

# The Formation of Public Opinion Around Elections and Electoral Integrity

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## Abstract

Soon after the 2020 election, President Donald J. Trump and his allies began a campaign to undermine confidence in the legitimacy of the vote count, culminating in a riot that sacked the U.S. Capitol building. What impact have these messages had on opinion towards the legitimacy of the electoral process? In this study, I formulate a theory around the three main influences of perceived electoral integrity and opinion formation around elections; the voting experience, election outcomes, and elite cues around the vote count's legitimacy. I then test this theory through two novel survey experiments, which allow me to directly examine each of these variables' impact on perceptions of electoral integrity. In doing so, I provide evidence that each three of these factors plays a critical role in perceptions of electoral integrity, and the first evidence elites may have the most important impact on voter confidence of them all.

Keywords: elections, voting, public opinion, voter confidence

# 1 Introduction

The election of 2020, held during the largest public health crisis since the 1918 Spanish Influenza pandemic, saw many changes in election administration. These included expanded options to vote by mail (Bloomgarden et al., 2020) and more emphasis on voting safely amid the pandemic. Racial unrest, an economic crisis created by the pandemic, and a polarizing incumbent president combined with changes to election administration and accompanying campaign strategies led to the highest turnout in any election since 1900 (McDonald, 2020). Similarly, election-day experiences were different from that of previous elections, as the majority of voters cast their ballots early in person or by mail for the first time in American history. However, the procedures for casting and counting ballots went relatively smoothly, even with the drastic changes to election administration (Stewart and Persily, 2020).

While experts saw the election as relatively fraud-free, this did not stop elites from the Republican Party from claiming the vote totals were tainted. Within hours of the final polls closing in the 2020 Presidential election, President Donald Trump began to make false claims regarding the election results (Associated Press, 2020). In the following weeks, these false claims were amplified by the Trump campaign in allies in a series of lawsuits and media appearances. Among these claims were dead voters, double voters, uncounted Trump ballots, and ballot box stuffing by anti-Trump election officials (Stewart and Persily, 2020). While these talking points mirrored those that President Trump had used following the 2016 election to explain his loss in the popular vote, one particular claim around voting machines and ballot tabulation systems made Dominion Voting Systems stand out. One of the top lawyers for the Trump campaign Sidney Powell claimed that “Another benefit Dominion was created to reward is what I would call election insurance, that’s why [deceased Venezuelan dictator] Hugo Chavez had it created in the first place. I also wonder where he got the technology, where it actually came from because I think it’s him or ... the CIA” (Associated Press, 2020). Though experts thoroughly debunked this claim, claims around inconsistencies and improprieties in results from Dominion Voting Systems election infrastructure were pushed

by significant figures in the Republican Party, including President Trump and U.S. Senator Rand Paul<sup>1</sup>. Neither former President Trump nor his legal team has accepted the election results nor admitted that there was no fraud.

These claims raise a question that is important to democratic legitimacy in the United States—do these types of attacks on democratic legitimacy harm perceptions of electoral integrity? This study attempts to answer this by examining a more fundamental question that has not been well-studied in the context of American politics; how does the mass public form their opinions around the legitimacy of a given electoral outcome? In this study I seek to answer this question by contributing the first theory of how individuals form opinions around the electoral process and electoral integrity. Previous studies have provided evidence for a link between the voting experience (Alvarez et al., 2011) and victory (Sances and Stewart, 2015) on voter confidence and voter satisfaction, two critical metrics in gauging perceptions of electoral integrity. However, there has been limited research on the impact of elite cues on perceptions of electoral integrity, hindering our ability to fully understand the effect that the discourse during the Trump era on election integrity has had on voter confidence. In this study, I put forward a theory to explain how voters formulate opinions around an election’s integrity that considers the voting experience, the victor in an election, and elite discourse before and after a race. In the most common scenario in this framework, a voter participates in an election, makes a preliminary decision on the election, and then updates their opinion after receiving information on which candidate won an election. In the other two scenarios, voters will be exposed to elite cues after the voting process or both before and after, which will significantly impact perceptions of election integrity. This three-step process— the voting experience, the results, and elite cues— will heavily influence how the mass public views election integrity.

To test this new theory, I employ a pair of preregistered experiments to test each step—the voting process, the winner, and the elites. In the first experiment, I directly test the impacts of the voting experience and victory on perceptions of electoral integrity. Survey

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<sup>1</sup><https://twitter.com/RandPaul/status/1333429923042758661>

respondents were provided a slate of candidates and were “treated” with a more complicated voting system or a message that their candidate lost, or a combination. In doing so, I find that respondents exhibited significantly decreased voter confidence and voter satisfaction after utilizing a more complex voting system and voting in an election in which their preferred candidate lost. In the second experiment I test the impact of elite cues alongside an election’s results. As in the first experiment, respondents “voted” in a simulated election; however, and were told that they were using a “new voting tabulation system,” and after voting were exposed to either a message from a partisan elite that the system was unfair or a statement that their preferred candidate lost. While being on the losing side significantly decreased perceptions of election integrity, the negative elite cue had the largest impact on voter confidence and voter satisfaction. The theoretical contributions and accompanying experimental results in this study have important implications for both the study of election administration and public opinion formation following the 2020 Presidential election.

## **2 Voter Confidence and Voter Satisfaction**

“Voter confidence” is a term that is often used by political elites as a goal of changes to election administration but has only been studied rigorously in empirical political science following the 2000 general election (Gronke, 2014). Voter confidence within the study of American politics is the level of confidence that votes in an election were counted as they the voters intended them to be, and is a subset of democratic legitimacy (Sances and Stewart, 2015). Voter confidence can be separated into egotropic confidence, whether or not a particular voter believes that their vote was correctly counted, or sociotropic confidence or the likelihood of votes in a given geographic area counted as the voters intended Gronke (2014). It is important to note that voter confidence is not merely trusting in government or trust in political elites. Instead, voter confidence is a unique outcome of theoretical interest because it is a type of contact with the state in which citizens are directly choosing the government and not merely interacting with a government agency (Atkeson et al., 2015).

Surveys measure voter confidence with the following question: How confident are you that your vote in the [election] was counted as you intended? Responses are from very confident to not at all confident.

Similarly, voter satisfaction, or the level of satisfaction that a voter has in the voting process, has not been studied heavily in American politics. While this has not been examined closely in the American context (with the notable exception of Stein et al. (2008), which analyzes it using a metric of several combined questions), it has been a subject of close study in comparative politics. In this context, the modal survey asks whether or not a respondent is satisfied with how democracy operates in their country (Farrell and McAllister, 2006).

Why should social scientists care about voter confidence and satisfaction? First, people who are less confident in electoral integrity are less likely to vote in future elections (Alvarez et al., 2008; Grönlund and Setälä, 2007). Similarly, voter satisfaction may be intuitively connected to the calculus of voting (Riker and Ordeshook, 1968), filling in the “D” term in a rational choice framework (Downs, 1957). Similarly, satisfaction in the voting process is inherent in intrinsic motivations for voting, which are one of the crucial factors motivating people to vote (Panagopoulos, 2013). Second, social scientists should be concerned with voter confidence and satisfaction not just for what they cause but for what they indicate. As I detail in the following subsection, voter confidence and satisfaction may be indicators of where election administration is lacking (Stein et al., 2008; Atkeson and Saunders, 2007; Hall et al., 2009) or voting methods are too complicated (Stewart, 2011), or even dissatisfaction with the outcome of the election. As such, voter confidence and voter satisfaction have significant causal effects on voting and participation and are also caused by predictable and manageable circumstances.

## **2.1 Voter Experience**

There have been two primary areas of analysis in the literature on perceptions of election integrity, voter confidence, and voter satisfaction. These areas are the voter experience and the outcome of the election. Following the 2000 election, the voting experience became

an area of focus for a relatively new subfield of American political science referred to as “election science.” There are two research strains on voting experience and voter confidence within this community, focusing on the impact of election administration and another on voting technology and ballot types.

