the international Electoral Integrity Project compared to other democratic countries (in 2012, the U.S. received a score of 70, Norway received the highest score of 87 and Romania received the lowest score of 58), which is partially due to concerns on the fairness of U.S. electoral laws in regard to smaller parties being left out and current prevailing governing parties being favored (Electoral Integrity Project), two symptoms precipitated and held in place by the plurality voting system (Norris, 2015).

Used in most U.S. elections, the plurality voting system has been compared to an economic duopoly, where only two entities, the Democratic or the Republican party have a realistic chance of winning (Nichols and McChesney, 2013), classifying the U.S. government as a two-party system. *Duverger's law*, conceived in the 1950's, is a political science theory that suggests plurality voting fosters the two-party system (Duverger, 1959), and because of this systemic exclusion of third party participation, the two-party system's stronghold is maintained (Hasen, 1997). This is in part because with the plurality voting system, voting for a candidate from a party outside of the Democratic or Republican party results in one less vote counted towards one's least favored candidate of these two dominant parties, resulting in what is generally

considered a wasted vote (Hasen, 1997). Moreover, the two major parties consistently use their political muscle to bury efforts to broaden the voter choice (Beck and Squire, 1995). Simply put, plurality voting goes hand-in-hand with the two-party system.

The most widely used voting system in the U.S. tends to force its voters to choose between the two dominant parties, therefore it is relevant to ask the question: how content are citizens with the plurality voting system? According to Pew Research Center (2015; non-voters included), only 23.7% of Americans identify as Republican and 30.4% as Democrat, while 40.1% of Americans identify as independent/unaffiliated, yet Republicans and Democrats garnered 94% of the votes for the 2016 presidential general election (Leip, 2016). Taking into account the challenges inherent in broadening voter choice within the plurality voting framework, along with the aforementioned evidence that a relative majority of Americans choose not to register as Republican or Democrat, it is not a stretch to assume the limitations of the plurality voting system may invite receptivity to alternative voting systems among U.S. voters.

With public opinion of candidates at an all-time low, the presidential election of 2016 seemed an ideal time to test leading alternative voting systems promoted as enhancing voter choice. There are many alternative voting systems that have been developed over human history (Poundstone, 2008), but we chose to focus on three voting systems that are commonly championed by electoral reform experts as possible alternatives for U.S. single-seat elections.

TABLE 1.
Four voting systems

Voting System	Ballot	Winner	Example of Use
Plurality	Pick one candidate	Candidate with most votes	U.S. presidential elections
Approval	Pick as many as you want	Candidate with most votes	U.N. secretary general elections

Score (or range)	Score each candidate on a scale (1-5, 0-9, etc.)	Candidate with highest average score	German Pirate Party elections, some Olympic sports
Instant-runoff (or ranked-choice, preferential)	Rate each candidate in order of preference (1^{st}, 2^{nd}, etc.)	Candidate with a majority of first place votes wins. If no candidate acquires a majority, the candidate with the fewest number of first-preference rankings is eliminated and these votes redistributed, the process being repeated until one candidate achieves the required majority	Local elections in several U.S. cities (e.g., San Francisco, Minneapolis), Oscar Best Picture

The baseline for testing support for alternative voting systems is the commonly used *plurality voting* system where each voter is allowed a vote for only one candidate, and the candidate with more votes than any other candidate wins the election. The first of the three alternative voting systems compared in this study was *approval voting*, which allows the voter to select as many candidates as s/he chooses, and as with plurality voting, the candidate who secures the most approval votes, wins. A second alternative we tested was *score voting* (also known as *range voting*), where the voter rates each candidate on a scale (e.g., 1-5, 0-9), and the candidate with the highest average score is the winner. Lastly, we tested *instant-runoff voting* (also known as *ranked-choice voting* or *preferential voting*), which is the only one of these voting styles that theoretically requires the candidate to obtain an absolute majority of the total votes to win, although an absolute majority is often not reached (Burnett and Kogan, 2015). With instant-runoff voting (IRV), if no candidate earns an absolute majority of first-place votes at first count, the candidate with the fewest number of first-place rankings is eliminated and the ballots in which that candidate was ranked first are then redistributed to those ballots' second-ranked candidates, the process being repeated until, theoretically, one candidate achieves the required majority of votes.

One does not have to dig deep to discover that voting method best practices are fairly contested among voting authorities. There is an amalgamation of objective and sometimes fervently biased

reporting, revealing a kind of ideological battle over which single alternative is better. Commonly found are two dominant viewpoints: one that champions instant-runoff voting and the other endorsing evaluative voting (which includes both score voting and approval voting). There is an assortment of commonly observed benefits and drawbacks to each of these voting systems (Poundstone, 2008), which, although highly relevant, are beyond the scope of this paper. This article focuses on the question of what is the public's receptivity to alternative voting systems in the selection process for presidential candidates, analyzing five empirically conducted comparison tests of the aforementioned voting methods dispersed periodically across one year of the 2016 presidential election season.

2. Literature review

Implementing political reform is typically an arduous undertaking, and without voter support, has a minimal chance for survival, therefore it is vital to test public receptivity. Existing literature is a bit sparse due to a lack of alternative voting system exploration. Instant-runoff voting has received the most political traction in the U.S. and Western Europe has tested public opinion on score and approval voting.

