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featured topic

elections and political leadership

With the rise of identity politics and the election of populist political leaders in the United States and Europe, scholars of leadership, public affairs, and behavioral science have become increasingly interested in learning why voters elect leaders who may not be well suited for political office and how to address the problem. The articles in this issue of *Behavioral Science & Policy* focus on political leadership and contend with these timely and important questions. The authors are a diverse of group scholars trained in leadership, political science, public administration, and social psychology.

In the first article, Aditya Kotak and Don A. Moore note that polls play an important role in the candidate selection process and can influence voting decisions, and they examine how often the 95% confidence interval reported for polls captures actual election outcomes. In their analysis of more than 6,000 contests, Kotak and Moore found that even just a few days before elections occurred, the purported 95% confidence interval captured actual vote shares only about 60% of the time. The authors assert that the reported margins of error need to be much wider for polls to accurately predict elections with such high confidence. In a second study, the authors found that even when members of the public are informed about the historical inaccuracy of polls, they nonetheless place excessive faith in current polls. Kotak and Moore conclude that pollsters and the public need to be cautious about how they report and interpret polls. They also argue that given the inaccuracy of polls—particularly in the early stages of election races—decisions regarding which candidates can participate in debates should not be based on polls.

The second article, by Jeroen K. Joly and Joeri Hofmans, explores the extent to which political leaders' position or influence in their party and basic personality traits (namely, the Big Five—Extraversion, Agreeableness, Openness to Experience, Conscientiousness, and Neuroticism) correlate with the sources of information they rely on for decision-making (such as the media,

political parties, or neutral sources). The authors argue that political leaders' reliance on a limited set of information sources can lead to biased decision-making and policy solutions that do not represent the electorate well. Using survey data collected from a nationally representative sample of Belgian political leaders, they found that elite political leaders (that is, those holding important positions or having great influence in their political party) are more likely to rely on neutral sources of policy information than are those who have limited influence in their party. They also found that political leaders who score high on Extraversion and Agreeableness are more likely than those who score lower to rely on neutral sources of information and are less likely to rely on information from sources within their political party. Overall, the research showed that many political leaders do not consult a wide range of information sources when making policy decisions. The authors recommend using group-based training for political leaders and their aides to improve their awareness of the shortcomings of using select information sources and to encourage them to seek inputs from a wider range of sources.

Next, Meng Li and David R. Glerum tackle the question of why people who are not well suited for political leadership get elected. The authors suggest that voters often rely on heuristics when they evaluate candidates. Moreover, these mental shortcuts are activated by personal attributes (such as race, gender, or physical appearance) that are unrelated to candidates' leadership ability, resulting in the election of people who may be unprepared or not suitable for political leadership. Reviewing prior research, the authors summarize the heuristics that voters commonly use in their decisions. They then suggest ways to reduce heuristic thinking, including expanding voter education, using a ranked-choice voting system, requiring some minimum qualifications for candidates, and increasing the size and diversity of the candidate pool.

The fourth article, by Jared McDonald and Jaclyn Piatak, examines how gender stereotypes affect

public perceptions of leadership and the favorability of women running for political office. The authors note that many of the traits associated with successful leadership and the holding of political office, such as assertiveness and competitiveness, are generally viewed as masculine traits and that female candidates often encounter backlash from voters when they emphasize these traits. McDonald and Piatak found evidence of this bias by conducting a survey experiment with a sample of American adults. In their study, male candidates who invoked compassion and leadership ability in their campaign messages were perceived as more compassionate and stronger leaders than were male candidates who do not invoke those traits, whereas female candidates were not perceived as stronger leaders when they emphasized their leadership competence. Moreover, the results showed that whereas male candidates increased their favorability ratings by going against gender stereotypes (that is, when their messaging emphasized their compassion), female candidates were penalized when they went against gender norms (that is, when their messaging emphasized their leadership ability). The authors conclude that such biases are deeply embedded in society and that they can be combated best through policies and programs that advance female leadership in all fields. In this way, the public will grow to associate leadership ability as much with women as with men.

In the final article, Don A. Moore and Max H. Bazerman emphasize the perils of overconfidence among political leaders. They argue that processes of selecting political leaders generally favor candidates who display confidence, but this tendency can lead to the election of people who are overly or falsely confident about their abilities. Further, the authors assert that an inflated sense of competence by political leaders can result in poor policy decisions that have huge negative consequences for the public. The authors illustrate this problem by comparing Donald Trump's overly confident response to the COVID-19 pandemic during his presidency with the responses of political leaders in other countries who were more cautious and deliberate. Moore and Bazerman offer helpful suggestions for how voters can distinguish between true and false confidence, as well as ways that political leaders can avoid the lure of overconfidence and base their decisions on sound reasoning and the best evidence.

Together, the articles provide important insights into biases and heuristics that affect voter evaluation and selection of political leaders. The articles also offer suggestions about how voters can try to overcome these biases and how political leaders can improve their decision-making. We hope that the insights offered by these articles will inspire further research on how to enhance the diversity, selection, and training of political leaders and scholarly exchange among leadership, public affairs, and behavioral science scholars on strengthening political institutions and leadership practices in today's increasingly turbulent and divisive political climate.

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Election polls are 95% confident but only 60% accurate

Aditya Kotak & Don A. Moore

abstract

Election polls in the United States are more confident than accurate—meaning the reported margins of error often do not encompass the actual election outcomes in spite of pollsters claiming a 95% confidence level (that is, a 95% chance that their predictions will fall within the margin of error). In an analysis of polls for more than 6,000 contests, we have found that the actual vote total for a given candidate fell within the 95% confidence interval for just 60% of the polls. This degree of accuracy was reached only when the polls were conducted in the week before an election; accuracy was worse for polls conducted earlier. Polls would, in fact, need margins of error at least twice their current standard reported width to achieve 95% accuracy. We have also found that when laypeople read about poll results, they tend to overestimate the poll's accuracy, even when they have historical data demonstrating that the predictions made by polls are often inaccurate. These results illustrate polls' vulnerability to overconfidence and the limitations of the lay public's understanding of these shortcomings. We conclude by suggesting ways that pollsters and reporters could enable the public to interpret poll data more realistically.

Kotak, A., & Moore, D. A. (2022). Election polls are 95% confident but only 60% accurate. *Behavioral Science & Policy*, *8*(2), 1–12.

I n 2016, the world was stunned by a couple of surprising election outcomes. On June 23, 52% of voters in the United Kingdom elected to leave the European Union. Many eligible voters who supported staying in the European Union did not bother to vote that day, possibly because most of the credible polls forecast a likely victory for the "remain" side.[1] Voter turnout was lowest in areas that most strongly favored remaining in the European Union, such as London, Scotland, and Northern Ireland.[2] Then, in November, Donald Trump beat Hillary Clinton in a closely contested U.S. presidential election. On the eve of the election, poll aggregator Nate Silver's website, FiveThirtyEight, gave Clinton a 71% chance of winning.[3] Many Democrats who did not vote reportedly believed their votes did not matter.[4]

Polls influence more than voter turnout. The Commission on Presidential Debates allows candidates to participate only if polls indicate that they have the support of at least 15% of the electorate.[5] Candidates leading in the polls attract more support, including financial contributions.[6] And polls are powerful drivers of press attention and its notorious "horse race" coverage that focuses on who will win.[7] Polls garner attention not only from the press and the public but also from politicians eager to divine the will of the electorate.[8]

Preelection polls have increased in number and frequency since their introduction by George Gallup in 1936.[9,10] Given the power of polls in democracies, all citizens ought to care about their accuracy. In this article, we compare pollsters' confidence with their accuracy. That is, we report on a project that assessed the extent to which polls' confidence intervals encompassed the actual outcomes of races. In polling, as in statistical analyses in general, the term *confidence* has a specific meaning. Pollsters report a particular margin of error that quantifies their degree of uncertainty about their prediction. If a pollster reports that 50% of 800 likely voters favor a particular candidate in an upcoming election and claims to have 95% confidence that the poll has a margin of error of $\pm3.5\%$, the pollster is also claiming there is a 95% likelihood that the candidate should receive between

46.5% and 53.5% of the vote from the broader electorate.

We assessed the match between confidence and accuracy by measuring how often the 95% confidence intervals encompassed the actual election outcomes. We conclude that common reporting formats put too much faith in poll results, and we discuss ways to report election outcomes that could help the public interpret polling data more accurately.

Sources of Error

Before we describe our studies, we review some factors that can cause polls to be inaccurate. Statistical procedures help to quantify one potential source of error known as *sampling error.* Sampling error occurs when, despite a researcher's best efforts, a group of people chosen by random sampling methods may not actually be representative of the population of interest after all. For instance, if pollsters seeking a representative sample of the voting population just happened to reach a preponderance of Clinton supporters ahead of the 2016 election, the finding that 60% of the poll's respondents favored Clinton probably would not mean that 60% of votes actually cast in the election would be for Clinton. When someone is calculating the confidence interval for an outcome, statistical methods helpfully take into account the possibility that an erroneous prediction may result from a chance failure of random sampling methodology.

However, researchers who study survey errors have documented at least five additional sources of error that are more difficult to quantify.[11,12] *Specification error* is the result of a mismatch between the survey question and the answer it produces. For example, the question "Which candidate is better qualified?" may not predict votes, because not everyone votes for the candidate they believe to be best qualified. *Frame error* describes the discrepancy between the population sampled and the larger population. For example, respondents who were attending a Clinton rally, even if sampled randomly, would poorly predict the opinions of the broader electorate. *Nonresponse error*

arises from nonrandom nonresponse. For example, Trump supporters' suspicion of the mainstream media might have made many of them reluctant to participate in polls and thus could have led pollsters to undercount the likely Trump vote. *Measurement error* describes bias introduced by the method of measurement. For example, the race of an interviewer might affect respondents' reported attitudes toward candidates of that race. Finally, data-processing errors can occur in the cleaning or analysis of poll results.

Even pollsters who acknowledge the existence of these error sources may have difficulty using that knowledge to provide more realistic confidence intervals.[13] Data-processing errors illustrate the dilemma. Every researcher knows data-processing errors occur and tries to minimize them. To determine the full extent to which data-processing errors have influenced the results of a particular poll, pollsters would have to know which errors they have made; however, if they knew what mistakes they had made, they would have corrected them.

The usual response to the difficulty of identifying and quantifying errors is to ignore them. That is, pollsters do their best to minimize these different sources of error and then pretend they have succeeded. The consequence is that reported confidence intervals are likely to be too small:[14] The stated interval will give the impression that the election outcome will be closer to the poll's result than is actually likely.

From a psychological perspective, it is not entirely surprising that pollsters tend to be overly confident that their results will predict the actual election outcome. *Overprecision*, or being overly certain that one's judgments are correct, is one of the most pervasive biases; it affects most human judgments, including forecasts. Poll results are not technically forecasts because they capture attitudes at a moment in time, but they are typically interpreted as being forecasts of election outcomes. Research suggests that forecasters routinely act too sure that they know what will happen.[15,16] They confidently underestimate their vulnerability to error and fail to consider all the ways they could be wrong.[17]

Philip E. Tetlock conceptualizes approaches to forecasting with the ancient Greek aphorism "The fox knows many things, but the hedgehog knows one big thing."[18,19] Experts who bring a strong ideological orientation to their work and neatly fit the messy details of reality's complexity into their organizing narratives are hedgehogs. Foxes, by contrast, are generalists who are less likely to see universal laws and coherent ideologies; they are open to revising their views and accept the possibility that they might be wrong. Foxes consistently make more accurate forecasts than do hedgehogs, suggesting that one useful strategy people can apply to counteract their overconfidence is to consider the possibility that they could be mistaken.[20]

Research examining poll accuracy has primarily assessed how closely poll results correspond to the shares of votes that candidates receive in their elections.[8,21] In the first of two studies described below, we sought to add to prior research by comparing poll accuracy against the degree of confidence claimed, thereby more finely assessing how well poll designs are calibrated to reflect reality. In the second study, we examined how much faith the public has in the accuracy of polls and tested whether informing the public of historical inaccuracies alters that faith.

Study 1: Polls & Election Forecasts
Method
We preregistered a plan to investigate whether the confidence intervals stated for election polls reflected the polls' accuracy in predicting outcomes. By preregistering, we sought to assure readers that we would not selectively report analyses and results.

We were able to obtain data from RealClearPolitics (https://www.realclearpolitics.com/) on four election cycles: 2008, 2012, 2016, and 2020. We used data for Democratic presidential primaries in Iowa and New Hampshire during 2008, 2016, and 2020 and data for Republican presidential primaries in the same states during 2012 and 2016. We also used data from polls conducted ahead of the general presidential elections of 2008, 2012, 2016, and 2020. Prior to 2008, the

data did not consistently include sample sizes. Our preregistration, data, and code are available at https://osf.io/65za7/.

We analyzed primary data only for races in Iowa and New Hampshire, which are the earliest in the election cycle, because primaries get more complicated after the ones held in those states. For instance, candidates may drop out of the race between the poll and the primary, making it difficult to assess the accuracy of forecasted vote shares for the absent candidates and changing the competitive landscape for the remaining candidates.

The polling data we used can be accessed at the links below. (Print readers, find the links in the online text of this article.)

- 2020 Iowa Democratic Presidential Caucus

- 2016 Iowa Republican Presidential Caucus

- 2016 Iowa Democratic Presidential Nomination

- 2020 New Hampshire Democratic Presidential Primary

- 2016 New Hampshire Republican Presidential Primary

- 2016 New Hampshire Democratic Primary

- 2012 Iowa Republican Presidential Caucus

- 2012 New Hampshire Republican Presidential Primary

- 2008 Iowa Democratic Caucus

- 2008 New Hampshire Democratic Primary

- 2020 General Election: Trump vs. Biden

- 2016 General Election: Trump vs. Clinton

- 2012 General Election: Romney vs. Obama

- 2008 General Election: McCain vs. Obama

In total, we analyzed data for 14 sets of polls—1,931 polls for election cycles from 2008 to 2020. Because some polls asked about several candidates, the 1,931 polls produced 6,654 vote-share estimates. We recorded the margins

of error from all polls that reported them and calculated the others as described in note A.

Results

The analyses we present in this article are consistent with those we preregistered but proved more informative than the set we initially put forward. See the Supplemental Material for details of the preregistered analyses and visit https://osf.io/keswd/ for the results file.

Our primary analysis examined *hits*—instances when a poll's 95% confidence interval included the election's actual result—as a function of time between the poll and the election. We were particularly interested in accuracy over time because we wanted to see whether polls conducted far in advance of an election were generally less accurate than those conducted closer to the election. We grouped the polls into seven-day intervals and averaged the hit rate in each interval to estimate the accuracy of the polls as a function of time to the election. Figure 1 shows that hit rates averaged around 60% in the week prior to the election. A year prior to the election, average hit rates were lower: around 40%.

Because most polls ask participants to indicate how they would vote "if the election were held today," it might be no surprise that accuracy decreases as the distance in time between the poll and the election increases. It is worrisome, however, that even just a few days before the election, the 95% confidence intervals captured the actual vote share only 60% of the time.

We calculated how much wider the confidence intervals should have been to achieve 95% accuracy. First, we identified all the *misses* in a weekly group—the instances in which the true election outcomes fell outside the stated confidence interval. Then, for each week, we calculated how much wider the interval should have been so that 95% of the true election outcomes would have fallen within the confidence intervals. Figure 2 visualizes our findings. A week before the election, reported margins of error would have to have been 2 times wider, on average, to be 95% accurate. A year before the election, margins of error would have to have expanded by more than a factor of 3 to be 95% accurate.

Figure 1. Poll accuracy, by weeks before the election
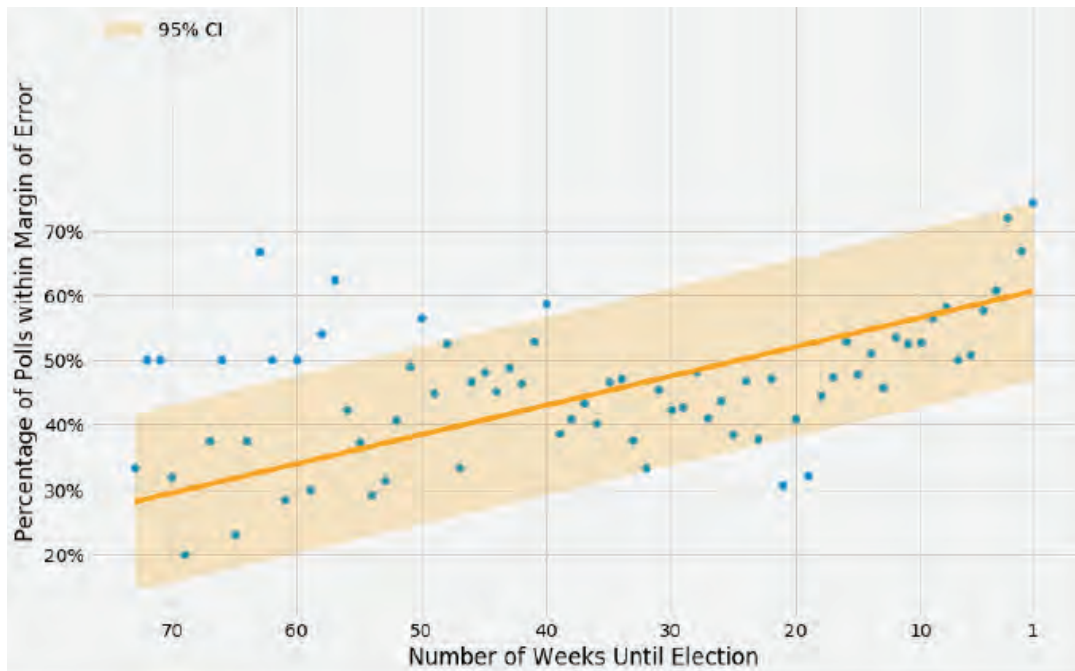
Note. Each dot represents the percentage of polls reported during a given week that proved accurate—that is, that the actual election outcome fell within the stated margins of error for a 95% confidence level. The orange line shows the best fit for the data. In general, poll accuracy increased as the elections drew near; however, at best, only about 60% of the polls proved accurate. The confidence interval (CI) shown on the graph refers to our data.

