Communicating Public Opinion in Post-Fact Politics:
Biased Processing of Public Opinion Reports and Potential Journalistic Correctives

by

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DEDICATIONS

I dedicate this dissertation to my family, friends, and colleagues as well as to the beautiful cities of Ann Arbor, Istanbul, and Bangkok.

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ABSTRACT

People rely on polls and other representations of public opinion in the media to update their political cognitions and behaviors. However, individuals' preexisting beliefs can color how they perceive opinion reports and lead them to cherry-pick evidence that is congenial when presented with multiple options. Such biases result in distorted perceptions of public opinion, declining trust in journalism, and political polarization. Moreover, in today's unprecedentedly polarized and contentious information environment, individuals often encounter contradictory messages from digital data-journalism and numerical evidence is regularly critiqued, fact-checked, or debunked on reasonable or unreasonable grounds. In such a cacophonous context, individuals' biases in information processing might amplify. Through three large national survey experiments and one smaller study, this dissertation examines how news consumers' attributes, the content of opinion reports, and patterns of media coverage can trigger or mitigate biases in public perceptions. In the first part, I document that individuals process reports of public opinion in biased ways when they evaluate issue polls, election polls in competitive contexts, and diverse metrics of public opinion. I also show that their levels of knowledge and education moderate the extent of these biases. In the second part, I find that the corrective potential of three journalistic remedies to reduce these biases are minimal and contingent upon individuals' education levels. I discuss implications for political polarization, trust in the press and representatives, and democratic politics at large.

Chapter 1

Introduction

Public opinion reports, broadly construed, constitute one of the most fundamental information flows in American political communication. Citizens and political elites rely on quantitative reports of public opinion to update their beliefs about what people want (McLeod, Kosicki, and McLeod, 1994). Traditional public opinion polls have long dominated news coverage (Patterson, 2005). However, more recently, digital media and data journalism have evolved and alternative quantifications such as polling averages, forecasting models, analyses of social media "buzz," and prediction markets started to occupy increasingly more space in mainstream news outlets. Hence, there are a great number and variety of metrics purporting to provide systematic representations of public opinion. Of course, not every public opinion report is truly systematic; not all of them have robust methodological quality (cf. Baker et al., 2013). Moreover, there is an extensive amount of punditry, blogging, and both expert and partisan commentary over public opinion evidence whereby different media sources and actors attempt to frame the results by attacking their credibility with or without objective reasons. In such an information ecosystem, how people process evidence about public opinion and its coverage becomes crucial. As people rely on polls and other representations of public opinion in the media to update their political cognitions and behaviors, what they make of public opinion reports constitutes a critical question.

In this dissertation, I theorize public opinion reports as a social scientific and systematic evidence about public opinion and examine how ordinary individuals process these messages in communicative environments. Through a series of survey experiments collected from late 2014 to late 2016, I measure individuals' reactions to hypothetical news reports about public opinion. I show that individuals' preexisting beliefs, such as their party identification, candidate preference, or issue positions, can color how they make sense of these messages. I show that their perceptions of the credibility of the evidence are mostly driven by the favorability of the results that public opinion reports communicate. I further show that this biased processing can lead them to cherry-pick evidence that is congenial when presented with multiple messages in competitive information environments. In particular, I suggest that the cacophony and polarization of contemporary news coverage might amplify these biases.

Specifically, according to the expectations from motivated reasoning theory, this biased processing could be stronger for individuals with greater sophistication – individual characteristics such as education level, political knowledge, methodological knowledge, and numeracy. Contrary to the knowledge-deficit models which purport to claim that biases are due lack of adequate knowledge, I expect that people with greater cognitive capacity and sophistication will engage in more biased processing. This is because people with greater sophistication are more equipped to counter-argue against new information that is unfavorable to them (Taber and Lodge, 2013; Kahan et al., 2013). I discuss how motivated processing may prove to be democratically deleterious because it can result in distorted perceptions of public opinion, declining trust in journalism, and political polarization. However, there are potential journalistic strategies in news reports that can mitigate these biases by making the objective methodological quality of the evidence a more salient criterion in people's evaluations of public opinion reports. These range from adequate presentation of methodological details, providing more data with better explanation and disclosure of logic, or providing expert commentaries on methodological aspects of the public opinion reports.

In the Contextual Background subsection below, I first provide a description of public opinion reports in American political communication and discuss their importance. Then I introduce the basic communication model (the interpretative framework) that I will employ in studying public perceptions of public opinion reports and review prior literature. Following this I go into details about the three parts of the communication model, which are (1) aspects of public opinion reports, (2) their media coverage, and (3) individuals' psychological characteristics. In aspects of public opinion reports, I focus on the diversity of metrics, their results, methodological quality, and their potential influence on what people make of public opinion reports. In media coverage of public opinion reports, I focus on how source cues, reporting of methodological details, contextualized-explanatory reporting, and expert and partisan punditry in the news media could further influence news consumers' evaluations. Finally, in the audience characteristics section, I focus on individuals' motivations, cognitive heuristics in information processing, and their differences in political sophistication that might be consequential for their perceptions of public opinion reports. I discuss how these different sets of factors mentioned above could influence the evaluative mechanisms undergirding individuals processing of public opinion reports.

In the Theoretical Background subsection that follows the Contextual Background, I discuss the theory of motivated reasoning, the logic of corrective attempts, and related literature to explicate the theoretical approach I will take in formulating expectations about individuals' evaluations of public opinion reports that they encounter. This section shows why motivated reasoning is important for understanding how people process public opinion reports and reviews possible journalistic strategies that could reduce biases.

Finally, in the Overview of Empirical Studies section, I introduce the outline of specific studies and how they complement each other in examining the nature of motivated reasoning in perceptions of public opinion reports as well as the corrective potential of journalistic strategies to overcome these biases.

Contextual Background

Why Public Opinion Reports are Important

The relationship between public opinion and public opinion reports is mutually constitutive, and this underscores the prominence of public opinion reports. What does a mutually constitutive relationship look like in this context? We should first situate and define public opinion reports before conceptualizing their role and importance in democratic politics. Public opinion could simply be defined as what the public as a collective entity tends to prefer or believe in (Herbst, 1993; Patterson, 2005). Yet, this notion is not necessarily the only way we can define public opinion. Understandably, public opinion is a very fuzzy concept, and its very definition is a political phenomenon and deliberation as well. Although there could be many approaches to defining public opinion and its dimensions, one practical approach is looking at what reifies public opinion as an informational entity in our daily political talk and political news. From this measurement and pragmatic perspective, public opinion is simply what public opinion reports show, or claim to show, as the quantitative, systematic, and summative evidence about society's preferences and beliefs (e.g. Herbst 1993; Bishop 2004). They could range from traditional polls (issue polls, election polls, and presidential approval ratings) to more recent quantifications such as polling averages, forecasting models, analyses of social media buzz and political prediction markets. These different types of reports will be further discussed in detail in the following section.

Aside from this straightforward definition, understanding the complex web of processes and actors involved in the production of public opinion reports is also necessary for our understanding of the importance of public opinion reports. While for news consumers public opinion reports are finished and well-packaged end-products ready to consume, the reports have actually very complex processes and multiple actors involved in their production. Academics, polling industry, and the media (journalists and media sponsored polling) interact iteratively to produce and disseminate public opinion reports (cf. McLeod, Kosicki, and McLeod, 1994). In this dynamic system, public opinion is constantly and iteratively conceptualized, measured, analyzed, and packaged as ready-to-consume summative reports which are disseminated, critiqued, aggregated, and even re-analyzed by a variety of actors. This complex web of actors and processes reifies public opinion in the form of public opinion reports.

As public opinion reports solidify the abstract notion of public opinion (Gallup and Rae, 1968), they emerge as one of the social sciences' most notable contributions to public debate, deliberation, and its political psyche. The concept of public opinion lies at the heart of representative democracy because this system consolidates its legitimacy by deliberating on and executing the preferences of the society at large (cf. Gallup and Rae, 1968). "The general will" of the people is a central concept in classical normative politics (Rousseau, 1762), which the public opinion reports purport to measure. To what extent this function is achieved is the subject of considerable philosophical debate, but the main point here is that this is one of the major principles of representative democracies. The quantitative evidence that public opinion reports generate are presented in news reports (for ordinary citizens' and political elites' consumption) as well as in technical-academic papers (mostly for political elites' and academics' consumption) as the most systematic evidence of public opinion (McLeod, Kosicki, and McLeod, 1994). As opposed to individual stories, anecdotes, specific events, protests and the like, polls and other quantifications of public opinion arguably provide the most systematic, aggregated, quantified, and reliable evidence.[1]

Public opinion reports are crucial for all actors in representative politics – ordinary citizens, the political elite, the news media, and the democratic system's legitimacy at large. People rely on these reports to update their political beliefs and preferences (Moy and Rinke, 2012). People also have attitudes about polls and incorporate them to their decision making processes although they might be critical about their value (e.g. Kim et al., 2011). Similarly, citizens and NGOs pressure political elites in policymaking decisions with the poll results (Jacobs and Shapiro, 2000). On another front, journalists find polls instrumentally useful about providing information in covering public opinion in their news stories (e.g. Weaver, 2009; Weiss, Singer, and Endreny 1988; Wichmann and Brettschneider, 2009). Finally, at the macro level, each public opinion report, both methodologically and symbolically, constitutes an approximation of the electoral system in which people's preferences in elections are counted in a systematic way to select representatives or make policy decisions in the case of referenda (cf. Herbst, 1991). That is, each public opinion report is actually a symbolic nano-scale manifestation of official elections and referenda and the associated feelings of having been participated in democratic decision-making.

Aside from recognizing both the normative and pragmatic importance of public opinion reports, there are also some legitimate reasons to doubt the role that public opinion reports occupy within the broader universe of democratic politics. There is another vast and closely related literature interrogating the meaning and importance of public opinion reports with critical

[1] On the other hand, there are also other types of polls such as push polls or strategic polls by special interest groups, which are not designed to truly represent public opinion for the maximum public interest.

eyes. Scholars as early as Herbert Blumler (1948) worried that relying on polls alone fails to capture the dynamic nature of public opinion. Similarly, Bourdieu (1979) asserted that aggregation of every individual's answer to survey questions make public opinion an artefact of measurement. More recently, some scholars such as Bishop went as far as stating that collective preferences of the public cannot be captured at all by public opinion polls (2005). In his book titled *The Illusion of Public Opinion*, Bishop raised issue with how respondents to public opinion surveys provided different answers that seemed to be sensitive to the methodological differences in survey design and administration (also see research on non-attitudes; e.g. Zaller, 1992). Yet, other scholars did not agree with the evidence presented in this view as an indication that public opinion is just a complete social-methodological construct and hence an illusion, because such evidence still provides useful and predictive information about public preferences (e.g. Page, 2007). Overall, these scholars posed critical questions and issues about the validity of polls and their capacity of reifying or representing public opinion.

On another front of criticism, scholars focused on the practical problems that quantitative reports could have on democratic politics. Herbst (1991; 1993) pointed out how public opinion is constructed as "numbered voices," as they constitute a rationalization process via quantification of citizens' preferences. Herbst argued the processes of producing and disseminating quantitative public opinion reports could hinder other meaningful ways of political participation and deliberation, because they would create a false sense of deliberation and meaningful representation (1993).[2] Similarly, Cappella and Jamieson (1997) asserted that polls fuel a substantial portion of strategic news framing. Strategic framing in news coverage focuses on tangential issues about the horse race and candidates while taking away appropriate levels of

[2] Rousseau had also pointed out that the general will is not the mere cancelled out aggregation of the preferences of all citizens (1762).

attention of the press and the public on the discussion of substantive political issues. Finally, there is also the question of whether political elites should always respond what current public preferences demand, which emerges within the longstanding debate regarding the balance between populism and elitism in political decision-making processes (e.g. Hayward, 1996).

These are indeed legitimate criticisms, although we cannot have conclusive judgments about them because of the larger philosophical and political debates about the workings of the society that cannot be exhaustively studied in single studies or left confined to the epistemological biases of only one discipline. Hence, recognizing and "acknowledging" these criticisms should not be read as a condescending dismissing of the broader ideas they assume and perpetuate about the overarching role and significance of public opinion in democratic politics.

Henceforth, while these philosophical, sociological, and political criticisms are legitimate, they do not make public opinion reports and their reception by the public a trivial phenomenon. Instead, these criticisms contribute to the central importance of public opinion reports by nurturing a healthy communicative discourse about their role in our society. In this dissertation, I assert quantitative public opinion reports as scientific and systematic reports about public opinion. This is a principled, theoretical, and normative assumption that I uphold and build upon. Based on this premise, I employ a science communication perspective which necessitates an understanding of public opinion reports as the best available systematic and scientific evidence at a given time while not necessarily ignoring their limitations in methodological, epistemological, sociological significance. A basic tenet of science is that it is tentative, it always has some methodological issues, and its conclusions are based on assumptions. Another basic tenet of science is that it is always open to theoretical and philosophical questioning of its epistemology. Hence, the methodological and critical debates about public opinion reports, therefore, add to the importance of public opinion reports in the broad public discourse that reify democratic deliberation (cf. Jamieson, 2018).

Public Perceptions and Communication of Public Opinion Reports

How ordinary individuals makes sense of public opinion reports matters, because their perceptions might be different from what the report presents to them. Unlike the old and overly simplistic "hypodermic needle" models of communication, today we have a more sophisticated understanding of media effects in which the complexity of communication is recognized: Individuals' agency during their consumption of media messages is acknowledged, such that individuals are conceptualized as active agents who negotiate and create meaning in their unique *readings* of public opinion evidence (cf. Scheufele and Tewksbury, 2007). This is true for the communication of public opinion reports as well. In this section, I will (1) examine the prior work on this domain; (2) outline my approach, which lays out the major theoretical components in communication of public opinion; and (3) discuss why I focus on individuals' perceived credibility of public opinion reports as the focus of analysis.

What do we know about public reactions to public opinion reports? Since the 1930s, scholars have examined the cognitive and behavioral consequences of being exposed to poll results. The vast literature could be theoretically grouped into four categories along two dimensions of temporal order (predictive vs outcome variable) and type of construct (cognitive vs behavioral): In some studies, poll reports were used to predict other constructs and in others, where polls were the outcome variable of interest (e.g. Lavrakas, Holley, and Miller 1991; Traugott and Kang 2000). On the other hand, whereas some studied constructs are about political cognition (mental constructs such as attitudes and beliefs), others are behavioral (turnout, voting).[3] This cognitive vs behavioral distinction may not be as helpful as the first distinction (i.e. predictive variable vs outcome variable) because most of the studies conceptualize voting preference as a political behavior and study both cognitive and behavioral components together. However, studies usually find differing results (significant vs null effects) for cognitive vs behavioral consequences of polling exposure (e.g. Ansolabehere and Iyengar, 1995). Hence, this four-way categorization helps us recognize the diversity of political constructs that public opinion reports relate to and the varying ways that they might interact with each other.