Exit polls have shown evidence of majority support for alternative voting systems when compared to the two-stage plurality voting system (a type of plurality voting system in which there is a runoff vote between the top two candidates if no candidate reaches a majority in the initial count). In 2004, San Francisco initially tested out instant-runoff voting for their Board of Supervisors election in seven of the eleven city districts, each ballot asking the voter to rank

anywhere from 4 to 22 candidates depending in which district they resided (2004 elections summary), and limiting voters to the ranking of three candidates. San Francisco State University (SFSU) conducted an exit poll for this 2004 election (N = 2847, response rate 22%-53%), showing a 61% voter preference for the instant-runoff voting system over the two-stage plurality system they had previously used, a 13% preference for the previous two-stage plurality system, and the remaining exit poll respondents unsure or had no preference. This exit poll revealed "levels of understanding were lowest among voters with little education and low income" (Neely, Blash, and Cook, 2005). The following year (2005, N = 1923, response rate 25% to 69%), SFSU conducted another exit poll, but at that time all eleven districts used IRV to elect the San Francisco city Assessor-Recorder (four candidates), Treasurer (four candidates), and City Attorney (one candidate), seven districts using IRV for a second time and four using IRV for the first time (2005 elections summary), with 51% reporting a preference for IRV, 17% reported a preference for the previous two-stage plurality system, and the remaining expressed no preference (Neely, Blash, and Cook, 2006), exhibiting a curious drop in IRV favorability. This time revealing "younger voters, those whose first language was English, and those with more education and income were more likely to voice a preference for [IRV]." Additionally, exit polls in France (Baujard and Igersheim, 2012) showed voter preference for score and approval voting over their current two-stage plurality system, with 27.5% favoring approval and score voting being used concurrently, 29.5% favoring approval voting only, and 32.8% favoring score voting only.

Conversely, there has been evidence of voter preference for plurality voting over an alternative voting system. In Australia, where instant-runoff voting has been the federal election voting

system since 1919 and where voting has been mandatory since 1925 (they are required to rank all candidates), a telephone survey (Barry, 2010) found that 57% of the voters polled would prefer to replace their current IRV system with plurality voting when asked about voting for Federal House of Representatives. In addition, the San Francisco Chamber of Commerce hired a polling firm (2011) who used random digit dialing of landlines and cell phones pulled from a voter registration list (Meyers, 2017) to conduct a poll of 500 city voters, and found at the time of the survey that 52% preferred the previous two-stage plurality system and 42% preferred instant-runoff voting. The following year, 500 more voters were polled, with 58% preferring plurality runoff elections to instant-runoff voting and 31% preferring instant-runoff voting to plurality runoff elections (2012). At the time of these two polls, San Francisco voters were using instant-runoff voting to "elect the Mayor, Sheriff, District Attorney, City Attorney, Treasurer, Assessor-Recorder, Public Defender, and Members of the Board of Supervisors" (pulled from the 2011 and 2012 Department of Elections voting pamphlet archive).

Polls show that support for electoral reform tends to wax and wane depending on which party is helped or hindered (Swift, 2016). For example, although the Republican Party endorses the use of the Electoral College, public opinion polls from Gallup (Swift, 2016) found that Republicans support for the popular vote determining the president went from 54% in 2012 to 19% in 2016 after Trump won the electoral college vote. For Democrats, support for the popular vote deciding the president went from 69% in 2012 to 81% after the 2016 presidential election. Additionally, liberal-leaning Canadians lost steam for electoral reform after their preferred presidential candidate won (Wherry, 2016).

Although there is no unanimous agreement among voters on which voting system is ideal, consensus can be found within the community of voting system experts, where evidence implies agreement that plurality voting is the worst system to employ if there are more than two candidates (Laslier, 2012). When twenty-two voting theorists gathered in France to vote on eighteen voting systems (using approval voting rules to vote, where each voter may choose or "approve" of as many voting systems as they so choose), answering the question, "What is the best voting rule for your town to use to elect the mayor?" not one voting systems theorist approved plurality voting, with 68.18% of them approving approval voting, 45.45% approving instant-runoff voting, and 9.09% of them approving score voting (Laslier, 2012).

3. Method and Results

In response to the aforementioned research question, PolicyInteractive sponsored, conducted, and funded five U.S. nationwide online surveys of adults, eighteen years or older, comparing the following four voting systems: plurality voting, approval voting, score voting, and instant-runoff voting (IRV), conducted July 2015, January 2016, March 2016, August 2016 and November 2016 (Table 2).

TABLE 2.
Study characteristics

	Date	*N*	Rep (*n*)	Dem (*n*)	Third party; Unaffiliated (*n*)	Differences
Study 1	Jul-15	204	63	97	44	Testing mock ballots; asked how well voting systems understood
Study 2	Jan-16	615	179	298	138	Changed wording based on feedback from voting experts, changed to "like/dislike" instead of level of understanding

Study 3	Mar-16	446	119	205	122	Conducted split sample to test how the order of exposure to IRV voting effected voter like/dislike of IRV voting
Study 4	Aug-16	646	135	297	198	Split sample: participants were split into 3 groups, each comparing only one alternative voting style to plurality
Study 5	Nov-16	642	149	296	197	Compared voting system preference pre and post-election with same sample

For all five study surveys, Mechanical Turk (MTurk) was employed, a U.S.-based opt-in online survey panel (population of approximately 400,000 U.S. residents with valid U.S. social security numbers), with an invitation to participate, stipulating "registered U.S. voters only." The surveys were accessed from each participant's individual location on their personal Internet devices and set to prevent each internet device from completing a survey more than once. Respondents were compensated a token of $.25 -$.60 per completed survey, which is a common rate for Mechanical Turk participants.

The number of study surveys was not preordained at the outset of the project, rather they were issued based on questions raised by each successive study, and as a way to test the stability of the general findings across the stretch of more than a year of public exposure to candidate choices. Benefits of surveying with MTurk include the low cost and rapidity of online surveying while yielding good-quality data (Buhrmester, Kwang, and Gosling, 2011). An added advantage of online voting systems testing is that the administration of visually delivered questionnaires more closely mimics real-life voting ballots, compared to the auditory format of telephone interviewing.