Figure 2. Adjustment to confidence intervals for polls to achieve a 95% hit rate
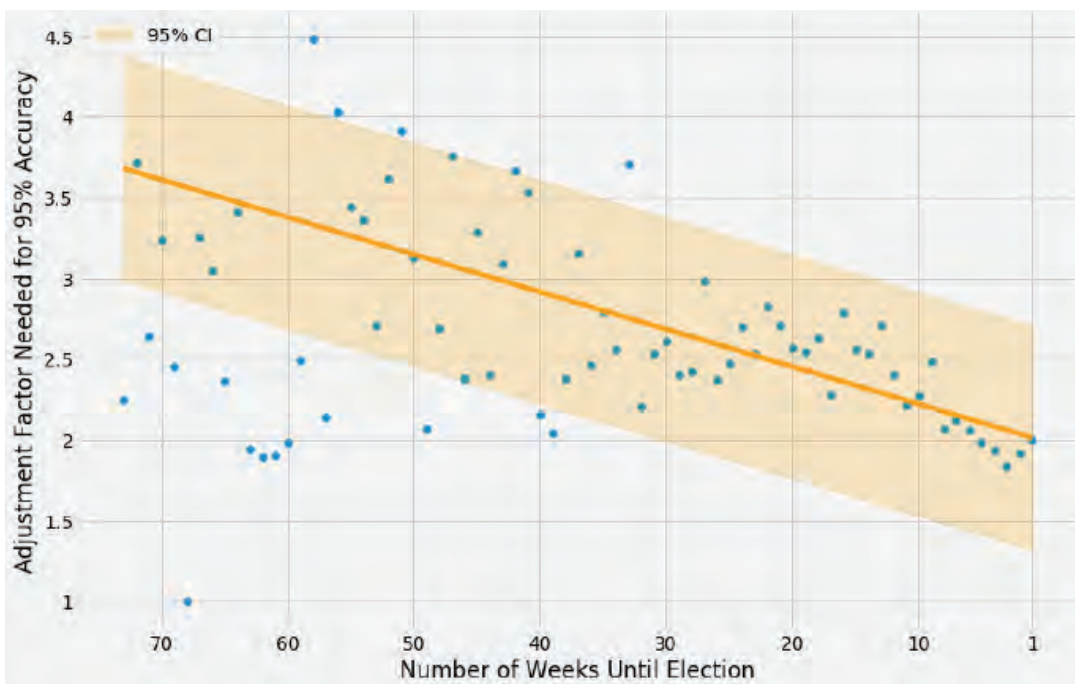
Note. For the polls in Study 1 to have hit their targets—that is, to have encompassed the actual election outcomes within their 95% confidence intervals (CIs)—their confidence intervals would have needed to expand by a factor of 3.5 when the polls were conducted 70 weeks ahead of the election and by a factor of 2 in the week before the election.

Finally, we also compared election cycles to look for trends over many years. We conducted the same analysis as shown in Figure 1 but segmented the results by year. As Figure 3 shows, we found little evidence that polls have become less accurate over the years.

Study 2: What Do Laypeople Think About Polling Accuracy?

Given the low rates of poll accuracy, members of the public should be skeptical when reading reports about political polls. Are they? Do they understand that polls are often poor predictors of election outcomes? We delved into these questions in Study 2 and examined the extent to which the amount of time before the election affected faith in poll results. Find our preregistration plan to assess responses to seven different poll reporting styles at https://osf.io/9qhmf.

Method

We conducted an online survey using participants recruited from Amazon Mechanical Turk.[22] We restricted our sample to residents of the United States, seeking a population that roughly matched the country's demographics.[23] We

opened our survey to 230 people and wound up with 217 complete responses. Data, materials, and code are available at https://osf.io/5wmqe/.

We randomly assigned participants to groups that read about a poll result that had been obtained one day, three months, or one year before an election. The survey then presented the poll finding to each participant using seven different reporting styles for the same poll result, in the following order (see note C):

- **Style 1** consisted of a point estimate: "The poll's results give one of the candidates 49% of the vote."

- **Style 2** consisted of a point estimate paired with a margin of error: "The poll's results give one of the candidates 49% of the vote with a margin of error of ±3 percentage points."

- **Style 3** consisted of a point estimate with a margin of error and a 95% confidence interval: "The poll's results give one of the candidates 49% of the vote with a margin of error of ±3 percentage points for a 95% confidence interval."

Figure 3. Poll accuracy, by election year
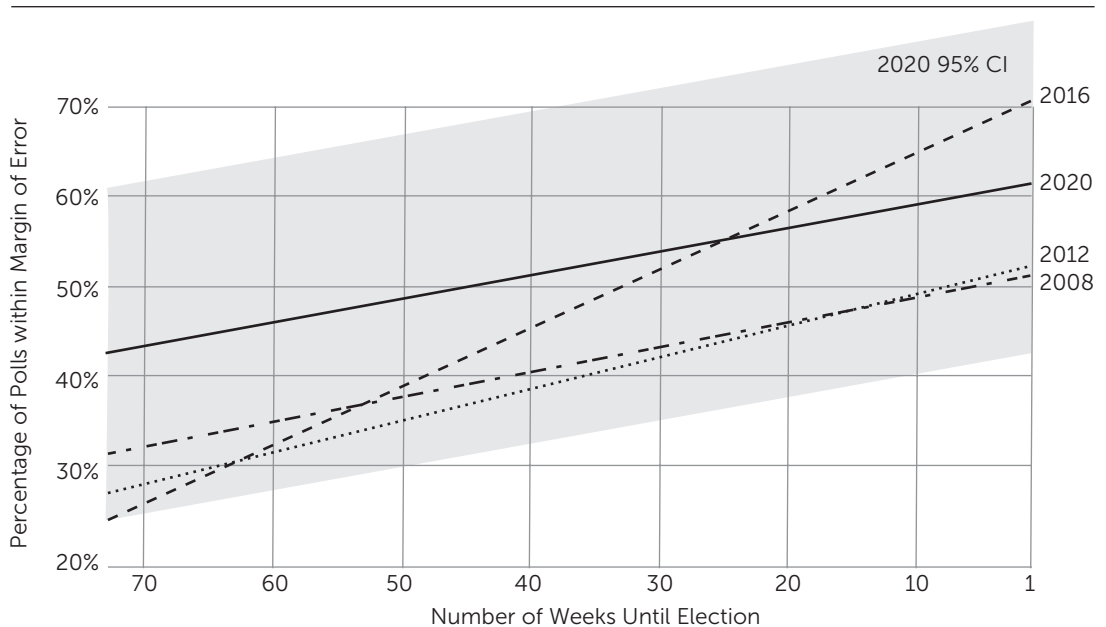
Note. Analyses of poll accuracy across four election cycles indicate that despite the concerns of some observers, accuracy—as measured by actual election results falling within a poll's reported margin of error for a 95% confidence level (CI)—has not declined in recent years. The shaded region shows the 95% confidence interval around the 2020 results. See the Supplemental Material for additional data displays relating to the accuracy of elections by year.

- **Style 4** consisted of an interval: "The poll's results give one of the candidates between 46% and 52% of the vote."

- **Style 5** consisted of an interval with a 95% confidence interval: "The poll's results give one of the candidates between 46% and 52% of the vote with a 95% confidence interval."

- **Style 6** consisted of a point estimate with a margin of error and a 95% confidence interval, as in Style 3, but with the addition of information about the historical accuracy of polls conducted in the time frame specific to the survey group. That is, the data for historical accuracy varied according to the survey group's time frame. For example, the one-year group's survey said, "Historically, a year before the election, polls capture the true outcome 35% of the time." For polls three months before and one day before the election, the figures given were 55% and 60%, respectively.

- **Style 7** consisted of an interval with a 95% confidence interval, as in Style 5, that was paired with information about historical accuracy that varied with the survey group's time frame, as in Style 6.

For each of the seven reporting styles, we asked participants to indicate, on a 0%–100% scale, how sure they were that the election outcome would be consistent with the poll's forecast. We predicted that participants would have more faith in polls than was justified by the historical accuracy of polls and, in particular, than was justified by the most commonly used approach of reporting a point estimate with a margin of error.

Results

As predicted, the average level of faith in the polls' accuracy ($M = 59.9\%$) exceeded the average reported historical accuracy of polls ($M = 49.7\%$), $p < 10^{-11}$. Overall, we saw excessive faith with all reporting styles. (See note B for a discussion of the statistical terms used in this article.) The time horizon and the reporting style each had an effect on the extent of the belief in the polls' accuracy ($p < 10^{-13}$ and $p < 10^{-7}$, respectively); however, that faith varied by time horizon and reporting style. (See Figure 4

Figure 4. Faith in poll results, by time horizon & reporting style
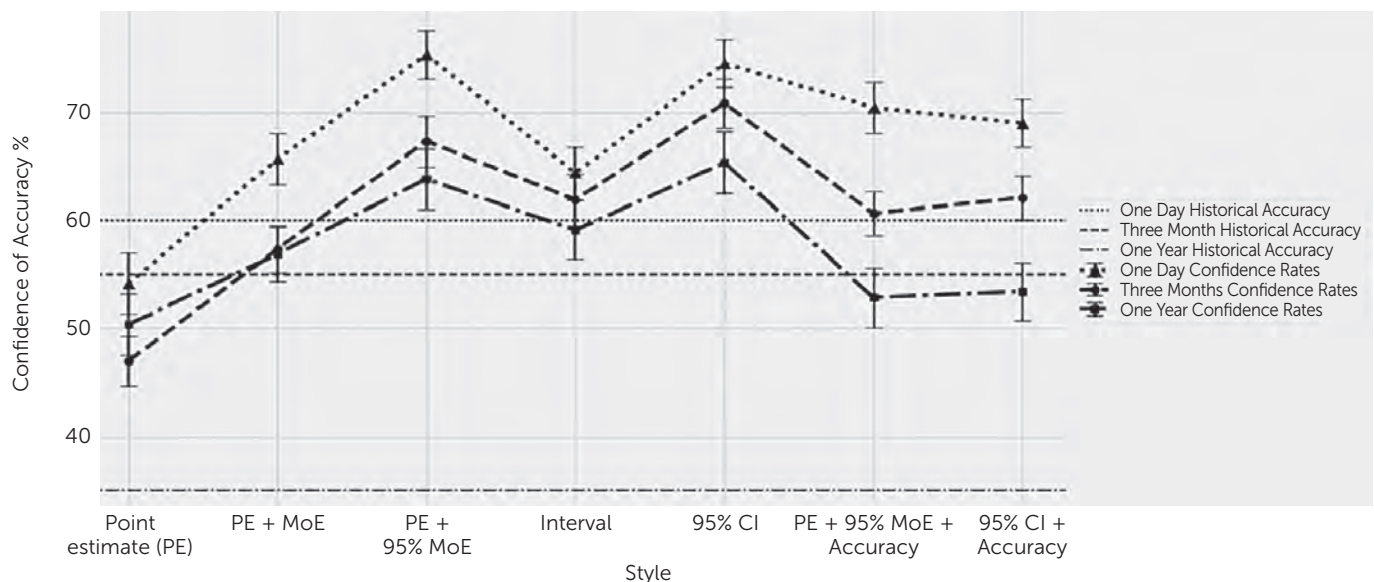
Note. The reporting style refers to how poll results were reported to participants; the *x*-axis labels describe the distinguishing features of each reporting style, which are defined as follows: Style 1, point estimate, was a poll result reported as a single percentage. Style 2 had the point estimate and a margin of error (MoE) specified. Style 3 included a point estimate, a margin of error, and a 95% confidence interval (CI). Style 4, interval, had the poll result reported as a range of values. Style 5 was an interval with a 95% confidence interval also stated. Style 6 consisted of the point estimate, a margin of error, and a 95% confidence interval, with historical accuracy—the percentage of polls that were accurate in the past at one day, three months, or one year before the election—specified. Style 7 consisted of a range of values with a 95% confidence interval and historical accuracy specified. Confidence rates were the average rating of participants' faith that the poll will be accurate. Error bars show standard errors for our results. The data indicate that for the most part, participants' faith in the accuracy of polls conducted one day, three months, or one year before an election exceeded the historical accuracy of polls conducted in the corresponding time frames. Even when participants were told of the historical accuracy of polls, they still overestimated the current poll's accuracy.

"Even when informed of the inaccuracy of past polls, participants continued to place excessive faith in the current poll's ability to predict an election outcome"

and the Supplemental Material for more details of the data analyses.)

With respect to the time horizon, for instance, participants generally placed their greatest faith in the polls conducted a day before the election. With respect to reporting style, consider the results relating to Style 2 and Style 7. Style 2, one of the most common reporting approaches, uses a point estimate along with a margin of error. For this style, faith in the poll's result exceeded the historical accuracy of polls to a statistically significant extent only when participants were told that the poll came out a year before the election ($p < 10^{-11}$) but not when they were told the results came out three months, ($p = .29$) or one day ($p = .02$) before the election. By contrast, Style 7 came with an explicit warning specifying polls' historical accuracy. Although we had expected this disclosure to reduce participants' confidence in the reported poll result, it had surprisingly little effect.

The results displayed in Figure 4 underscore both people's excessive faith in polls' predictive accuracy and the challenge of correcting their misperception. Providing more information about polls' poor record of accuracy in Styles 6 and 7 failed to bring the participants' faith in the polls in line with the polls' historical accuracy.

General Discussion
Overview
Our analyses showed that the 95% confidence intervals reported for the polls we studied included the actual election result substantially less often than 95% of the time. For 95% confidence intervals to include the true results—in technical terms, to be "calibrated with their hit rates"—they would have to at least double in size. Moreover, variations in how the findings of polls are reported make little difference to people's perceptions of their accuracy: Even when informed of the inaccuracy of past polls, participants in Study 2 continued to place excessive faith in the current poll's ability to predict an election outcome—faith that is not justified by the past successes of polls. The only comfort provided by the data—and it is small comfort—is that participants were not totally unaware of the potential flaws in poll predictions. They were not highly confident in the accuracy of the polls; on average, they reported being only 60% confident. One hopes this skepticism might help voters take future poll results with a grain of salt.

As we have explained, poll results might deviate from election results for many reasons—such as errors in sampling, specification, frame, nonresponse, measurement, and data processing.[24] The statistics used to generate confidence intervals are easier to adjust for sampling error than for other sources of error, although all result from systematic but difficult-to-assess differences between the people who participate in the polls and the larger population of voters. Because statistical models have trouble quantifying these differences, the confidence intervals they produce are likely to be inaccurate and will contribute to pollsters' excessive confidence in the accuracy of their polls.

Are New Social Trends Affecting Poll Accuracy?
FiveThirtyEight was not alone in underestimating the turnout for Donald Trump in the 2016 race against Hillary Clinton. His win prompted speculation that the accuracy of polling was declining.[25,26] It is possible that the 2016 presidential election was affected by a new phenomenon: right-wing voters being unusually reluctant to respond to polls because of a general suspicion of media organizations.[27] If that speculation were accurate, polling errors should be increasing. However, as Figure 3 shows, we did not find that hit rates of the polls conducted in the 2020 election cycle were

lower than in previous years. In a 2018 report, Will Jennings and Christopher Wlezien also found no evidence of a decline in poll accuracy over time.[10]

A simpler explanation for the failure of polls to predict Donald Trump's win is that their unusually poor showing represented an aberration; polls and elections will always include noise. Although many observers criticized Nate Silver and his FiveThirtyEight election forecasting website for giving Hillary Clinton a 71% chance of prevailing on the eve of the 2016 election, Silver sensibly defended himself by noting that events with a 29% probability of occurring do happen.[28]

Nevertheless, Trump's surprisingly strong showing four years later in the 2020 election has underscored concerns that recent polling misses may stem in part from some broad social trend that should be taken into account when polls are designed and interpreted in the future. This concern has been heightened by the flaws of the presidential polls in 2020. Going into the 2020 presidential election, national polls favored Joe Biden by 8 percentage points.[29] In fact, he won by only 4.5%.[27] Poll watchers are now wondering whether the failure to predict Trump's strong performances in 2016 and 2020 were due to chance or whether they might they be attributable to a "Trump effect," some mysterious factor related to Trump that systematically disrupts the accuracy of polls that involve him.[30] Also unclear is the answer to the important question of whether the failures reflect long-term trends with implications for future polls.

Ongoing Challenges for Pollsters

Such questions highlight the challenge of adjusting poll methodologies to account for their shortcomings. In principle, it ought to be possible to adjust polls' confidence intervals on the basis of their known limitations so that they become more accurate. And, in fact, sophisticated pollsters and poll aggregators have long attempted precisely this.[31] However, these adjustments can take into account only the known discrepancies between the populations sampled by polls and the larger population of people who vote. The list of discrepancies is long and changeable and omits unknown

"Voters are making a mistake when they decide not to vote because they believe polling tells them how the election is going to turn out."

discrepancies, making it incomplete. How incomplete? Estimating that incompleteness requires specifying unknown unknowns, an epistemological impossibility. For instance, it is impossible to know what news stories might emerge between a poll and Election Day and how they will affect different voters.

The approach we used in the studies reported in this article looks backward, measuring the historical discrepancies between poll results and election outcomes. This approach can provide at least some guidance for estimating the size of such discrepancies. However, unless the past is perfectly representative of the future, it will be an imperfect guide. And, of course, the world is ever changing, with a future course that is never perfectly predictable. The reasons that poll results may differ from election outcomes in the future are not limited to the reasons that explained differences in the past.

Action Implications

We see several action implications of our findings. First, pollsters should either lower the level of confidence they claim (to a percentage lower than 95%) or expand the size of the confidence intervals they report. If they wish to report confidence intervals that are well calibrated with reality, they ought to widen their confidence intervals substantially. Relatedly, journalists who report on poll data should point out that the true proportion of voters selecting a given candidate is likely to be smaller or larger than the polls predict.

In addition, consumers of polling data ought to put less faith in the accuracy of poll results. Voters are making a mistake when they decide not to vote because they believe polling tells

them how the election is going to turn out. Unfortunately, data from our second study do not provide much reason for optimism with regard to voters' corrigibility. Even when we provided information about the poor historical performance of polls, participants' confidence in their accuracy was not dampened sufficiently.