The first set of studies, mostly examining polls as predictive variable for political cognition and behavior, built on social psychological theories such as social conformity *(*Asch 1951) and spiral of silence (Noelle-Neumann, 1984) which assert that people are highly sensitive to what other people in their social surroundings or in their society at large think. It is more comfortable to be consistent with what the majority of other people prefer, because, evolutionarily, this is an adaptive social strategy to survive in group dynamics. A similar mechanism is observed in citizens' preference expression, according to the spiral of silence theory (Noelle-Neumann, 1984), in which people choose to remain quiet in anticipation of their perceptions that they hold unpopular views.

Polling information provides a direct account of what others prefer; as Mutz (1998) argues, people increasingly rely on media in their perceptions of mass collectivities. Hence, in this category of scholarly work, researchers worked to tease out the individual level consequences of poll exposure, such as the bandwagon effect, according to which people vote for the winning candidate or issue position for conformity and strategic behavior ("strategic voting"

[3] Aside from these individual level phenomena, studies also examined institutional level constructs in relation to polls, such as elite responsivity and policy change (De Vreese and Semetko 2002). There is a large literature on elite responsivity (Achen 1977; Soroka and Wlezien 2010; Gilens 2012) but this topic is beyond the scope of the dissertation which focuses on public perceptions – hence the individual level phenomena.

in the sense of reassigning their vote to keep it from being wasted by casting it for the candidate who is expected to lose anyway) reasons of being on the winning side (e.g. Nadeau, Cloutier, and Guay 1993; Sonck and Loosveldt 2010).[4] For example, Nadeau, Cloutier, and Guay (2013) found around a 6% change in support for popular issue position. In a similar non-election context, Sonck and Loosveldt (2010) have shown polling exposure effects persisting as far as three months. As a notable finding in the field, McAlister and Studlar (1991) found evidence of bandwagon effects in British election across the years, and no evidence of the underdog effect. Similarly, Blais, Gidengil & Nevitte (2006) found in Canadian elections that polls influenced expectations about the election as well as people's voting preferences. Other research showed that polling questions and the dissemination of their results could even have agenda-setting effects by changing candidates' evaluation criteria (e.g. Hardy and Jamieson, 2005). More recent studies continue to examine these relationships and find that polls influence turnout (Vannette and Westwood, 2016) and different levels of support in poll findings can change the effect size of bandwagon voting (Rothschild and Malhotra, 2014).

While scholars find notable effects of polling exposure on people's voting decisions or other preferences in issues, we should be cautious about making overarching claims about the significance of these effects. Meta-analytical and review studies have noted that most of these effects, especially bandwagon and underdog effects, are inconsistent – with sometimes significant or insignificant effects or effects in reverse directions (Moy and Rinke 2012). It is not clear whether lab experiments or field experiments which have differing methodologies factor into the inconsistent body of literature. Additionally, there is extensive prior research for

[4] A counterfactual to this is the underdog effects, according to which people might also vote for the losing candidate or issue position as a reaction to the fact that the candidate or position is not favorable.

decades, and publication bias – reporting studies that find effects (Franco, Malhotra, and Simonovits, 2014) – likely plagues this field as well.

On the other hand, there is relatively little research on polls – and public opinion reports at large – as outcome variables of interest at the individual level. Most of the research on this domain is descriptive, looking at interest in polls, knowledge about polls, and trust in polls for population level statistics (such as Pew reports) and trends over time. For example, Traugott and Kang (2000) found that while most ordinary citizens think that polls are important, they are not adequately knowledgeable about the methodology of polls, such as sampling, margin of error, and question wording. Kim et al. (2011) found that trust in polls in general decreased over the years. Journalists' attitudes toward polls reflected anxiety about numbers, according to a study by Curtin and Maier (2001). Exceptions exist, such as Tsfati (2001), in which the author examined the influence of people's immediate social surroundings on their perceptions of polls.

Where do we go from here given the literature on how polls relate to political cognitions and behaviors? With the lens of my contextual and theoretical approach, I identify three main limitations in this literature that should be addressed. First, whereas scholars have focused on outcome variables such as attitude change or turnout and voting behavior, they have not yet addressed systematically the psychological mechanisms underpinning public perceptions. In-depth psychological investigations are not non-existent (e.g. Tsfati, 2001); but they mostly focus on other theoretical phenomena such as hostile media perceptions and third-person effects – which are not the evaluations people have of polls. Investigations of how people perceive opinion reports, in and of themselves, with a focus on constructs such as credibility assessments, are needed, especially in an environment of methodological issues, the polarized media environment, and election prediction failures that create a "polling-in-crisis" consciousness in the public discourse. The current dissertation zeroes in on the intermediary process of perceived credibility of public opinion reports to advance our understanding of how people process the reports themselves at the immediate moment they encounter them.

Second, previous literature mostly ignored the cacophonous and competitive information environment in which people encounter public opinion reports, which is unrealistic given that people get exposed to conflicting messages (cf. Chong and Druckman, 2007). Most research is experimental with a highly simplistic set up in which people are given vignettes or hypothetical news reports about a single public opinion poll result. Unlike the distilled experimental designs, individuals typically encounter public opinion reports in a highly competitive information ecosystem. Most experimental studies focused on singular media messages and failed to capture the dynamic aspects of journalistic reality where multiple polls offer conflicting results, have differing levels of objective quality, and are presented with expert and partisan comments. Considering these factors in a realistic manner is crucial for more external and ecological validity in our investigations. Hence all aspects of public opinion reports and aspects of the media coverage of public opinion reports should be considered in a holistic approach when we attempt to study the communication of public opinion reports in more sophisticated ways, by taking into account the abundance of messages in the media and how media covers them.

A third limitation in the previous literature is that it focused exclusively on the study of traditional polls (either election or issue polls) and has not explored the variety of public opinion reports that have proliferated over the last decade: polling averages, forecasting models, election prediction markets, big data analysis reports of social media and search-engine contents (cf. Traugott, 2009; Hillygus, 2011; Pasek, 2015). Expanding our understanding of public perceptions of traditional polls to the informational diversity of digital data is of paramount significance, both theoretically and in terms of capturing the ecological validity of current digital news media. It is important to be mindful of the diverse forms of public opinion reports and their increasing prevalence in order to investigate how ordinary individuals make sense of them in competitive settings.

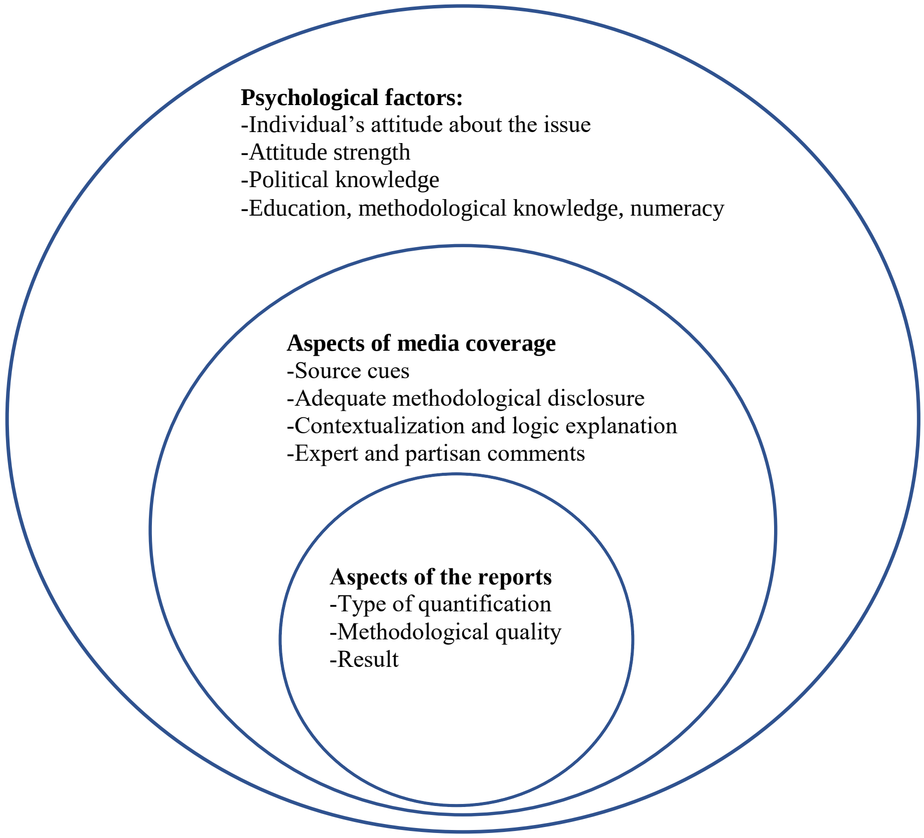
The Communication Model of Public Opinion Reports

Public opinion reports are fundamentally about communicating public opinion to an audience, hence, we need to consider the three sets of factors in a basic communication model: the message, the way message is delivered, and audience characteristics (what, how, who). Each of these aspects should influence the communicative process and how public opinion reports are understood. These are (1) the factors about the message itself, which are about the aspects of public opinion reports and (2) the factors about media coverage (the ways public opinion reports are delivered to the ordinary news readers), and (3) the psychological factors involved in information processing (the ways people react to the first two components). This tripartite model on understanding public perceptions of public opinion reports is illustrated in Figure 1. I position the three sets of factors in terms of temporal logic of communication, not in terms of importance. In the innermost layer, there are reports' characteristics. Then, in the second layer, the media covers these original public opinion results. Finally the third layer represents how ordinary citizens rely on what media offers to them and includes audience characteristics

Aspects of the Message – Public Opinion Reports

In general, public opinion reports communicate metrics designed to represent public opinion in various ways. The two sets of characteristics of public opinion reports that are most crucial for public perceptions are the diverse types and results of quantitative evidence and the methodological quality differences between them.

Figure 1. Communication of Public Opinion Reports



Diverse Types and Results of Public Opinion Reports. The meaning, representation, and presentation of public opinion is undergoing an important structural transformation due to the substantive technological innovation that has been going on over the last three decades since the onset of the Internet. Polling in the digital age brings new features (Goidel, 2011). For one, there are new types of data. What counts as "voice" and "opinion" now includes new data types that are not confined to the traditional polls asking a person to choose one of the response options of a survey question, but also includes things like a shared comment in a Facebook account and the aggregated quantitative analyses of such social media behaviors (Ellison & Boyd, 2013; Schober, Pasek, Guggenheim, Lampe, & Conrad, 2016) which are then analyzed and presented as a form of public opinion evidence. Alternatively, today's public opinion could include more "enhanced" and "sophisticated" data that integrates many of the same things - such as polling averages (cf. Jackman, 2005; Traugott 2009) - or many of the different types of things – such as election forecasting models that integrate historical patterns, economic data, and the like into the estimate. (cf. Pasek, 2015).

Moreover, this structural change of public opinion has not only been confined to the data (a survey response vs. a Facebook post vs. an election prediction market score), but also involves the way data are collected, analyzed, and presented in today's digital and data journalism. A new technological infrastructure has emerged that is characterized by smartphones and other mobile Internet-enabled mobile technologies which have advanced the new data collection efforts to be more computerized, digital, and multi-mode (Couper 2000); and this, in turn, was followed by diverse analytical tools and journalistic coverage in sites like *FiveThirtyEight, Pollster, RealClearPolitics, and the New York Times Upshot* (Butterworth 2014). Moreover, these new metrics are not only confined to data journalism blogs; they are increasingly integrated in mainstream news reporting. For example *CNN* embeds polling averages and prediction market odds when they release new poll results,[5] while the *NYT Upshot* forecasts included real-time updates to their estimates. CNN had even a smartphone application with pushed notifications and alerts about "important" changes in the results during the 2016 election campaign (Personally, I experienced one case during 2016 election period in which I got up to the noise of a push alert from this application, after which I muted it for good).[6] These examples show that mainstream news coverage has adopted these new quantifications of public opinion and especially thanks to the novel technological aspects of the media. In-depth interviews with journalists conducted by

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[5] <http://www.cnn.com/2016/09/11/politics/hillary-clinton-donald-trump-presidential-poll/>
[6] <http://www.nytimes.com/newsgraphics/2016/09/12/presidential-forecast-updates/newsletter.html?emc=edit_up_20160912&nl=upshot&nlid=75723958&te=1>

Toff (2017) also provided supportive evidence for this conjecture when he found that journalists are increasingly relying on polling aggregators instead of getting their hands directly on singular traditional poll reports.

Table 1. A Typology of Public Opinion Reports

Self-report data	Behavioral data	Hybrid data
Polls Traditional survey	**Search-term analytics** Reports about the trends on Google searches regarding the candidates or issues	**Forecasting models** Integrates polls, economic indicators, and other metrics to form predictions
e.g. ABC-Washington Post poll, CNN/ORC poll	*e.g. Associated Press Google search trend analytics*	*e.g. FiveThirtyEight PollsPlus, PrimaryModel.com NYT Upshot*
Polling Averages Aggregates and weights results of many surveys	**Analyses of social media buzz** Reports about the trends in what people post and talk in social media about the candidates and issues	**Election prediction markets** Models that analyze the political betting market trends for the candidates
e.g. RealClearPolitics, CNN poll of polls, HuffingtonPost Pollster, NYT Upshot	*e.g. Twitter and Facebook trends, hashtags, USA Today Facebook Barometer, AP Twitter trend, Twitterwonk Model*	*e.g.Iowa Prediction Markets, Predictit, Intrade, CNN political prediction market, Predictwise*

Notes. Three types of quantifying and representing mass opinion data are presented with their different forms and important examples for each. Methodological distinctions (self-report vs behavioral) made in Schober et al. (2016) and Pasek (2015) have contributed to the idea of this categorization by the author(s).

Categorizing these new metrics is helpful in terms of thinking about the nature of data generation, making sense of the diversity and distinctions as well as how they relate to each other. An examination of the media environment resulted in the following major quantification types that in some way represent the 2016 horse race: polls, polling averages, search-term and social media analytics, forecasting models, and prediction markets (See Table 1). They could be categorized into three major types of public opinion metrics based on the nature of data they rely on: *self-report data* (polls and polling averages that aggregate and weight them), *behavioral data* (social media, search-term, or other media content analyses that process user generated content), and finally *hybrid data* that combines self-report and behavioral indicators (forecasting models and election prediction markets which involve more complex data generated from diverse parameters).