The first is around the impact of personal experience in elections and has argued that election administration and election-day affairs are the most crucial factors in voter confidence. Atkeson and Saunders (2007) found that voter confidence is a “local matter” and clear ballot instructions, and a positive voting experience at the poll place is an essential factor in voter confidence. Similarly, Hall et al. (2009) found that poll worker competence explained a significant amount of variation in voter confidence in their study. Finally, Stein et al. (2008) argued that individual differences are likely due to election administration rather than exact voting methods.

The second set of studies focused on how voters cast their ballots and how it impacts voter confidence and found that sudden changes to voting technology and ballot type negatively impacted election integrity attitudes. Stewart (2011) found that switching to vote by mail (VBM) lowered voter confidence in California. In the same vein, complex or opaque voting systems were repeatedly shown in studies to impact attitudes towards elections (Bullock et al., 2005; Atkeson and Saunders, 2007).

## **2.2 Winning and Democratic Legitimacy**

While the voting experience has demonstrated an essential factor in voter satisfaction and electoral integrity perceptions, victory has also been a significant factor. Sances and Stewart (2015) found that voter confidence in the United States is lower in voters who supported the losing candidate and higher in those who supported the winning candidate, a phenomenon they dubbed the “winner’s effect.” While it is challenging to examine this phenomenon over time as there are no known surveys conducted before 2000 that ask questions about voter confidence, studies have documented the winner’s effect within the related concepts of voter efficacy and political trust (Ginsberg and Weissberg, 1978; Finkel, 1985; Anderson and LoTem-

pio, 2002). Similarly, one study analyzing 40 years of polling data found a temporal link between winning and efficacy, democratic legitimacy, and voter satisfaction (Craig et al., 2006).

Furthermore, these findings mirror the literature on democratic legitimacy in comparative politics. Within rich democracies such as those in Western Europe, people who supported the winning side of an election exhibited higher levels of political trust, and those who support opposition parties tend to have lower levels of satisfaction and efficacy (Anderson and Guillory, 1997; Anderson and Tverdova, 2001). Other studies observed this trend in developing contexts and middle-income democracies, including in Latin America (Nemčok and Wass, 2020) and several African states (Cho and Bratton, 2006; Moehler, 2009). Taken in context, both the literature in American politics and comparative politics strongly suggest a link between winning elections and feelings of legitimacy toward government, voter satisfaction, and confidence in the legitimacy of the vote count in elections.

### **2.3 The Third Factor: Elite-Led Opinion**

Previous work on voter confidence, voter experience, and the “winner’s effect” has shown them essential factors influencing electoral integrity and voter satisfaction perceptions. While these studies have provided valuable insights, they have not expanded to include behavioralism, except for limited work on the “winner’s effect.” The likely reason for this is relatively simple. Following the 2000 Presidential election and the “hanging chad” (Wand et al., 2001), the focus of the burgeoning field of election science was on improving confidence in elections through better election infrastructure and more transparent election practices. This left little room for more in-depth public opinion analysis around election integrity in practice. To date, only one study directly examining the impact of elite cues on democratic norms (Clayton et al., 2021), finding that Trump’s rhetoric harmed his supporters’ beliefs in democratic norms and electoral integrity. However, the political environment has shifted dramatically since November-December 2000 in a way that requires a deeper study of perceptions of electoral integrity to engage with the dynamics of public opinion directly and in conjunction



with other inputs in opinion around election integrity.

In 2004, the vote count in Ohio was subject to conspiracy theories that claimed that it illegitimately swung the election to incumbent President George W. Bush (Fritrakis et al., 2005; Hertsgaard, 2005; Miller, 2005; Gimbel, 2006). Some on the left also questioned the outcome of the 2016 presidential election, suggesting that Russian hacking caused Donald Trump to win (Hall, 2018; Lewis, 2018). While not entirely new, conspiracy theories took a turn under President Trump, who, unlike John Kerry and Hillary Clinton, explicitly rejected the results of an election. This seems to have led to a new era in American politics concerning electoral legitimacy, where it has seemingly become a common talking point among some Republican elites and a commonly held opinion among a large portion of Republican voters that the 2020 election was not on fairly by Joseph Biden (Durkee, 2021).

While previous studies of voter confidence have not needed to focus on the impacts of elites on voter confidence, this is no longer the case. With the rejection of ballot results in 2016 by President Trump, the claims of election impropriety in Georgia by Stacy Abrams, and the ongoing claims of widespread voter fraud and electoral manipulation causing the Democratic Party to “steal the election” in 2020, the study of perceptions of election integrity in the mass public must begin to incorporate existing theories of elite-led and elite-influenced public opinion. Such analyses must come through two critical research areas: elite-led opinion formation and political rumors.

The first and most apparent set of theories to be addressed comes from elite-led opinion. As Campbell et al. (1960) noted early in their foundations work, people tend to build their opinions around those of their political party, which they take in from their parents. This pathway was further elaborated upon by modern elite-led opinion theories such as Zaller (1992)’s “receive-accept-sample” (RAS) model. While this framework has been further developed in the past three decades (see Lenz, 2012; Bullock, 2011; Levendusky, 2010; Baum and Groeling, 2009), the basic intuition is fairly straightforward. Elites formulate an opinion on an issue area, and the mass public adopts the opinion of their in-party elites. When confronted with new information about that issue, members of the public sample “top of the

mind” considerations and decide whether the new information fits their opinion or reject it.

Second, the literature around political rumors is highly informative in understanding the impacts of opinion around electoral integrity and election infrastructure in several ways. Rumors are claims that are not shown to be accurate or even disproved by credible sources but continue to spread because others believe them (Sunstein, 2009). When rumors such as those regarding Dominion Voting Systems spread, the public is less likely to form meaningful opinions about other topics (Nyhan and Reifler, 2010; Flynn et al., 2017). Similarly, when actors attempt to correct rumors with factual information, it may create a “backfire effect” where partisans reinforce their existing belief in the rumor (Nyhan et al., 2013) or continue to spread the rumor by increasing “fluency” in the incorrect information. On a similar vein, “unlikely sources” such as in-party elites (Berinsky, 2017) are best able to stop rumors. In tandem, these research areas introduce two critical ideas to the study of opinion around electoral legitimacy in the United States; first, attitudes around electoral legitimacy and voter confidence are likely to be formed and manipulated by elite rhetoric. Second, political elites have a role in quashing rumors of electoral impropriety or propelling them further. As such, any theory of opinion formation in this realm needs to consider the observed influences on voter confidence and voter satisfaction, such as the voter experience and elites’ role in mass opinion formation before and after an election.

### **3 Theory: Opinion Formation Toward Election Integrity**

Previous studies around perceptions of electoral integrity, voter satisfaction, and voter fraud have provided fruitful information around the determinants of perceived electoral integrity and public opinion around elections, they have lacked two essential parts. First, they have primarily omitted behaviorist approaches and elite-led opinion and behavioral theories. Since 2016, researchers must expand the study of opinion around election infrastructure to address public opinion dynamics with the increasing attacks on political elites’ electoral process. Second, there has been little work done on theory development around election integrity

attitudes. This lack of study is likely due to the disconnect between the study of election administration, which has been the primary carrier of research on voter confidence in the United States, and the study of public opinion, which has focused on partisanship, information, and opinion formation on political issues for several decades. As such, the theory that I put forward and begin to test in this study has three parts: the voting experience, intake of the outcome, and intake of in-party elites.

The opinion formation process can take one of three forms. In its first and most basic form, a participant in an election perceives whether her experience was positive or negative, or unremarkable. The voter subsequently observes the election results, at which point she formulates her opinions around the integrity and satisfaction around the voting process by incorporating her voting experience with the outcome.