A weakness of the MTurk panel is that it typically delivers a higher proportion of younger, more

formally educated, less racially diverse (more white), and of a more liberal political persuasion than the national voter population (Levay, Freese, and Druckman, 2016), therefore no statistical inference can be made as to this survey representing the general population (demographics for each of the four studies reported in Appendix A). One could see this age and education skew offering advantages and disadvantages for our purpose of testing general voter willingness for alternative voting systems. On one hand, accessing a sample that is younger, more formally educated, liberal, and technologically savvy than the general voter demographic could mean tapping into an audience predictably more receptive to political reform (Pew, 2014). On the other hand, because the younger demographic sector is considerably less likely to vote than older age sectors (U.S. Census, 2012), the results should not be taken as indicative of population-wide voter representativeness or statistically representative support for alternative voting systems. Because the population samples used for these results are based on those who self-selected for participation rather than random selection methods, no margin of error can be legitimately calculated. All reported results within this paper are from unweighted data.

4. Study 1

For Study 1 (July 2015), each participant completed an online survey where they filled out four mock voting ballots (mimicking the appearance of conventional ballots) in the following styles: plurality voting, approval voting, score voting, and instant-runoff voting. These ballots drew from the candidates in the actual election at the time of the 2016 presidential closed primary election, routing each person to the candidates associated with her or his registered political party. Based on the most popular candidates running in the primaries at the time, Republican

mock ballot candidate choices included Ted Cruz, Scott Walker, Rick Santorum, Donald Trump, Rand Paul, Chris Christie, Rick Perry, Marco Rubio, Jeb Bush, and Mike Huckabee; Democratic mock ballot candidate choices included Jim Webb, Hilary Clinton, Lincoln Chafee, Bernie Sanders, and Elizabeth Warren; and third party candidates included Derrick Reid, Ed Baker, Cynthia McKinney, Jill Stein, Ryan Shepard, and Darryl Perry (all mock ballot candidate lists were automatically randomized).

After completing a mock ballot for each of the alternative voting systems, participants answered the question "Would you favor using this voting system for future presidential primary elections instead of the way we vote now?" choosing from the answer scale: Definitely NO, Lean Toward NO, Unsure, Lean Toward YES, or Definitely YES. Approval voting was the most favored among the alternatives, although none of the alternatives obtained above 47% favorability (favorability quantified by combining "lean toward yes" and "definitely yes"), with 47% favoring approval voting over plurality voting, 28% favoring score voting over plurality voting, and 35% favoring IRV over plurality voting. Twenty percent of participants indicated they were unsure if they would prefer an alternative voting system. After participants had experienced all four of the mock voting system ballots, they were asked "Now that you have tried these four methods of voting, which style do you now favor?" with the option to rank plurality, approval, score, IRV, and "undecided" into a first, second, third, fourth, and fifth place order of preference (with first implying most favored and fifth implying least favored). Overall, plurality voting was favored over the three alternative voting systems (Table 3), indicating a lack of strong support to adopt an alternative voting system.

TABLE 3.
After all mock ballots had been tried

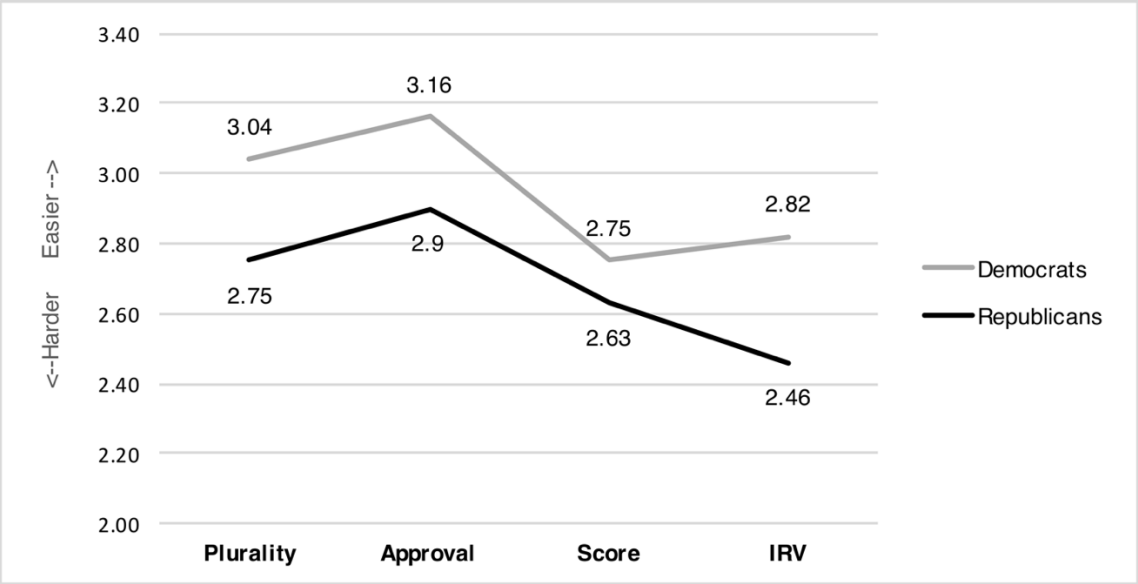
Voting Style Preference	Overall Rank	*M* (*SE*)	95% CI
Plurality	1	2.10 (.103)	[1.90 to 2.30]
Approval	2	2.44 (.086)	[2.27 to 2.61]
IRV	3	3.12 (.105)	[2.91 to 3.33]
Score	4	3.34 (.091)	[3.16 to 3.52]
Undecided	5	3.99 (.128)	[3.74 to 4.24]

Note. Study 1, $N = 145$ (59 people skipped due to programmer error). Participants rated their voting systems preference from 1st to 5th place after they had experienced all voting systems. system with the highest total score wins. The mean represents the average of ranking received.