These different metrics have both common and distinguishing features. Compared to traditional polls, the new forms of quantification of public opinion are almost always presented on the online digital (the Internet) platforms instead of paper, TV, or radio. The Internet environment provides a range of affordances that differ from those on other platforms. The Internet-based reports have much more interactive visuals, allowing news readers to engage with graphics and data (c.f. Wang et al., 2018; Cairo, 2013). The public opinion reports on online platforms are also more dynamic and integrative, such that they can provide real-time updates with new incoming information (e.g. the NYT Upshot, FiveThirtyEight). Also, Internet-based public opinion reports are more immersive, because they reach out to more people during their daily lives (e.g. incidental exposure) through social media and mobile communication devices such as smartphones (e.g. phone apps and push notifications, see Kuru et al., 2017; Dunaway, Paul, and Searles, 2016). We know this because according to Pew statistics, as of 2016, only two out of ten Americans get their news from print newspapers (Mitchell et al., 2016). See Figure 2 for examples of these reports.

At the same time, each of these reports provides substantially different information and varies in terms of its representativeness of the population, accuracy in capturing opinion, and relevance to the specific political event – the presidential election. For example, “polls show what people are thinking now, whereas the prediction markets are what people think will happen in the future” (Jackson, 2016). Whereas probability-based polls are representative of the U.S population, analyses of social media are confined to people who have social media accounts (Schober et al. 2016). Such distinctions between these new tools matter, and they complicate the quantification of public opinion due to their diverse nature. They have fundamentally different methodological underpinnings and the meaning of what they present as evidence of public opinion varies widely.

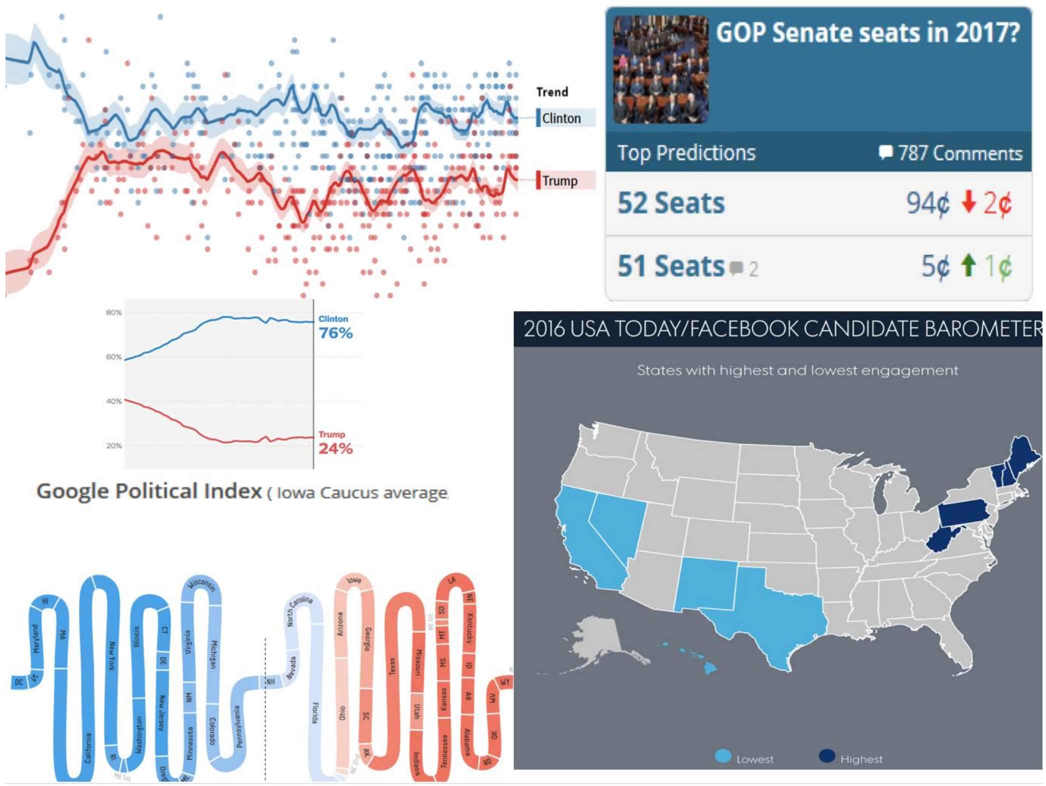


Figure 2. Examples of diverse metrics. *Top-left.* Polling average from HuffPost. *Top-right*. Predictwise market scores. *Middle*. Associated Press-Google search term political index for candidates. *Bottom-left*. FiveThirtyEight's forecasting model with electoral system road to victory. *Bottom-right*. USA Today-Facebook election barometer for the social media buzz.

These fundamental methodological and epistemological differences between different types of reports can complicate our understanding of the nature of public perceptions, especially about the perceived uncertainty associated with numerical results and their underlying methodological differences. The clearest example comes from the latest presidential election in 2016 in which a Clinton victory was expected by a large portion of the public and experts. A forecasting model report stating that there is an 85 % chance that a candidate is winning the race inflates the sense of certainty about that result as compared to a poll report showing 52% of likely voters were supporting that same candidate (e.g. Messing, Westwood, and Lelkes, 2018), even though these nominal values are not directly comparable to each other. Similarly, what people think of a poll result about public beliefs in climate change with respect to a trend analysis of social media buzz about the issue becomes an intriguing question – especially given issues such as the strategic disinformation campaigns via social media bots to manipulate public discussion (cf. Bolsover and Howard, 2017; McKew, 2018). In sum, how people respond to these characteristics of quantitative public opinion evidence provides significant insights into individuals' judgment processes in a context where the substantive results of reports, their methodological qualities, and the type of quantitative evidence they present compete.

Methodological Quality of Public Opinion Reports. Methodological quality is an important aspect of public opinion reports that is crucial for the accuracy of representation and communication of uncertainty (cf. Dunwoody, 1999), and hence for public perceptions. Methodological quality matters and is an important issue, because there are notable methodological differences between public opinion reports (Jackman, 2005; Hillygus, 2011). As there are many actors involved in traditional polling, there are so many polls being reported every day. Especially during election times, there could be multiple polls released even in the same day. Subsequently, there might be many differences in the methodology employed in sampling (telephone, mail, Internet etc.), questionnaire design (the ways questions are asked and response options provided), scope (state vs national polls), mode (self, computerized etc.), and in analysis (decisions on weights etc.). Hence, even when polls are conducted on or around the same dates – which rules out a shift in public opinion - and on the same issues or contexts, polls' results often differ (Baker et al., 2010; 2013). Researchers have demonstrated that small decisions in weighting could result in different substantive results even when the same dataset is being used (e.g. Cohn 2016a; 2016b). These methodological differences also lead, although not always, to methodological quality differences as well (Baker et al., 2010; 2013; Hillygus, 2011; Pasek, 2015). Aside from these, as explained in the previous section, today there are new quantifications of public opinion and these have very different methodological differences.

Methodological quality dominates the public debate about public opinion reports, which might make quality a salient issue in people's perceptions. There is a great amount of focus on methodological quality in the news media, because there are problems with polling due to overarching issues in the industry and skepticism about polls in general (cf. Kim et al., 2011). Methodological challenges such as how to integrate different modes of data collection, locate hard to cover populations, and declining response rates might bias the results. Especially in the election context, public opinion reports are compared to the official results of elections, a situation that creates a de facto truth benchmark for the accuracy of pre-election polls. Large literature documents "bias" in election poll results relative to the actual election (Traugott 2005; Hillygus 2011). Although pre-election polls are not only meant to be a tool of predicting elections, that is how the media and public discourse view them. While these studies have contributed to methodological improvements in the field, in the court of public opinion, such comparisons create a false expectation about public opinion reports as if they should exactly mirror the election result. This fallacious view of public opinion reports in the electoral context, along with other methodological problems, and media coverage of these issues – which will be discussed in further detail in the next section – all contribute to the polling-in-crisis narrative in the public discourse (cf. Traugott et al., 2008). While this credibility issue is a population-level phenomenon, such that it concerns all public opinion reports and trust in reports in general, the point here is that this increased public consciousness due to the polling-in-crisis narrative would make methodological quality a more salient feature in ordinary individuals' evaluations of public opinion reports, and potentially in ways that are rather susceptible to cynic evaluations.

Aspects of Media Coverage of Public Opinion Reports

Media coverage of public opinion reports matters, because individuals rely on media representations in their engagement with public opinion reports. People mostly encounter public opinion evidence as packaged products within news stories that are prepared for public consumption, often in simplified forms. Four major aspects of media coverage are crucial for public perceptions. These are (1) the source cues, (2) reporting of methodological details, (3) contextualized-explanatory reporting, and finally (4) expert and partisan punditry used to help readers interpret the results.

Source cues. A large body of literature suggests that sources in the media could shape people's perceptions of the message (Howland and Weiss, 1951). Prior research suggests that the source transmitting information can alter the perceptions of a message. For example, individuals tend to inflate the credibility of sources associated with their political affiliations relative to those associated with out-parties (Stroud and Lee 2013). Because public opinion reports are typically presented within the context of media stories, there is good reason to expect that this process might alter individuals' processing of public opinion reports.

Hence, we have to test how people process public opinion reports with a consideration of source effects. This is important because people consume public opinion reports through media representations, hence, they heavily rely on media reports. Yet, people have opinions about media sources as well. They are knowledgeable about the ideological stances of outlets, and a large body of research documents that many people believe that media are biased against the views they hold (e.g. hostile media effects; Chia and Chang, 2017). Therefore, we need to assess how people process public opinion reports by considering the influence of media sources.

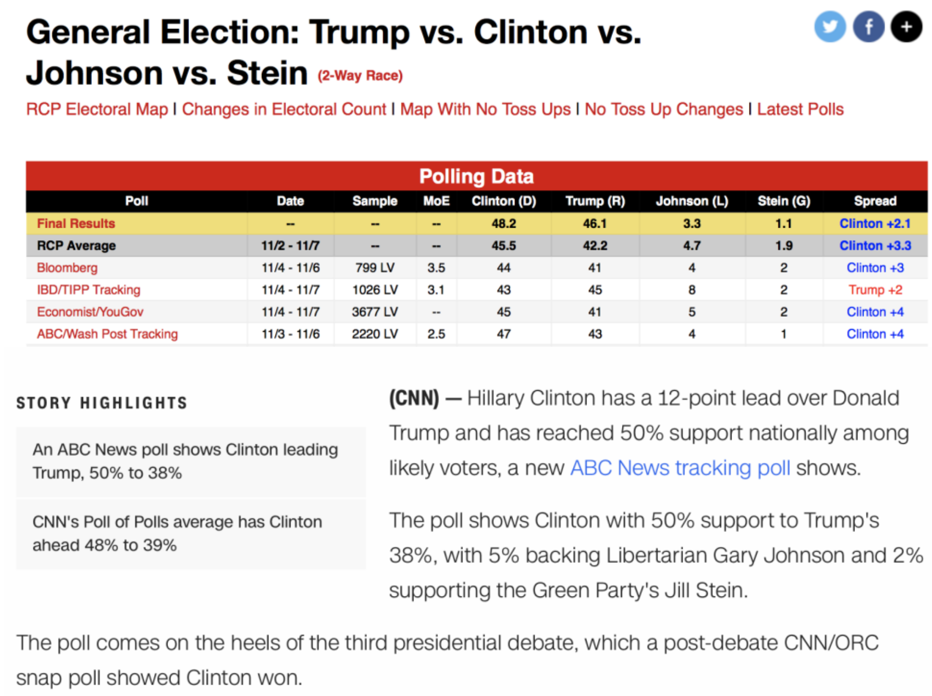
In the polling context, closely related to the media sources, there is also the issue of poll sponsor. However, there are reasons that media sources should matter more and trump the sponsor effects. First, people are not very knowledgeable about polling sponsors, second, the sponsors of polls and other public opinion metrics are increasingly complicated with collaborations between media and polling firms (e.g. CNN-ORC Poll) or academic centers (USC Dornsife-Los Angles Times Poll). Especially in the case of push polls and those conducted by campaigns themselves the sponsorship might matter, however this dissertation's scope does not include push polls. Hence, it also does not consider the potential influence of sponsors.[7] For research related to sponsors, see Panagopoulos (2016) and Chia and Chang (2017).

Methodological Disclosure. Efforts to increase the methodological disclosures in releases of poll results by pollsters, such as the Transparency Initiative of the American Association for Public Opinion Research[8], are recent movements in the discipline for the credibility of public opinion reports. However, there are many problems with how the press covers public opinion reports as well (Traugott, 2012). And these problems should be concerning, because the media coverage constitutes the point of contact with the larger public. Numerous content analyses have been conducted to document these issues. Studies examined the trends in the proportion of poll reports in news reports (Brettschneider 1997), whether methodological details were included (e.g. Sonck and Loosveldt 2008), the effect of surprising results in media coverage (Matthews, Pickup, and Cutler 2012; Searles, Ginn, and Nickens 2016), misunderstanding of margin of error

[7] http://www.aapor.org/Education-Resources/Resources/AAPOR-Statements-on-Push-Polls.aspx
[8] https://www.aapor.org/AAPORKentico/Transparency-Initiative.aspx

in press coverage (Larson 2003), and communication of statistical uncertainty in poll reports (Bhatti and Pedersen 2015). Overall these studies documented the problems (methodological details, communication of uncertainty) and theoretical patterns (reporting of surprising results, lack of issue coverage) in the media over the years.

Contextualized and Explanatory Reporting. A third issue in the media coverage of public opinion reports is contextualized reporting of evidence. As there are many polls with different results and methodological qualities, and as there are newer metrics such as polling



General Election: Trump vs. Clinton vs. Johnson vs. Stein (2-Way Race)

RCP Electoral Map | Changes in Electoral Count | Map With No Toss Ups | No Toss Up Changes | Latest Polls

Polling Data

Poll	Date	Sample	MoE	Clinton (D)	Trump (R)	Johnson (L)	Stein (G)	Spread
Final Results	--	--	--	48.2	46.1	3.3	1.1	Clinton +2.1
RCP Average	11/2 - 11/7	--	--	45.5	42.2	4.7	1.9	Clinton +3.3
Bloomberg	11/4 - 11/6	799 LV	3.5	44	41	4	2	Clinton +3
IBD/TIPP Tracking	11/4 - 11/7	1026 LV	3.1	43	45	8	2	Trump +2
Economist/YouGov	11/4 - 11/7	3677 LV	--	45	41	5	2	Clinton +4
ABC/Wash Post Tracking	11/3 - 11/6	2220 LV	2.5	47	43	4	1	Clinton +4

STORY HIGHLIGHTS

An ABC News poll shows Clinton leading Trump, 50% to 38%

CNN's Poll of Polls average has Clinton ahead 48% to 39%

(CNN) — Hillary Clinton has a 12-point lead over Donald Trump and has reached 50% support nationally among likely voters, a new ABC News tracking poll shows.

The poll shows Clinton with 50% support to Trump's 38%, with 5% backing Libertarian Gary Johnson and 2% supporting the Green Party's Jill Stein.

The poll comes on the heels of the third presidential debate, which a post-debate CNN/ORC snap poll showed Clinton won.