The second form is slightly more complicated than the first scenario. In this scenario, the voter participates in the election and then observes the election winner. Following the election results, elites decide whether or not to choose whether or not the election was free and fair. If they take a side, the rank-and-file members of their party will subsequently adjust their perception of the election's legitimacy to mirror that of their in-party elites. The third scenario is slightly different, with elites expressing opinions around electoral integrity both before and after the election, in effect serving to prime voters' views. In this scenario, our voter perceives elite cues from her party elites and begins to formulate an opinion around the upcoming election's legitimacy. During the election, she casts her ballot and perceives her voting experience, observes the winner, and then observes the second round of elites cues before judging updating her beliefs around the election's legitimacy.

To begin to test this theory, I used an experimental approach to test each facet of opinion formation around elections. The first experiment tests the "winner's effect" alongside sudden changes in election administration in the form of ranked-choice voting. In turn, the second experiment tests the impacts of the "winner's effect" alongside the impact of partisan cues following an election, independent of the winner's effect or negative voting experiences. In doing so, I can establish that the three major influences of perceived elec-

toral integrity— the voting experience, the outcome, and elite cues around the election—have significant and independent impacts on the formulation of opinions around the legitimacy of an election, as well as voter satisfaction and attitudes around election improprieties by election officials and voters.

Testing this theory using an experimental approach was beneficial for two key reasons. The first is practical. Voter confidence and perceived electoral integrity have a relatively short history of study in American politics. As such, there are no consistent publicly available data sources (especially not at a low level) around voter confidence that would allow me to leverage a natural experiment for voter confidence, such as conducting a regression discontinuity on voter confidence in close elections before 2020. Similarly, elites' decision to undermine perceptions of the vote count is likely endogenous to who won the election, making it difficult to parse out the relative impacts of the winner's effect and elite discourse in an observational study. The second reason is statistical rigor. An experiment allows me to estimate the relative impacts of elite discourse, the voting experience, and victory on various outcomes by systematically manipulating each of these variables. While these voting experiments may not create a perfect mirror of the circumstances around an election, they are employed in this study to gain leverage over a series of questions that are difficult to analyze in observational studies with existing resources.

While there is much we can learn from experiments in this realm, the timing of this study must be noted for two major reasons. First, both experiments were held during the 2020-2021 COVID-19 pandemic. While this did change the attentiveness of respondents taken from Lucid's online panel, recent work has found that survey experiments conducted during the pandemic were not systematically effected biased in a way that impacted their generalizability to other time periods (Peyton et al., 2021). Similarly, the same study found that survey experiments during this period may actually lead to an underestimate the average treatment effect, suggesting that results may be biased toward zero. Second, the political context in which the survey experiments were conducted may impact inference. With President Trump questioning the integrity of the election at the time of both experiments— vote

by mail during the first experiment and voter fraud during the second experiment— a concern is that the treatments may disproportionately impact Republican voters. However, through the block-randomized nature of this experiment, I can parse apart the average treatment effect by party, and I find that this was not the case. While Republicans tended to exhibit slightly higher treatment effects than Democratic respondents, these differences are not statistically significant in any outcome variable in either treatment. These results suggest that not only were Republican respondents not driving the main results but that the three inputs affect both parties to a significant extent, in line with my theory.

### 3.1 Experiment 1

The first experiment sought to demonstrate the impacts of the first two stages of opinion formation, the voting experience and the winner’s effect. This experiment was the first of its kind to directly test their impacts on perceptions of electoral integrity, as all previous known studies, these concepts known to the author use natural experiments or observational data. Beyond demonstrating the importance of these two inputs on opinion formation, it also allows me to compare winning to the voting experience in isolation directly. This experiment was fielded October 14<sup>th</sup>-15<sup>th</sup> 2020 on the XM Qualtrics online survey platform on a nationally-diverse sample drawn from the Lucid Fulcrum online panel ( $N \approx 1500$ ). This survey also contained questions around social trust and attitudes towards organizing, which was randomly put before or after the experiment detailed in this article. Following a standard battery of demographic questions, respondents were shown the following prompt:

In this section, we are looking to understand how people vote under a variety of different voting systems. You will be provided a description of fictional candidates for Congress, and then be asked to fill out a ballot as you would if you were voting in a general election.

Please read the descriptions of the candidates carefully, and vote the same way you would on a real ballot. Just like in a real election, nobody will know how you voted.

Following the prompt, respondents were shown a slate of four candidate names and

descriptions (one Republican, one Democrat, and two independents) in random order. These candidate descriptions roughly correspond to those from the election for Maine’s Second Congressional District in 2018, with the exact names changed. I used these candidates as ME-2 was the first-ever congressional election to be decided due to ranked-choice vote reallocation and to remove “researcher degrees of freedom” in choosing the simulated candidates. The candidate descriptions themselves were generic and were provided to everyone regardless of treatment status. Subsequently, respondents were randomly assigned to one of two treatment groups based on partisanship. This created three blocks for this treatment: a Republican block, a Democratic block, and an Independent block. People who identified as independents or members of a third party but leaned toward one party were assigned to that party. Within each block, respondents were randomly assigned to vote in the simulated election using either an instant-runoff (IRV, otherwise known as ranked-choice voting) ballot or a traditional plurality ballot in which they could pick one candidate. IRV was chosen as the treatment for a difficult and new voting system due to recent findings that ranked-choice voting is perceived to be more difficult by voters, and the majority of voters in the United States would not have already been directly exposed to the method (Donovan et al., 2019; McDaniel, 2016). This shock is akin to voting using a new machine or ballot type, which has been argued to influence voter confidence in previous studies (Stein et al., 2008; Stewart, 2011). The ballot and ballot instructions both used nearly identical wording as the IRV and traditional plurality ballots used in Maine in 2018, as obtained from the Maine Secretary of State’s website.

Following the initial treatment, respondents were then randomized to receive a second treatment based on the initial treatment. This came in the form of a “pure” control in which they proceeded to the outcome questions, a message that their preferred candidate lost the election, or a message that their preferred candidate won the election. Each respondent then was given four outcome questions. The first one was on ease of use asking “Overall, how easy was it to follow all the instructions necessary to cast your ballot?” which was asked indirectly in regards to the directions as an attempt at removing social desirability bias.

Second, a standard voter confidence question that asked “If this type of ballot was used on election day, how confident are you that your vote in the General Election would be counted as you intended?” Third, a question on partisan benefit of the voting process, which asked “If this type of ballot was used on election day, do you think it would make your preferred candidate more or less likely to win?” Finally, respondents were asked how satisfied they were in filling out their ballot, with the question reading “Overall, how satisfied are you with your experience in using this type of ballot to cast your vote?”. Each question was on a 1-4 Likert scale. Readers may find both the experimental treatments and the wording of the outcome questions in the attached appendix.

In this experiment I sought to compare the relative impacts of difficult voting systems and losing elections on attitudes and beliefs around election infrastructure and electoral integrity in the absence of salience and elite cues around election technology. In doing so, I proposed the following preregistered hypotheses to be tested with this experiment:

$H_1$ : Utilizing a new and more complex voting system will lead to a decrease in voter confidence, voter satisfaction, ease of use, and perceptions of partisan over “traditional” voting.

$H_2$ : There will be a significant negative impact on voter confidence, voter satisfaction, ease of use, and perceptions of partisan benefit from both losing an election and a more complex voting system.

To test both of these hypotheses, I used linear regression with binary treatment indicators with the following model specification:

$$Y_i = \hat{\tau}Treat_i + X_i + \xi_i$$

Where  $Y_i$  is one of the four tested outcome variables,  $\hat{\beta}$  is the estimated treatment effect of  $Treat_i$ , which is the binary treatment indicator (either the more complicated voting system or losing). Similarly,  $X_i$  is a set of demographic covariates and a binary variable indicating the treatment block that was used to accurately generate point estimates to correspond with the block-randomized experimental setup.