Finally, we are skeptical of rules, such as those governing the inclusion of candidates in political debates, that rely exclusively on polling data. Reliance on polls to decide which candidates deserve attention must be tempered with knowledge of the imperfections in polls' predictive accuracy. We believe, therefore, that decisions relating to debate participation ought to err on the side of including more candidates.

Without being able to anticipate why poll results will differ from the actual vote, pollsters will continue to overestimate their accuracy and underestimate their propensity for error. Even pollsters who are willing to admit, in the abstract, that polls are vulnerable to various sources of inaccuracy beyond simple sampling error may be reluctant to discount the accuracy of their own polls. After all, they have done all they can to minimize error and correct for known biases. Voters' trust that pollsters are doing all they can to correct for sources of error, along with voters' failure to understand that pollsters do not know all the sources of error, may explain why the participants in our second study were not sufficiently influenced by past inaccuracies in poll results and expressed optimism that the poll results reported to them in the study would be more accurate than polls have proven to be in the past.

Beyond Polls

An inability to compensate well for uncertainty is, of course, a problem that affects many statistical tools. Economists and sociologists have long been concerned about the issue.[32,33] Sometimes a scientific theory to explain some phenomenon is wrong and applies the wrong statistical model to evaluate data related to the phenomenon. But because scientists cannot test all possible models, they cannot know whether their model is the best one and will come away overconfident in the model's value.

The overconfidence we have identified in pollsters is not a problem unique to them or even to people who test scientific theories. As we explained earlier, overprecision—a form of overconfidence in which people are overly sure that they know the truth—is one of the biases in judgment most resistant to eradication.[16] People can be overconfident in their correctness for many reasons. For instance, they may base beliefs on information that is biased or otherwise imperfect in ways they did not anticipate. And because it is difficult for us humans to consider information we do not know, it is easy for us to overestimate the accuracy of our beliefs.

The results we report in this article suggest that overconfidence in one's judgments routinely afflicts not only pollsters but also the people who interpret those reports. We fear that the public and candidates will continue to be ill served if polls continue to be conducted and reported in the same old ways.

endnotes

A. The size of a reported margin of error in a poll or study is determined by the confidence level, the sample variance (that is, the spread of responses from participants), and the sample size. We found that the most common margin of error reported was 1.96 standard deviations around the poll result, assuming a normal distribution in sampling error. (A normal distribution is symmetric about the mean.) That is, the most common 95% confidence interval reported was the range going from 1.96 standard deviations below the poll result to 1.96 standard deviations above it, which translates to 3.5 percentage points above and below the poll result for a poll with 800 respondents. For polls that did not report a margin of error for a 95% confidence level, we used the poll's result and sample size to compute a confidence interval of ±1.96 standard deviations around the result. (See note B for further discussion of the statistical terms used in this article.)

B. Editors' note to nonscientists: For any given data set, the statistical test used—such as the chi-square (χ^2) test, the *t* test, or the *F* test—depends on the number of data points and the kinds of variables being considered, such as proportions or means. *F* tests and *t* tests are *parametric*: they make some

assumptions about the characteristics of a population, such as that the compared groups have an equal variance on a compared factor. In cases violating these assumptions, researchers make some adjustments in their calculations to take into account dissimilar variances across groups. The *p* value of a statistical test is the probability of obtaining a result equal to or more extreme than would be observed merely by chance, assuming there are no true differences between the groups under study (this assumption is referred to as the *null hypothesis*). We preregistered $p < .005$ as the threshold of statistical significance, with lower values indicating a stronger basis for rejecting the null hypothesis. *Standard deviation* is a measure of the amount of variation in a set of values. Approximately two-thirds of the observations fall between one standard deviation below the mean and one standard deviation above the mean. *Standard error* uses standard deviation to determine how precisely one has estimated a true population value from a sample. For instance, if one took enough samples from a population, the sample mean ± 1 standard error would contain the true population mean around two-thirds of the time.

C. The fixed order in which the survey presented the seven styles represents a deviation from our preregistered plan, which specified that every participant would see all of the styles "in a different randomly determined order." After completing the preregistration but before launching the study, we decided that a more conservative test of our hypothesis would be to present the different reporting styles in order of increasing caveats.

> ## In Brief: Key Action Implications for Policymakers
>
> - **Organizations that conduct polls** should report larger margins of error for 95% confidence levels or admit that their margins of error have a lower likelihood of encompassing true election outcomes. The margins of error tend to be too narrow, particularly when polls are conducted long before an election.
>
> - **News media** should require reporters to specify margins of error and to indicate that election outcomes often fall outside the reported margins—so that voters can take that information into account in deciding whether to vote and for whom.

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author note

supplemental material

- http://behavioralpolicy.org/journal

- Method & Analysis

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Hierarchy position & personality predict politicians' choice of information sources

Jeroen K. Joly & Joeri Hofmans

abstract

Political leaders need to stay informed about their constituents' needs and the pros and cons of any course of action. Reviewing information from a variety of sources would be expected to result in decisions that best serve those constituents. In a study involving 269 Belgian politicians, we examined whether the information sources they used differed according to individuals' position in the political hierarchy or their personality. We found that both factors could predict a politician's consultation of certain sources over others. Notably, elite political leaders (those with the most power and status) turned significantly more to sources produced by politically neutral groups (such as civil services or scientific institutions) than did politicians known as "backbenchers," who have less clout. We document several such patterns and argue that these tendencies are problematic. Political parties and government entities interested in good governance should provide training to teach politicians and their staffs to explore varied perspectives.

How politicians inform themselves about what is going on in society and within their communities can affect how well they govern. After all, they rely on such information to identify and understand society's demands and to assess proposed policy solutions, alternatives, and the potential consequences of any given course of action. To keep abreast of constituents' needs and make effective policy, government officials would ideally draw information regularly from a variety of sources representing different segments of society. For instance, political leaders must learn about the needs and preferences not only of the majority of their constituents but also of the minorities, who might have a harder time making their opinions heard. These subgroups can include specific interest groups from particular economic sectors (such as small business owners) and advocates for particular causes (such as people campaigning to protect the environment or end animal testing), as well as demographic groups with specific concerns (such as citizens who are older or who have disabilities). Representatives need to take into account the perspectives of a wide range of constituents to fully consider the potential drawbacks of new legislative initiatives, budgets, and governmental policies.

Gathering information from diverse sources is important regardless of whether a society is highly heterogeneous or relatively homogenous. Political institutions, like the Parliament in our country—Belgium—are generally designed to reflect society and to optimally translate demands from different groups into political priorities and, eventually, policies. Relatively homogenous societies with only a limited number of political and social divisions tend to generate political systems in which one party forms a government majority, generally in alternation with one other political party. Meanwhile, divided societies with a large number of political cleavages, like our own, tend to adopt a proportional electoral system, which allows for a greater number of political parties to be elected to Parliament, reflecting a greater diversity of representation in the political system.[1]

In either case, politicians, as a collective body, need to be exposed to a wide variety of sources of political information if the perspectives from all relevant segments of society are to reach the highest political spheres.

Conversely, one would expect poor governance from politicians who do not cast a wide net when seeking information. Past research has shown that people's selective use of media can create significant problems in organized societies. For example, in the United States, research has documented that conservative and liberal politicians hold distinct preferences for certain news networks over others, turning to channels that echo their own party's positions. These tendencies likely contribute to further political polarization in news audiences broadly.[2] In addition, media selectivity can reinforce biases and existing beliefs.[3,4] People may seek out channels and content that fit their worldview and personal identity, supporting the ideas they already hold rather than exposing them to new concepts and perspectives. It follows, then, that having a preference for specific information sources could be problematic in political leaders because it would reduce their likelihood of seeking out the full spectrum of perspectives and sources necessary for well-considered decisions.

In an exploratory study, we set out to determine whether we could identify the characteristics of politicians who would turn to specific sources of information over others to keep abreast of topics relevant to their work. More specifically, we hypothesized that the information sources politicians consult would differ as a function of a person's position in their party's political hierarchy and their personality traits. Past research had suggested that these two factors might correlate with how politicians seek out and use information. Knowing that policy decision-making is susceptible to certain biases, we reasoned that identification of such associations would indicate a need for interventions aimed at broadening the information-seeking practices of political leaders and thereby improving the likelihood of having a fair and representative government.

Past Research Into the Role of Hierarchy & Personality in Information Gathering

Hierarchy

Some politicians have greater clout, recognition, and responsibility than others. We call these high-profile politicians *elite* and their counterparts, with less authority and media attention, *backbenchers*. Elite politicians are those in positions of greatest power, making executive decisions and determining actual policies: ministers, secretaries of state, party chairmen, and the like. In turn, an example of a Belgian backbencher would be one of the lesser-known members of Parliament who have no official position within the party hierarchy. In some cases, elites and backbenchers may hold the same title, although the individuals have markedly different standing in their party. Consider, for example, this pair of Republican senators from the United States: Mitch McConnell, who is an elite—a leader within his party and in the U.S. Senate—and the less-well-known Mike Crapo, who is, comparatively, a backbencher.

Although all the politicians in our study operated at the highest levels of governance in Belgium (that is, at the national, regional, and community levels), we considered individuals in the following roles, both current and past, to be elite politicians: ministers, state secretaries, party leaders, leaders of parliamentary groups, and speakers. All other participants in our study were classified as backbenchers, having comparatively less power within the Belgian national, regional, or community government. (In Belgium, officials in regional and community governments are considered to be at the same hierarchical level of governance and are roughly equivalent to state-level lawmakers in the United States.)

Past research suggests that elites and backbenchers may differ in their use of political information in specific contexts. Politicians generally face an overabundance of information, but elite politicians are particularly overloaded.[5] Not only is more information relevant for what they do, but elite politicians also receive more

"one would expect poor governance from politicians who do not cast a wide net when seeking information"

materials from people eager to sway their opinions. Consequently, elite politicians need to be highly selective when it comes to information, using strategies such as outsourcing information selection to their aides and applying rules of thumb when sifting through incoming information to choose what to attend to.[5]

One particular study illustrates the importance of context in how politicians consult information sources. In research published in 2019, Åse Garten Galtrud and Katriina Byström made the case that, generally speaking, elites must pay attention to diverse information sources to keep updated on broad social issues.[6] However, given the overload of information they face, elite politicians become highly selective when preparing for debates and political responses. At such times, they turn to materials coming from like-minded entities, such as authors with cultural, social, and conceptual frameworks similar to their own point of view. In our research, we investigated a slightly different context from that explored by Galtrud and Byström, turning our attention to what sources politicians consult to keep informed about the political topics most important to them.

Personality

Previous research involving the general public suggests that personality can affect one's information preferences and decision-making.[7,8] Further, certain personality traits predispose individuals to seek political information, in particular, in different ways.[9] For example, people who are found by personality tests to be highly extraverted, agreeable, or open to experience are more likely than people who score low on those traits to learn about politics

"We had a representative sample covering 66% of the population of politicians at the highest levels of government"

from television, internet, and newspaper news coverage. In addition, people who are highly extravert and agreeable are more likely to watch national news coverage of politics, and people who are agreeable, open to experience, and conscientious are more likely to follow politics on local news sources.[9] In our study, we explored whether these findings also apply to political leaders.

Method

Belgium is a federal country, meaning that in addition to having a federal, or national, level of government, it includes several subnational entities that overlap geographically but have different *competences*, or areas of authority. Specifically, Belgium includes the Flemish, Brussels-Capital, and Walloon Regions and the French and German Communities. (This system is somewhat analogous to the federal government of the United States of America, which brings together 50 states.) For our research, we contacted all politicians from these different levels of governance. Out of the 413 politicians we contacted, 269 agreed to participate and provided data for the present study. We had a representative sample covering 66% of the population of politicians at the highest levels of government, both in Parliament and in Belgium's executive body, which is made up of ministers and state secretaries. (See Table S1 in the Supplemental Material for more information.)

We began by asking our participants a combination of open-ended and multiple-choice questions as part of a broader investigation into political representation and politicians' use of information. For instance, we asked open-ended questions about specific events that had occurred that week, how the interviewee was informed about these incidents, and what they did with that information. For the purposes of the present study, though, we included questions related to the information sources politicians turned to for their work.

Once rapport and trust had been established, we had participants fill out an elaborate survey consisting of both multiple-choice and open-ended questions. Many items on this survey were conditional, meaning the specific questions asked would depend on the participant's previous responses. Among other questions, this survey asked each politician to write out the three issues that were most important to them. Then participants had to indicate, from a list of options, which three sources of information they used most often to inform themselves about these three political issues. (Respondents chose among 12 possible options, which are presented in Table 1.) This approach allowed us to examine politicians' use of information sources with respect to their work, as opposed to information sources consulted in leisure time or other

Table 1. Information sources & the frequency of their use by politicians

Response option	Frequency
Media sources	
Social media	20
Mass media	103
Political sources	
My party	118
Politicians from my own party	13
Politicians from other parties	0
Neutral sources	
Federal bureaucrats	29
Parliamentary services	24
Scientific institutions	84
Other sources	
Individual citizens	36
Industry associations	112
Personal contacts	164
Interest groups	86

Note. Participants (*N* = 269) indicated which of the listed information sources they consulted in their work, choosing up to three options. We later grouped the sources into four categories: *media,* produced by journalists; *political,* from a political party; *neutral,* from nonpartisan or politically neutral institutions; and *other,* from entities that do not fit into the other three categories. *Frequency* refers to how many times participants selected the given information source.

contexts. For an in-depth description of our survey methodology, see Walgrave and Joly.[10]

After participants completed the survey, we administered a brief personality measure, specifically, the Ten-Item Personality Inventory (TIPI).[11] The TIPI is a 10-item scale measuring what psychologists call the *Big Five personality traits*: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. We selected the TIPI over other personality inventories for its brevity, because politicians can be difficult to reach and often have limited availability. Given that our methodology involved asking participants a number of other questions, the abbreviated approach was appropriate for our purposes. One trade-off to this approach is that the TIPI does not offer as much information as do longer, more detailed assessments that include not only personality traits but also facets of those traits (that is, fine-grained details, such as an agreeable person's trusting nature and degree of altruism or a conscientious individual's level of self-discipline and orderliness). Still, past work has shown the TIPI is useful for measuring the global Big Five personality dimensions.[11]

Once we gathered information from all participants, we attempted to classify the sources that politicians consulted into three broad categories based on the authors of the information in each case. *Media sources*, including traditional media and social media, denotes information that comes from journalists. *Political sources* applies to information that comes from a politician's own political party or fellow politicians, whether within or outside of the party. *Neutral sources* refers to information created by people in institutions that strive for political neutrality, such as scientific institutions and parliamentary services. We included civil servants as neutral sources because, in Belgium, these federal bureaucrats operate within the nonpolitical administration and are expected to communicate objective and complete information to members of Parliament. When an information source did not fit into one of these three categories, we classified it as *other.* For example, information coming from interest groups is not inherently tied to a political party, the media, or a politically neutral institution.

We then looked for any associations between the three primary information source categories and a politician's hierarchical position; political party; personality traits; national, regional, or community level; gender; or years of experience.[9] (For an extended discussion of our analytical methods and statistical modeling, see the Supplemental Material.)

Results

We found that many variables, such as political party, gender, and national versus regional position, were not strongly linked to our participants' choice of source material. As Table 2 shows, however, several characteristics, indicated by bold type in the table, were significantly predictive of a politician's use of specific source types. For example, people who scored high on Agreeableness or Extraversion on the TIPI were most likely to consult neutral sources and significantly less likely than low scorers to consult political sources. Politicians high in Openness to Experience were significantly less likely than those low in Openness to Experience to consult media sources.

Regarding position in the political hierarchy, elite politicians rely more on neutral sources than backbenchers do. More specifically, we found that elite politicians are 2.65 times more likely to select a source from the neutral source category as one of their three preferred sources than are backbenchers, the strongest predictive link in our analysis. Meanwhile, elites and backbenchers did not differ in the degree to which they consulted media or political sources.

In a follow-up analysis, we looked further at what we had gleaned about specific information sources in all four categories. As Table 3 reveals, we found that the more agreeable or extraverted politicians were, the less likely they were to use their own political party as a source of information, a finding that could explain their overall high degree of avoidance of political sources revealed in our previous analysis. In

Table 2. Relationship between politicians' characteristics & their use of information source categories

Characteristic	Media		Political		Neutral	
	Coef	*SE*	*Coef*	*SE*	*Coef*	*SE*
Personality traits						
Extraversion	.08	.22	**−.53***	**.22**	**.49***	**.23**
Agreeableness	−.13	.18	**−.47***	**.17**	**.34***	**.17**
Conscientiousness	.04	.20	.04	.16	−.10	.17
Neuroticism	−.01	.23	−.32	.19	.17	.20
Openness to Experience	**−.51***	**.23**	−.10	.18	.14	.19
National (0) versus regional (1)	.13	.29	−.47	.28	.35	.29
Elite	−.15	.36	.14	.35	**.97***	**.36**
Gender	.14	.29	.05	.29	.13	.30
Experience	**.04***	**.02**	−.03	.02	−.03	.02

Note. Coef = coefficient; *SE* = standard error. The data were analyzed using multilevel ordinal regression analysis. A positive coefficient indicates that the more a politician possesses a specific characteristic, the more likely the politician is to use a particular information source category. A negative value indicates that the more a politician possesses a given characteristic, the less likely the politician is to use a particular information source category. (For instance, our analysis suggests that the more extraverted a politician is, the less likely the politician is to turn to political information sources and the more likely the politician is to turn to neutral information sources.) Statistically significant findings are in bold. In the elite row, a positive value indicates that the information source category is more likely to be used by politicians in an elite position, whereas a negative value denotes that the information source category is more likely to be used by politicians in a backbencher position. In the gender row, a positive value denotes that the information source category is more likely to be used by male politicians; a negative value would have indicated that the information source category was more likely to be used by female politicians. The results indicate that personality traits, position in the political hierarchy, and years of experience increase the likelihood that a politician uses certain information source categories. The most predictive factor identified was elite status: The analysis revealed that elite politicians, significantly more often than backbenchers, turn to information from neutral sources, as opposed to sources from the media or the politician's own political party.
*p < .05.

addition, highly extraverted politicians are very likely to consult information coming from scientific institutions, such as policy-relevant research reports published by academics. Meanwhile, highly agreeable politicians rely greatly on information from parliamentary services, such as the regular press briefings issued by Belgium's Parliament. In addition, politicians who were highly open to experience were also significantly less likely to rely on traditional media than politicians low in this trait. These highly open politicians made some use of social media, but less so than other politicians—and they were highly likely to consult industry associations and interest groups when compared with politicians who were not as open to experience. Finally, we found that political elites were 3.49 times more likely than backbenchers to rely on information disseminated by scientific institutions as one of their three preferred sources of information.