Figure 3. Aggregated reporting examples. *Top panel.* A screenshot of RealClearPolitics' polling average table from the 2016 presidential election. *Bottom Panel.* A screenshot of CNN presenting its polling average along with the release of a new singular poll result.

averages, mainstream news reporting on public opinion increasingly involves integrated reporting. Usually, each new poll result is presented in relation to the latest contemporaneous polls. Especially the format followed by the Pollster of Huffington Post and the RealClearPolitics websites involves the detailed presentation of the latest few, usually five, polls in a list. They also include the polling average metric, however the presentation of multiple results in this way provides a unique form of contextualization (See Figure 3). Moreover, usually the logic behind methodological decisions, such as the justification for polling averages, are explained in simple terms for lay readers (e.g. Silver, 2012; 2016; Jackson, 2016; Cohn, 2016). This kind of reporting could influence in important ways how ordinary people process news reports.

Interpretative Discourse: Expert and Partisan Punditry. While polls dominate news coverage at large, what dominates polling coverage itself is the interpretative discourse surrounding polls. As facts “only exist in the context of a larger interpretative scheme (Graves, 2017), polls garner a lot of commentary as the most systematic and quantitative evidence about public opinion. In today’s polarized digital media environment, many commentators opine on poll results, for better or worse. Journalists, experts, and political elites continuously and competitively interpret available polling evidence by evaluating methodological validity, limitations, and framing of results as well as their practical implications.

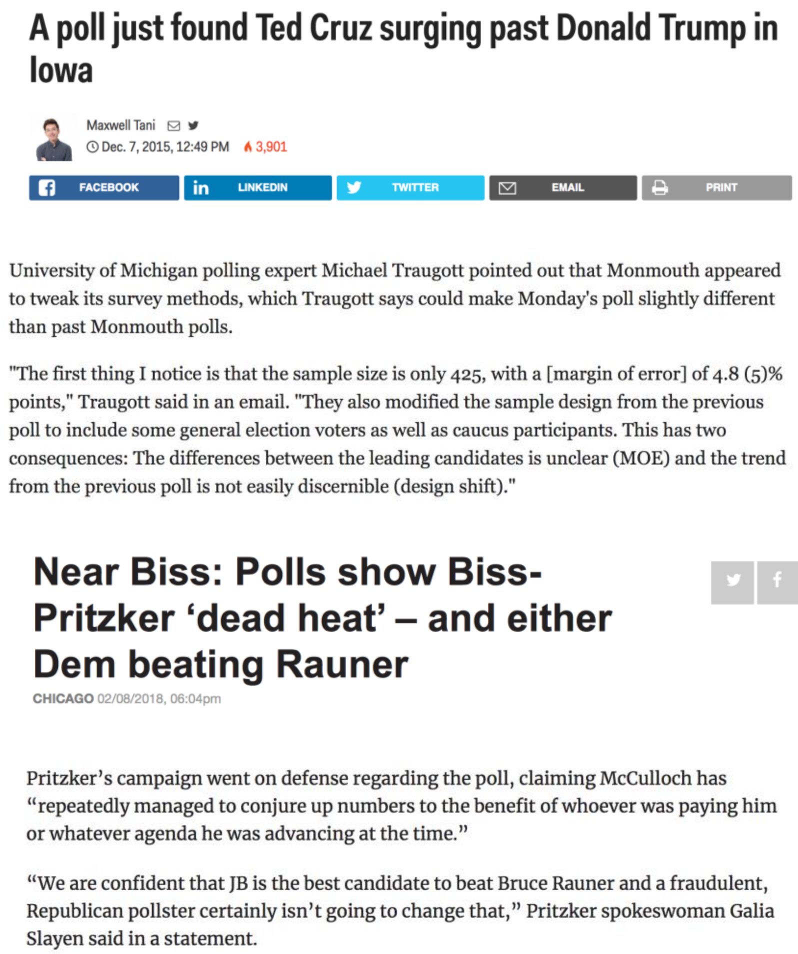
There are several reasons for increasing public discussion and rhetoric on polls. For one, traditional journalists are not well equipped to report and interpret the polls accurately (e.g. Nguyen and Lugo-Ocando, 2016; Bhatti and Pedersen, 2016; Tryggvason and Strömbäck, 2017). Journalists have anxiety towards numbers (Curtin & Maier, 2001; Wihbey and Coddington, 2017). Methodological details are not always adequately disclosed (Sonck and Loosveldt, 2008) and half of the interpretations of margin of error were inaccurate (Larson, 2003). Hence, journalists rely on academic and polling experts to make sense of results and comment on methodological aspects of polling in their news reports (cf. Matthews, Pickup, Cutler, 2012). Second, to produce more engaging stories journalists use reactions of political representatives to poll results, who usually provide subjective and partisan comments (cf. Feldman, 2011a). Third, popularity of data journalism sites dealing with polling fuels incessant punditry on the quality of polling evidence (cf. Butterworth, 2014; Turcotte et al., 2017). Finally, the social nature of news reporting, as it appears in online comment sections of traditional news stories and social media outlets where polls are shared, provides both experts and ordinary citizens with a platform where they can opine on evidence (McClain, Kuru, Pasek, 2017).

The interpretative discourse around polling can influence people's evaluations more than the actual poll results. Surprisingly, this is an overlooked aspect in decades of studies on polling exposure effects. As people do not have much interest and knowledge about polls (Traugott and Kang, 2000), they might instead rely more on what pundits tell them. Yet, whether and how polling critiques could help individuals in making sense of the results remains to be investigated, and it likely depends on the nature of the punditry. While some commentaries by experts are objective and focus on evidence and methodology, other comments by partisans are more likely to be subjective and biased.

Expert commentaries constitute most polling punditry, because journalists rely on expert views in interpreting results (cf. Matthews, Pickup, Cutler, 2012).[9] Most expert commentaries could be considered objective in the sense that they focus on methodological quality and serve to contextualize poll results. For example, such comments might single out the margin of error and timing of the poll or point out that the sample is not representative and compare result to a prior or concurrent poll (See examples in Figure 4). Hence, expert commentary may be an effective way to highlight to news consumers the validity and quality of numerical evidence, such as when they discuss the limitations of poor quality polls.[10]

[9] For example, see the online training "Understanding and Interpreting Polls" at the Poynter News University, a free course funded by the partnership of AAPOR and Knight Foundation. <http://www.newsu.org/courses/understanding-and-interpreting-polls-2016>

[10] For example, see <http://www.businessinsider.com/poll-ted-cruz-donald-trump-iowa-2015-12>



A poll just found Ted Cruz surging past Donald Trump in Iowa

Maxwell Tani
Dec. 7, 2015, 12:49 PM 3,901

FACEBOOK LINKEDIN TWITTER EMAIL PRINT

University of Michigan polling expert Michael Traugott pointed out that Monmouth appeared to tweak its survey methods, which Traugott says could make Monday's poll slightly different than past Monmouth polls.

"The first thing I notice is that the sample size is only 425, with a [margin of error] of 4.8 (5)% points," Traugott said in an email. "They also modified the sample design from the previous poll to include some general election voters as well as caucus participants. This has two consequences: The differences between the leading candidates is unclear (MOE) and the trend from the previous poll is not easily discernible (design shift)."

Near Biss: Polls show Biss-Pritzker 'dead heat' – and either Dem beating Rauner

CHICAGO 02/08/2018, 06:04pm

Pritzker's campaign went on defense regarding the poll, claiming McCulloch has "repeatedly managed to conjure up numbers to the benefit of whoever was paying him or whatever agenda he was advancing at the time."

"We are confident that JB is the best candidate to beat Bruce Rauner and a fraudulent, Republican pollster certainly isn't going to change that," Pritzker spokeswoman Galia Slayen said in a statement.

Figure 4. Examples of expert and partisan comments. Top: Expert comment, Bottom: Partisan comment <http://www.businessinsider.com/poll-ted-cruz-donald-trump-iowa-2015-12>, <https://chicago.suntimes.com/chicago-politics/poll-taken-day-after-fbi-wiretap-release-finds-pritzker-biss-in-dead-heat/>

On the other hand, due to the dominance of polls in election coverage and the recent "polling failures" associated with unexpected election outcomes across the world (e.g. 2015 Greek election, the Brexit vote in 2016, the 2016 U.S. presidential election), there is widespread public skepticism of polls (Jackson and Sparks, 2017). Appearing as opinion pieces, op-eds, parts of specialized blogs, or data journalism outlets, critical commentaries may target polls' methodology or epistemological underpinnings, as well as the consequences of being exposed to polls for democratic politics. Similarly, the diversification of public opinion metrics with the onset of data journalism may raise question about the limitations of traditional polling that suffers from lower funding, declining response rates, complications of sampling in its online modes. At a time when the entire polling industry has increasingly come under fire (Kennedy et al., 2017), such expert critiques on polls could shape public evaluations in prominent ways.

Not all punditry is objective. As opposed to objective expert opinions, partisan interpretation on poll findings might be a facilitator of motivational biases. With the elimination of the Fairness Act by the Federal Communications Commission (1987), aside from objective and balanced reporting of news, explicit partisan commentary started to accompany news reporting over the last few decades. To drive audience interest and engagement, news stories frequently include partisan commentaries that can be provocative (Feldman, 2011a). These commentaries are subjective as they do not focus on the methodological aspects of polls – or when they do, it is often superficial and pseudo-methodological. Instead, partisan comments usually come from campaign representatives who strategically highlight a favorable poll result and dismiss polls that show their candidate unfavorably as "biased." As illustrated in debates about unskewing the polls, oversampling of Democrats, weighting, and rigged / fake polls during the 2012 and 2016 elections, there is an enormous amount of pseudo-methodological attacks on specific polls.[11]

Aspects of the Audience of Public Opinion Reports

In studying perceptions of public opinion reports, the third analytical and perhaps the most influential component is individuals' psychological differences.

[11]For example, see <https://chicago.suntimes.com/chicago-politics/poll-taken-day-after-fbi-wiretap-release-finds-pritzker-biss-in-dead-heat/> , < http://www.msnbc.com/rachel-maddow-show/adventures-fox-news-polling-part-vi> <http://www.zerohedge.com/news/2016-11-09/about-those-polls-rigged-or-just-clueless> and <https://www.washingtonpost.com/news/the-fix/wp/2016/10/24/very-bad-analysis-of-a-2008-email-is-donald-trumps-new-excuse-for-why-hes-losing/?utm_term=.b8a1c8a8dd88>

A key feature makes public opinion reports susceptible to the influence of people's own political preferences. Public opinion reports serve as a mirror with which a society looks at itself; such that, it is *the picture in our heads* (Lippmann 1925). Each reader, for example, of a poll report showing the state of the election, belongs to that society which that poll claims to represent. This interesting and mutually-constitutive epistemological relationship between the public and its own aggregate opinion might lead people to engage in comparing the results of public opinion reports to their own preferences, because they are part of the society that the report claims to represent. On this front, people's motivations might matter in how they process reports. Kunda (1990) laid out that people have two types of goals - accuracy goals and directional goals – when they engage with new information. If they are motivated to get an accurate picture of public opinion they might try to be objective when assessing evidence while they might be biased if they fall prey to their directional motivations that push them to reach comfortable mental states. The current dissertation focuses on this second type of motivation and it will be explicated in detail in the Theoretical Background section.

A second feature is that the public's perceptions and engagement with political issues and facts are rather ephemeral, and a vast body of research documents that people are not knowledgeable about politics (see Carpini and Keeter 1997; Lupia and McCubbins 1998; Lupia 2015) as well as polling specifically (Lavrakas, Holley, Miller, 1991; Traugott and Kang, 2000). People might not effectively process public opinion reports. The dual process models such as the elaboration likelihood and heuristics-systematics models provide us insight about how people may differ in their depth of processing (Petty and Cacioppo, 1986; Eagly and Chaiken, 1984). This could mean that they typically rely on peripheral processing instead of effortful thinking, which makes it more likely they will focus only on the substantive results without questioning the methodological quality of the systematic evidence.

Relatedly, individuals will likely differ in the extent they will want to engage with public opinion reports, particularly in terms of their ability to process public opinion reports. People differ in their levels of political interest, interest in public opinion reports, education, political knowledge, numeracy, and methodological knowledge about public opinion reports. These relevant individual differences should be taken into account in our models of communicating public opinion through public opinion reports. As reported in the previous paragraph, a key finding is that people are not very knowledgeable (Traugott and Kang, 2000). Yet, we have to be careful about making sense of how knowledge or lack of it relates to the interpretation of public opinion reports. According to the traditional knowledge-deficiency models in science communication, the reason people do not hold accurate information is that they lack the adequate knowledge and skills (e.g. Batt, Waldron, Broadwater, 2008). This knowledge-deficit approach was later criticized as providing only a one-way conceptualization of communication (information flow from experts to the public), which ignored the interactions between report characteristics, media coverage, the characteristics of ordinary citizens (Akin, 2017; Scheufele, 2014).

Individuals' Assessments of Credibility

I focus on how people evaluate public opinion reports by examining the credibility that they confer on the information in these reports. Prior research in psychology, political science, communication, and journalism have validated "perceived credibility" as a measure of people's momentary reactions to information that they encounter (e.g. Sundar, 1999; Metzger, Flanagin and Medders, 2010). These studies presented individuals with items asking them to rate aspects of the information that they encounter, such as its accuracy, reliability, trustworthiness, and sometimes its informativeness (e.g. Moiser and Ahlgren, 1981; Meyer, 2002). While exact conceptualizations of these evaluations may vary in different contexts, especially in relatively more abstract ones (cf. Bauer, 2017), these perceived credibility dimensions tap individuals' evaluative judgments, especially during and in the immediate aftermath of encountering the messages. These items have also been widely used in prior literature. Capturing this immediate evaluation is crucial, as it will determine whether people would interpret the newly-encountered information into their beliefs and long-term memory. Especially within a news environment where individuals encounter many public opinion reports with differing results, varying methodological qualities, and competing interpretations, these momentary evaluations should matter in how people react to particular public opinion reports.

Theoretical Background

Public interpretation of public opinion reports has a major problem. Scholars in public opinion historically acknowledged individuals' limitations in making sense of an objective concept of public opinion. For example, according to Lippman (1925), people have prejudices in their conceptions of what others think and prefer. This basic idea of bias in people's views about public opinion should similarly influence their processing of public opinion reports: Individuals tend to process public opinion reports in biased and detrimental ways, in line with their own political preferences. These biases could lead to deleterious problems for democratic politics. To document the extent of people's biases, the mechanisms undergirding this bias, and to investigate the ways to reduce these biases, I rely on the motivated reasoning theory. In this section, building on the components of the tripartite communication model – which is composed of aspects of public opinion reports, aspects of media coverage, and individuals' characteristics - I introduce the expectations and moderators of motivated reasoning theory to document the extent of individuals' biases and investigate the effectiveness of journalistic remedies.