## Effect on Ease of Use

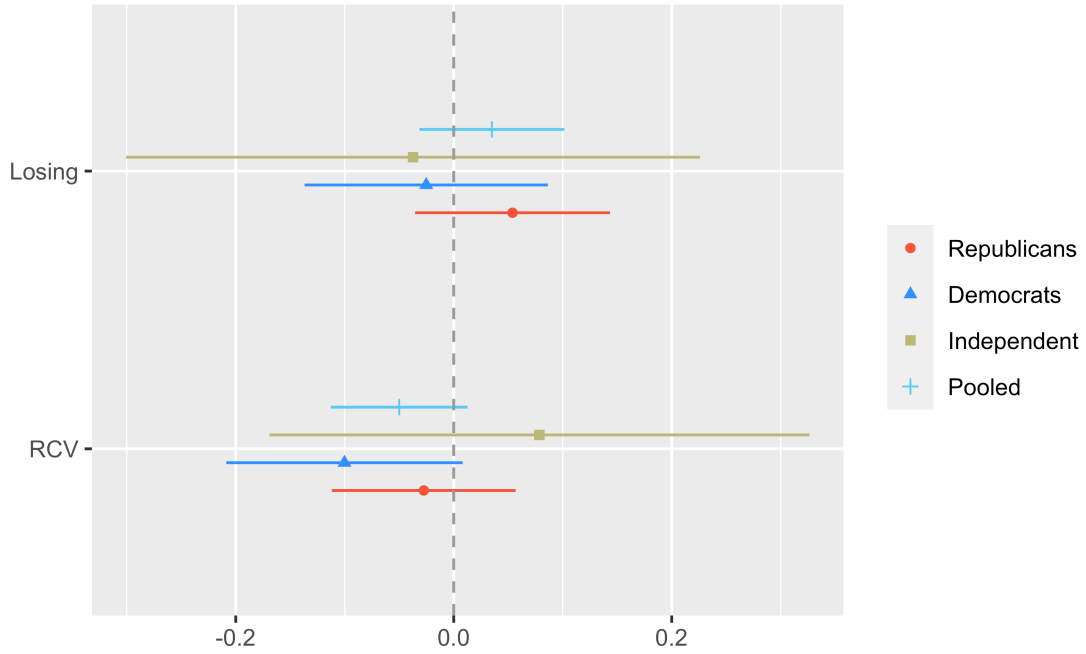


Figure (1) Effect of Losing and Complicated System on Ease of Use

### 3.2 Experiment 1 Results

First, I examined the impact of a message of losing on vote perceptions of ease of use and the impact of a more complicated ballot system on perceptions of ease of use. As shown in Figure 1, the results are limited. Only the complicated voting system achieved any significant result, which only lowered perceptions of ease of use in the Democratic subsample, though the results were only marginally significant ( $\hat{\beta} = 0.1, p < .1$ ).

Next, I examined the impact on voter satisfaction. Here, the results are more pronounced. Interestingly, the more complicated voting system caused a significant decrease in voter satisfaction that was observed in the pooled sample ( $\hat{\beta} = -0.177, p < .05$ ) as well as in both the Democratic ( $\hat{\beta} = -0.216, p < .05$ ) and Republican subsamples ( $\hat{\beta} = -0.171, p < .05$ ).

The impact of losing and complicated voting systems on perceptions of partisan benefit also demonstrated limited results, with only the democratic sample exhibiting a significant decrease from losing the simulated election ( $\hat{\beta} = -0.305, p < .05$ ). Similarly, the impact of



## Effect on Voter Satisfaction

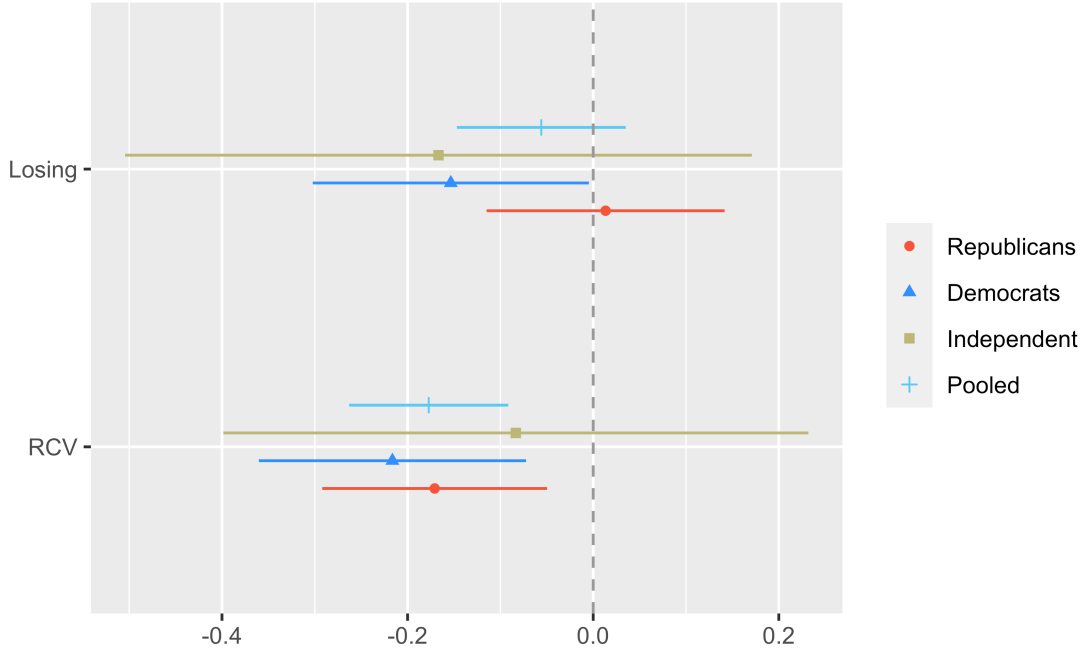


Figure (2) Effect of Losing and Complicated System on Voter Satisfaction

the more complicated voting system on the pooled sample was not statistically significant. This suggests that any effects of complicated voting systems, poor election experiences, and the electoral outcomes do not flow through perceptions of partisan benefit in the absence of elite cues.

Finally, I examined the impact of losing and complicated voting systems on voter confidence. As shown in Figure 4, the results are starker. Both losing ( $\hat{\beta} = -0.0925, p < .05$ ) and the more complicated voting system ( $\beta = -0.0853, p < .05$ ) significantly lowered voter confidence in the pooled sample, while losing the simulated election also lowered voter confidence in the Republican subsample, albeit at a marginally significant level ( $\hat{\beta} = -0.0970, p < .1$ ).

### 3.3 Experiment 2

The second experiment sought to examine the second and third influence voter confidence by analyzing the impact of the “winner’s effect” alongside in-party cues about the accuracy of the vote count. To answer this, I fielded an online survey experiment on the XM Qualtrics

### Effect on Partisan Impact

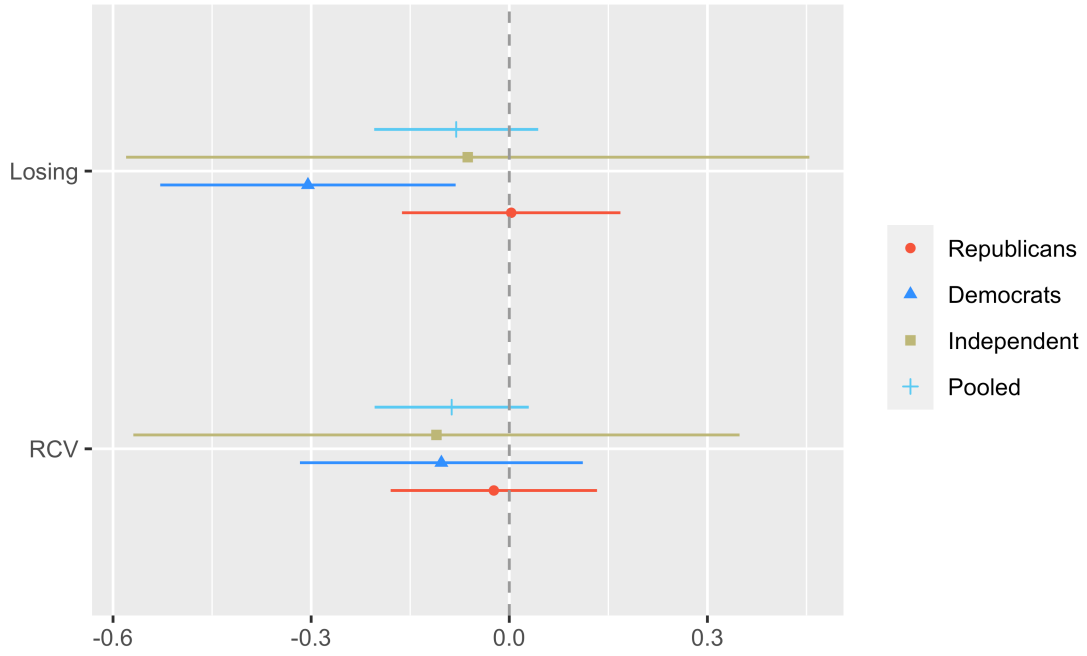


Figure (3) Effect of Losing and Complicated System on Perceptions of Partisan Benefit