Discussion

Our findings show that the information sources politicians consult can differ according to the individual politician's position in the political hierarchy and personality. Although the findings do not allow for causal interpretations, nor does our sample generalize to all political systems, our results show that such systematic differences are present in Belgium and suggest that they are likely to exist in other countries with similar kinds of government.

The study also points to a particularly striking difference related to hierarchy: Elite politicians in Belgium consult information coming from scientific institutions more often than backbenchers do. Several explanations could be at play. For example, given their greater involvement in political decision-making and the attention they receive for this work, the elite politicians may seek out information from politically neutral sources to prevent other politicians and members of the media or public from attacking the validity of their assertions. Backbenchers, however, are comparatively less preoccupied with policymaking and may instead focus more on addressing the interests of specific constituents or segments of

Table 3. Coefficients of the relationships between politicians' characteristics & their use of specific information sources

Characteristic	Mass media	Social media	My party	Politicians from own party	Scientific institutions	Parliamentary services	Industry associations	Federal bureaucrats	Citizens	Personal contacts	Interest groups
Personality traits											
Extraversion	−.02	.40	**−.51***	−.22	**.49***	.37	−.25	.06	−.16	.04	−.21
Agreeableness	−.02	−.53	**−.44***	−.65	.23	**.58***	.17	.18	.17	−.21	.09
Conscientiousness	.09	−.23	−.04	.40	.08	−.28	−.12	.25	−.17	.11	.04
Neuroticism	.01	−.14	−.26	−.50	.16	.06	**.74***	−.25	−.48	.08	−.26
Openness to Experience	**−.40***	−.66	−.14	.10	.04	.29	**.61***	−.43	−.10	-.08	**.40***
National (0) versus regional (1)	.07	.41	−.52	.29	.39	.03	.55	**−2.51***	−.21	.07	.11
Elite	−.34	.29	.22	−1.15	**1.25***	−.66	−.27	.35	−1.19	.00	−.14
Gender	.18	−.34	.10	−.41	−.10	.68	**.97***	−1.05	−.61	−.22	−.27
Experience	.04	.04	−.04	−.00	−.02	−.06	−.00	.01	.02	−.00	.01

Note. The data were analyzed using binomial regression analysis. A positive coefficient indicates a positive relationship between the two variables (in other words, possessing more of one variable increases the likelihood of scoring higher on the other as well). Statistically significant values are in bold. The results show that personality traits (except for Conscientiousness), position in the political hierarchy, national versus regional position, and gender predict a politician's use of specific information sources. Among the most predictive factors identified was elite status: The analysis revealed that elite politicians seek out politically relevant information from scientific institutions significantly more often than backbenchers do.

*p < .05.

their own party. As a result, the backbenchers may be less wary of using sources that critics might call "partisan." Moreover, elite politicians, as compared with backbenchers, may have more experience with and direct access to information coming from neutral institutions. For instance, elites may be better connected to officials and administrators at scientific institutions that can provide them with the latest analyses relevant to their policy work. Backbenchers, lacking these connections, would be more reliant on media sources and information from within their party.

Regarding personality, and in line with past findings from other researchers, we find that Extraversion, Agreeableness, and Openness to Experience are predictors of the information sources politicians consult.[9] In particular, politicians high in Extraversion and Agreeableness draw less on information from their own party and attend more often to information from neutral sources in comparison with people low in these personality traits. In the case of Agreeableness, the consumption of information from neutral sources might be driven by the fact that this information leaves less room for debate and conflict. In the case of Extraversion, people high in this trait are known to be attracted to political

information in general and to information that facilitates involvement in policymaking specifically[9]—inclinations that might explain their increased attention to neutral sources. Finally, we found that politicians high in Openness to Experience consult traditional media less often than others do and instead turn to industry associations and interest groups for information. This finding may relate to the fact that people who are open to new experiences are typically more willing to seek out and engage with information that contradicts their own worldview; this explanation seems reasonable if these politicians are absorbing information from industry and interest groups not already aligned with their own political leanings.

As a set, our findings go beyond the existing research on politicians' overall preferences for information sources[12] by showing that particular characteristics can make politicians more or less likely to consult specific sources when becoming informed about topics that are important to their work. We argue that our findings are cause for concern. As we noted in the introduction to this article, a diversity of inputs is essential if a government is to fully reflect society's many viewpoints. Leaders should therefore demonstrate no strong preferences

for specific sources over others and instead embrace a variety of information sources across the political, neutral, and media categories we have described. Even well-intentioned efforts to primarily consult politically neutral information sources, for example, could prove problematic. These sources may not offer sufficient insights into the critical viewpoints held by varied constituents, for example, which means politicians would need to consult other sources—from the media, fellow politicians, industry groups, and others—to learn more about the diverse perspectives that exist on a given issue.

We further argue that politicians who exhibit a predictable preference for a particular information source are vulnerable to biases in decision-making. Admittedly, one limitation to our study is that we did not specifically investigate the context of information used in decision-making. Rather, we asked politicians to point to the sources they consult when trying to keep informed about the most important issues in their work. Past research suggests that politicians may use different information when making policy decisions as opposed to simply keeping informed on certain issues.[12] Nonetheless, there is reason to believe that the systematic preferences that we observed could reflect and give rise to biases in decision-making.

We base this conclusion in part on poliheuristic theory, which holds that policy decision-making is done by first reducing the number of options at hand (by removing choices that pose an unacceptable political risk, such as a course of action that would impose extraordinarily high economic costs) and then evaluating the remaining choices more carefully to identify which one offers the maximum payoff and utility in a given situation (for instance, selecting a broad foreign policy approach that will dramatically increase a nation's diplomatic standing).[13] Poliheuristic theory claims that policy decision-making is often a messy process that is susceptible to biases because it involves subpar and incomplete information, resulting in suboptimal decisions. Two biases are particularly relevant.

Availability bias pertains to the tendency to rely on information that spontaneously comes to mind when engaging in decision-making.[14] Typically, the swiftness with which information comes to mind is affected by how emotionally charged and recent the information is. Given that we found groups of politicians leaning principally on one source type over others, we suspect they would be susceptible to the availability bias, leaving them with only a subset of all the relevant information at their disposal and therefore more likely to make biased, inferior decisions.[14]

Confirmation bias refers to people's tendency to reinforce or confirm their existing beliefs, such as by selectively searching for information that validates their prior ideas and by neglecting information counter to those views. In this case, too, our findings suggest a source of bias: Disregarding some information sources at the expense of other sources results in selective exposure to and selection of information, which makes it easier to look for confirming information and screen out contradictory information. For example, Valdis Krebs has shown that readers of politically liberal books bought other liberal books, and readers of politically conservative books bought other conservative books, with very few crossovers in buying habits.[15] Past studies demonstrate that this bias is often at play specifically among politicians, who tend to systematically downplay the relevance of information that does not align with their preexisting attitudes while highlighting information that supports their preexisting attitudes.[16] Like availability bias, confirmation bias can result in suboptimal decision-making.[17]

The obvious way for politicians to compensate for these biases would be to pay attention to varied sources of information without systematically excluding specific sources. Of course, many politicians will not be interested in reducing their biases. But steps can be taken to assist individual politicians, political parties, and government entities who want to improve the quality of their leadership. We propose that training could help. (See the sidebar Policy Recommendations.) Much as political parties

and parliaments hold media training to help politicians learn how to communicate with the press, these same entities could design educational workshops, led by experts, to improve politicians' approaches to selecting and learning from diverse sources of information.

To be effective, an intervention would need to focus on helping politicians become aware of the rules of thumb and biases they typically apply. In addition, because past work suggests that workshops that simply educate individuals on their own biases are not necessarily enough to change behavior,[17] we suggest training politicians alongside their staff. Such team training would increase the likelihood that participants' individual biases would be corrected at the group level. For example, a political party could enlist trainers with a background in psychology to not only help a politician and the politician's aides learn about heuristics and biases and how to identify blind spots but also discuss steps that can help counteract these biases. Spurred by this training, a group might agree to involve more than one team member in researching a given topic or create a checklist that requires seeking out at least two types of information sources when reading up on any given policy. Such concrete, process-oriented steps could

help ensure that politicians are widely read and informed on the diverse needs and perspectives of the people they serve.

We do not recommend explicitly targeting politicians for training based on their position in the political hierarchy or their personality traits. As noted, individual-level interventions targeting bias are rarely effective, which is why we propose working at the group level, as with both a politician and the politician's aides. The specific position or personality of an individual politician is therefore not important to the intervention design; the training instead needs to engage a team or working group and, as such, will involve varied personalities and roles. Further, several factors make an intervention based on personality traits particularly inappropriate. First, the effects in this study, while significant, are not large enough to warrant differential treatment based on an individual's score on a given trait. Second, each person is characterized by a unique combination of scores on the five personality traits that we studied. To develop an intervention based on personality, one would need to administer a personality test to each participant and then develop a custom intervention specific to their profile, which would not be feasible.

"Our findings suggest that many political leaders do not seek knowledge from a range of sources"

Conclusion

Our findings suggest that many political leaders do not seek knowledge from a range of sources but instead turn to specific purveyors of information in ways that are predictable, given the politician's personality and position in the political hierarchy. This preference for certain sources may contribute to biased policy decision-making. We argue, therefore, that parliaments or other governing bodies and political parties should develop training programs for politicians and their aides to counter these tendencies. It may be neither feasible nor effective to target training to individual politicians, but having programs for groups that work together could be beneficial to all. Such interventions could help politicians or parties that prioritize good governance, teaching them strategies that can broaden information-seeking behavior to ultimately improve political decision-making.

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supplemental material

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Improving election outcomes through a better understanding of heuristic evaluation of candidates

Meng Li & David R. Glerum

abstract

In democracies, the public may assume that people elected to public office are qualified and suited for that office. However, history has demonstrated that this perception can be incorrect. One reason that unqualified individuals win elections is that voters do not always make logical or rational choices. Instead, they often rely on mental shortcuts called *heuristics* to make snap judgments about which candidate would do the best job. Unfortunately, these snap judgments can be inaccurate. In this article, we summarize heuristics commonly used by voters. These heuristics are often activated by candidate attributes such as appearance, age, ethnicity, and other characteristics that are not related to leadership potential. We also propose policy solutions to reduce the chance of incompetent leaders being elected. These policy solutions address the problem through two main strategies: increasing the number of candidates who have the proper qualifications and encouraging voters to evaluate candidates more deeply and deliberately. We suggest four ways to implement these strategies.

> This process of election affords a moral certainty that the office of President will seldom fall to the lot of any . . . who is not in an eminent degree endowed with the requisite qualifications.
>
> —Alexander Hamilton

As Alexander Hamilton's words illustrate,[1] in democracies, the public usually assumes that the candidate selected by voters is qualified for office. Office-holding political leaders are expected to make decisions competently, scrutinize and evaluate policy, strategically direct and implement policy, maintain cohesion among constituents, and represent their constituents' interests.[2,3] However, throughout history, voters have elected individuals who lack the qualities that would make them fit for political leadership. The election of an unfit leader can have drastic consequences: incompetent or inappropriate wielding of influence; an inability or reluctance to do what is best for constituents; or, worse, amoral and destructive leadership and totalitarianism.[4] For instance, as was true of Adolph Hitler, demagogues rise to power by appealing to voters' negative emotions, such as resentment and prejudice, and are motivated by self-interest and opportunism rather than a desire to fulfill their duties responsibly.[5]

What factors allow incompetent leaders to be elected to office? One factor is that voters may make decisions based on attributes or characteristics unrelated to a candidate's suitability for political leadership. Indeed, psychologists have long recognized that people often do not make logical or rational decisions. Instead, people have evolved to use decisionmaking shortcuts, called *heuristics,* to save time and energy.[6] In this article, we focus on heuristics activated by several attributes of political candidates. These attributes may make politicians more or less popular among voters but are not necessarily accurate indicators of a political leader's effectiveness.[7]

We first describe the dual-process theory of decisionmaking as a framework for understanding how heuristics affect the way voters choose candidates. Second, we review and discuss the three most frequently studied categories of characteristics that activate heuristic thinking: (a) demographics, (b) appearance and behavior, and (c) what we call "quasi-qualifications." Last, we introduce several evidence-based policy recommendations to reduce the undesirable impacts of heuristics and improve election outcomes.

Dual-Process Theory & Voter Heuristics

Dual-process theory suggests that people process information via two distinct sets of cognitive systems: System 1, which is rapid, automatic, unconscious, and implicit; and System 2, which is slow, effortful, deliberate, controlled, and systematic.[8–11] One might assume that voters primarily rely on System 2 processes to evaluate candidates, carefully collecting and analyzing information about the candidates and their qualifications. However, voters often rely equally or more on System 1, using heuristics to make snap judgments about candidates. For instance, voters may have a preconception that good leaders are tall and attractive and thus assume that tall, attractive people are effective leaders. In other words, voters might decide the candidate who looks most like their idea of a leader is the best candidate for office.[12,13]

Behavioral scientists have postulated that a reliance on System 1 thinking for the selection of leaders could have provided an evolutionary advantage in early human communities.[14,15] Because System 1 processes are quick, automatic, and less resource intensive than the careful and controlled System 2 processes, they may have been beneficial for rapidly choosing a leader in situations where there was no time to waste, such as when groups faced an attacking tiger or approaching storm. Although System 1 can be useful in picking a leader in these types of immediate-threat emergencies, it can cause problems in the political domain because it can

lead voters to make automatic, snap judgments of candidates based on whether they fit the voter's internal image of a good leader—judgments that can be highly inaccurate.[13,16,17] Snap judgments can also be based on conscious or unconscious bias against certain characteristics related to ethnicity, race, culture, gender, and appearance. Once made, these judgments are quite resistant to change, because voters tend to search for and accept information confirming their initial judgments.[18] In sum, System 1 thinking may lead voters to elect incompetent or even dangerous people to office on the basis of characteristics that have little to do with effective leadership.

Candidate Characteristics That Activate the Use of Heuristics in Voters

Demographic Characteristics

The term *demographics* refers to the various characteristics of a population, such as income or health status. In the following text, we consider the candidate demographic categories that most often activate heuristic thinking among voters: gender identity, race and ethnicity, and religious affiliation.[19]

Gender Identity. Even though research has shown that women are just as qualified for political office as men are, they (as is the case with LGBTQ+ politicians) are routinely underrepresented in political office.[20,21] One explanation for this disparity may be that voters use biased heuristics based on the idea that good leaders are masculine. As a result, female candidates often must convey a higher level of ambition and competence than male candidates do to overcome barriers to political office.[22]

Indeed, research demonstrates that voters recognize candidates' demographic characteristics first and then quickly make stereotyped assumptions on the basis of those demographics.[23,24] For instance, voters assume that female candidates will advocate for social services relevant to mothers and children, such as childcare, education, health care, and poverty reduction. In contrast, voters assume male candidates will emphasize economic

"voters may make decisions based on attributes or characteristics unrelated to a candidate's suitability for political leadership"

development, a strong military, crime reduction, national security, immigration reform, and the deficit.[25,26]

Research demonstrates that when voters watch men give political speeches, they associate nonverbal behaviors that indicate dominance (such as assertiveness and expressiveness) with positive leader-like attributes (such as toughness, confidence, and decisiveness). However, voters view these same behaviors negatively when displayed by women because they violate typical gender role stereotypes. Women are more likely to receive votes when they convey a composed demeanor, aligning with the gender role stereotype.[27] Although voters rank all women as less suitable for office than childless men or fathers, they rank women without children at the bottom of the list, below female candidates who are parents, presumably because childless women seem less feminine than mothers.[28] This stereotype-based heuristic thinking also occurs in the evaluation of political leaders and judges. For instance, Justice Antonin Scalia's children were present and welcomed at his 1986 confirmation hearing, but little time was spent connecting his parenthood to his abilities as a justice. However, during his protégé Amy Coney Barrett's confirmation hearing in 2020, legislators continuously inquired about her motherhood, pointing out she was "tireless," "remarkable," and a "superstar."[29] Conflicting heuristics puts female candidates in the bind of trying to display traits that voters consider masculine (confidence, dominance, assertiveness) while remaining sufficiently feminine to comply with their gender role.

Race & Ethnicity. Despite tremendous racial and ethnic minority population growth in the

United States, very few politicians belong to racial or ethnic minorities.[30] Using heuristics based on stereotypes, voters may decide that racial majority candidates are more conservative, intelligent, experienced, or trustworthy and choose to vote for them instead of racial minority candidates.[31] These heuristic tendencies are even stronger when voters are cognitively taxed by voting on numerous issues at once. Even socially liberal voters, who traditionally advocate for racial equality, support racial majority candidates more than racial minority candidates when cognitively depleted.[32]

Religion. In general, voters find religious candidates more trustworthy (as long as they practice a majority religion) and are less likely to vote for atheist candidates.[33] In the United States, religion matters more to White voters than to voters from other racial groups, and White voters expect religious candidates to be more conservative.[34] Voters tend to view candidates who share their religious beliefs as ideal leaders and candidates from other religious traditions as less ideal. For instance, Muslim candidates suffer electoral penalties among non-Muslim voters, especially from White voters.[35] Similarly, Muslim voters from certain Muslim groups typically do not vote for non-Muslims or candidates from a different Muslim group.[36] When religion interacts with partisanship, the situation becomes even more complicated. For example, identifying a candidate as an evangelical increases Republican support and decreases Democratic support for that candidate.[37]

The Changing Effects of Demographics on Heuristic Decisionmaking. A large body of evidence demonstrates that the demographic characteristics of candidates have historically influenced voter decisions. However, newer evidence shows that biased decisionmaking based on demographic characteristics has diminished in recent years. For instance, according to several studies, voters are no longer as biased against female candidates as they were in the past, and their stereotypical views of gender have weakened.[38] Instead, voter evaluations of candidates appear to be more reliant on party affiliation.[39] As an extreme example, a 2008 study

of New Hampshire's primary voters revealed that candidates' gender, race, religion, and age did not affect voters' decisions.[40] Some research even suggests that voters are more willing to vote for women and Black candidates than they have been in years past.[41] However, some scholars contend that biased preconceptions of leadership persist and that these studies do not reflect actual changes in voting behavior. Instead, these studies may reflect participants' desire to give socially acceptable responses to researchers.[42]

Appearance & Behavior

The appearance and behavior of candidates inform heuristics that voters use, even though many of these characteristics are unrelated to leadership potential.