Republicans may have had a more difficult time than Democrats making their decisions on whom to vote for, considering they had to choose among ten candidates. After each voting system was utilized, participants were asked "How easy was it to make your decision on who to vote for?" choosing from the answer scale: very difficult, moderately difficult, somewhat easy, or very easy. Figure 1 and Table 4 illustrate the averages of how Republican and Democrat participants answered this question with "very difficult" being worth one point and "very easy" being worth four points with the mathematical average translating to a higher score representing higher ease. Based on Republicans reporting less ease than Democrats for all four voting systems, Figure 1 presents evidence that choosing from a large number of candidates makes voting a more challenging task, regardless of which voting system is employed. Looking at the average ease of voting in broad strokes, without considering standard error, approval voting was rated the easiest voting system by both Republicans and Democrats, IRV was rated the least easy for Republicans, and score voting was rated the least easy for Democrats.

FIGURE 1.

Ease of voting system



Note. Study 1; Republican $n = 63$, Democrat $n = 97$. Participants were asked, "How easy was it to make your decision on who to vote for?" Line graph represents average of responses: (1) Very difficult, (2) Moderately difficult, (3) Somewhat easy, or (4) Very easy.

TABLE 4.

How easy was each voting system?

	Democrats		Republicans	
Preference	***M* (*SE*)**	**95% CI**	***M* (*SE*)**	**95% CI**
Plurality	3.04 (.090)	[2.86 to 3.22]	2.75 (.136)	[2.47 to 3.02]
Approval	3.16 (.084)	[3.00 to 3.33]	2.90 (.119)	[2.67 to 3.14]
Score	2.75 (.076)	[2.60 to 2.90]	2.63 (.107)	[2.42 to 2.85]
IRV	2.82 (.083)	[2.66 to 2.99]	2.46 (.117)	[2.23. to 2.69]

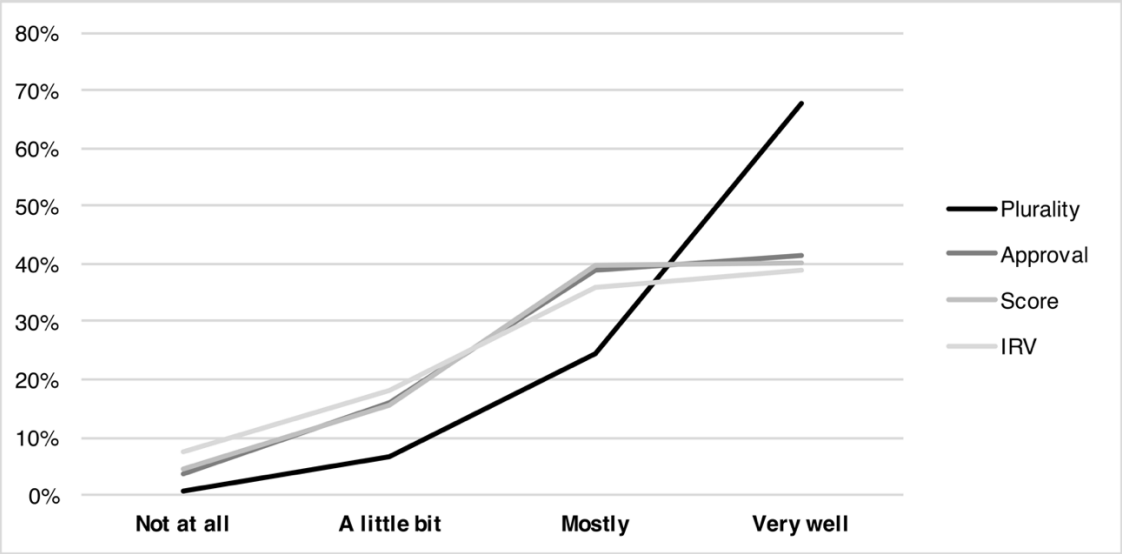
Note. Study 1; Republican $n = 63$, Democrat $n = 97$. Regardless of voting systems, making a decision on whom to vote for was less easy for Republicans compared to the reported ease of voting for Democrats. For both Democrats and Republicans, approval voting was rated as making the process of choosing a candidate a bit easier when compared to plurality, score, and instant-runoff voting.

5. Study 2

For Study 2 (January 2016), as in Study 1, each participant was asked how they were registered to vote, routing them to their respective party's mock ballots. By the time of this survey, some presidential candidates had dropped out, so the mock ballots had fewer candidates listed. Republican mock ballot candidate choices included Jeb Bush, Ben Carson, Ted Cruz, Marco Rubio, and Donald Trump; Democratic mock ballot candidate choices included Hilary Clinton, Martin O'Malley, and Bernie Sanders; green party candidates included Jill Stein; independent candidates included Ed Baker and Mike Bloomburg; and Libertarians included Darryl Perry and Derrick Reid (all mock ballot candidate lists were alphabetized). For this study, after experiencing each mock ballot type, participants were asked "How well do you feel you understand this voting style?" choosing from the answer scale: Not at all, A little bit, Mostly, or Very well. With little deviation, participants' level of understanding dropped in strength with the alternative voting systems when compared to level of understanding of plurality voting. The line graph below (Figure 2) shows that people understood the plurality voting the best with nearly 93% of the respondents reporting they understand it mostly or very well, 80% reporting they understand approval voting mostly or very well, same 80% for score voting, and 75% reporting they understand IRV mostly or very well. When asked "Now that you have tried these four styles of voting, how would you rate them (0 is worst; 9 is best)?", once again plurality voting was the preferred voting style (Table 5).

FIGURE 2.

Level of understanding



Note. Study 2, $N = 615$. Graph represents percentage of respondents who answered a particular way. After each mock ballot, participants were asked, "How well do you feel you understand this voting style?"