### Effect on Voter Confidence

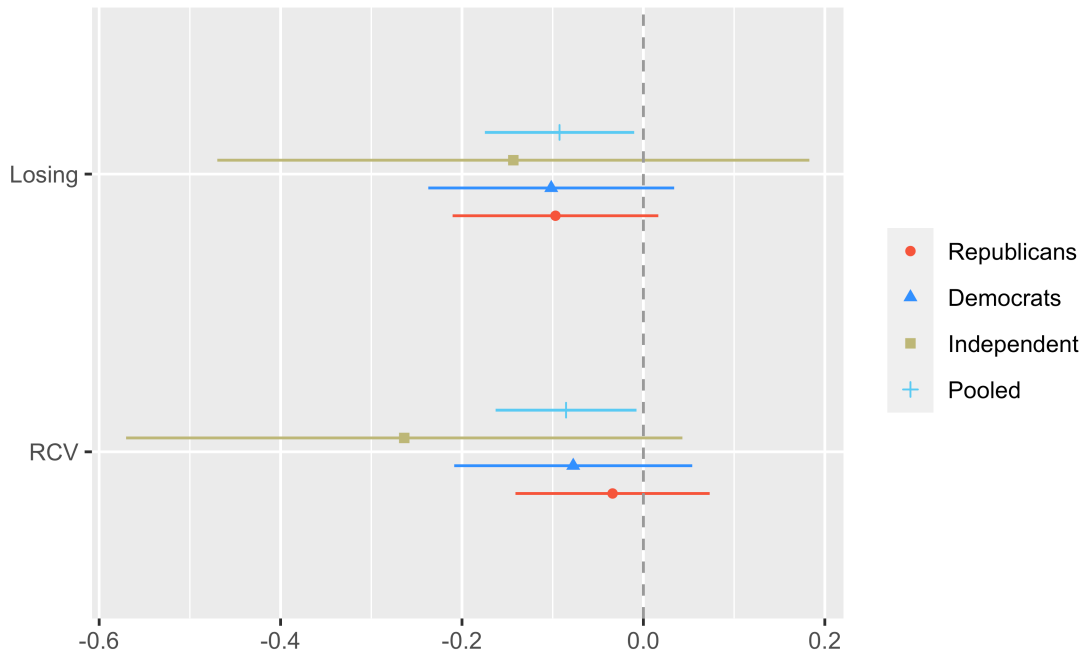


Figure (4) Effect of Losing and Complicated System on Voter Confidence

survey platform using Lucid Fulcrum’s online panel ( $N \approx 1500$ ) between December 1<sup>st</sup> 2020 and December 2<sup>nd</sup> 2020. This survey also included a battery on attitudes towards potential election reforms and an experiment on voter confidence question wording, both of which were part of separate studies.

The experimental section of the survey proceeded as follows. First, following the demographic questions and battery on attitudes towards election reform, respondents were informed that they would serve as a “product tester” for a simulated voting tabulation software.

Product Description: SpeedCounter™ by BlackFin Systems is a proprietary algorithmic tabulator that aggregates election results up to 500x faster than previous voting systems. It relies on variational Bayesian inference and blockchain technology to accurately tabulate, audit, and report elections in real-time. Currently, the system is in beta testing, after which it will be used in future elections. Though you will be testing it on your personal device, the software running in the background is the exact same as will be used in future voting machines. Thank you for helping us test this important software, and we welcome your feedback.

Next, respondents were told that they would participate in a simulated election and were provided the same candidates and candidate descriptions from Experiment 1, after which they were allowed to vote using a regular, single-choice plurality ballot, after which the experiment showed them a screen that read “The system is tabulating results. This may take up to ten seconds,” where they were forced to remain for five seconds before proceeding.

Following the tabulation page, treatment randomization occurred. This was done through block-randomization by partisanship, with independents and third-party voters who lean towards a party being randomized within that party. This created three blocks; a Republican block, a Democratic block, and a pure independent block. Within each block, respondents were assigned to one of three treatments. The first treatment was a “pure control,” where they proceeded to the outcome questions. The second treatment was a message that stated “According to the final tabulation by the SpeedCounter™ software, it appears that the candidate that you voted for has lost the election.” The third potential treatment consisted of a short (1.5 paragraph) simulated newspaper article that was shown to respon-

dents “in the interest of transparency,” in which an election lawyer that identified with the respondent’s party claimed that the election software would lead to votes being given to the opposite party. An election lawyer was used instead of another type of elite (such as Donald Trump himself) as a higher bar to cross. As can be seen in coverage of the aftermath of the 2020 election, lawyers Sydney Powell, Jenna Ellis, and Rudy Guliani played a significant role in advancing false claims that the election was “stolen” (Associated Press, 2020). If these weaker treatments are able to influence opinion, then it is unlikely that a stronger treatment (such as the President of the United States) would not. Similarly, President Trump had an unusual impact on public opinion, potentially harming the generalizability of findings that directly test elite cues using his rhetoric as a treatment to future contexts (Clayton et al., 2021; Barber and Pope, 2019).

True independents were randomly selected to receive the Republican or Democratic version of the treatment. Readers can find treatments and outcome questions in the included appendix.

Following treatment, respondents were asked six outcome questions. These included variations of the four outcomes from Experiment 1 (voter satisfaction, partisan benefit, voter confidence, ease of use). Two additional questions were asked. First, one was asked about the likelihood that the new system would lead to a change in the amount of voter fraud, which read “Do you believe the SpeedCounter™ system will increase instances voter fraud, decrease instances of voter fraud, or have no impact?”. The second was about whether the new system would lead to an increase in instances of fraud committed by election officials, and read “How often do you believe that election officials will use the SpeedCounter™ system change the vote count to favor one candidate over another?” As with the first experiment, each question was is on a 1-4 Likert scale.

I preregistered the experimental hypotheses tested in this survey experiment with a commonly-used organization. These hypotheses were as follows:

*H*<sub>3</sub>: Elite cues will significantly impact perceptions of ease-of-use of voting technology, while

experience with the technology absent elite cues will not.

$H_4$ : Both elite cues and losing an election will cause a decrease in voter confidence.

$H_5$ : When election technology is salient, both elite cues around election technology and losing will have a significant impact on perceptions of partisan benefit.

$H_6$ : Both negative elite cues around election technology and being on the losing side of an will lead to a decrease in voter satisfaction.

$H_7$ : Negative cues around election technology and being on the losing side of an will lead to an increase in the perceived likelihood of election fraud committed by election official (election official fraud) and fraud committed by individual voters (voter fraud).

To test each of these hypotheses, I used linear regression with binary treatment indicators with the same model specification that was used in Experiment 1:

$$Y_i = \hat{\tau}Treat_i + X_i + \xi_i$$

Where  $Y_i$  is one of the four tested outcome variables,  $\hat{\beta}$  is the estimated treatment effect of  $Treat_i$ , which is the binary treatment indicator, and  $X_i$  is a set of demographic covariates and a binary variable indicating the treatment block for each respondent.