Individuals' Bias against Unfavorable Evidence

Motivational biases constitute one of the most fundamental aspects of human cognition when it comes to the processing of information. As individuals encounter new information, they process what they read or hear in relation to their pre-existing beliefs (Kunda 1990; Taber and Lodge 2006; Lodge and Taber 2013). Individuals also develop negative affect and render snap judgments when information contradicts preexisting attitudes; this defensive-processing motivates individuals to argue against the information presented (Kim, Taber, and Lodge 2010; Redlawsk 2002; Lodge and Taber 2013). Similarly, studies showing higher arousal to negative political information (i.e. unfavorable information, Soroka and McAdams, 2015) support the view that unfavorable public opinion reports will lead individuals to be more recalcitrant and defensive against it. One result of this counterargument is that individuals can be expected to disregard the credibility of the counter-attitudinal information at the immediate moment the information is encountered.

In the context of public opinion reports at large, results shown in polls will mostly be either favorable or unfavorable to the news consumer. Specifically, if poll results conform to an audience member's preexisting views, the results should be perceived as more credible than if they differ from these views. So, for example, if an individual who is pro-life encounters information that most Americans support legalized abortion, that individual might find the results less credible. Or similarly, an election poll showing a Republican candidate leading would be discounted disproportionately by a Democrat news consumer.[12] At large, this tendency constitutes a conflation and clash of societal perceptions and one's own views.

Whether and how these biases operate in a highly competitive and polarized news environment should be investigated (cf. Chong and Druckman, 2007). Differing results, varying types of metrics, differing methodological qualities, and competing interpretations by experts or partisans could change people's tendency to engage in motivated reasoning when they encounter public opinion reports in the news stories.

Aside from competitive news coverage, political polarization is also a long-term issue that distorts public discussion in American politics and contributes to the motivated assessments of public opinion evidence (cf. Iyengar, Sood & Lelkes, 2012). For example, the 2016 election period was an unprecedented race between the presidential candidates, full of controversies, lies, and accusations. Partisan framing also spilled over to the beliefs on basic facts and statistics, including the factual evidence on the performance of the candidates. Particularly, claims of a "rigged election" (Weigel, 2016), the misinterpretation of scientific methodological decisions such as "oversampling" (Bump, 2016), hidden ("shy" respondents) Trump vote in "the rigged polls" (Munro, 2016), and discussions on the low quality online polls (Fox News, 2016) on debates about who won the presidential debates were good examples of partisan dispute over factual evidence (Lepore, 2016) and more broadly, epistemological discussions about a "post-truth" (Davies, 2016) or "post-fact" era (Manjoo, 2016). In such a context, motivated assessments of public opinion evidence could prevail and plague public discourse.

[12] Cases where people might not have opinions and hence do not have any favorable or unfavorable connection with a public opinion report's result could also exist and are further discussed in the limitations section of the Conclusion chapter.

Potential Effects of Source. While investigating individuals' motivational biases in assessing public opinion reports, we must consider the possibility of source effects to make sure that bias against sources are not conflated with bias against public opinion reports. The source transmitting opinion reports may also alter the influence of motivational processes on poll credibility. A growing body of evidence suggests that individuals both seek and accept information from media sources they are prone to agree with (Tsfati and Cappella 2003; Stroud 2008; Iyengar and Hahn 2009). Further, individuals tend to inflate the credibility of sources associated with their political inclinations relative to those running counter to it (Stroud and Lee 2013; Gunther and Liebhart 2006). Indeed, recent research shows that media tend to report polls in biased ways, along with their ideological slants (Searles, Ginn, and Nickens, 2016). Similarly, hostile media perception theory expects and finds that people believe that the media is biased against their positions (Vallone, Ross, and Lepper 1985). In the polling context, similar mechanisms may explain why hostile media effects appear stronger when individuals dislike a message presented by an ideologically opposing source (Chia and Chang 2015).

Knowledge-deficit Models vs the Sophistication Paradox

When people are biased in their perceptions of evidence or hold inaccurate beliefs, the traditional approach by practitioners and scholars to tackle this problem has relied on the assumption that biased people lack knowledge and necessary information (Akin, 2017; Scheufele, 2014). However, research shows that people with more sophistication tend to engage in motivated reasoning more. Motivated reasoning theory posits that biased processing should be especially strong for individuals who are politically sophisticated (Taber, Cann, and Kucsova 2009) and thus are likely to have entrenched beliefs that enable them to counter-argue (Lodge and Taber, 2013; Zaller 1992). Indeed, the most knowledgeable individuals disproportionately appear to discredit information from messages that contradict their preferences (cf. Redlawsk 2002; Lodge and Taber 2013). Individuals use their cognitive arsenal – be it information or educational skills – to develop arguments against evidence that they do not like. Both more general theories of attitude formation (e.g. Zaller, 1992) and more specific theories such as motivated numeracy and cultural cognition (e.g. Kahan et al. 2013) found consistent support for this moderation observed in studies of motivated reasoning (e.g. Miller, Saunders, and Farhart 2015). Similarly, research in selective exposure found that those people who thought they had sufficient scientific knowledgeable showed a tendency to prefer and select to read attitude-congruent information more than attitude-incongruent information (Jang, 2013). Based on prior and related works, we can consider individuals' education level, their numeracy, methodological knowledge about public opinion reports, election related political knowledge, issue related political knowledge and general political knowledge about government workings as relevant factors. For a recent comparison of these constructs and how they relate to motivated reasoning, see Pasek and Weeks (2017).

Consequences of Biased Perceptions on Democratic Politics

If people process public opinion reports in biased ways, this will have a variety of adverse consequences in a variety of ways. First, dismissing unfavorable evidence about the state of public opinion should lead individuals to form and nurture biased perceptions of public opinion. In particular, they might be more likely believe that the majority supports their own views. This skewed perception of public opinion could happen in issue position perceptions (e.g. Nir, 2011). Similarly, people form predictions about an election outcome based in part on what they desire the outcome to be (Delavande and Manski, 2012) and differential evaluations of polls might exacerbate these skewed perceptions. Specifically, when Republicans expect a Republican victory and Democrats expect a Democratic victory, the losing side is predisposed to view the victor as illegitimate. This process might serve to fuel perceptions of rigged elections (e.g. Collison, 2016), and skewed polls (e.g. Casca, 2016). A recent work shows that partisans indeed differ in their perceptions of rigged elections (Kernell and Mullinix, 2018).

Similarly, trust in media, pollsters, and public officials could suffer. Biased assessments of public opinion reports could also induce skepticism of polls and pollsters (cf. de Vreese and Semetko, 2002), increase partisan acrimony (cf. Iyengar, Sood & Lelkes, 2012), and further erode trust in government (cf. Cappella and Jamieson, 1997). Trust in the press is a huge problem especially following the 2016 U.S. presidential election which involved attacks against the media and the problem of fake news – misinformation and deliberate fabricated content in digital platforms (Pennycook and Rand, 2017). Even computational propaganda by government produced bots to fuel fake news into social media settings became an issue in the latest election that lead to a governmental investigation of foreign interference in the U.S. (e.g. Dilanian and Memoli, 2018).

Finally, if people do not trust the most systematic evidence about public opinion and develop cynical attitudes about them, these attitudes could spill over to the perceptions of more official statistics such as the Census results (cf. Wines, 2017) and perceived legitimacy of elections themselves (cf. Norris, 2014).

Overall, these problems fuel affective political polarization (cf. Iyengar and Westwood, 2015). At large, this is what is at stake in the biased interpretation and use of public opinion reports by stake-holders, political elite, and ordinary citizens who embolden their political preferences. The deeper problem is that people find some solid systematic evidence to latch onto and entrench their positions.

2.4. Mitigating the Motivated Reception of Public Opinion Reports

Because of such serious problems for democratic politics, we should investigate ways to mitigate biased processing of public opinion reports. A potential remedy against motivational biases could be "corrective attempts" designed to eliminate biases or other information that has corrective potential. The prevalence and strength of motivational biases in most political phenomena and their further repercussions in the form of misinformation, conspiracy theories, and inaccurate statistics and beliefs – referred to as "post-fact" and "post-truth" politics recently (Davies 2016; Manjoo 2016) – means that fact-checking (by news organizations such as Factcheck.org and Politifact) increasingly become crucial as a corrective attempt against biases.[13]

In the context of public opinion reports, shifting the focus to reports' methodological quality could yield corrective potential. Whether methodological details are reported in news coverage, and if so, whether the methodological quality is robust or poor could act against motivational biases. On the other hand, other information from polling averages or alternative public opinion indicators, as well as direct attempts by experts highlighting the methodological characteristics or praising/debunking the methodological aspects of opinion reports, are more direct informational correctives in the context of public opinion reports' reception.

Yet the findings from the corrective attempts literature are unclear about whether these solutions might or might not work. Increasing amounts of studies produce inconsistent findings. Research showed that corrections have a positive influence in reducing biases and misperceptions in many circumstances (Bode and Vraga 2015; Cobb, Nyhan, and Reifler 2013; Fridkin, Kenney, and Wintersieck 2015). Similar effects were observed in contexts of social

[13] For a comprehensive list, see American Press Institute's tracker: https://www.americanpressinstitute.org/topics/fact-checking/

media settings in later research. Bode and Vraga found that when other Facebook users comment in a post to fact-check a claim, people's misperceptions can reduce in response to these comments (2017a). If the person who fact-checks is a real friend of the person in Twitter interactions, it is more effective (Margolin, Hannak, and Weber, 2017). Another study found that misperceptions could especially be reduced if corrections in social media include referenced sources (Vraga and Bode, 2017). However, in social media, fact-checking has a side effect as well; that is, some people take the absence of any fact-checking on news as an indication that it has been corrected and verified, while in fact that might not be true because the story was not checked for veracity to begin with (Pennycook and Rand, 2017).

On the other hand, earlier studies also documented an adverse effect of fact-checking and corrections against misinformation. Research has shown the persistence of motivational biases in political judgments showing that correction attempts may backfire (i.e. the backfire effect, Nyhan & Reifler, 2010), but others found that there is also limit to this motivational resistance (Redlawsk, Civettini, and Emmerson 2010). Studies nearly a decade later, on the other hand, refuted the existence of the backfire effect. Wood and Porter (2017) found in their large set of studies across a variety of topics that the backfire effect is non-existent. In follow up work, Nyhan et al. (2017) also found supportive evidence that there is no backfiring effect, and corrections have small positive effect in reducing biases in the context of the 2016 election. A recent meta-analysis on the effectiveness of fact-checking studies found that especially fact-checks with greater detail and explanation are effective countering misinformation (Chan et al., 2017). Whether the backfire effect was a methodological artefact or people have gained more news literacy and knowledgeable about fact-checking remains to be investigated.

3. Overview of the Empirical Studies

In the empirical studies, I weave together the three components of my communication model (reports, media coverage, and audience characteristics) as elaborated in the contextual background section with the three components of the motivated reasoning theory (bias, sophistication moderation, and informational correctives against the bias) as elaborated in the theoretical background section. This leads me to a number of important research questions. How do people process public opinion reports? Specifically, I ask how do their preexisting affiliations and political preferences factor into their evaluations of information provided in public opinion reports? I complicate this question by taking into account the potential influences of the characteristics of reports, their media coverage, and individual differences in sophistication. After this, my second set of questions pertains to finding a solution to individuals' biases: What do people make of the additional methodological information and interpretation bundled along with public opinion reports?

To answer these questions, in a series of large national survey experiments, I examine how news consumers' attributes, the content of opinion reports and patterns of media coverage can trigger or mitigate biases in public perceptions. The studies aim to document both the extent of motivated reasoning as well as journalistic ways to mitigate them by measuring individuals' evaluations (i.e. perceived credibility, perceived accuracy of the reports) of hypothetical public opinion reports in a variety of contexts.

In Chapter 2, I present empirical evidence from diverse contexts and document individuals' biased processing of public opinion reports by primarily considering psychological factors and characteristics of public opinion reports.

The first empirical study examines how individuals confer credibility to public opinion polls that show majority support levels for the gun control and abortion issues. The study examines whether people confer less credibility to polls that show them information suggesting their own views to be opposed (in the minority) by the greater portion of the public. The study examines how this bias is moderated by individuals' issue-related political knowledge and media source cues.

The second empirical study examines how people pick and choose in which polls to believe when they are confronted with multiple poll results that have varying results and methodological quality. Conducted in the context of the 2016 U. S. presidential election, this study shows how people compare the perceived credibility of election polls in line with their partisan affiliations. I also examine the role of individuals' education level in these assessments.

The third empirical study, conducted also within the context of the 2016 U. S. presidential election, examines how people evaluate and compare entirely different metrics of public opinion. It shows how the favorability of the results for individuals can trump the distinctions in the type and quality of evidence. I also examine the role of election-related political knowledge and numeracy in these assessments.

Collectively, these three studies document the prevalence of motivated reasoning in individuals' perceptions of public opinion reports in a variety of contexts, differing methodologies, and testing of theoretically relevant moderators.

In Chapter 3, I test the corrective potential of a variety of journalistic remedies to reduce these biases. Here, I consider especially the moderating role of the media coverage on psychological and public opinion reports' characteristics. The broader strategy behind these remedies is to make methodological quality of the public opinion reports a more salient factor in people's evaluations instead to prevent their tendency of dismissing evidence based on the favorability of the results.

The first empirical study builds on Study 1 in Chapter 2 to test whether the inclusion of methodological details could mitigate motivated reception of public opinion issue polls. The roles of respondents' political and methodological knowledge are also tested.

The second study, compares whether contextualized and aggregated news reports, and especially theoretical explanation boxes on methodological quality without direct debunking could offset partisan motivated reasoning within the context of election reports in the 2016 U.S. presidential election.

The third empirical study, building on Study 2 in Chapter 3, examines the corrective potential of expert commentaries that debunk polls with poor methodological quality and highlight ones with robust methodological quality. As a counterfactual test, it also examines whether partisan commentaries could amplify motivational biases. Additionally, I analyze whether respondents' education level would influence motivated processing is investigated.

Chapter 2

The Problem: Motivated Reception of Public Opinion Reports

In this chapter, I document biased processing of public opinion reports and how this bias is moderated by individuals' sophistication (knowledge and education) in three different contexts. First, focusing on issue polls, I test how people process issue polls which suggest that their views either resonate or conflict with the majority position on longstanding issues such as gun control and abortion. Second, I examine how people pick and choose which election polls to believe in a highly competitive horserace news coverage environment. Third, I examine how people compare distinct types of public opinion reports in an election context that is characterized by data journalism quantifications such as polling averages, forecasting models, analyses of social media buzz, and election prediction markets. Collectively these three empirical studies document the extent of motivated reasoning in public perceptions of public opinion metrics in a variety of contexts and show how this biased information processing is moderated by source-related cues, political knowledge, methodological knowledge, education, and numeracy.