TABLE 5.

After all mock ballots had been tried

Preference	*M* (*SE*)	95% CI
Plurality	7.31 (.088)	7.14 to 7.48
Approval	5.44 (.102)	5.23 to 5.64
Score	4.21 (.109)	3.99 to 4.42
IRV	4.18 (.119)	3.95 to 4.42

Note. Study 2; $N = 615$ (7 cases were missing data so not included in mean calculation). After experiencing all four mock ballots, participants used score voting to score each voting system for Study 2. "Now that you have tried these four styles of voting, how would you rate them (0 is worst; 9 is best)?" Mean represents average of 0-9 scores for each voting system.

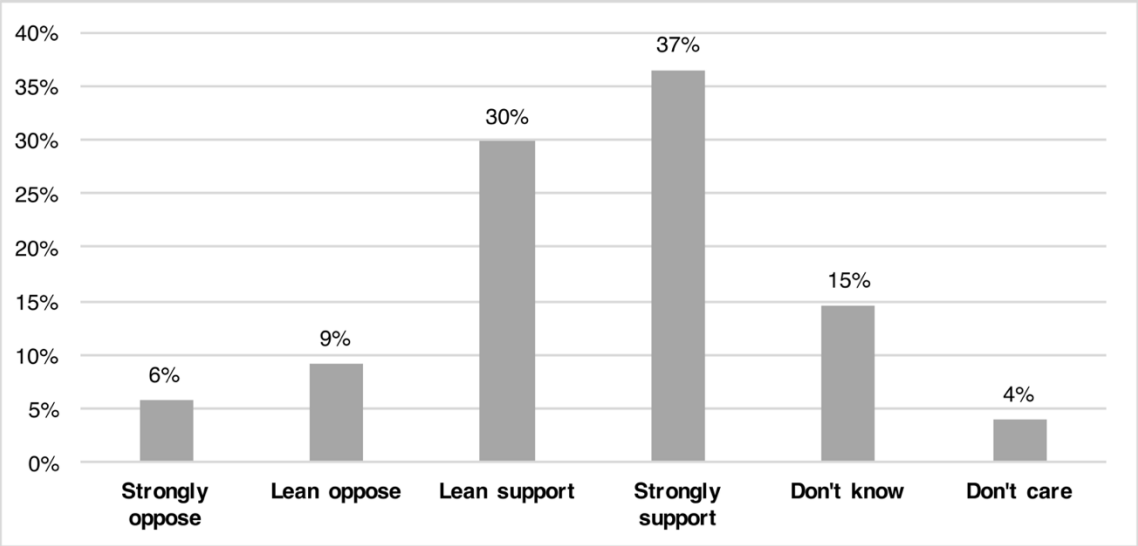
6. Study 3

Study 3 (March 2016) was initiated as a response to critique of our testing methods. Rob Richie, a voting systems authority from Fairvote.org and a proponent of instant-runoff voting, suspected that because the IRV mock ballots were placed last in the lineup of voting alternatives, order

influence (Mantonakis, Rodero, Lesschaeve, and Hastie, 2009) may have negatively affected IRV's likeability rating. To address this supposition, Study 3 employed a three-way split sample with 156 participants being exposed to IRV before all other voting styles, 139 completing IRV as the second mock ballot, and 151 completing IRV as the third mock ballot. But before we exposed the participants to the alternative voting systems, we first asked them how much they support the idea to "[r]evamp our normal "plurality" voting method so a voter may express support for a minor candidate without wasting a vote" (Figure 3), with 67% supporting this idea. Although there was majority support for voting system reform, when once again asked "Now that you have tried these four styles of voting, how would you rate them (0 is worst; 9 is best)?" plurality voting remained the most favored voting system with all three exposure groups (Table 6). There is no linear relationship between order of IRV in the lineup and average likeability rating—it received its lowest likeability score when it was the second ballot after plurality. This evidence reduces concerns that order influence hindered IRV popularity in Study 2.

FIGURE 3.

Revamp current voting system



Note. Study 3, *N* = 446. Participants were asked to indicate their level of support for the statement: "Revamp our normal 'plurality' voting method so a voter may express

support for a minor candidate without wasting a vote."

TABLE 6.
Voting system preference after mock ballots

	Plurality		Approval	
	***M* (*SE*)**	**95% CI**	***M* (*SE*)**	**95% CI**
IRV1	6.18 (.233)	5.72 to 6.64	4.69 (.217)	4.26 to 5.12
IRV2	6.08 (.241)	5.61 to 6.55	5.05 (.213)	4.63 to 5.47
IRV3	6.34 (.215)	5.92 to 6.76	5.32 (.191)	4.95 to 5.69

	Score		IRV	
	***M* (*SE*)**	**95% CI**	***M* (*SE*)**	**95% CI**
IRV1	3.82 (.216)	3.40 to 4.24	4.77 (.255)	4.27 to 5.27
IRV2	4.24 (.222)	3.81 to 4.67	4.39 (.259)	3.88 to 4.90
IRV3	3.98 (.205)	3.58 to 4.38	4.64 (.248)	4.15 to 5.13

Note. Study 3, $N = 446$. Three IRV exposure groups: IRV exposure first $n = 156$, IRV second $n = 139$, IRV third $n = 151$. Table represents the average score of voting style likeability, with 0 being the worst score and 9 being the best. There is no linear relationship between order of IRV exposure compared to the other voting styles and voting style preference.