### 3.4 Experiment 2 Results

First, I examined it by comparing a message of losing to a short “newspaper article” that detailed partisan opposition to the voting software. As can be seen in Figure 5, the elite cues significantly decreased perceptions around its ease of use in the pooled sample ( $\hat{\beta} = -0.176, p < .05$ ), Republican subsample ( $\hat{\beta} = -0.181, p < .05$ ), and Democratic subsample ( $\hat{\beta} = -0.146, p < .05$ ). There was no effect differentiable from zero of losing on ease of use.

Next, I examined the impact of losing and elite discourse on voter confidence. In doing so, I find that losing and elite cues both significantly lowered voter confidence. This is illustrated in Figure 6. The impact of elite-led opinion on voter confidence for the pooled sample was substantively and statistically significant ( $\hat{\beta} = -.301, p < .05$ ), and was mirrored in both the Republican subsample ( $\hat{\beta} = -.502, p < .05$ ) and Democratic subsample ( $\hat{\beta} =$

## Effect on Perceptions of Ease of Use

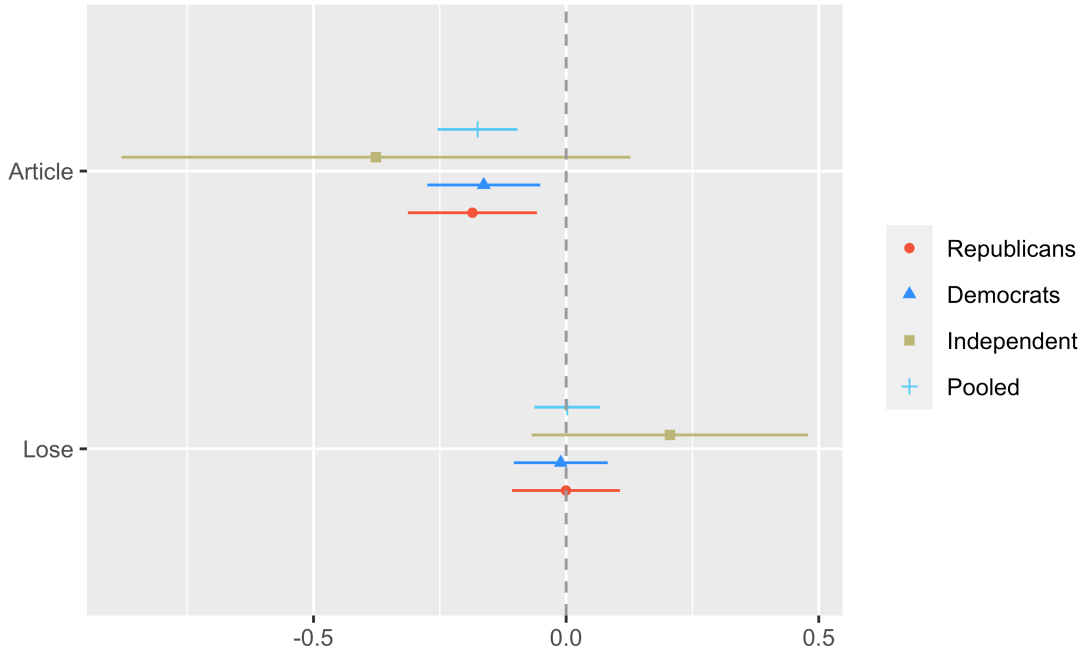


Figure (5) Effect of Losing and Elite Cues vs. Control

$-.227, p < .05$ ). Similarly, the impact of losing on the pooled sample was significant ( $\hat{\beta} = -.223, p < .05$ ), and was also mirrored in both the Republican subsample ( $\hat{\beta} = -.383, p < .05$ ) and Democratic subsample ( $\hat{\beta} = -.147, p < .05$ ).

Next, I examined the impact of losing elite messages against the “voting technology” on beliefs around the partisan benefit of the voting process. In doing so, I find that both losing ( $\hat{\beta} = -.168, p < .05$ ) and elite cues ( $\hat{\beta} = -.229, p < .05$ ) led to a decrease in perceptions of partisan benefit in the pooled sample, as seen in Figure 7. Furthermore, this was primarily driven by Republicans and people who lean Republican for both elite cues ( $\hat{\beta} = -.586, p < .05$ ) and losing the election ( $\hat{\beta} = -.444, p < .05$ ), suggesting a deeper distrust in voting technology and greater sensitivity around losing among that subgroup.

Next, I examined the impact of losing versus elite cues on voter satisfaction. There was a significant impact of elite cue on voter satisfaction in the overall sample ( $\hat{\beta} = -.217, p < .05$ ), the Democratic subsample ( $\hat{\beta} = -.201, p < .05$ ), as well as the Republican subsample ( $\hat{\beta} = -.311, p < .05$ ). Similarly, losing the election caused decrease in voter satisfaction on