Empirical Study 1: Biased Processing of Singular Issue Polls

Introduction

This study leverages a survey experiment to assess how source and message characteristics associated with reports of polling information influence the perceived credibility of poll results. In a broad national survey experiment, a sample of 1,211 Americans encountered poll reports on gun control and abortion that were randomly assigned to suggest that a majority of Americans either agreed or disagreed with their own positions. In addition, the news stories that respondents saw were reported as originating either from a conservative or liberal source.

Respondents were expected to interpret poll credibility in line with their preexisting attitudes. Specifically, motivated reasoning theory suggests that individuals should discount the credibility of polls that report attitude-dissonant results compared to those who interpreted attitude-consonant ones (Tsfati 2001; Lodge and Taber 2013; also see Lavrakas et al., 1998). Further, motivational processes should be the strongest for those who have the greatest political awareness and sophistication (Lodge and Taber, 2013; Zaller 1992; Redlawsk 2002; Lodge and Taber 2013; Miller Saunders Farhart, 2015).

> **H1:** Individuals should confer less credibility to public opinion polls that show their own views in the minority compared to polls that show favorable results in which their preferred views are shared by a majority of the public.

> **H2:** Individuals who have (a) greater political knowledge and (b) methodological knowledge will disproportionately discredit unfavorable poll results more strongly than those who score low on these knowledge measures.

However, when we consider the context of media reports on poll findings, the source presenting the polls could influence how people view the poll results as well. There are two source-related factors in the context of public opinion reports. First, individuals confer more credibility to a source that they perceive to be ideologically similar to their own positions (Stroud and Lee 2013). Hence it follows that, when individuals receive a counter-attitudinal message from a trusted source, they may be more likely to accept it (cf. Iyengar and Hahn, 2009). Or individuals might evaluate the media source of the poll negatively if the result of the poll is unfavorable (Chia and Chang 2015).

Second, media outlets lend additional credibility to a message when the content of that message is surprising given the source's ideological stance, because they provide that message despite the fact it contradicts their own perceived slant. Whereas a liberal source presenting information that favors liberal causes may be derided as biased, the same information should be more difficult to dismiss from a conservative outlet (Baum and Groeling, 2009). This might alter perceptions of poll results by leading otherwise motivated individuals to consider the message they are receiving more carefully. Hence, the influence of motivated reasoning on credibility assessments might depend on whether respondents share ideological orientations with the source conveying the message as well as whether the information being presented is source-consonant or source-dissonant. In line with the literature on source credibility, I hypothesize that the impact of motivational processes should be moderated by aspects of the source reporting the poll.

H3: Congruency between the ideological stance of the source and the respondent's political views should reduce motivated reasoning.

H4: Surprising results – i.e., poll results that run contrary to a source's ideology – may be more difficult to counter-argue and thus more credible.

Methods

Design. Respondents were first asked about their positions on a variety of policy issues. Then, after a series of questions about political covariates, they were presented with two stimuli in the form of news stories that described poll results about gun control and abortion. In addition to randomizing the presentation order of the stories, three aspects of the stories were independently manipulated: the political position held by a majority of Americans (according to the survey), the news source presenting the story (Fox News, MSNBC), and the presence (or absence) of details about poll methodology.[14] After viewing the polls, respondents were asked to describe the poll results, which served as a manipulation check. Then they were asked a series of questions about how credible they found the poll. The full set of permutations for each story can be found in Appendix C.

Data. Data for the current study come from a survey experiment conducted with a large national sample of Americans. The survey was conducted using the online survey platform Qualtrics with respondents who were quota sampled to match the U.S. population on age, race, sex, and party identification. To fill these quotas, Qualtrics subcontracted to Survey Sampling International and Research Now, who used a combination of targeted invitations and dashboard links to invite individuals to participate in the study. Collectively, these firms maintain large online panels of survey respondents who were themselves recruited through a combination of self-registration, online recruiting, partnership recruitment through company rewards programs, social media, and river sampling (cf. Baker et al. 2010).

Data collection was completed in two periods, with some data collected on June 17, 2015 and the rest collected between June 29 and July 5, 2015. The data collection was stopped briefly between July 18 and 29, because there was a mass shooting event in the U.S. Overall, 1,226 individuals completed the survey out of 3,285 who either responded to the invitation or clicked on a dashboard link (37% completion rate). Most incomplete surveys were due to individuals who were excluded from the study because they were in demographic quota categories that had already been filled (N=1,973). In addition, 86 respondents were dropped because they failed a series of attention filters that Qualtrics used to identify "quality" respondents. The instructions called for a careful and reasonable completion time and asked respondents to complete the

[14] Note that the detail manipulation will be discussed in the next chapter and the results pertaining to that are not included here although it is included as a control variable in the regression models.

survey in one sitting and without doing something else to ensure that other activities did not interfere with the manipulation. Finally, 15 individuals, despite passing the first set of attention filters, were dropped because they completed the survey in under 4 minutes, yielding a final sample of 1,211 respondents.

In addition to the Qualtrics data, another data collection was carried out using Amazon Mechanical Turk in February, 2015 (N=987). Appendix A presents detailed descriptive statistics on both the Qualtrics and Amazon data. Results of all analyses were replicated on the Amazon sample as well and are reported in Appendix B.

Outcome Variable. *Perceived poll credibility*. Three questions were used to measure perceptions of poll credibility. These questions were adapted from earlier studies of media credibility (Mosier and Ahlgren 1981; Presser et. al, 1998). Respondents were asked, "How informative do you find this poll result?", "How accurate do you think the results of this poll represent public opinion on this issue in the United States?", and "How trustworthy do you think the results of this poll are?" Responses to each of these three questions were recoded to scale from 0 to 1 and then averaged together to create an index (Gun Control M=.47, s.e.=.26, α=.89; Abortion M=.47, s.e.=.26, α=.88; Online Appendices D, E, and F).[15]

Manipulated Variables. *Majority Manipulation*. For the gun control poll, respondents were randomly assigned a news story stating that, "57% of the public [supports/opposes] stricter gun controls". For the abortion poll, respondents were randomly assigned a story stating that, "55% of the public [supports/opposes] abortion" (Coding: support:1, opposition:0).

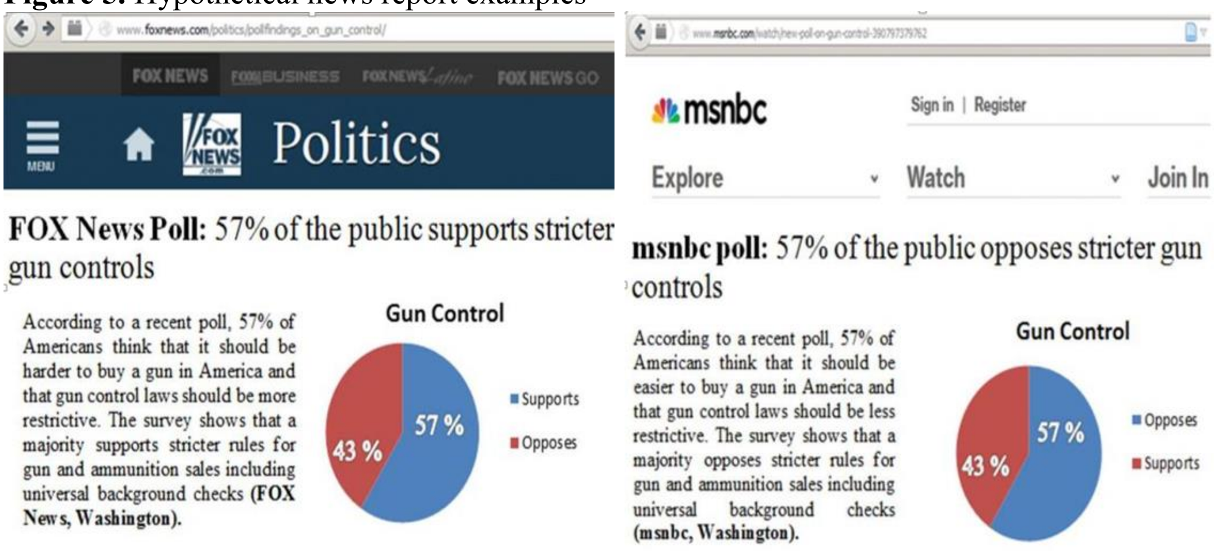
[15] Low reliability scores are not considered very problematic for knowledge indexes because they represent overall information people have and might not have a uni-dimension. See Online Appendix H of Study 1 of Chapter 2 for the results of item-by-item analysis of political knowledge.

Source Manipulation. The news stories that respondents saw for each of the two issues were attributed at random to either Fox News or MSNBC. These news sources were chosen because they are viewed as strongly conservative (Fox News) or liberal (MSNBC) in their orientations (Groeling 2008; Coding: Fox:1, MSNBC:0). For the combinations of manipulations, see Table 2. For examples of how the stories looked, see Figure 5.

Table 2. Manipulation Combinations

Manipulation	Source	Result
Story 1	Fox News	Majority Opposes Stricter Gun Controls
Story 2	Fox News	Majority Supports Stricter Gun Controls
Story 3	MSNBC	Majority Opposes Stricter Gun Controls
Story 4	MSNBC	Majority Supports Stricter Gun Controls

Figure 5. Hypothetical news report examples



Covariates. *Gun Control Attitudes.* Respondent’s attitudes toward gun control were measured with a series of four questions. Respondents were asked, “Overall, do you support or oppose stricter gun control laws in the US?” Respondents were then asked to, “Please indicate your support or opposition to the following specific gun control laws” for three additional items. These included “Stricter laws for gun sales,” “Stricter laws for ammunition sales,” and

"Universal background checks." Responses to all four questions were recoded to scale from 0 to 1 and then averaged to create an index (M=.68, s.d.=.33, α=.93).

Liberal-Conservative ideology. Respondents were asked, "When it comes to politics do you usually think of yourself as extremely liberal, liberal, slightly liberal, moderate or middle of the road, slightly conservative, conservative, extremely conservative, or haven't you thought much about this?" (M=.51, s.d.=.28).

Political knowledge. Political knowledge was assessed with a five-question multiple-choice battery on issues that had recently been in the news. Respondents were asked to "Please indicate whether each of the following statements is true or false" for a series of five questions on issues like health insurance and unemployment (See Appendix D for full wording). For each of these items, respondents could select, "definitely true," "probably true," "probably false," "definitely false," or "no idea/don't know." For questions where the correct answer was true responses were coded 1 for "definitely true," .5 for "probably true," and 0 for all other responses. For questions where the correct answer was false responses were coded 1 for "definitely false," .5 for "probably false," and 0 for all other responses. Values for all five questions were averaged into a single index (M=.54, s.d.=.24, α=.53, see Appendix H for alternative coding results).

Methodological Knowledge. A three-item quiz evaluated respondents' methodological knowledge regarding basic information that would be necessary for a critical reading of poll reports.[16] Correct responses were coded 1 and all other responses were coded 0, and the three items were averaged into an index (M=.40, s.d.=.33, α=.42; Appendix D).

[16] The multiple choice questions were about sampling, the margin of error, and data collection. See Appendix D for question wording. This battery was presented after manipulations and dependent variables to avoid priming respondents to pay attention to the methodological details in the detail poll report conditions.

Poll interest. Four questions were used to assess respondents' interest in public opinion polls. Respondents were asked, "How interested are you in reading various poll results reported in the media?" Respondents were also asked three questions on, "How frequently do you read polls reported in various media outlets such as newspapers, online news sites, and social media at the different times given below?" (in general, during election campaign, and the last month before elections).

Constructed Variables. *Disagree with poll (Disagreement)*. A dummy variable was created to identify individuals whose own position disagreed with the poll results for each of the issues. Disagreement with the poll was coded 1 if 1) the respondent generally supported gun control (*Gun Control Attitudes*>.5) *and* if *Majority Manipulation* was assigned such that a majority opposed gun control or if 2) the respondent generally opposed gun control (*Gun Control Attitudes*<.5) *and* if *Majority Manipulation* was assigned such that a majority supported gun control. All others were coded 0. The same coding strategy were used for abortion (Gun Control-M=.45; Abortion-M=.53).

Source-ideology Consonance (S-I Consonance). A dummy variable was created to identify cases where the respondent's *liberal-conservative ideology* aligned with that of the news source presenting the information. This variable was coded 1 if a respondent reported a liberal ideology (*liberal-conservative ideology*<.5) *and* the source of the poll was MSNBC or if a respondent reported a conservative ideology (*liberal-conservative ideology*>.5) *and* the source of the poll was Fox News. All others (including those with a *liberal-conservative ideology* of .5) were coded 0 (M=.34).

Source-message Dissonance (S-M Dissonance). A dummy variable was created to identify cases where the poll result presented by a media outlet did not match what would be expected of the news source's slant. This variable was coded 1 if MSNBC presented evidence of a conservative majority (public opposes gun control/abortion) or if Fox News presented evidence of a liberal majority (public supports gun control/abortion). All others were coded 0 (M=.49). Finally, control variables (age, sex, race, place of birth, marital status, education, and income) were included.

Analytical procedures. To test the hypotheses proposed in the study, I needed to determine whether individuals were disproportionately likely to discredit poll results they disagreed with, whether the tendency to discredit results was stronger among the most knowledgeable respondents, and whether aspects of the presentation of those poll results mitigated the relations observed. Accomplishing this required that I regress the perceived credibility of each poll onto a number of predictors that were not directly measured in the survey. Key variables, such as the disagreement with a poll result or the consistency of source and message cues, had to be constructed from responses to other questions in the study. Further, if political knowledge indeed conditioned the effects of motivated reasoning – as I hypothesized and as others had found – then moderators of these processes could only be properly tested by interacting them with both disagreement and knowledge measures. These analyses thus took the form of three-way interactions. Specifically, I tested H1 by examining whether individuals who disagreed with a poll result found that result less credible. H2 was tested by interacting this disagreement measure with political knowledge. To test H3 and H4, both disagreement and knowledge were interacted with constructed measures of source-ideology consonance and source-message dissonance, respectively.