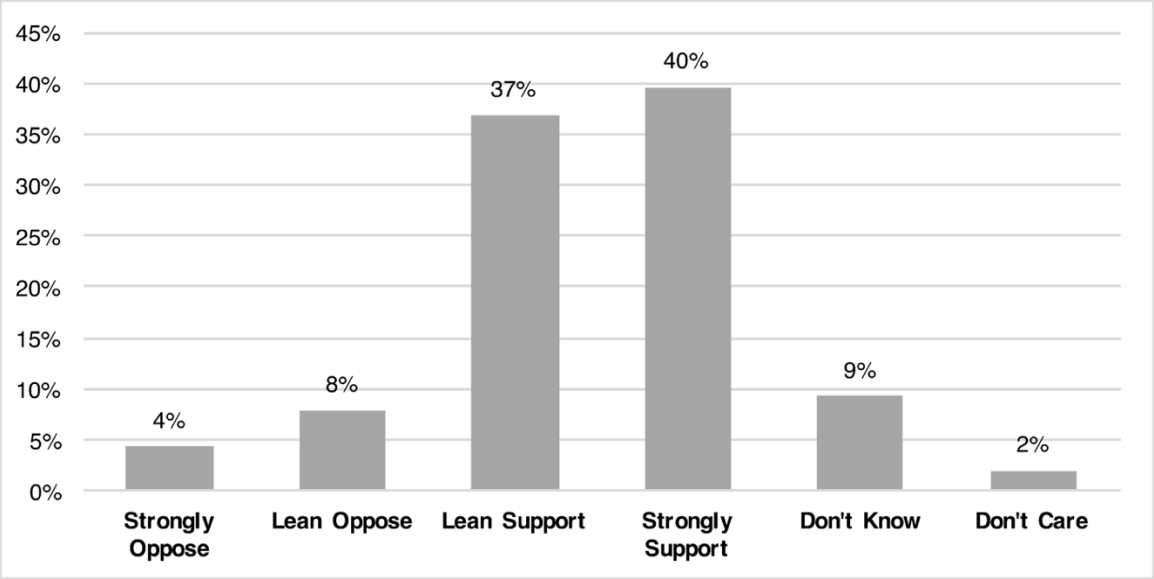
7. Study 4

Research has shown that the more choices a person has, the more likely s/he will want to stick with the status quo (Samuelson and Zeckhauser, 1988), so to explore this phenomenon, Study 4 (August 2016) was modified to test each respondent's voting system preference when voting with only two mock ballots rather than four: plurality plus one of the three alternatives. At the time of Study 4, the presidential primaries were completed, therefore the ballot candidate choices mimicked presidential general election ballots, and so included Gary Johnson, Jill Stein, Donald Trump, and Hillary Clinton (in that exact order). Before the participants were exposed to the mock ballots, they were asked how much they support the idea that the U.S. should, "change our

current voting system to an alternative voting system so a voter can express support for a minor candidate without wasting a vote." Of the 646 people who responded (135 Republicans, 297 Democrats, 198 third party or unaffiliated), 75.8% support this statement, 13% oppose this, and 11.2% either don't know or don't care (Figure 4), exhibiting majority support to shift away from plurality voting and move toward an alternative voting system.

FIGURE 4.

Change current voting system

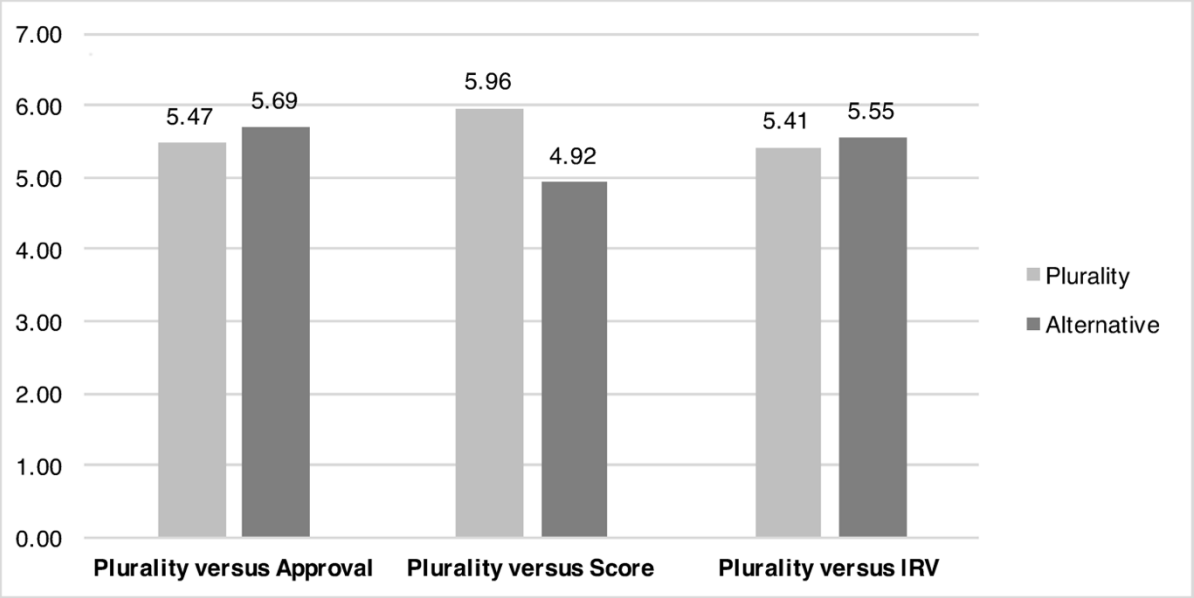


Note. Study 4, $N = 646$. Participants were asked, "How much do you oppose or support the following statement? The U.S. should change our current voting system to an alternative voting system so a voter can express support for a minor candidate without wasting a vote."