### Effect on Voter Confidence

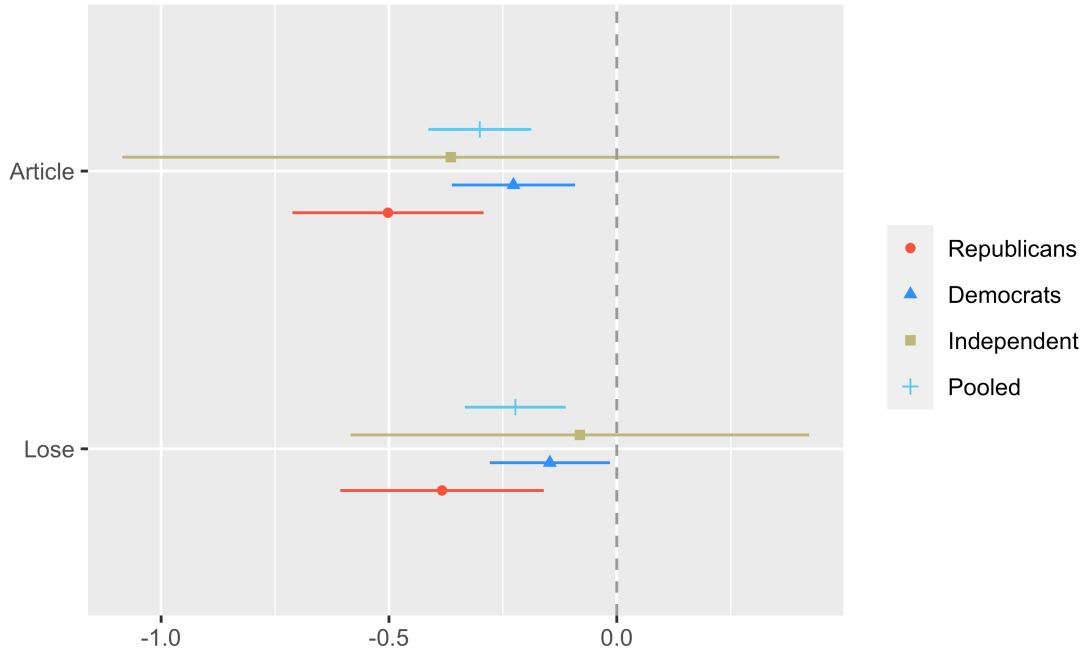


Figure (6) Effect of Losing and Elite Cues vs. Control on Voter Confidence

### Effect on Perceptions of Partisan Benefit

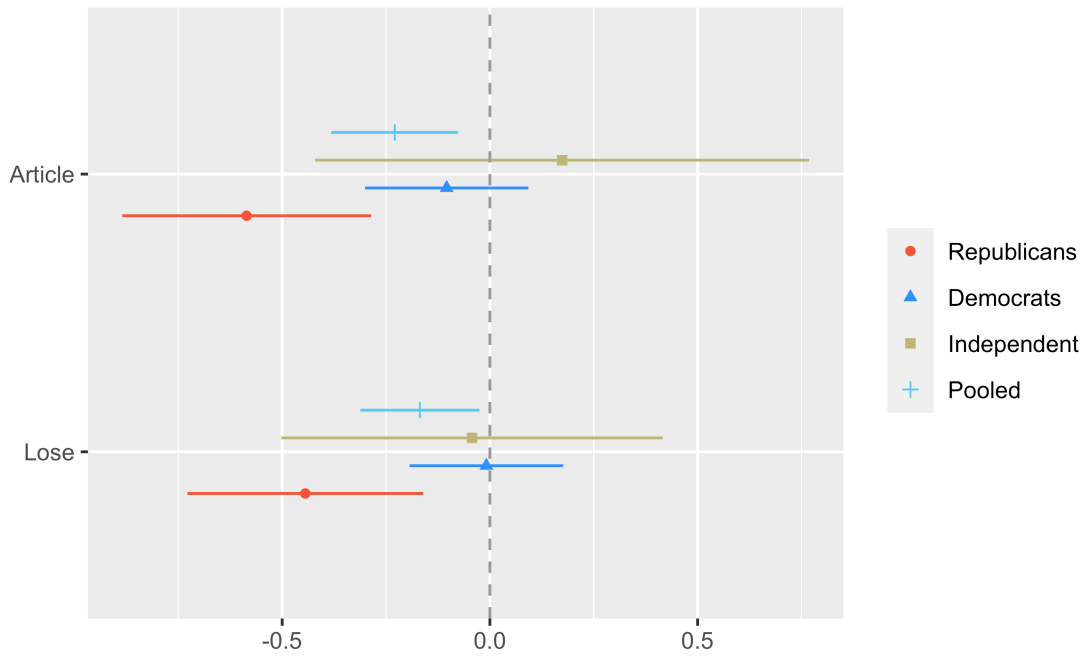


Figure (7) Effect of Losing and Elite Cues vs. Control on Perceptions of Partisan Benefit

## Effect on Voter Satisfaction

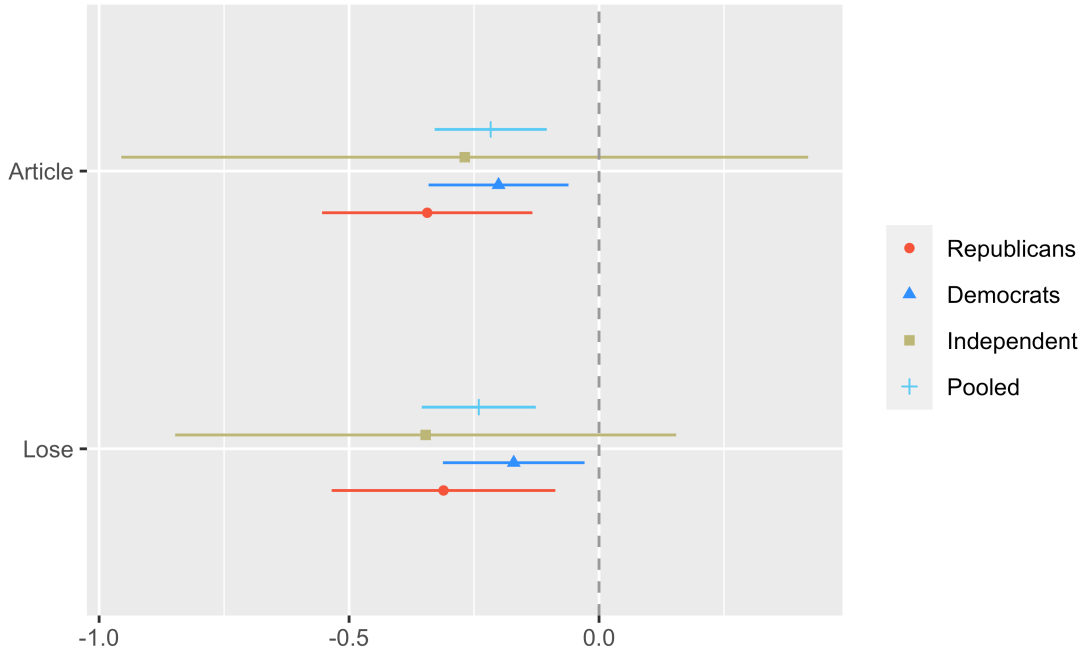


Figure (8) Effect of Losing and Elite Cues vs. Control on Voter Satisfaction

the pooled sample ( $\hat{\beta} = -.241, p < .05$ ) as well as the Republican ( $\hat{\beta} = -.311, p < .1$ ) and Democratic ( $\hat{\beta} = -.171, p < .1$ ) subsamples. This can be seen visually in Figure 8.

Next, I examined the impact of elite cues and losing an election on perceptions of election officials' likelihood of manipulating the results. Interestingly, this question slightly diverges from the previous outcome measures. I only find a marginally significant ( $\hat{\beta} = .151, p < .1$ ) increase in the perceived likelihood of fraud being committed by election officials among the pooled sample, though this does not have strong impacts on Democrats, Republicans, nor independents. Interestingly, losing significantly impacted the perceptions of the likelihood of electoral official manipulation among independents, who were largely unmoved by the other outcome measures in this experiment.

Finally, I examined the impact of elite cues and losing an election on perceptions of "voter fraud" broadly construed. Interestingly, I find that elite cues significantly impacted the perception of the likelihood of voter fraud in the pooled sample ( $\hat{\beta} = .355, p < .05$ ), as well as among both Republicans ( $\hat{\beta} = .515, p < .05$ ) and Democrats ( $\hat{\beta} = .299, p < .05$ ).



## Effect on Election Official Fraud

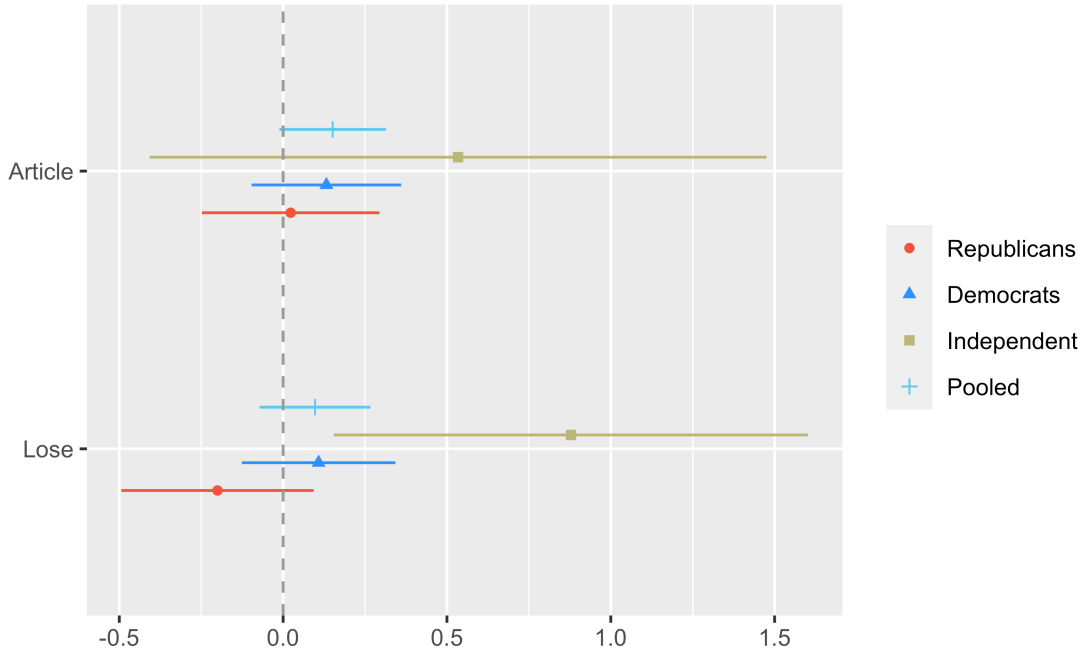


Figure (9) Effect of Losing and Elite Cues vs. Control on Perceptions of Likelihood of Electoral Officials Committing Fraud

Furthermore, losing the election caused a significant increase in the pooled sample ( $\hat{\beta} = .216, p < .05$ ) and among Democrats ( $\hat{\beta} = .272, p < .05$ ), but appears to have had no impact on the Republican subsample. Readers can see this visually in Figure 10.