Results

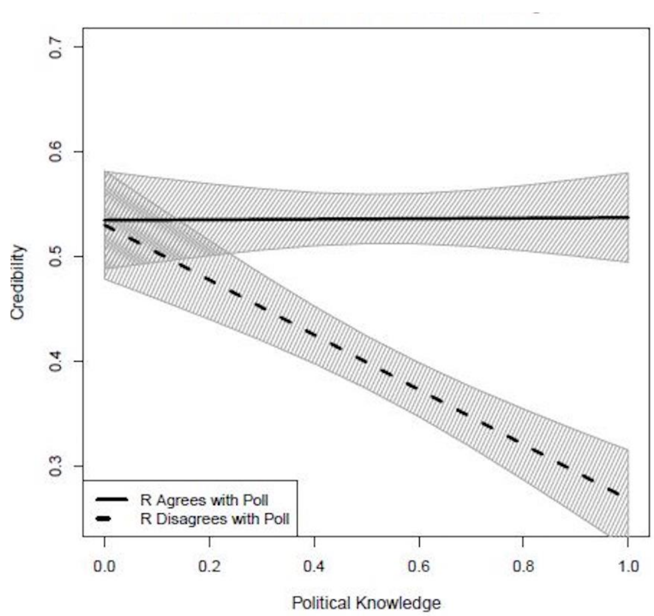
Table 3. Predicting the Perceived Credibility of Poll Reports on Gun Control

	Baseline Model			**Knowledge Effects Model**			**Source-Ideology Consonance**			**Source-Message Dissonance**		
	Coef.		se	Coef.		se	Coef.		se	Coef.		se
Disagreement	-.14	***	.02	.00		.03	.02		.04	.00		.05
Disagreement X Political Knowledge				-.26	***	.06	-.28	***	.07	-.30	***	.08
Disagreement X S-I Consonance							-.10		.07			
Political Knowledge X S-I Consonance							-.03		.08			
Disagreement X Political Knowledge X S-I Consonance							.08		.12			
Disagreement X S-M Dissonance										-.01		.07
Political Knowledge X S-M Dissonance										-.02		.08
Disagreement X Political Knowledge X S-M Dissonance										.08		.12
Intercept	.46	***	.03	.40	***	.03	.39	***	.03	.40	***	.04
Source Manipulation (1=Fox News)	-.01		.01	-.01		.01	-.01		.01	.00		.02
Reporting Manipulation (1=Detailed)	-.01		.01	-.01		.01	-.01		.01	-.01		.01
Result Manipulation (1=Majority Support)	-.05	**	.02	-.06	***	.02	-.06	***	.02	-.06	***	.02
S-I Consonance	.02		.01	.01		.01	.05		.05	.01		.02
S-M Dissonance	.00		.01	.00		.01	.00		.01	-.01		.05
Poll Interest	.37	***	.03	.37	***	.03	.37	***	.03	.37	***	.03
Political Knowledge	-.12	***	.03	.00		.04	.00		.05	.01		.05
N	1205			1205			1205			1205		
R-square	.18			.19			.19			.19		
F Test (df)	-			21.06*** (1)			1.20 (3)			.47 (3)		

Notes. ** denotes p value lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model. See Online Appendix M for the models that control for age, sex, race, education, income, political interest, and ideology. See Online Appendix N for the models that exclude poll interest.

Individuals who encountered poll results suggesting that a majority of Americans did not share their views on gun control found those results less credible than did individuals who received information that the public shared their views. In an ordinary least-squares (OLS) model predicting the credibility of the gun control poll, respondents found results much less credible if their own view disagreed with the results ($b=-.14$, $s.e.=.02$, $p< .001$; Table 3, column 1). For a typical respondent for whom all other variables were at their mean values, being in disagreement (as opposed to agreement) with the poll result decreased the credibility of a poll by 14% of the range of the outcome index. The results of the poll were also less credible to respondents if the polls suggested that a majority wanted additional gun control ($b=-.05$, $s.e.=.02$, $p< .01$) and if the respondents were more politically knowledgeable ($b=-.12$, $s.e.=.03$, $p<.001$). Respondents who were the most interested in polls tended to find the results more credible, regardless of content ($b=.37$, $s.e.=.03$, $p< .001$). Overall, these results supported H1.

Figure 6. Interaction of Political Knowledge and Agreement with the Poll Results



Respondents' political knowledge moderated the extent to which their disagreements with poll results translated into perceptions that gun control polls were not credible. The interaction between political knowledge and poll disagreement was strongly negative ($b=-.26$, $s.e.=.06$, $p< .001$; Table 3, column 2). Including this interaction also resulted in a significant improvement in model fit ($F=21.06$, $df=1$, $p< .001$). Figure 6 illustrates how gun control poll credibility diverged for a typical respondent (with mean values for all other variables in the model) depending on whether that individual agreed or disagreed with the poll results as the level of knowledge increased. For the least knowledgeable respondents, disagreement with a poll result was unrelated to poll credibility, such that there was no perceived credibility difference whether they agreed or disagreed with the results (difference<.01). But for the most knowledgeable individuals, disagreement translated into a precipitous credibility drop accounting for 26% of the range of poll credibility (difference= -.26). This provided support for H2.

Aside from political knowledge, the potential role of respondents' methodological knowledge (about polls) in their credibility assessments were tested as well. The same relationship was observed. Those respondents who had more methodological knowledge, when they encountered an unfavorable poll result, discredited it much more strongly than those respondents with low levels of methodological knowledge about polls ($b= -.10$, $se=.04$, $p<.05$, Table 4).

To test whether source-ideology consonance or source-message dissonance moderated the effects of motivated reasoning, these variables were each included in a set of three-way interactions. Specifically, H3 held that source-ideology consonance would reduce credibility gaps between those who agreed and disagreed with the results, compared to situations where individuals held ideologies that differed from the news source. H4 argued that respondents whose views disagreed with the poll results would find it harder to discount source-dissonant messages than messages in line with a source's typical slant. To test each explanation, the hypothesized variable was interacted with both political knowledge and poll disagreement.

Table 4. Methodological Knowledge and Detailed Reporting Analysis for Predicting the Perceived Credibility

	Knowledge Effects Model	
	Coef.	se
Disagreement	-.10 ***	.02
Disagreement X Methodological Knowledge	-.10 *	.04
Intercept	.42 ***	.02
Source Manipulation (1=Fox News)	-.01	.01
Reporting Manipulation (1=Detailed)	-.01	.01
Result Manipulation (1=Majority Support)	-.05 **	.02
S-I Consonance	.03 +	.01
S-M Dissonance	.00	.01
Poll Interest	.36 ***	.03
Methodological Knowledge	-.05 +	.03
N	1208	
R-square	.19	
F Test (df)	-	

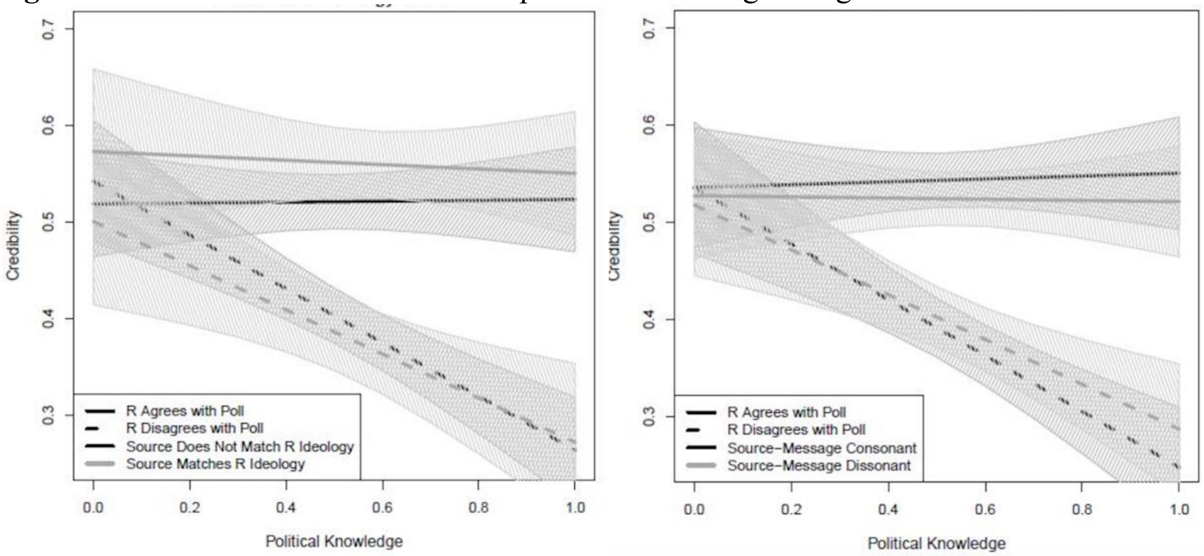
Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model. See Online Appendix M for the models that control for age, sex, race, education, income, political interest, and ideology. See Online Appendix N for the models that exclude poll interest.

None of the proposed moderators of motivated reasoning appeared to be operating in the case of gun control. Source-issue consonance was not significantly related to credibility on its own, nor through interactions with political knowledge, disagreement, or both (H3; Table 3, column 3, Figure 7 left). Indeed, the inclusion of all three of these additional terms did not improve model fit (F=1.20, df=3, p=.31). Similar null results were observed for source-message dissonance (H4; Table 3, column 4; F=.47, df=3, p=.70, Figure 7 right).

Additional Analyses

Abortion Replication. The results substantially held true for the abortion case as well. I obtained the same results for H1 through H4 (see Online Appendix J).

Figure 7. Source cue moderators for the political knowledge-disagreement interactions



Notes. Left: Source-respondent ideology match; Right: Source-result dissonance

Party Identification Moderation. I also tested for differences between Democrats and Republicans in the effects of motivated reasoning as well as across all hypothesized moderators (Online Appendix K). When running the same models on subsets limited to either Democrats or Republicans, the interaction of disagreement and knowledge (H2) was only significant among Democrats. Whereas Democrats engaged in motivated reasoning with increased political knowledge, for Republicans the decrease in credibility scores were mostly independent of knowledge moderation, at both the low and high ends of the knowledge scale. The other results did not differ for Democrats and Republicans.

Disagreement Strength Analysis. (Distance from midpoint) An additional analysis incorporating attitude strength revealed that results were similar to those of the disagreement dummy variable. Across all hypotheses and research questions, the only notable difference was that the interaction of knowledge and disagreement did not reach significance for some of the abortion models (Online Appendix L).

Summary of Results

H1: Confirmed – Individuals discredit unfavorable issue polls more.

H2a: Confirmed – This bias is stronger for those with greater political knowledge.

H2b: Confirmed – This bias is stronger for those with greater methodological knowledge

H3: Not confirmed – The match between respondent and source ideology does not moderate this bias.

H4: Not confirmed – The mismatch between source and the expected message from source does not moderate this bias.

Discussion

The current study is the first to investigate the dynamics of motivated reasoning in the public's interpretation of poll results as they are reported in the media. Across two highly salient and closely contested political issues, it found evidence that motivated reasoning processes appear to guide credibility assessments of public opinion polls. Specifically, respondents' prior attitudes were among the strongest predictors of how credible they found poll results, with respondents reporting lower credibility for results that did not coincide with their preexisting beliefs. And this discounting of poll results predominantly occurred among individuals who had high levels of political knowledge. In this vein, the current results replicate findings from a growing body of research suggesting that people engage in motivated reasoning processes, and these effects are strongest for the most knowledgeable individuals (Lodge and Taber 2013; Kahan et al. 2013, Miller, Saunders, and Farhart 2015).

These findings also speak to the recent studies that detect motivated reasoning in related domains. Most closely, a recent study by Van der Meer and Hakhverdian (2016) found that people showed less interest in reading poll stories which show unfavorable results. Baekgaard et al. (2017) found that politicians process empirical policy-relevant information through partisan lens as well (also see Friedman, Lerner, and Zeckhauser, 2015). Kernell and Mullinix (2018) found that partisans hold misperceptions about the integrity of elections based on whether their favored candidates won the election.

Contrary to expectations from the source credibility literature, I did not find evidence that contextual factors moderated the influence of these motivational processes. I had expected that individuals might accept uncomfortable information when their ideology either matched that of the media outlet presenting the poll or when the information presented by the poll differed from what would be expected of the media outlet (Baum and Groeling 2009). Hence, it appears that the results, and not source cues, determined the credibility that individuals attached to a given poll.

As noted above, I found no evidence that source cues moderated the influence of motivated reasoning on poll credibility. This result is surprising given the extensive literature on source cues in media effects (see e.g., Kumkale Albarraccin, and Seignourel 2010; Chia and Chang 2015). Counter-attitudinal poll results that stemmed from sources that ideologically matched the respondent were no more credible than counter-attitudinal results from oppositional sources. Similarly, determinations of credibility did not depend on whether the information was expected or unexpected given the perceived bias of the source. These results suggest that the information respondents received trumped the influence of the source; at least in the context of poll results, source cues may be peripheral in evaluations. These null results on source effects in the polling context echo findings in a recent dissertation (Burgess, 2010). It appears that credible sources may lack the capacity to undercut motivated reasoning in public opinion polls' perception. This is an interesting finding that in some way conflicts with the hostile media perceptions observed for poll reports (e.g. Chia and Chang, 2015). Yet, is important to clarify that Chia and Chang (2015)'s dependent variable was hostile media perception, which asked about the perceived bias in media coverage instead of poll credibility. One possible explanation for this difference could be that directly asking respondents how biased they thought the media were would trigger a general skepticism and prime respondents to focus on source cues more than they otherwise would.

There are a few limitations with the current study. For one, our central outcome measure is respondents' self-reports of perceived poll credibility; this differs from both the weight individuals attach to a poll result and actual attitude change (cf. Mutz 1998). As with any self-report measure, we cannot be sure that respondents' reported impressions of credibility fully index the credence they associate with the reported poll result and thus its importance in their judgments. We also cannot be certain that these measures capture the likely influence of the polls on attitudes. Nonetheless, earlier evidence suggests that these processes are likely to be closely related (Petty and Krosnick 1995).

Second, although I find similar results across two important and unrelated public opinion issues in American politics, results might be sensitive to differences across issues and contexts. Many reported poll results have to do with presidential approval or the relative standing of candidates during a campaign. Party identification and political ideology might be much more important in assessing the credibility of such polls. Similarly, the credibility of horse-race polling may depend on the dynamics of the specific election campaign. Finally, the level of controversy around an issue could be another important moderator for the triggering of motivational biases. These contexts merit future research. The current study also suggests that there might be significant differences between Democrats and Republicans in how motivational processes work. This also begs for further study.

Empirical Study 2: Biases in Competitive Electoral Contexts

Introduction

In the contemporary media environment, people are increasingly barraged by public opinion polls. Citizens are charged with the responsibility of evaluating varying quality information that could influence their political beliefs and actions. Given that individuals encounter so many polls and the methodological quality of those polls varies greatly, it is important to understand how people process the conflicting messages.

This challenge is particularly difficult in the context of elections. Media outlets report on multiple polls every day, and consequentially, results sometimes conflict with each other (Hillygus, 2011; Pasek, 2015). On the other hand, not all polling evidence has robust methodological quality; due to declining response rates, sampling decisions, and the rise of online polls, today, many polls have limitations in their methodology. Hence the methodological strength and quality of evidence could sometimes be weak (Baker et al., 2013). Overall, the multiplicity of evidence, inconsistency of results, and varying levels of methodological quality constitute a cacophonous and polarized information environment and public discourse around polling in contemporary political communication.