After voting, the participants from all three sample groups (plurality and approval group, plurality and score groups, and plurality and IRV group) were asked "Now that you have tried these two styles of voting, how would you rate them (0 is worst; 9 is best)?" (Figure 5). It appears that voters are more a bit more receptive to alternative voting systems when they are exposed to only one alternative at a time, as is shown by the slight preference of approval voting and IRV over plurality voting (score voting remains less liked than plurality). This slight

preference of two of the voting system alternatives over plurality voting implies that it may be best to test electoral reform without overwhelming participants with several voting system alternatives at once.

FIGURE 5.
System preference after completing mock ballots



Note. Study 4; *N* = 646. Voting systems rated on 0-9 scale (0 worst; 9 best); average of those scores reported here. Two far left bars represent mean of plurality voting score (*M* = 5.47, *SE* = .176, 95% CI = [5.12 to 5.82]) compared to the mean of approval voting score (*M* = 5.69, *SE* = .165, 95% CI = [5.37 to 6.02]), *n* = 226. Middle two bars represent mean of plurality voting score (*M* = 5.96, *SE* = .189, 95% CI = [5.59 to 6.34]) compared to the mean of score voting score (*M* = 4.92, *SE* = .206, 95% CI = [4.52 to 5.33]), *n* = 195. Two far right bars represent mean of plurality voting score (*M* = 5.41, *SE* = .183, 95% CI = [5.05 to 5.78]) compared to the mean of IRV score (*M* = 5.55, *SE* = .179, 95% CI = [5.19 to 5.90]), *n* = 225.

8. Study 5

Study 5 consisted of a pre-election survey conducted two weeks before the U.S. Election Day (*N* = 1009) and a follow-up survey with the same participants a few days after Election Day (*N* =

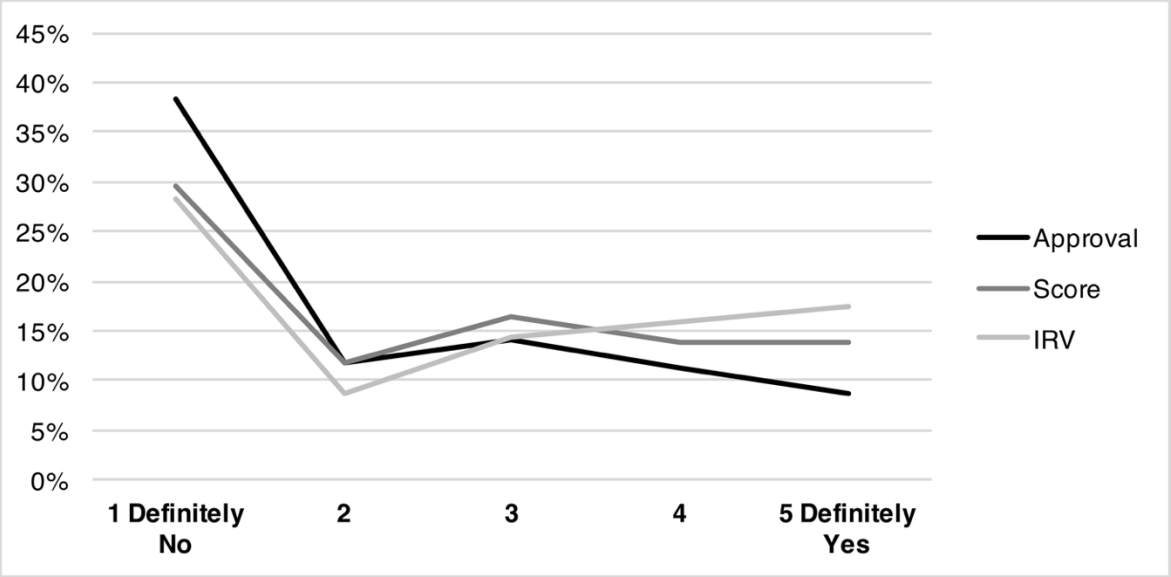
642 due to attrition). We were curious to see if voter opinion on alternative voting systems would change after they experienced the reality of having recently voted. For this study, we changed the term "instant-runoff voting" to ranked-choice voting" in order to align with a survey being conducted by Center for Election Science. Before Election Day, when asked which system they preferred on a 0-5 scale (where zero is the least favored score and five is the most favored), participants again rated plurality voting the highest (Table 7). Directly after the election, the same set of participants were asked if they wished one of the alternative voting systems had been used in the general election. The response was similar with the strongest desire being for no alternative voting system, but of the participants who did wish for an alternative during the general election, there was a slightly stronger desire for IRV (labeled ranked-choice voting), then score, and lastly approval (Figure 6). This was the only study out of the five outlined in this paper where approval was not the preferred alternative. After we asked if they wished they could have used approval, score, or IRV (labeled ranked-choice voting) during the general election, we once again asked participants if they think the plurality system should be revamped "so a voter may express support for a minor candidate without wasting a vote," where 6.5% are strongly opposed, 10.0% lean towards opposed, 32.9% lean towards support, 33.7% strongly support, 12.2% don't know, and 3.5% don't care. In summary, 67.1% of the participants supported revamping the plurality voting system, but plurality voting remained the preferred voting system among this sample group.

TABLE 7
Voting system preference

	M **(*SE*)**	**95% CI**
Plurality	3.89 (.061)	[3.77 to 4.01]
Approval	2.01 (.063)	[1.89 to 2.13]
Score	2.40 (.060)	[2.28 to 2.52]
IRV	2.46 (.065)	[2.33 to 2.59]

Note. Study 5; *N* = 642. Pre-election, participants were asked, "Which voting systems did you prefer (0 is worst; 5 is best)?" Table reflects average of the 0-5 scores for each voting system.

FIGURE 6.
Wish for alternative voting system during general election



Note. Study 5; *N* = 642. Post-election: participants who had voted in the 2016 presidential election were asked "Do you wish any of these following alternative voting systems had been used in the general election?" Approval voting question *n* = 547; Score voting question *n* = 555; ranked-choice voting (same as IRV) *n* = 552 ("Don't Know" option was treated as missing data which explains why the sample sizes vary).