Facial Appearance. Facial attractiveness positively affects voting preferences,[43] particularly for female candidates,[44] an effect that holds even after researchers control for voters' visual and cognitive functioning.[45] Even though appearance has nothing to do with how effective or successful they will be as a political leader, physically attractive candidates often have an electoral advantage.[46]

Voters intuitively make quick inferences about candidates merely from their facial appearance. In some studies, participants were shown pictures of politicians and asked to rate the politicians on dimensions such as competence, trustworthiness, likability, and attractiveness. Participants made these judgments spontaneously and almost instantaneously (in as little as 33 milliseconds),[47] which precluded System 2 thought processes as explanations for their ratings.[48] Even when given more time to think through their evaluations, voters still defaulted to their rapid automatic judgments.[49] These results are not surprising if people have no other information about the candidates available to them. But a more worrisome finding is that these quick responses to images of faces influence voting decisions and predict actual election outcomes. For instance, competence ratings made after a one-second exposure to congressional candidates' faces accurately predicted 68.8% of the Senate races in 2004.[26]

Studies with children suggest that these automatic judgments are perhaps more hardwired than learned. In one study, researchers showed pairs of faces (winners and runners-up) from the 2002 French parliamentary elections to hundreds of adults and children and asked them to evaluate the faces: Adults were to choose who seemed more competent, whereas children were asked to select the person they wanted to be the captain of their boat. The decision patterns were nearly identical: Adults' judgments correctly predicted election results 72% of the time, and kids' choices accurately predicted 71% of the races.[50]

Research demonstrates that perceptions of competence that are based on facial appearance may be the primary determinant of electoral success across countries and cultures. The precise facial characteristics underlying competence ratings are not well understood, but research has shown that voters often associate mature faces (older, as opposed to having a baby face), familiar faces (in the sense that voters prefer faces that look about the same age as theirs), and attractive faces with competence.[45] Voters tend to favor candidates with a mature appearance and see them as trustworthy, dominant, and competent,[51] As such, voters prefer older candidates, especially in times of stability.[52]

Height. An abundance of research has linked height with perceptions of leadership qualities such as dominance, status, and authority.[53] Not only are taller candidates more likely to win the popular vote and be reelected,[54] but members of the public view incumbents as being taller than they estimated these same people to be before they were elected.[55] Ratings of presidential greatness by experts in presidential politics correlate with presidential height, as do various ratings of leadership qualities, which suggests that this bias is pervasive.[56,57]

Voice Pitch. Voice pitch affects voter preferences, with voters seeing candidates with low-pitched voices as being more dominant and competent than those with high-pitched voices.[58] Voters favor both male and female

"competence ratings made after a one-second exposure to congressional candidates' faces accurately predicted 68.8% of the Senate races in 2004"

candidates with low-pitched voices,[59] even in candidates running for more "feminine" leadership positions, such as roles that are congruent with the stereotype of women as caretakers.[60] Researchers have uncovered a significant negative relationship between higher voice pitches and electoral success in democratic elections held throughout the world. Candidates with low voice pitch (1 standard deviation below the mean) had a 64.9% predicted probability of winning their election compared with 34.5% for candidates with high-pitched voices.[61]

Nonverbal Behavior. Like the more passive demographic and appearance-related characteristics we have discussed, political candidates' nonverbal behavior can also influence voter judgment through heuristic thinking. More specifically, voters may automatically evaluate candidate behaviors that are distinctive and displayed consistently as representing personality traits.[62] Indeed, studies have consistently shown that voters prefer politicians who behave in ways that suggest they are stable, extroverted, conscientious, open-minded, honest, charismatic, and disagreeable.[63,64] However, when it comes to predicting actual leadership effectiveness, disagreeableness and extroversion may not be reliable markers. Extroverts tend to be narcissistic and disagreeable people tend to be socially dominant, and narcissism and social dominance have been linked to autocratic tendencies and unethical behaviors.[65]

Although behavior may be a relatively accurate window to personality,[66] behavioral attributions

made by voters are susceptible to manipulation by candidates when they adopt behaviors designed to activate heuristic thinking. Because candidates are nearly always in the public view, they may practice using certain verbal and nonverbal behaviors with the specific intent of influencing voter preferences.[67,68] Conversely, biased media portrayals or attack ads may distort the appearance and behavior of a targeted candidate, subtly influencing voters' perceptions of the candidate.[69,70]

Quasi-Qualifications

Voters may rely on various accomplishments as indicators of candidates' suitability for public office, such as a candidate's education, past political experience, and political connections. These qualifications often do not directly relate to a candidate's knowledge of how to lead, govern, and direct policy effectively. Therefore, they may not translate into leadership effectiveness, at least not to the same degree as more relevant qualifications, such as political skill and leadership abilities.

In other words, a candidate's many degrees, years of experience in politics, and good connections do not automatically make that candidate the best-suited person for the job at hand, even though voters often infer that they do. Given that these characteristics are only indirect and potentially inaccurate indicators of future effectiveness, we refer to them as *quasi-qualifications*: characteristics that lead to bias if accepted prima facie and without careful consideration of their relevance to the political office sought.

Education & Experience. Education and experience robustly predict candidates' election chances. For instance, the 2019 U.S. House of Representatives' incoming cohort was the most educated legislative cohort in its history, with 72% of elected officials holding a graduate degree and 95% holding a bachelor's degree.[71] As we noted earlier, voters often equate educational attainment and experience in politics with competence and political skill, but they are imperfect proxies on their own as signs that a candidate will be effective.[72]

Experience, for its part, may contribute to the *incumbency advantage*, which refers to voters' preference for candidates who already hold the office or another one. Voters assume that candidates who hold or have held office acquire substantial knowledge and expertise while in office,[73] regardless of their performance during their tenure.[74] This well-known advantage has led to the derogatory term "career politician" being coined for use against incumbents by opposing candidates with less political experience as well as in academic literature and the popular press.[75,76] The term insinuates that these politicians have narrow occupational backgrounds and life experiences that potentially insulate them from and thus render them unable to effectively represent their constituents. Arguably, there is nothing inherently wrong with a career politician (imagine accusing an expert who has dedicated their life to the study of an important phenomenon of being a "career scientist"). In any case, voters should be encouraged to evaluate the skills and traits needed to be successful in a particular public office rather than make snap judgments based on the number of years an incumbent has been in office.

Despite the intuitive link between education, experience, and political effectiveness, research in this area has confirmed that education and experience are not necessarily reliable indicators of effectiveness—the relevancy of a candidate's education and experience matters. Concerning education, an examination of cross-national data found that college-educated leaders performed on par with non-college-educated political leaders and were not more likely to lead their nations to prosperity, pass more legislation, or avoid corruption.[77] Some researchers discovered that mayors with political experience but no college education were as effective as college-educated mayors at reducing local debt.[78] Other studies found no relationship between prior political experience and in-office performance for U.S. presidents, as rated by presidential researchers.[79] Studies have demonstrated that some experiences, specifically those similar to presidential experiences, relate positively to presidential performance.[80] In

contrast, experiences unrelated to presidential responsibilities either do not affect or negatively affect presidents' performance.[80] Depending on the public office in question, politically relevant degrees, such as public administration or economics, may be more beneficial for political leader performance than, for instance, medical degrees.[81] However, it may be difficult for voters to distinguish between relevant and irrelevant types of education and experience. For that reason, they may rely on quick System 1 thinking rather than evaluating the relevancy of the education and experience to a particular office.

Social Capital. Another quasi-qualification is the candidate's social capital. In this context, we define *social capital* as the social resources and networks that can potentially provide advantages to a political candidate or leader.

One form of social capital that benefits candidates is belonging to a political family, also known as a *political dynasty*. This term describes an often multigenerational group of politicians who are connected by marriage or blood.[82] Dynasties are common in many democracies and offer a significant electoral advantage.[83] On average, between 1789 and 1858, 11% of legislators belonged to political dynasties. This trend is decreasing: Since 1966, only 7% of legislators have belonged to political dynasties. However, U.S. Congress members holding office for more than one term are 40% more likely than those who held office for only one term to later have a relative in Congress, according to a 2009 study.[84] Dynastic politicians occupy a more significant share of positions in developing democracies (for example, over 40% of nationally elected positions are dynastic in the Philippines) than in developed democracies such as Canada (with less than 4% of nationally elected positions being dynastic).[85]

Such phenomena can be attributed to name recognition,[86] as knowledgeable voters and the uninformed alike are more likely to vote for a candidate whose name is more familiar than that of another candidate.[87] In addition to name recognition, electoral advantages enjoyed by dynastic politicians include financial resources, education, family networks, material wealth, and political connections from their predecessors.[88] The extra resources, support, and name recognition are especially beneficial for women who run for office,[5] with female legislators in U.S. Congress being nearly three times more likely than men to come from dynastic families.[89]

Of course, dynasties' political power might reflect what Stephen Hess refers to as the "best butter" of politics,[90] a term used in part to describe inherited skills and abilities that lead to electoral success. However, although dynastic politicians perform better than nondynastic politicians in some studies,[91] they perform equally well or worse in others.[92] Perhaps the most convincing piece of evidence that inherited characteristics do not account for electoral success comes from Ernesto Dal Bó and his colleagues, who demonstrated that dynasty formation depends primarily on the length of time a dynasty's founder remained in office. The longer one holds political office, the more one's dynastic successors can leverage the founder's name recognition, financial resources, and social network connections.[84]

Connections Among Characteristics That Activate Heuristics

So far, we have described categories of characteristics that can activate heuristic thinking in voters—namely, demographics, appearance and behavior, and quasi-qualifications. We have also discussed the evidence that the populace tends to rely on these characteristics when choosing who to vote for and that these characteristics are relatively unrelated to leader effectiveness. Demographics, appearance, behavior, and other characteristics are not mutually exclusive: Voters tend to associate some characteristics with others, and these associations can affect voters' choices.[93] For example, gender and facial appearance are connected because masculine faces are stereotypically seen as dominant and mature.

Furthermore, candidate evaluation depends in part on the salience of the characteristic in question.[94] Appearance and behavior, for instance, can be perceived differently by

different observers. Moreover, candidates can change their appearance and behavior across situations.[95] In addition, research shows that heuristics activated by appearance and behavior can be either overridden or amplified by demographic characteristics such as gender and race or ethnicity. This modification may be more likely to occur when the demographic characteristics reflect leadership stereotypes, such as the idea that the best leaders are older White men. These characteristics activate heuristic decisions in some voters that may override momentary perceptions of incompetence stemming from appearance or behavior.[96] This research suggests that demographic characteristics may take precedence over other cues.

Some characteristics and the attributes they represent in voters' minds are more relevant to voters than others. For example, research has demonstrated that people believe intelligence and dedication are two of the most crucial traits of effective leaders.[93] This finding could explain why voters put so much stock in education (which could indicate intelligence) and political experience (which could indicate dedication), even though not all types of education or experience correlate with effective job performance.

Policies to Reduce the Negative Effects of Heuristic Decisionmaking in Elections

Given the global rise of populism and the increasing use of social media, which tends to amplify heuristic thinking over careful evaluation,[97] it is important for elected officials and policymakers to consider policies that could combat the negative effects of heuristic decisionmaking among voters. Many researchers in the behavioral sciences have conducted studies to test approaches to improving election outcomes. These include setting up systems to ensure that the people running for office are competent (so that even when heuristics dominate decisionmaking, the winners will still be reasonable choices) and taking actions that encourage voters to evaluate candidates more deeply and deliberately. On the basis of the first line of research, we recommend establishing minimum qualifications for holding offices. And,

on the basis of the second line of research, we recommend providing voters with decision-making aids, instituting ranked-choice voting (which calls on voters to give more thought to their choices), and increasing the diversity among candidates (to normalize candidate diversity and thus reduce the use of heuristics based on biased stereotypes). We elaborate on these ideas next and in the sidebar Policies to Improve Election Outcomes by Reducing the Role of Heuristics.

Encourage Minimum Qualifications for Leadership

Research from the behavioral sciences has demonstrated across occupations and positions that requiring minimum qualifications for a given job helps improve a job candidate's likelihood of being effective once in the position or office.[98] Most people employed in health care and law hold licenses or certifications or meet other minimum qualifications that confirm that they have the requisite knowledge, skills, and abilities to fulfill their responsibilities competently,[99] so why not political leaders?

For some levels of the U.S. government, officials have already recognized the need for minimum qualifications in leadership positions of trust. The Founding Fathers, for example, specified in the Constitution that a candidate for the presidency must be at least 35 years old, a natural-born citizen, and a resident of the United States for at least 14 years. Other positions have had qualifications for future office holders drawn up in the wake of sometimes catastrophic real-life leadership failures: After the Federal Emergency Management Agency's disastrous response to Hurricane Katrina, for instance, a Senate committee noted that the agency's leader "lacked the leadership skills . . . needed for his critical position."[100] In response, legislators passed the Post-Katrina Emergency Management Reform Act of 2006 that stipulated minimum leadership qualifications, such as demonstrated emergency management ability and knowledge of homeland security, for the head of the agency.[100] Requirements related to knowledge, skill, competence, and expertise are also in place for membership on various commissions and boards and for employment

Policies to Improve Election Outcomes by Reducing the Role of Heuristics

The problem: Voters often rely on shortcuts in thinking, called *heuristics*, when evaluating candidate running for office and thus make snap judgments about them. These reflex responses—detailed in the main article—can result in voters electing people who are not suitable for office.

Following are policies that can reduce the negative effects of heuristic decision-making among voters:

Encourage minimum qualifications for candidates.
- Requiring minimum qualifications may prevent or reduce the chances of voters electing unsuitable candidates even when voters rely on heuristic decisionmaking.
- The qualifications themselves may help educate voters about what attributes are important for successful leadership in particular political positions.

Implement voting aid applications.
- Applications that educate voters about candidates' qualifications and positions may help voters evaluate candidates more deeply and move beyond heuristic decisionmaking.

Alter voting processes.
- Ranked-choice voting may impede voters' reliance on heuristics because it can force voters to compare a group of candidates rather than making a binary choice.

Increase diversity among candidates.
- Increasing diversity may offer two benefits: more opportunities to find truly qualified people and fewer opportunities for heuristic decisionmaking based on biases. Ways to increase diversity include:
  » Intentionally expanding recruitment pools beyond traditionally overrepresented groups.
  » Implementing quotas.
  » Identifying and promoting role models to inspire people from underrepresented groups to run for office.

in leadership positions across the U.S. government.[95] For example, a candidate for the director of the Institute of Education Sciences within the Department of Education would need subject matter expertise in research, statistics, and evaluation; competence and skill in these areas (demonstrated through research productivity); and proven scientific project management abilities.

Imposing minimum qualifications for political office in the United States would likely be controversial. Indeed, John Rawls, one of the most influential political philosophers of the 21st century, suggested that being able to hold public office is an unqualified right of all citizens.[101] However, in the wake of modern lapses of leadership, the public and politicians alike may be ready to take a serious look at the idea of minimum qualifications.

So what might minimum qualifications look like in a political context? We have already described how graduate degrees and experience are imperfect and unreliable predictors of political leader effectiveness. However, we also noted that relevance plays a key role, with politically relevant degrees (such as public administration

or political science) and experiences holding higher potential for resulting in successful leadership.[81] Graduate degrees in public policy, passing the bar exam to practice law, or other forms of demonstrated professional competence, as reviewed earlier, may indeed predict leadership effectiveness when required for the particular political office in question. Moreover, educational attainment reflects intelligence,[102] and intelligence has been consistently linked to presidential greatness for decades.[103] However, it is important to note that the form of intelligence associated with presidential greatness is broader and more extensive than what a standard IQ test would assess and covers intellectual curiosity, brilliance, and openness.[104] Therefore, we hesitate to recommend using an IQ test for minimum qualifications for office. Regardless, a candidate's job-relevant degree that reflects intellectual curiosity, cognitive ability, and the responsibilities of the office in question holds more promise as an indicator of the candidate's ability to be effective in that office than do the candidate's years of experience or education when these are not specifically relevant to the elected position.

Specifying minimum qualifications for an office and the rationale for those qualifications may help voters distinguish among relevant and irrelevant degrees, licenses, certifications, and experience. Further, when political party representatives nominate candidates, they would do the public a service if they evaluated aspiring candidates' qualifications objectively and critically. These decisionmakers should undergo training to distinguish relevant qualifications from irrelevant qualifications such as medical degrees or quasi-qualifications that maintain the appearance of competence but may be entirely unrelated to political effectiveness. Just because a candidate has written a best-selling book does not mean the person is competent, skilled, and fit for leadership. We caution, though, that completely ignoring educational attainment and political experience would probably be a mistake, because although we advise against relying on those characteristics on their own as indicators of competence, they may play some role in future effectiveness.

In addition, entities independent of political parties could establish credentialing organizations to evaluate relevant minimum qualifications of candidates. These organizations could operate alongside candidate development programs that prepare candidates for public office, such as the National Democratic Training Committee and the Republican National Convention Campaign Management College. Party leaders could consult these credentialing organizations in determining which candidates may be most qualified to run for office. Independent entities could also publish the findings of their objective evaluations to assist voters with their candidate evaluations. Independent credentialing organizations could reduce the influence of candidate impression management, which strives to make candidates seem qualified for office even when, objectively, they are not.