## 4 Discussion

In this study, I have introduced a theory that incorporates two known influences on opinion formation around election integrity, the “winner’s effect” and shocks to the voting experience, and introduced a previously understudied factor in the form of elite discourse. Voters form their opinion based on their experience in the voting process and through retrospection following the results, though a critical factor in this opinion formation is that it may be influenced by elite discourse both before and after the voting process. I tested each part of this theory as part of two experiments, examining the “winner’s effect” alongside the use of a more complicated voting experience and a second experiment that examined the

## Effect on Perceptions of Voter Fraud

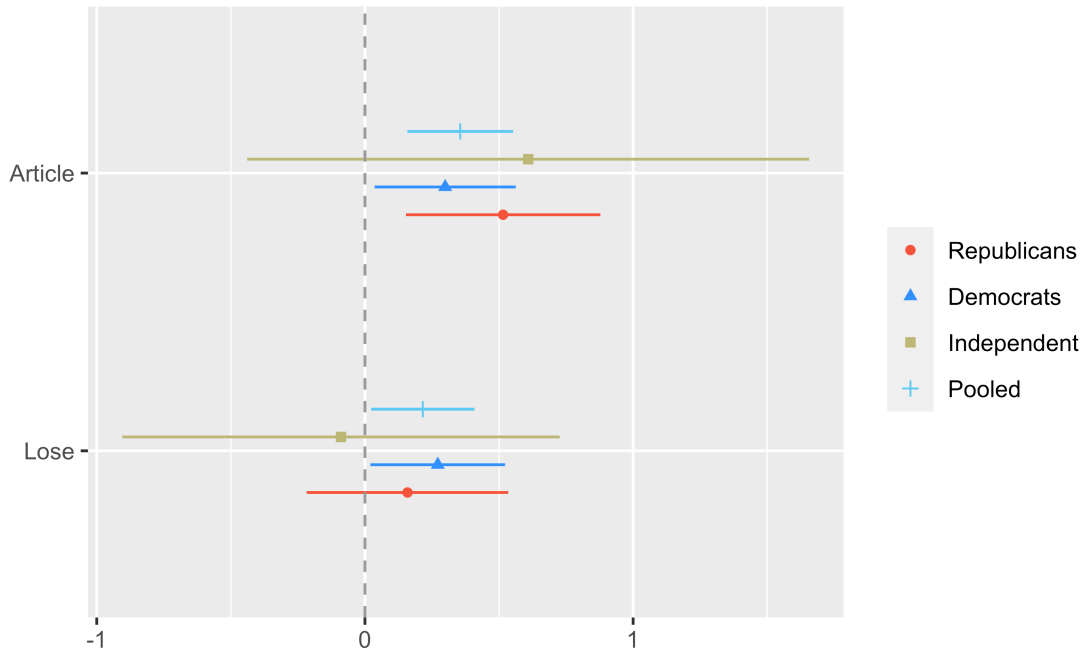


Figure (10) Effect of Losing and Elite Cues vs. Control on Perceptions of Likelihood of Electoral Officials Committing Fraud

impact of the winner’s effect alongside elite discourse. As shown in the first experiment, both simulated election-day experiences and the “winner’s effect” had substantively and statistically significant impacts on voter confidence. Interestingly, voter satisfaction was largely unmoved by losing but was significantly negatively impacted by the more difficult voting technique. As such, I find a preponderance of evidence to strongly suggest that the first factors of public opinion formation around elections– the voting experience and the “winner’s effect”– both have significant independent impacts on the formation of opinion around elections that is independent of elite interpretations of the results. This evidence allows me to reject the null hypotheses for  $H_1$  and  $H_2$ , providing evidence to suggest that the first two faces of opinion formation– the voting experience and the “winner’s effect”– have significant impacts on opinion formation around the legitimacy of the vote count even in the absence of direct elite cues.

In the second experiment, I compared the impact of losing an election and in-party cues around the legitimacy of the election. The results were stark. The simulated newspaper

article led to not only a significant decrease in voter confidence and voter satisfaction but also lowered the appraisal of ease of use in the voting system and increased perceptions of negative partisan impact, both of which were unmoved by losing and the more difficult voting experience in the first experiment. As such, I can reject the null hypotheses for  $H_3 - H_7$ , with strong evidence to suggest that both the winner's effect and elite cues have important impacts on voter confidence, voter satisfaction, and other forms of opinion around elections and electoral fraud that are independent of the actual voting experience.

One interesting takeaway from the second experiment is that it appears that I have incidentally uncovered an important mitigating factor, salience around the election results. In comparing the results of losing the election between Experiment 1 and Experiment 2, there are vastly different results. In both experiments, the candidate descriptions and candidates are identical. The major difference between the two experiments on this dimension comes from the salience of the election technology. In the second experiment, the voting system was made salient in several points. While this suggests the impact of salience on election technology as an important mitigating factor that magnifies the impact of losing, the results do not definitively prove this as I did not randomize salience within a given pool of subjects. However, testing this may be an essential next step in this line of research beyond the theory and results of this study

This study has several important implications for the study of perceptions of electoral integrity and opinions towards the voting process in the United States. First, it suggests that while elites may negatively impact perceptions of electoral legitimacy with messaging that questions the accuracy of the results, the converse may also be true. While more research needs to be done on positive messages around election results (especially by the losing side), these results suggest that elites may have a positive role in mitigating concerns about the vote count. Second, it provides theoretical evidence to suggest that even survey respondents who are verified to have not voted are still giving meaningful responses to survey items around the voting process, as they are likely to exhibit changes by being "treated" with election results and elite cues. More research needs to be conducted on the impacts of elite

cues and election outcomes on voter confidence outside of the voting process itself as to whether or not these opinions have downstream effects for participation and representation. Third, I find that while one party is currently questioning election results to a greater extent than the other, the implications of my theory hold for both parties. The basic assumption of the elite-drive facet of my theory— that if Hillary Clinton, Al Gore, or John Kerry had have rejected the results of their respective elections for fraud, Democratic voters would have exhibited significantly lower voter confidence— holds empirically through the second survey experiment.

Finally, the results are worrisome for American democracy in the face of elite challenges to the legitimacy of electoral outcomes. In this study, I have presented only a single treatment of elite cues; in reality, voters are likely to receive multiple exposures to this partisan messaging. President Trump and his allies put out messages for over seven months questioning the legitimacy of the election results and show no signs of stopping. In the early stages of this media campaign, it may have led to an insurrection that sacked the U.S. Capitol. Presently, the majority of Republican voters believe that the 2020 election was fraudulently won by Joseph Biden, which may have deep implications as Republican state legislatures have sought to restrict ballot access in many states (Vasilogambros, 2021). While more research needs to be done on the over-time impacts of multiple treatments to see if they aggregate to larger changes in perceived legitimacy, these results provide evidence that even a single instance of questioning election integrity may significantly negatively impact voter confidence.

## **5 Conclusion**

While the study’s premise is straightforward – many factors go into appraisals of electoral legitimacy and voter satisfaction— it proves to be novel in several ways. This is the first study to put forward a theory on how voters formulate opinions on the vote count’s legitimacy in an election. While this may appear intuitive, it provides useful information on how voter

confidence can be variable even in contexts free of systematic voter fraud. Furthermore, this is the first study to directly address the impact of elite-led opinion formation on elections' legitimacy. If the rhetoric around the 2016 and 2020 elections is any indicator of future trends, this joint venture between election science and elite-led public opinion may prove to be a fruitful line of research for understanding future elections. Moreover, it is the first study that compares the relative impacts of the voting experience directly and the "winner's effect" in an experimental setting and provides a baseline by which we can compare to observational studies in various contexts. The theoretical and empirical contributions may serve as a building block for future research on how elites and election officials may improve confidence in American elections' integrity in a new era of elections in the United States.

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