9. Discussion

Why is there consistent receptivity to reforming the current plurality voting system, but then mostly a lack of strong preference across our MTurk sample for any of the three leading electoral alternatives? Some researchers might explain this phenomenon away by claiming voters lack rational thought, (Caplan, 2011), but we speculate it is more complex than that. First, weak support for alternative voting systems during an era of governmental distrust (Pew Research Center, 2015) may relate to *victim sensitivity*, the propensity for people to carry feelings of distrust towards those whom they feel have inflicted injustices upon them (Gollwitzer,

Rothmund, Alt, and Jekel, 2012). Victim sensitivity can lead to skepticism when the government introduces unknown new policies (Agroskin, Jonas, and Traut-Mattausch, 2015), so when imagining actual implementation, the opaque quality of alternative methods to calculate election winners, and envisioning government entities running these operations, may inspire people to act prudently in considering an alternative voting system. Psychologists have also found that in the process of decision-making, the brain weighs the likelihood of losses against the likelihood of gains, a risk assessment process known as *prospect theory*, which includes research findings that humans tend to favor that which is known and predictable over unexplored change (Kahneman and Tversky, 1984). Another potential explanation is *status quo bias*, the phenomenon of when a new option is made available, it is common for people to stick with the default (do nothing) or to actively choose the current option, and this effect gets stronger as the number of options goes up (Samuelson and Zeckhauser, 1988), a phenomenon which led to Study 4, where we tested this human tendency. Although mild, there was a slight preference for approval voting and IRV over plurality voting when Study 4 participants were exposed to only one alternative voting system instead of three. The lack of strong support for alternative voting systems is especially curious considering the San Francisco exit polls indicates younger and more formally educated voters (as are Mechanical Turk participants) are more likely to support instant-runoff voting to plurality voting. Policy reform is no quick or easy task to take on—in addition to the social-political dynamics of the lawmaking processes, studies have repeatedly indicated that humans have a predisposition to resist change.

10. Conclusion

No voting system is without flaws, and electoral reform has inspired clashing opinions among various proponents of alternative voting systems. However, among leading experts it is fairly agreed upon that the current plurality voting system is the least expressive of voter preferences and contributes to institutionalized exclusion of third party candidates.

The findings that we have presented in these five studies suggest there is moderate to strong support by American voters for voting system reform. But when given the opportunity to try electoral alternatives, support for championed alternative voting systems appears insufficient for rapid adoption. Plurality voting almost always received the most support from participants, but among the alternatives, it appears the level of support is strongest for approval voting, a little less strong for instant-runoff voting, and weakest for score voting. Because there was such strong support for the general concept of revamping the current voting system, and participants' support increased when they were presented with one alternative voting system instead of three, this research raises important questions about how to get voters more comfortable with electoral reform. The most common solution is to expand the introduction of voting system alternatives in jurisdictions where strong leader support and community receptivity allows testing and confidence-building.

While instant-runoff voting is being used in several U.S. jurisdictions with some success, other alternatives have not had the same political push and so there is little empirical evidence for voting systems outside of plurality and IRV. Ultimately the question of best voting practices must be answered by jurisdictional testing of approval and score voting, and possibly other options not covered by this investigation. In the final analysis, it should be voter satisfaction (or

commensurate lack of voter regret) and voter confidence that our candidate selection system is bringing forth the best possible leadership.

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Appendix A

Study 1

Item	Percent
Age	
65-74	2.45
55-64	7.84
45-54	13.24
35-44	18.14
25-34	46.57
18-24	11.76
Gender	
Female	41.67
Male	57.84

Study 2

Item	Percent
Age	
75+	0.65
65-74	3.74
55-64	13.50
45-54	19.02
35-44	22.44
25-34	32.20
18-24	7.97

Item	Percent
Gender	
Female	55.28
Male	43.90
Race/Ethn	
White	79.51
Black	6.50
Asian	6.02
Latino	3.90
Other	4.07

Study 3

Item	Percent
Age	
75+	0.67
65-74	2.02
55-64	10.09
45-54	12.56
35-44	22.65
25-34	40.81
18-24	11.21

Item	Percent
Gender	
Female	49.78
Male	49.33
Race/Ethn	
White	79.37
Black	6.28
Asian	5.61
Latino	5.61

Item	Percent
Education	
HS, no diploma	0.67
HS grad	8.07
Some college	23.77
2-yr degree	12.11
Bachelor's	42.15
Master's	12.78

		Other	11.88		

Study 4

Item	Percent	Item	Percent	Item	Percent
Age		Gender		Education	
75+	0	Female	43.81	11th gr. or less	0.46
65-74	2.48	Male	55.57	HS, no diploma	0.62
55-64	7.89	Race/Ethn		HS grad	10.22
45-54	10.99	White	78.79	Some college	26.93
35-44	22.76	Asian	6.35	2-yr degree	11.76
25-34	43.03	Latino	5.26	Bachelor's	37.62
18-24	12.69	Black	4.95	Grad degree	12.38
		Other	4.48		

Study 5

Item	Percent	Item	Percent	Item	Percent
Age		Gender		Education	
75+	0.16	Female	54.55	11th gr. or less	0
65-74	2.18	Male	45.09	HS, no diploma	0.17
55-64	9.19	Race/Ethn		HS grad	5.59
45-54	12.46	White	77.22	Some college	24.65
35-44	25.08	Black	7.65	2-yr degree	14.34
25-34	39.56	Asian	6.96	Bachelor's	41.26
18-24	11.37	Latino	4.70	Grad degree	13.99
		Other	3.48		