Implement Voting Aid Applications

As we have shown, heuristics and System 1 thinking can lead to voters endorsing incompetent candidates. However, voters may rely less on these processes if provided with tools that encourage a more systematic and rational decisionmaking approach.[105] Several informal tools known as *voting aid applications* (VAAs) have emerged within the last decade to serve this purpose.[106] For instance, the U.S. government suggests that voters consult BallotReady (https://www.ballotready.org), which enables voters to compare candidates on education, experience, and position statements before deciding for whom to cast their vote. Separately, more than 56 million people have taken the "I Side With" and "Vote Compass" quizzes to match their stances on various political issues with those of the candidates.[107] In another example of a decision aid, the League of Women Voters (LWV) published a pamphlet in 1976 that encouraged voters to compare leadership abilities among candidates, fact-check political campaigns, be aware of the advertising and marketing techniques being used to influence voters, and examine campaign finance practices.[108] Today, the LWV maintains a nonpartisan website that provides unbiased information about candidates across the entire country. Local LWV chapters

also sponsor events in every election cycle that enable community members to meet candidates and hear their stances on various issues.

An effective VAA (a) does not rely on unnecessary or easily manipulated information; (b) focuses on attributes directly relevant to voters' decisions; and (c) improves the breadth, validity, and quality of information presented to voters. Although many VAAs focus solely on partisan policy platforms, the ideal VAA would focus on assessments of both competence and policy platforms.

Assessments of competence should contain information about candidates' relevant education and experience. These assessments should not rely on candidate photographs, irrelevant education or experience, or cherry-picked quotes. As for policy platforms, research suggests that position statement wording and presentation can manipulate or directly influence voters' decisionmaking processes.[109] Therefore, careful attention should be paid to presenting the issues using objective language not designed to persuade and including objective information reflecting candidates' stances on issues,[110] such as prior voting records, consistency in voting records, and candidate endorsements by special interest groups.

In general, we agree with others in the behavioral sciences that VAAs hold great potential for assisting voters in making informed decisions. However, the trade-off is that processing the added information requires substantial cognitive resources, time, and effort from voters, who may not be used to spending that kind of time and energy on this task. Continued research is needed to refine and further improve the capabilities of VAAs.[106]

Alter Voting Processes

Single-member plurality voting systems, in which people vote for only one candidate and the winning candidate represents all constituents, are extensively used worldwide.[111] Research has demonstrated that these voting structures systematically disadvantage racial minorities and women.[112] Such systems, for instance, are vulnerable to manipulation by politicians who create gerrymandered districts that dilute the power of the vote among a particular group, such as a racial minority.

One alternative, *ranked-choice voting* (RCV), allows voters to rank candidates in order of preference, from favorite to least preferred. RCV may be one way to improve the quality of election decisions.[113] For example, it may reduce bias because ranking the candidates requires voters to compare multiple candidates, a task that increases the likelihood that voters will deeply engage with information about candidates rather than applying snap judgments.[114]

Over half of the 50 U.S. states use RCV in primaries, special elections, party elections, local elections, and absentee ballots. However, only two states (Alaska and Maine) use it statewide and in presidential elections.[115] RCV methods vary in how many candidates are ranked and the process for handling runoffs. Many of its proponents suggest it can result in fairer election outcomes that more accurately represent the will of the people[116] and can encourage more civil and less incendiary campaigns that are focused on the issues.[117] Research suggests that RCV methods may also result in less partisanship in certain circumstances, with candidates and their parties needing to reach beyond their traditional voting bases to obtain a majority of votes.[118]

Of course, RCV methods have some potential limitations. First, research suggests that voters may view some forms of RCV as complicated and less desirable than more familiar methods.[119] Therefore, we suggest that any adoption of RCV methods be accompanied by a campaign to familiarize and educate constituents on how RCV works. Second, when large numbers of candidates appear on ballots, RCV may result in *truncated* or *exhausted* ballots—that is, voters fail to fill out the entire ballot. These exhausted ballots can result in a candidate being elected even though they did not receive the majority of votes.[120] For this reason, it seems preferable to apply RCV only when voters are open to the idea and understand how it works and

to limit the number of candidates to be ranked. Although adopting RCV may be an ambitious policy goal, RCV has been successfully used in many local, state, and national elections, as well as in countries worldwide. Therefore, we believe that RCV shows promise for reducing the use of heuristics by voters.

Increase Diversity Among Candidates

A more diverse slate of candidates may offer fewer opportunities to activate heuristic thinking in voters. In addition, enlarging the pool of potential candidates beyond people from traditionally elected groups may offer more opportunities to find truly qualified people.

Expand Recruitment Pools. Party officials, also prone to heuristic thinking, often select or nominate candidates that match their idea of how a political leader should look, sound, or act. Because this bias exerts its effect early in the election process, the pool of possible candidates ends up being limited, creating a missed opportunity for political officials to identify, select, and support the most qualified candidates. For instance, reflecting on the U.S. Republican Party's lack of diversity, Corry Bliss (a top Republican strategist in the 2018 effort to maintain control of the House of Representatives) noted, "We as a party learned the hard way that in today's world we need candidates other than boring old white people. . . . We need candidates with compelling biographies, compelling messaging, and candidates that reflect the voters who offer a better perspective of the issues of the day."[121] Furthermore, candidates from underrepresented groups are arguably more suited to represent citizens from those groups because they are likely to have a deeper understanding of their needs and wishes—a view held by Faiz Shakir (Senator Bernie Sanders's campaign manager), who noted in 2019 that the campaign wanted "a team that looks like America."[122]

Policymakers should also focus on developing potential candidates' interest and competence in running for office. Through mentorship and community outreach, political recruiters could help develop and encourage aspirations for political office among people from underrepresented groups who otherwise would not run.

Some notable efforts are underway. For example, Rina Shah started the Catalyst Political Action Committee to recruit a more diverse pool of Republican candidates for U.S. Congress.[123] University initiatives, such as the Center for American Women and Politics at Rutgers University, also actively advocate for recruiting people from underrepresented groups into the political sphere.[124]

Implement Candidate Quotas. Much of the data in support of quotas relate to gender. Many countries and political parties have adopted quotas to combat the demographic under-representation that results in part from voter heuristics in candidate evaluation. Gender quotas have helped lead to comparatively high legislative representation of women in more than 60 countries worldwide.[125] Some scholars suggest that political parties can help successfully implement gender quotas by taking the initiative to require that a certain percentage of underrepresented people be among the pool of candidates.[126] Other scholars suggest limiting the percentage of the overrepresented gender on the ballot.[127]

Formal quota laws in some countries have increased the number of candidates from underrepresented groups by mandate, with sanctions for noncompliance.[128] In the United States, quota mandates have not been put into practice, and scholars suggest they are not likely due to several constitutional challenges.[129] However, quotas have become more prevalent in other countries around the world, and they have increased the number of women in elected positions. Further, quotas may lead to positive changes in politicians' impact in their respective countries. For example, female politicians in countries where gender quotas were in place significantly increased the efficacy of policies targeting women and households, the efficiency of municipal administration, and the passing of women's rights laws.[128] Although quotas may be controversial, broadening candidates' diversity may be a way to circumvent bias embedded in heuristics used by voters.

Identify & Promote Role Models. Role models can serve as powerful signals that encourage qualified people from underrepresented groups to run for office.[130] For example, President Barack Obama's election encouraged many racial minority members to run for office.[131] Spotlighting underrepresented role models in political office may both lead more candidates from underrepresented groups to run for office and also have trickle-down effects on leadership aspirations in other areas. For example, women's political leadership representation may also influence business leadership representation. That is, female political leaders normalize the idea that women can be leaders, whether in politics or in other domains, such as business and industry.[132]

One way to establish and promote political role models for underrepresented groups is to publish and publicize ranked lists that showcase the most effective or influential leaders. For instance, INvolve, a global network that advocates for diversity and inclusion, partners with Yahoo! Finance to annually publish lists that showcase executives, future leaders, and advocates who are women (the **her**oes Role Model Lists, which are found at https://heroes.involverolemodels.org), who represent racial and ethnic minorities (the EMpower Role Model Lists, which are found at https://empower.involverolemodels.org), or who are members of the LGBTQ+ community (the OUTstanding Role Model Lists, which are found at https://outstanding.involverolemodels.org). The lists highlight the successes of underrepresented group members and inspire others to follow their lead.

Conclusion

Voters often use heuristic shortcuts to make snap judgments about candidates instead of focusing on candidates' qualifications and policy platforms. These heuristics are often based

"We have proposed several policies to reduce the negative effects of heuristic decision-making among voters"

on superficial information, such as appearance, leading to the election of unqualified people as political leaders. We have proposed several policies to reduce the negative effects of heuristic decisionmaking among voters and increase voters' chances of electing effective political leaders. These policy suggestions should mitigate the negative effects of heuristic decisionmaking by encouraging voters to make more deliberate and informed decisions and by increasing the competence and diversity of political candidates, which in turn should reduce the chances of electing incompetent leaders even when voters make poorly informed snap judgments. Although the policies may be challenging to implement at the national level in the United States, many localities, states, and countries have successfully enacted them with beneficial outcomes.

At the very least, voters and political professionals need to recognize that heuristics—often based on biases—strongly affect how people decide to cast their votes. Recognizing the role heuristics play is the first step in developing policies that will help voters elect greater numbers of competent public servants.

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Penalties for going against type: How sexism shapes voters' perceptions of candidate character

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abstract

Although women are increasingly represented in elected office, little is known about how a female candidate's gender influences voter approval when her messaging emphasizes her strong leadership ability—a character trait generally regarded as masculine. Drawing from theories of social cognition and gender stereotypes, we examine in this article how citizens react to male and female politicians who emphasize particular character traits. After synthesizing relevant literature, we report on a study conducted to see whether women lose public support for emphasizing their leadership ability—thus "going against type." In a survey of more than 800 American adults, we found that respondents penalized a fictional woman running for Congress when her messaging to voters emphasized the core character trait of leadership, as opposed to compassion (a trait traditionally associated with women) or no character trait at all. In contrast, respondents viewed a fictional man more favorably when his messaging to voters went against type by highlighting compassion than when he emphasized leadership. These findings suggest that female candidates have fewer options than men do when selecting which personal characteristics to present in their messaging to gain the approval of the voting public. This result underscores the need for policies and programs that promote female leadership in all walks of life, thereby leading the public to associate leadership skill with both genders equally.

Although women are increasingly running for and winning elected office,[1] they remain underrepresented in government. Researchers across such disciplines as political science and public administration have provided insights into the unique barriers they face.

For one thing, women are held to a higher standard than men, with the result that women are often more qualified than the men they serve alongside.[2–5] In addition, gender stereotypes, which are pervasive in leadership[6] and in society more broadly,[7] can turn voters against female candidates who do not fit their view of femininity.

In this article, we synthesize several lines of research that shed light on how gender stereotyping can ensnare female candidates in a double bind, in which women are required to have strong leadership ability but are penalized at the polls if their efforts to demonstrate their credentials lead to the perception that they are unfeminine.[8–11] We then discuss a study we conducted that indicates gender stereotypes lead voters to respond less favorably to female than to male candidates when their messaging runs counter to stereotypes for their gender.

Insights From Past Research

Not surprisingly, scholars in political behavior find that citizens perceive a great deal about the character and personalities of politicians from gender and other visible characteristics.[9,12–19] Gender stereotypes can lead to assumptions about a politician's ideology,[20–22] policy expertise,[10,20] and character.[23–26]

Research in social psychology has demonstrated that certain character traits are perceived to be "owned" by each gender. The research identifies two primary dimensions of social cognition (which refers to the ways people process information about the social world, such as norms): *communion* and *agency*.[27,28] People who are driven by communion focus on getting along with others, whereas those driven by agency focus on achieving or getting ahead. These dimensions are overarching concepts that encompass multiple traits,[29] such

as compassion, honesty, and understanding in the case of communion, and leadership skill, competence, and assertiveness in the case of agency. Traits associated with communion are typically perceived to be owned by women, whereas traits associated with agency are perceived to be owned by men.[16,24] (See note A.)

Leadership has come to be associated with males not only because of its agentic quality but for historical political reasons as well. People look to current leaders as models for future leaders,[30] and politics and management have historically been the domains of men. It follows, then, that many traits associated with being a successful leader and considered crucial for holding elected office, such as competitiveness and assertiveness, would be commonly viewed as male characteristics.[17]

Scholars find that, in general, perceptions of empathy, strong leadership, competence, and integrity are associated with approval of and votes for public figures.[31–33] Yet investigations have also shown that women often encounter a backlash for having those "male" qualities.[34–36] In other words, as Kathleen Hall Jamieson noted in 1995,[37] women face a double bind: They must demonstrate competent, strong leadership to succeed in public service but, in doing so, are perceived as less feminine than voters would like them to be and, in turn, as less desirable as an office holder.[8–11]

Various overlapping theories in the social sciences help to explain why women seeking leadership positions might face a backlash for "going against type," or conveying traits that do not conform to gender stereotypes. *Expectancy violation theory* argues that individuals react most strongly to information that runs counter to expectations, and it suggests that voters could have strong reactions against female candidates who do not meet their expectations for femininity.[38] Similarly, *role incongruity theory* argues that leaders are evaluated by how much they conform to gender expectations,[36,39] and *implicit leadership theory* argues that leaders are evaluated in part based on whether they look like other real-world leaders, who have traditionally been men.[40,41]

Studies of negative campaigning support these conceptions. In two experiments, Erin C. Cassese and Mirya R. Holman found that voter approval of female candidates plummets when the female candidates are attacked in ways that undermine how well they are viewed on character traits that are most closely associated with femininity.[42] Scandals, in particular, are especially harmful to female leaders because scandals undermine women's perceived superiority in morality.[43,44]

Given the stereotyping that female candidates face and the fact that voters hold men and women seeking public office to different standards, we wondered whether gender-based biases might lead voters to react differently to identical messaging by male and female politicians. The question is important because the choice of rhetoric has been shown to influence voters' opinions: In general, when politicians use campaign messages that emphasize their compassion or their leadership, voter ratings of whether they have the touted trait go up.[45] But we suspected that this pattern might not hold or might not be equally true for male and female politicians.

Present Study
Background & Hypotheses
In our experiment, we examined one way that gender stereotypes might affect women's electability: by constraining the messages about personal character that they can use to earn a favorable opinion from voters.

Women are confronted with a choice when drafting campaign messages: Follow their prescribed gender role and choose to emphasize their capacity for compassion, or go against type and emphasize their leadership ability to demonstrate that they are strong in a stereotypically male-associated character trait that voters normally value. As we have already noted, women running for office face the double bind of being criticized as unfeminine for conveying stereotypically masculine characteristics or being viewed as less powerful than a leader should be if they do not convey the stereotypical masculine traits of leaders.[8]

"We asked what would happen when a woman seeks to run for office on her strength as a strong leader."

We asked, what would happen when a woman seeks to run for office on her strength as a strong leader rather than as a compassionate nurturer? Building on prior work, we predicted that women would receive little benefit from emphasizing their compassion, because women are already assumed to be compassionate. If they emphasized their strength in the trait of leadership, however, we predicted that the outcome would be worse, because the public would view such appeals as a violation of gender norms. Stated formally, we hypothesized that female candidates who emphasize leadership will receive lower approval than female candidates who emphasize compassion or no trait at all.

We also asked whether men running for office who went against type and emphasized their compassion would likewise be penalized by the public. We thought not. Because the political arena is historically male dominated, voters are accustomed to seeing men evoke a multitude of character traits. From Bill Clinton claiming that "I feel your pain"[46] to George W. Bush branding himself the "compassionate conservative,"[47] men in politics have a long history of portraying themselves as both compassionate and strong leaders. In addition, compassion is often seen as a positive leadership trait regardless of gender.[48,49] Therefore, we also hypothesized that male candidates who emphasize compassion will receive higher approval than male candidates who emphasize leadership or no trait at all.

We had additional reasons for not expecting men to suffer a penalty similar to that experienced by women who go against type. Research into backlash effects has found that the penalty against women seeking leadership

roles is often predicated on a threat to status quo power dynamics and moderated by a desire to preserve gender hierarchies.[36] By embedding themes of compassion in their messaging, men do not pose any threat to power structures and, at the same time, convey that they embody a trait found to be desirable by voters.[45] Individuals will not perceive compassionate men to be violating a norm or threatening existing power structures, whereas women who emphasize leadership may face a backlash for challenging the status quo and social norms. As such, women would be expected to face a greater penalty for going against type than men would.

Method

To assess whether voters penalize candidates for going against type, we conducted a survey of 807 American adults through Amazon Mechanical Turk (MTurk; https://www.mturk.com/), which provides participants for survey research. Our survey ran February 25–28, 2020. Participants were similar across experimental groups in gender, socioeconomic status, and educational level.

We used an experimental design known as a *vignette study*, which presents a simple scenario depicting elements of a topic being examined. The scenario elicits a response in the participants, and the researchers gather data on the responses.

In our study, survey participants each read a block of text purporting to be an excerpt from a news article announcing a candidate's bid for the U.S. House of Representatives. What varied was the gender of the candidate and the message he or she emphasized in the article. We randomly divided the participants into six groups: one control group and two treatment groups featuring a male candidate, and one control group and two treatment groups featuring a female candidate (see the Supplemental Material for examples of the news articles). The control groups read an article that contained only basic background information on a candidate—either David Allen or Debbie Allen—and a picture of that person. In the treatment groups, a quote from either David Allen or Debbie Allen invoked a character trait as the motivating factor for the candidate's run.

In two of the treatment groups, either David Allen or Debbie Allen asserts, "I am running for Congress because I care about the people of this district." In the two other treatment groups, either David Allen or Debbie Allen asserts, "I'm running for Congress because I know how to lead." (See the full scripts in the Supplemental Material.) This experimental design allowed us to assess how women and men seeking public office are viewed when they emphasize character traits that historically have gendered connotations.

After reading the simulated news article, participants answered questions about the candidate mentioned in the story. To assess perceptions of compassion, we asked participants to indicate how well the phrase "he really cares about people like you" or "she really cares about people like you" described Allen. Similarly, to assess perceptions of leadership, we asked how well the phrase "he provides strong leadership" or "she provides strong leadership" described Allen. All responses were given using a scale ranging from *very poorly* (0), *somewhat poorly* (0.25), *neither poorly nor well* (0.5), *somewhat well* (0.75), and *very well* (1). Because the answer choice values were quantified from 0 to 1, the means were converted into a treatment effect scored between −1 and 1 by subtracting the mean value in the control condition from the mean value in each treatment condition.

We also assessed participants' overall view of the candidate, asking, "Overall, how favorable or unfavorable is your impression of David Allen?" or "Overall, how favorable or unfavorable is your impression of Debbie Allen?" All responses were given using a scale ranging from *strongly unfavorable* (0), *somewhat unfavorable* (0.25), *neither favorable nor unfavorable* (0.5), *somewhat favorable* (0.75), *and strongly favorable* (1). These numbers were quantified similarly to the measures of compassion and leadership, so we quantified the effects of the treatment—that is, the effect of reading a candidate's quote on compassion or leadership—the same way: by measuring the extent to which evaluations of a

candidate's favorability differed between each treatment group and the control group.

See the Supplemental Material for more details on our methodology and further analyses.

Results

As Figure 1A shows, when Debbie Allen or David Allen conveyed compassion by claiming to care about the people they were running to represent, they were viewed as significantly more compassionate than when they made no claims of compassion ($p < .05$ for the female candidate and $p < .01$ for the male candidate). (For more on the statistical terms used in this article, see note B.) Although compassion is a trait normally associated with women, men appear to easily overcome gender-based skepticism about having this trait. Simply claiming to care significantly increased participants' perceptions that the person described in the story cared about people like them.

When David Allen claimed to have leadership ability, he was viewed as a stronger leader than when he made no claims regarding leadership ability, but when Debbie Allen conveyed the same message, it did not give participants' assessments of her leadership a statistically significant boost (see Figure 1B). Women are thus not as able to overcome gender-based skepticism regarding their leadership abilities.

In terms of electability, perceptions of leadership, compassion, and other characteristics matter, but what affects the outcome most is how favorably the candidate is perceived overall.[50] Our results show that conforming to gender expectations had little effect on favorability (see Figure 1C). When Debbie Allen conveyed compassion and when David Allen conveyed leadership, their general favorability scores rose, but the effects were small and not statistically significant. This indicates that messaging conforming to gender stereotypes

Figure 1. How campaign messaging about leadership or compassion affects voter perception
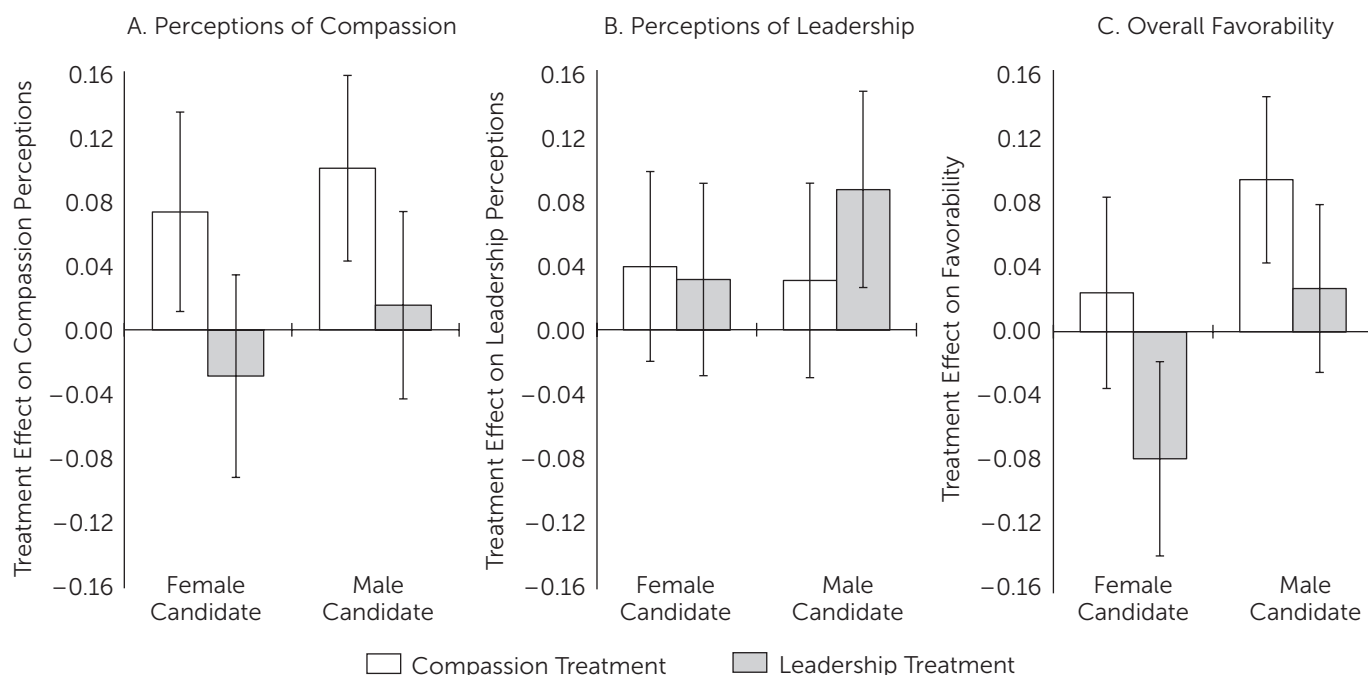
Note. Treatment effects in this figure refer to the results of campaign messaging that emphasized compassion (white bars) or leadership (gray bars). The effect of a treatment was quantified by determining the difference between the survey results for voters in the treatment condition (compassion or leadership evoked in the candidate's messaging) versus the control condition (neither compassion nor leadership evoked). A. Messaging emphasizing compassion caused statistically significant effects on perceptions of compassion for both candidates. B. Messaging emphasizing leadership caused statistically significant effects on perceptions of leadership only for the male candidate. C. Messaging conforming to gender expectations had little effect on perceptions of favorability, but messaging that went against type harmed the female candidate's favorability ratings yet helped the male candidate's favorability ratings. Error bars represent 95% confidence intervals. When the error bars cross zero, the effect is not statistically significant at this level.

"when Debbie Allen emphasized her strong leadership skills, her overall favorability fell by nearly 8 percentage points"

had little effect, likely because male and female candidates are already assumed to possess those traits.

When the candidates went against type, however, a very different pattern emerged. When David Allen emphasized his compassion, his mean favorability score rose more than 9 percentage points relative to the control group—a statistically significant gain ($p < .01$). But when Debbie Allen emphasized her strong leadership skills, her overall favorability actually fell by nearly 8 percentage points relative to the control group—a statistically significant drop ($p < .05$). Both male and female participants reacted similarly, in that they both penalized the female candidate on favorability when she invoked leadership and rewarded the male candidate on favorability when he invoked compassion. (See Tables S1 and S2 in the Supplemental Material for full results.)

These findings show clearly that female and male candidates are on very different playing fields. Although compassion is conventionally viewed as a feminine quality, men gain an advantage by showing they are not just strong leaders but caring ones as well. Women, on the other hand, face a harsh backlash for going against type. Strong leadership skills are expected of politicians, yet when women seek to run on leadership, they suffer in the public eye.

Overall, our findings show that conveying compassion is unlikely to boost a female candidate's public approval and that conveying strong leadership can backfire. Women who seek public office are therefore under pressure to adopt a do-no-harm strategy that avoids touting gender-nonconforming stereotypes.

Discussion

This research leads to several important conclusions. First, we found that men are perceived as more compassionate or stronger leaders when they convey messages indicating that they possess the character trait of compassion or leadership, respectively. Second, women are perceived as more compassionate when they seek to convey compassion but are not perceived as stronger leaders when they convey messages related to leadership. Third and most important, men are perceived more favorably overall when they go against type and emphasize their compassion, but women are penalized when they go against type and emphasize their leadership.

These findings reveal a pattern of gender bias in which men do not pay the same costs as women. They are consistent with the expectancy violation, role incongruity, and implicit leadership theories discussed earlier in this article.

Our finding that female candidates who emphasize leadership are penalized even though voters want competent leaders supports past work showing that people view women as less feminine for demonstrating stereotypically masculine leadership traits.[8,35] Women face the difficult task of needing to convey that they possess masculine character traits, such as the strength and decisiveness needed to hold an executive office, while avoiding a backlash from using messaging that emphasizes their leadership; at the same time, women need to show feminine traits, such as warmth and compassion.[51]

We note some limitations to our research design. First, we are unable to speak to the ways in which the candidate's gender may intersect with their race, age, or religion, as they do in the real world. In addition, although the survey measures we used are traditionally used in the study of public opinion, we assessed favorability, perceptions of compassion, and perceptions of leadership using single survey questions as opposed to multiple questions. This approach opens the possibility for measurement error. The treatments we used may have communicated something other than leadership or compassion, confounding the

results we found. To extend our results, it will be critical for researchers to analyze real-world events to understand how gender stereotypes limit the types of messages female candidates can convey to gain voter support.

Women remain underrepresented in leadership in both elected and career public positions. However, they bring a unique leadership perspective. Female leaders tend to take a transformational approach, meaning that they lead by example, presenting themselves as role models to gain the trust and confidence of followers,[52] and they tend to be more inclusive.[53] Women in politics are, on average, more collegial, although they remain partisan, perhaps in part because of today's extreme political polarization.[54]

Women in politics are also more effective. When female leaders are working in a supportive environment, they are more effective than men at introducing and advancing ambitious rules in regulatory agencies.[55] And female members of Congress propose more bills and have broader policy agendas than their male colleagues do. Greater representation of women in leadership also benefits the public in other ways. For example, it has been found to increase citizen coproduction, where citizens work with government agencies to deliver public services such as recycling programs and community policing,[56] and enhance citizen trust in government.[57]

The source of gender bias is deeply embedded within society itself. These barriers and stereotypes can only be addressed by having more women in leadership roles, which would normalize their inclusion and thereby reduce perceptions that gender influences leadership abilities. This fact makes organizations that work to level the playing field for women seeking leadership positions—such as She Should Run—particularly important. And although our study focused on elected office, new policies and programs ensuring the representation of women on the boards of private corporations and nonprofit organizations and in nonelected policymaking positions with local governments alike would also be expected to help erode the perception of leadership being

"These findings show clearly that female and male candidates are on very different playing fields"

a masculine trait. In addition, research finds putting rules in writing can help reduce the gender biases female leaders contend with in the workplace.[58] Anyone can be a positive bystander to help address gender bias by calling out and addressing sexism wherever it occurs— from the classroom to the boardroom to the political arena.

As more women enter leadership positions and younger generations of American women become more engaged in politics,[59] perhaps politics and management will become less masculine, or at least more supportive of women, so women can freely lead without adhering to or compensating for gender stereotypes.

endnotes

A. Danny Hayes also finds that gender stereotypes have a more limited effect than party stereotypes do.[16] For example, a Republican woman may be perceived as being strong in foreign policy, even though women are not generally assumed to have that strength, because Republicans are assumed to be strong in that domain.

B. Editors' note to nonscientists: For any given data set, the statistical test used—such as the chi-square (χ^2) test, the t test, or the F test—depends on the number of data points and the kinds of variables being considered, such as proportions or means. The p value of a statistical test is the probability of obtaining a result equal to or more extreme than would be observed merely by chance, assuming there are no true differences between the groups under study (this assumption is referred to as the *null hypothesis*). Researchers traditionally view p < .05 as the threshold of statistical significance, with lower values indicating a stronger basis for rejecting the null hypothesis. A 95% confidence interval for a given metric indicates that in 95% of random samples from a given population, the measured value will fall within the stated interval.

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supplemental material

- http://behavioralpolicy.org/journal

- Method & Analysis

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Leadership & overconfidence

Don A. Moore & Max H. Bazerman

abstract

Expressions of confidence can give leaders credibility. In the political realm, they can earn votes and public approval for decisions made in office. Such support is justified when the confidence displayed is truly a sign that a leader (whether a candidate or an incumbent) is competent. However, when politicians are overconfident, the result can be the election of incompetent leaders and the adoption of misguided policies. In this article, we discuss processes that can lead to a confidence "arms race" that encourages politicians to display more confidence than their rivals do. We also illustrate how overconfidence and hyperbole have impaired responses to the COVID-19 pandemic in many nations and offer guidance for distinguishing politicians who display levels of confidence that reflect their true assessment of a situation from those who fake their self-assurance. We then suggest ways that leaders in all spheres can convey uncertainty honestly without losing credibility, and we propose a way to prevent overconfidence from resulting in ineffective or counterproductive legislation.

On January 22, 2020, a journalist at the World Economic Forum in Davos, Switzerland, asked then-president Donald Trump whether he was worried about a possible pandemic. Trump responded, "No, we're not at all. And we have it totally under control."[1] In response to the threat posed by COVID-19, Trump showed indomitable confidence. In the early months of what would eventually become a devastating global crisis, he repeatedly told the American people that the virus would "disappear" and reiterated that his administration had the problem under control. Yet, in private, the president admitted that he had knowingly misled the public—as recorded interviews released by journalist Robert Woodward revealed the following September. In March 2020, he told Woodward, "I wanted to always play it down. I still like playing it down, because I don't want to create a panic."[2]

Trump's staunch confidence was not restricted to the pandemic; rather, it reflected his general approach to leadership. At a May 2016 rally, for instance, then-candidate Trump promised victory and asserted, "We're going to win so much. We're going to win at trade, we're going to win at the border. We're going to win so much, you're going to be so sick and tired of winning."[3]

Trump may be unique in his relentless displays of optimism in the face of facts, but he is far from alone in exploiting optimistic spin to gain public approval. An analysis of the optimism conveyed by candidates for the U.S. presidency over the years found that the more optimistic candidate won nine out of 10 elections. When Harold M. Zullow and Martin E. P. Seligman coded the speeches of the major party candidates, they found that pessimistic rumination preceded a candidate's subsequent defeat at the polls.[4] They concluded, "These results suggest that the American voter, across historical period [*sic*], places a high premium on the appearance of hope."[4]

Voting for a confident candidate is rational when the voter believes the candidate's confidence indicates the candidate will be an effective leader. And displays of confidence can, indeed, be a sign of future effectiveness when they come from the knowledge that one is competent and has been successful in the past. As Paul A. Mabe and Stephen G. West reported in 1982, confidence and subsequent performance usually do correlate, probably because competence gives rise to both success and confidence, although the correlation is not strong.[5]

Yet when politicians' displays of confidence are based not in competence but on an inflated sense of competence or are simply faked, they can have terrible consequences. They increase the likelihood that voters will elect candidates who will underperform and cause harm. Overconfidence and pretenses of confidence can impair planning for an uncertain future in a complicated world, one in which a leader cannot just wish away pandemics and other crises.

Voters' tendency to favor confident-seeming leaders puts politicians who want to be honest about the pros and cons of their policy proposals in a bind, especially when they find themselves up against unscrupulous rivals. In this article, we explore the consequences of overconfidence and hyperbole, as well as the psychological dynamics that can make people behave with more confidence than is justified by the facts; we also present findings that belie the popular notion that feeling confident (regardless of whether the confidence is justified) can increase the likelihood of performing well on a task. We then delve into the challenges of distinguishing leaders who are justifiably confident from those who are overconfident or faking, and we suggest ways that the public and politicians can address those challenges. (In this article, we use the word *leader* to apply both to people in leadership positions and to candidates for those positions.) Finally, we plot a path for leaders who strive to be both honest and confident. Our advice is relevant to leaders in and out of politics.

Consequences of Overconfidence

Overconfidence may be the most powerful and prevalent of the many biases to which human judgment is vulnerable.[6] The term *overconfidence* can refer to several related beliefs, such as an unjustified belief in one's superiority to

others, overestimation of how well one will perform on a task, or unwarranted certainty in the accuracy of one's judgments. This last manifestation, called *overprecision*,[7] can be especially problematic in a leader. Overprecise leaders tend to trust their intuitions (which can be heavily influenced by biases) too strongly and fail to recognize when this trust impairs their decision-making. Overconfidence in one's own judgment also decreases the perceived need to incorporate the views of advisers and experts when doing so is warranted—a key characteristic of Trump's mismanagement of the pandemic. Being appropriately skeptical of intuition, in contrast, helps people rein in their overconfident judgments.

In everyday life, overconfidence in one's judgments and abilities can prove costly. Over-confidence leads people to enter too many contests they will lose;[8] escalate their commit-ment to doomed endeavors;[9,10] bet too much money on risky investments;[11] and fail to protect themselves from significant risks, such as COVID-19.[12] A leader's overconfidence can also harm other people. It has played a key role in some of the greatest blunders in modern history, including the sinking of the Titanic, the Vietnam War, the Chernobyl nuclear accident, and the 2008 financial crisis, not to mention governmental mismanagement of the COVID-19 pandemic.[13–15] Indeed, as we show next, populist leaders' disas-trous responses to the pandemic offer a stark illustration of how leaders who overconfidently believe they can easily manage a serious threat or who pretend to have such confidence can fail the people they serve.

Overconfidence, Hyperbole, & the Pandemic

Early in his presidency, Donald Trump's apparent assurance that his administration was prepared to handle a disease outbreak actually led him to impair the nation's later response to COVID-19:[16] In 2018, Trump dismantled the national agency charged with preparing the United States for the threat of a global pandemic.[17]

After the pandemic began, Trump and leaders like Jair Bolsonaro of Brazil, Andrés Manuel López Obrador of Mexico, Alexander Lukashenko of Belarus, and Narendra Modi of India then mistakenly or falsely assured their nations that everything was under control. They denied the severity of the problem (or its existence altogether), denigrated scientific expertise, and in some cases even advocated quack treatments.[18] For instance, during the 2020 U.S. presidential election campaign, Trump insisted that the nation was "rounding the bend" even as cases were spiking and the country was setting grim records for COVID-19 infections, hospitalizations, and deaths.[1]

Trump's posturing had devastating conse-quences. In the United States, many people who believed the pandemic was under control (or a hoax) resented and resisted protective measures, such as lockdowns, social distancing, masks, and vaccines. In turn, those who flouted protective measures were among the most likely to contract the virus and pass it on to others.

In contrast, the national leaders who managed the virus most effectively did not claim to have all the answers. They acknowledged the serious challenges the virus posed and had enough humility to follow the advice of scientific and public health experts, who provided guidance based on the best information they had at the time. The steps taken by the leaders of Taiwan and New Zealand offer instructive examples: Both issued dire warnings early in the pandemic and instituted aggressive lockdowns that limited the virus's spread.

In Taiwan, President Tsai Ing-wen faced the reality of COVID-19's deadliness and enforced aggressive containment measures recom-mended by public health experts. In January 2020, she ensured that plenty of masks were available for the island's inhabitants. Her government imposed travel restrictions and quarantines that limited the movement of anyone suspected of infection, with mean-ingful fines for those who failed to comply.[19] For example, on January 25, a man was fined $300,000 Taiwanese dollars (about $10,000 USD) for failing to report his infec-tion to Taiwanese authorities. As infection rates increased in early February, the government

closed schools. These measures succeeded in containing the virus. Schools soon reopened, and life in Taiwan largely returned to normal by late 2020.[20]

When the coronavirus struck New Zealand in March 2020, Prime Minister Jacinda Ardern also took swift, science-based action. "We have a window of opportunity to stay home, break the chain of transmission, and save lives" Ardern told the nation on March 25. "It's that simple."[21] The next day, New Zealand entered a strict, nationally coordinated lockdown.[22] Travel and public gatherings were severely constrained. By June, the country was registering no new cases, and normal life resumed.

Every leader must balance the imperative to tell the truth against the need to express confidence. People take comfort in leaders' assurances that plans will be successful, the future is bright, and sacrifices will prove worthwhile in the end. But the leader who purposely or overconfidently gives false hope and refuses to take threats seriously may give comfort temporarily but do untold harm in the long run.

The Lure of Overconfidence

The many ill effects of overconfidence raise the question of why it occurs. One explanation may be that confidence feels good, which suggests that self-delusion may be its own reward[23]—at least temporarily. Savoring the sanctimonious satisfaction of believing they are right may lead people toward greater short-term confidence simply because they enjoy the feeling.[24] Also, the costs of being overconfident, such as embarrassment or failure, do not come until later, and it is easy to discount these future consequences.

People often point to another motivation for feeling confident: the belief that confidence contributes to success (a notion popularized by the 2006 book *The Secret*).[25] For instance, in a 2008 article titled "Prescribed Optimism: Is It Right to Be Wrong About the Future?" David A. Armor, Cade Massey, and Aaron M. Sackett report that the overwhelming majority of their respondents endorsed feeling optimism, even

excessive optimism, because they thought that simply holding optimistic beliefs would make them come true.[26]

The logic for believing that confidence breeds success is flawed, however. On its surface, the finding that more confident politicians win elections more often than less confident politicians do[4] might seem to support the notion that confidence leads to success, but other compelling factors often explain this association instead. Notably, optimism often correlates with success when optimistic individuals actually have better prospects, as when they are incumbents running for reelection in a strong economy or are widely adored by voters. These factors could account for both their confidence and their electoral success. Similarly, evidence that more confident athletes are more likely to win[27] could easily be explained by athletic ability, which ought to enhance both confidence and success. In these cases, optimism is warranted because it is well calibrated with reality and not the product an unfounded belief that feeling confident will magically lead to success.

The right way to test whether confidence influences performance is to conduct experiments that manipulate confidence directly and measure that manipulation's effect on performance. In one such experiment, Elizabeth R. Tenney, Jennifer M. Logg, and Don A. Moore (one of the authors of this article) manipulated confidence while leaving other factors, such as skill, constant.[28] Participants first took a math test (the *pretest*), after which those assigned to the high-confidence condition were told they did very well, and those assigned to the low-confidence condition were told they did poorly. Then both groups took a test equivalent to the pretest. The result? The groups performed similarly. Follow-up experiments using other tasks produced the same result: Confidence did not affect performance on trivia quizzes, tests of athletic performance, physical endurance, or attention.

The team also tested observers' predictions of how successful others who were more and less confident would be on a math quiz. These observers, who did not take the quiz themselves, were told that the researchers had randomly

assigned other participants to be either high or low in confidence about their imminent performance on a math quiz, independent of their actual math ability. Then the observers bet money on which group would perform best. Despite knowing of the participants' random assignment to the conditions, the observers bet on those in the high-confidence condition, predicting that high confidence would translate into high performance. Their faith in the benefits of confidence was misplaced, and it cost them financially. In short, they were duped, just like voters who vote for the most confident-seeming candidate because they believe that confidence reliably predicts competent leadership.

Some readers may wonder whether our earlier mention that displays of confidence often signal true competence is incompatible with the findings showing that acting confident does not by itself improve ability. The answer is no, the two findings are not inconsistent. Confidence can potentially be a useful signal, but it is also vulnerable to misrepresentation. When true ability is what bolsters confidence, displays of that confidence will be a reliable indication of that ability, as innumerable studies have found.[29] However, artificially inflated confidence is unlikely to have much effect on performance,[28] even though it can sometimes fool others regarding one's competence in the short term.

Even if confidence does not contribute to performance on any of the tasks tested in these experiments, it probably can be beneficial in some circumstances, as when it motivates a person to be persistent at a task or when it impresses people (such as voters) whose approval is being sought. Considering the latter case, Dominic D. P. Johnson and James H. Fowler have developed a theoretical model predicting that overconfidence in contests over access to scarce resources (like food or mates) could confer an evolutionary advantage to the overconfident individuals.[30]

The logic goes like this: Displays of strength by rivals help to signal who is likely to win a future contest and to calibrate the contenders' confidence in their abilities. When a contest could lead to violent conflict, the likely loser should prefer to concede rather than suffer injury. Yet this dynamic creates the possibility that a display of supreme confidence by the weaker contestant will scare off a stronger rival, which would make such fake displays appealing to the weaker person.

Something similar can happen in politics. Regardless of their inner reality, politicians know, as we pointed out earlier, that expressing self-confidence builds others' faith in a person's abilities and helps attract supporters, such as voters, donors, employees, customers, and investors. When confident-seeming people gain credibility with others, they increase their likelihood of being elevated to positions of status and influence in social groups.[31] As we have also noted, voters prefer confident candidates, typically believing their confidence is a signal of ability or potential performance.

This dynamic can have unfortunate consequences for the public if political candidates, knowing that self-confidence attracts voters, begin a kind of "confidence arms race," in which each person strives to express greater confidence than the other.[32,33] The greater the escalation, the less informative candidates' signals of confidence become. If all candidates end up expressing maximal confidence, these expressions become worthless as a sign of competence and future performance and thus as a guide to accurately distinguishing among candidates. We repeat: Beware of leaders who talk themselves into false displays of confidence that are untethered to reality.

The possibility of a confidence arms race means that voters (as well as the supporters and funders of candidates) must figure out whether candidates are over- or falsely confident or whether their confidence is based on solid evidence. We next offer some advice for how to identify which people fall into each camp.

Confident for Good Reason or Not?

It is tempting to try to distinguish honest from deceptive politicians on the basis of whether their expressions of confidence are truthful

"Beware of leaders who talk themselves into false displays of confidence that are untethered to reality"

versus disingenuous.[34] However, differentiating justified confidence from overconfidence and true feelings of confidence from artificial displays and can be challenging, for the following reasons.

For one, it is often a mistake to assume that people hold some true inner beliefs that can be discerned from observed cues or that could be articulated if only the individuals were honest. With respect to cues, for instance, one set of experiments found that the assertiveness of a speaker's tone correlated only weakly with how confident a person claimed to be about a judgment (on a scale running from *not confident* to *extremely confident*) and with the person's judgment of the likelihood that they were correct (on a scale ranging from 0% to 100%).[35] Research also finds that individuals give widely varying answers to questions about their confidence, depending on how the questions are phrased[36] and what metric is used. When asked how certain they are that their answer to even a straightforward question is correct (such as what some famous person weighs), people may seem pathologically overconfident, but they may be less sure when asked to estimate the likelihood of each of many possible answers being correct.[37,38] If large inconsistencies appear in responses to even simple questions with objectively correct answers, differences are likely to be even more pronounced when people proffer opinions on questions that do not have simple, clear answers.

A second major challenge is self-deception. Research on hubris suggests that some leaders may actually believe the most grandiose assessments of their abilities and potential.[39] William von Hippel and Robert L. Trivers argue that people who feel and display confidence, regardless of whether the feeling is justified, signal a strong belief in their judgments and do so more convincingly than do people who know they are faking it.[40] The latter might waver or reveal some self-doubt, whereas the former will not.

Finally, it can be quite difficult for the public to read politicians' confidence signals accurately because politicians are often particularly hard to read. Their expressions of confidence frequently come in the form of cheap talk and uninformative signals. Speaking first, speaking more, and interrupting others are classic signals of confidence.[41] Similarly, an expansive posture, a loud voice, and emphatic body language typically communicate that someone is self-assured.[42] However, all of these signals are easy to fake, and none come with a discernible and provable claim regarding performance. Contenders for leadership frequently display these trappings of confidence but avoid making specific commitments to which they could be held accountable.[43] It was less risky for candidate Joe Biden to proclaim that he would "build back better" from the pandemic than to promise a specific performance metric that he might fail to reach, such as a specific rate of economic growth or reduction in unemployment.

Even if members of the public could readily distinguish true from fake confidence in a politician, they would face the added challenge of discerning whether the motives for displaying great confidence were self-serving or benevolent. Jessica A. Peck and Mary Hogue acknowledge that leaders can differ in their motives for using impression-management techniques.[34] Leaders may justify overblown expressions of confidence on the grounds that their optimism serves the public good, arguing that optimism inspires followers. Disney CEO Robert Iger, for example, has written, "One of the most important qualities of a good leader is optimism. People are not motivated or energized by pessimists."[44] Similarly, an article in the *Harvard Business Review* has argued that effective leadership in the pandemic requires optimism, advising, "Force yourself to think positively."[45] Donald Trump claimed to have a prosocial motive as well in *The Art of the Deal*, saying, "The final key to the way I promote is bravado. I play to people's fantasies. People

may not always think big themselves, but they can still get very excited by those who do. That's why a little hyperbole never hurts."[46] Yet the appearance of confidence in leaders seeking to maintain faith in their leadership can also stem, of course, from selfish motives.[47]

Although politicians may justify their displays of bravado as being inspiring embodiments of leadership charisma,[48] their overconfidence is necessarily misleading. Incorrectly pretending a nation is poised for victory against a military foe, a pandemic, or an economic rival may well interfere with actual readiness and resilience, even as it bolsters faith in someone's leadership.

Given the difficulties involved in assessing how accurately politicians' displays of confidence reflect their beliefs, the public would be better off making a comparison with reality. That is, people should ask whether leaders are more confident than the facts can justify. The most effective leaders can accurately forecast and navigate both risks and opportunities, asking themselves such questions as, How many lives will we lose if we go to war? and What would it take for our nation to reach herd immunity? In each of these circumstances, the truth helps guide wise decisions and planning for the future.

Because candidates' expression of confidence can be misleading—just as wearing a white lab coat and a stethoscope does not necessarily mean that the person wearing them is a good doctor or even a doctor at all—voters who want to distinguish honestly confident politicians from those who are overconfident or faking it should move beyond their intuitive reactions and reflect carefully on candidates' claims, track records of prior performance, and credibility. What are the chances that the candidates can deliver on their promises? Have they been able to do so in the past? Have others like them in similar situations been able to follow through on their commitments?

Skepticism of leaders' displays of confidence leads us to propose a novel way to potentially reduce the likelihood that politicians will base policy decisions on overconfident assumptions. We draw inspiration from parallels in the

"people should ask whether leaders are more confident than the facts can justify"

interplay between leaders' claims and followers' skepticism and in a dynamic that occurs during negotiations.

In negotiations, it is common for one side to seek near-term concessions in return for promises of future benefits. For instance, entrepreneurs seek funding in exchange for a portion of future profits. Professional athletes request generous compensation packages in exchange for stellar performance. Inventors request payment for their innovations on the promise of future sales. In situations like these, a *contingent contract* can be useful.[49] Such contracts include a wager specifying that a given outcome, such as payment of a particular sum of money, depends on meeting a certain benchmark. Team managers can write an athlete's contract so that the full payment of a big salary depends on performance that lives up to the individual's boasts. Or a company may offer a product's inventor a percentage of future sales to license the inventor's patent. If people believe in the boasts they are making, they will gladly take such bets.

It would, in principle, be possible to build contingent contracts into legislation to minimize the negative consequences of overconfidence in the assumptions behind a policy established by a bill. Say that supporters of a bill confidently claim that funding preventative health care will pay for itself by reducing subsequent emergency room visits. Skeptics might be won over and wasteful spending be avoided if the bill included a test for effectiveness and a sunset provision that went into effect if the promised savings did not materialize. Indeed, it was precisely this sort of contingent contract that brought about the Behavioral Insights Team (BIT) in the United Kingdom,[50] which applies behavioral science research to enhance the effectiveness of policies and public services. David Halpern, a former Cambridge University psychology professor and

the BIT's first leader, overcame skepticism about its value with a promise that the team would disband after two years if it delivered less than a tenfold return on its costs. BIT's early endeavors were so successful that it was easy for the group to demonstrate its value.

See Table 1 for a summary of ways that the public, politicians themselves, and leaders in other fields can respond to the pressure leaders feel to express more confidence than reality would justify.

Advice for Honest Leaders

How can leaders who have constituents' interests at heart best walk the line between expressing the confidence that the public seeks and being honest about foreseeable challenges? How can they do both without losing credibility as a competent leader? The task is not easy, especially for political candidates who find themselves in a confidence arms race against an unscrupulous rival. Fortunately, there is a path out of this predicament: Report uncertainties with confidence.[51] No, that is not a contradiction. Leaders should be truthful about the uncertainties inherent in a situation but express confidence that they have accurately assessed the situation and are acting on the best information available. This approach conveys confidence that is well calibrated to the leader's understanding of reality.

A young Jeff Bezos displayed this kind of confidence when he sought funding from prospective investors in Amazon. At the time, it was not obvious that the company he founded would someday make him the richest man in the world. In fact, Bezos anticipated the many ways in which his little startup could fail—and said so. While pointing out the large potential benefits, he also warned prospective investors that there was a 70% chance they would lose all the money they gave him.[52] It was still worth investing, Bezos argued, because the potential return on that investment was so big. He turned out to be right.

Research by Celia Gaertig and Joseph P. Simmons offers helpful guidance for honest leaders who aspire to well-calibrated confidence.[53] Gaertig and Simmons tested the credibility of different types of advice while varying the extent of two types of confidence that have been distinguished by Moore and Paul J. Healy: *estimation* and *precision*.[7] Estimation is an assessment of performance relative to some

Table 1. Potential responses to overconfidence in leaders

Factors that encourage overconfidence	Responses for members of the public	Responses for leaders
Confidence feels inspiring.	Consider ways that claims made confidently might be wrong. Anticipate potential costs of overconfidence.	Seek advisors courageous enough to offer honest criticism of your judgments.
Rivalry spurs leaders to present themselves as being more confident than their opponents.	Favor leaders who honestly describe the uncertainties relating to their policy proposals, forecasts, and campaign promises.	Express uncertainty with well-calibrated confidence. That is, be truthful about uncertainties but express confidence in having assessed a situation correctly.
Rivalry spurs leaders to be overly optimistic that events will turn out as desired.	Seek records of prior accuracy. Invite leaders to bet on their claims, that is, to commit to specific, testable, falsifiable predictions.	Document your own and others' past accuracy. Accept costly bets on what you have good reason to believe is true.
The process of selecting leaders favors the overconfident.	Support the building of *contingent contracts* into plans or policies. Such contracts stipulate plans to end or alter policies that do not meet performance benchmarks.	Base judgments and decisions on the best logic and best evidence, even when it comes from rivals or critics. Use contingent contracts.

absolute standard; it is often framed as a probability, as in, "There is an 85% chance that the Yankees will go to the World Series this year." Precision refers to the certainty one expresses in the accuracy of one's claims, as in, "I am 100% confident that that Yankees will go to the World Series this year." The researchers found that advisers lost credibility when they claimed certainty about something inherently uncertain, such as the outcome of an athletic contest. The most credible advice, by contrast, claimed confidence in a probabilistic estimate, as in, "I'm confident there is an 85% chance we will have a vaccine by the end of the year." The happy implication of these findings is that leaders can earn credibility by honestly reporting well-calibrated confidence.

This, then, is evidence-based leadership:[54] management practice based on truth, facts, and research.[55] It requires thinking probabilistically and admitting the limitations of one's knowledge.

Anthony Fauci earned the trust of the nation as America's top infectious disease specialist by providing well-calibrated confidence in press interviews and public statements. He tried to stick to the facts, the science, and the evidence. Where the scientific evidence afforded clear advice, he gave it. "Wear a mask," he implored Americans in May 2020.[56] At the same time, he was honest about the protection that masks offered and put the value in probabilistic terms: "I believe it is effective. It's not 100% effective."[57] And he was willing to admit what he did not know. When asked about the problem of students missing school due to pandemic closures, he replied, "I don't have an easy answer to that. I just don't."[58]

Leaders may fear that admitting to limitations will undercut their credibility, but done right, it will not harm credibility and will enhance the perception that they are being honest and authentic. Far from undermining leaders' viability, honesty can contribute to their effectiveness. Leaders who are worried about confessing their uncertainty should also consider how much overconfident claims can undermine their credibility in the long run.

In contrast to overconfident leaders, honest leaders will seek ways to present realistic estimates of future risks and opportunities, thereby allowing themselves, their followers, and their constituencies to prepare effectively for an uncertain future by making wise choices and placing smart bets on policies that can realistically be expected to succeed. Making wise choices that maximize expected value represents the very essence of effective political leadership.

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editorial policy

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Manuscripts can be submitted in a number of different formats, each of which must clearly explain specific implications for public- and/or private-sector policy and practice.

External review of the manuscript entails evaluation by at least two outside referees—at least one in the policy arena and at least one in the disciplinary field.

Professional editors trained in BSP's style work with authors to enhance the accessibility and appeal of the material for a general audience.

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