Conflicting messages could facilitate individuals' tendency for biased assessments of evidence, leading people to pick and choose from multiple pieces of available data. Building on the theory of motivated reasoning (Kunda, 1990; Taber and Lodge, 2013), the first empirical study found that people evaluate polls based primarily on their results and assert that polls favoring preferred issue positions are disproportionately accurate (also see Chia and Chang, 2017 and Tsfati, 2001). Hence, whether and how these biases might unfold when people encounter multiple polls with either consistent or inconsistent results and similar or variable methodological qualities remains to be investigated.

This empirical study examines biases in the public's perceptions of election polls, subsequent effects on electoral predictions, and individual level moderators of these biases in the context of horserace polling. It relies on a survey experiment conducted using a large, nationally representative sample of Americans gathered in June 2016, during the presidential election campaign. Respondents were presented with results from two polls that showed either the same candidate leading in each (consistent results) or different candidates leading (inconsistent results). The polls were either presented as having consistently strong or varying methodological quality. I then examined how these competing messages shaped individuals' perceptions of the polls and electoral predictions, as well as the role of respondents' education in these judgments.

Whether inconsistent findings in reports might fuel biased perceptions or lead to more balanced evaluations is not very clear. Research in competitive framing showed that competing frames might cancel each other out in some circumstances, but whether this would be the true for perceptions of opinion reports remains to be tested (Chong & Druckman, 2007; 2010; Sniderman & Theriault, 2004; Lord, Ross, and Lepper 1979; although see Nisbet, Hart, Myers, & Ellithorpe, 2013 for different findings).

Partisan Biases in Public Perceptions of Election Polls. Election polls matter; they communicate the relative standing of the candidates to political elites, candidates, and the public (Patterson, 2005). In this process, polls can even influence whether and how people will vote (e.g. Hardmeier and Roth, 2001; Stolwijk, Schuck, de Vreese, 2016). Sometimes slight differences in the projected margins between the candidates can alter citizens' propensity to participate in elections (Rothschild and Malhotra, 2014). In line with motivated reasoning theory, individuals have prioritized directional goals that lead them to discount the messages that challenge their preexisting views and accept messages that bolster their views (cf. Kunda, 1990; Lodge and Taber, 2013). Hence, individuals will disproportionately disregard unfavorable election polls compared to favorable polls that have equivalent or even poorer methodological quality.

Given the extreme polarization during elections, there are strong reasons to think that perceptions of pre-election surveys may be particularly biased. In the run-up to an election, media outlets constantly report on polls bearing information about the relative standing of the candidates (Patterson, 2005). Because a large number of polls are produced by many sources, ordinary individuals are likely to encounter polls with inconsistent (varying) methodological qualities and results (Pasek, 2015). To the extent that individuals may prefer some substantive results over others, this deluge of information allows them to act on their motivations. That is, if people are predisposed to find favorable polls more credible, they are likely to have an arsenal of data – namely the universe of available polling evidence – with which to accomplish that goal.

If individuals are selectively processing polls to serve motivational goals, I would expect to observe two distinct processes when they encounter conflicting results:

> **H1:** First, they should find that poll results where a favored candidate is in the lead are more credible than those suggesting a disfavored candidate is in the lead.
>
> **H2:** Second, they should generate expectations about the likely victor in line with these determinations.
>
> **H3:** In contrast, when individuals encounter multiple polls with consistent results – that is, when they do not see evidence they can latch on to in support of their favored view of reality or see *only* evidence that is consonant with that view – they should process the results in a consistent manner.

H4: These polls should uniformly shift expectations about the election toward the leading candidate.

Do Ordinary Individuals Recognize the Methodological Quality of Polls? One opportunity to reduce biases in individuals' processing of polls lies in reports of their quality indicators. Such information is important because election poll reports vary not only in the results they project but also in the quality of the data used to produce them (Hillygus, 2011; Pasek, 2015). Ideally, individuals should confer greater credibility upon polls that use higher quality methods and should use these disproportionately to update their electoral expectations.[17] But it is unclear whether individuals have an interest in evaluating poll methodology, or even whether they are capable of doing so. Although some studies suggest that individuals know precious little about methodological aspects of surveys (Traugott and Kang, 2000), it is possible that the increasing provision of methodological information in media reports has subsequently fostered awareness (cf. Bhatti and Pedersen, 2016). Moreover, amidst frequent polling critiques and the discussions of "polling failures" in the media that follow unexpected election outcomes, the quality of polls is increasingly capturing public attention. Similarly, the increased popularity of data journalism, with outlets such as FiveThirtyEight, the New York Times Upshot, and Pollster.com, bring polling methods into a more central focus of public discussion.

RQ1: I thus consider whether people will recognize quality differences when they encounter polls with similar results to be an open research question.

When results are inconsistent, however, individuals should be more attentive to the quality of polls. Theories of dual information processing suggest that inconsistent results should lead to

[17] High quality polls are typically derived from probability-based samples with large sample sizes, and they provide the most accurate portraits of elections (Baker et al., 2010).

higher elaboration likelihood and thus greater consideration of relevant factors such as quality details (cf. Petty and Cacioppo, 1986).

H5: People who encounter inconsistent poll results should allocate more attention to methodology to reconcile conflicting findings. That is, when contradictory polling results are characterized by varying quality, individuals should be less biased in their assessments than when those same results are of consistent quality. They should place more weight on the poll with higher methodological quality.

Do methodological quality cues mitigate or enhance motivational biases? To the extent that individuals recognize quality differences between polls, it is important to examine whether and how this recognition interacts to mitigate or bolster their motivational biases. Whether and how differing methodological quality among polls - robust or poor – might influence the relative accuracy assessments of those polls remains an open question. For one, methodological details might mitigate people's motivational biases. With regard to political beliefs and perceptions in related areas, recent research has shown that corrective attempts can reduce partisan biases (cf. Nyhan and Reifler, 2010; Redlawsk, Civettini, & Emmerson, 2010; also see Nyhan et al., 2017). In the context of polls, a person might see a high-quality result showing a favored candidate losing and be predisposed to discredit the data; however, recognizing that this poll has robust quality might offset their bias. Alternatively, methodological details of polls might be selectively interpreted, thereby amplifying biases. As people's prior attitudes influence their assessments of evidentiary quality (cf. Lord, Ross, & Lepper, 1979), quality indicators could serve as fodder for individuals to reinforce their biases instead of reducing their tendency to dismiss evidence.

Given these conflicting priors, when individuals encounter conflicting poll results, it is unclear whether variations in quality will enhance or mitigate motivational biases compared to a scenario where polls are of equivalent quality (comparing equivalent vs varying quality polls).

RQ2: Are individuals disproportionately more likely to confer credibility to favorable poll results when they encounter polls with varying methodological quality?

RQ3: Do individuals' expectations of the likely victor become more or less entrenched when they encounter polls with varying methodological quality?

Finally, studies of motivated reasoning have found that more sophisticated individuals are, paradoxically, the most likely to engage in biased processing. Specifically, individuals who have higher levels of political knowledge (Miller et al., 2015), numeracy (Kahan, Peters, Dawson, & Slovic, 2013), and education (Taber and Lodge, 2006) tend to display more bias in their evaluations of political messages. This is presumably because they can effectively counter-argue dissonant claims.

H6: For this reason, I expect that more educated respondents will display more bias across all conditions.

To keep the study as brief as possible and to ensure that our measure of sophistication was not endogenous to experimental conditions, I used respondent education which was available from GfK. Notably, these measures of sophistication may not correlate well with each other (Låg et al., 2014). Although both education and knowledge index respondent sophistication in various ways, there are notable differences between these individual differences.

Methods

Design. To test these hypotheses and research questions, I fielded a large national survey experiment designed to assess Americans' reactions to hypothetical poll reports. Data were collected between June 5 and 20, 2016 using GfK KnowledgePanel®, a probability-based sample of Americans recruited via address-based sampling to complete surveys online. Data collection was funded by a Time-Sharing Experiments for the Social Sciences (TESS) Short Studies Program Grant (NSF Grant 0818839, Jeremy Freese and James Druckman, PIs). All measures were collected in the same survey following a larger unrelated TESS study. It was not possible to test potential spillover effects from this earlier study, as it leveraged a complex conjoint design (Transue, Lee, Aldrich 2009). Because the design of this earlier study was balanced, however, it was unlikely to introduce biases.

Individuals from KnowledgePanel were invited by email to complete the survey and 63.6% of invited individuals did so. Cumulative with panel recruitment, the response rate (CUMRR) was 2% (Callegaro and Disogra, 2008). For this study, a total of 2,078 individuals were randomly assigned to 12 experimental conditions designed to answer two overarching questions. In addition to the results presented here, which examine how characteristics of polls alter the perceptions and influence of poll reports, a second set of hypotheses tested how aspects of media coverage might further moderate these effects in Chapter 3. The current study focuses on the 959 respondents who were assigned to the five poll characteristic conditions (analysis of the remaining conditions are presented in the Empirical Study 3 in the next chapter). These conditions made it possible to investigate the all hypotheses and research questions identified above. The study was pre-registered at EGAP - Evidence in Governance and Politics, ID #s 20160629AA <http://egap.org/> See Appendix P for anonymized preregistration details. The education moderation was noted but not numbered in the preregistration. Additional information about the sample can be found in Appendix O.

Procedure. During survey administration, respondents were first presented with what they were told was a screenshot of a news article. The article presented two election polls about Americans' preferences in the 2016 presidential election. I manipulated whether the polls showed the same or different candidates leading and whether the polls were of consistently high or of variable methodological quality (one low and one high quality). The poor methodological quality poll had a convenience sample, low response rate, small sample size, and high margin of error; the high quality poll had a nationally representative sample with a high response rate, and a large sample with a low margin of error. Following these articles, respondents were asked to rate the relative accuracy of the polls and then to render a prediction about what would happen "if the election were held tomorrow." Finally, they were debriefed.

Although it is possible that respondents might compare our poll stories to what they had seen in the real news coverage, this is not likely to bias our results for two reasons. First, random assignment ensured that even if real polling exposure had an effect, it was symmetric for all respondents. Second, around the time of data collection there were numerous polls showing favorable results for both candidates, leading us to think that the believability of our manipulation stories was uncompromised.

To manipulate methodological quality, high quality news stories reported on polls with a representative national sample that had a 21% response rate and a 2% margin of error and a low quality poll with an online convenience sample that had a 5% response rate and a 6% margin of error. When quality levels varied, the high quality poll was always presented second. The ordering of low vs high quality within news stories was not randomized. Whether a low or high quality poll came first will not introduce a bias; the random assignment of respondents and the bipolar nature of the dependent variable balances this ordering.

See Table 5 for the five combinations of these factors and their details and Appendix P for all manipulation stories and considerations about how they were produced. I leveraged in the preregistration the bipolar nature of the dependent variable and clarified what tests are to be conducted on which conditions and how, hence I did not need all manipulations to be in balance (i.e. full factorial).

Table 5. Design of the Experimental Conditions

C	**First Poll Details** (KnowPolitics)	**Second Poll Details** (Public-Metrics)	**Quality**	**Results**	**Abbrev.**	**Sample Size**	**Used in the Analysis of**				
							H1-2	**H3-4**	**RQ1**	**H5**	**RQ2-3**
C1	Clinton lead, high quality	Trump lead, high quality	Same	Inconsistent	DR	316	X	-	-	-	X
C2	Clinton lead, low quality	Clinton lead, high quality	Variant	Consistent	dD	161	-	X	X	-	-
C3	Trump lead, low quality	Trump lead, high quality	Variant	Consistent	rR	164	-	X	X	-	-
C4	Trump lead, low quality	Clinton lead, high quality	Variant	Inconsistent	rD	158	-	-	-	X	X
C5	Clinton lead, low quality	Trump lead, high quality	Variant	Inconsistent	dR	160	-	-	-	X	X

Notes. *Abbreviations:* D=Democrat lead, R=Republican lead, lowercase letters show poor methodological quality, uppercases show robust methodological quality.

Perceived relative accuracy of the second poll. I measured credibility by focusing on the perceived relative accuracy of the polls. Following the manipulation, respondents were asked: "Comparing the two polls directly, which poll do you think is more accurate in representing the public support for the likely candidates in this election?" Seven response options were "The first poll (KnowPolitics) is much more accurate than the second one (Public-Metrics)" [coded: 0], "The first poll (KnowPolitics) is somewhat more accurate than the second one (Public-Metrics)" [.16], "The first poll (KnowPolitics) is a little more accurate than the second one (Public-Metrics)" [.33], "Neither poll is more accurate than the other poll" [.50], "The second poll (Public-Metrics) is a little more accurate than the first one (KnowPolitics)" [.66], "The second poll (Public-Metrics) is somewhat more accurate than the first one (KnowPolitics)" [.83], "The second poll (Public-Metrics) is much more accurate than the first one (KnowPolitics)" [1].

Figure 8. Example hypothetical news report

Home Mail Flickr Tumblr News Sports Finance Celebrity Answers Groups

YAHOO! NEWS

poll 2016 presidential election | Search

Web
News
More

Trump leads in one poll; Clinton leads in another

By Jordan Smith

Washington. Recent polls have started to focus on Hillary Clinton and Donald Trump's electoral support at the national level as they are the two most likely candidates to compete in the general election. One poll by KnowPolitics suggests that Trump is ahead of Clinton, but another poll by Public-Metrics shows higher support for Clinton than Trump.

Trump's ahead. In a poll conducted by KnowPolitics this week, 48% of respondents said they would vote for Trump compared to only 44% for Clinton, with the rest of respondents undecided. The margin of error for this result is ±6%. The poll was conducted with a set of online news consumers, and the response rate was 5%. The final sample size of the survey was 437 adults, with 175 Republicans, 189 Democrats, and 73 Independents.

Or maybe Clinton is. But also this week, a poll by Public-Metrics reported that Clinton would win the 49% of support in contrast to only 43% who support Trump, the rest of respondents were undecided. The margin of error for this second poll is ±2%. The poll was conducted on a nationally representative sample of likely voters with a response rate of 21%. The final sample size of the survey was 1654 adults, with 611 Republicans, 678 Democrats, and 365 Independents.

When I operationalize bias in terms of the real methodological quality levels of election polls, the truth benchmark is tricky if we look at only one poll result and how it is perceived by a person. This is because even experts do not fully agree what constitutes a high quality poll. For example, is a 23% response rate a good enough response rate today or according to the standards fifteen years ago? Yet, when we examine relative methodological quality by measuring individuals' perceived relative accuracy regarding multiple elections polls, this yields a more objective measure of bias, because it is clear that one poll has stronger methodology than the other one.[18] Hence, the movements in the relative perceived accuracy measure indexes the respondents' acknowledgment of methodological quality in relation to comparison of two hypothetical polls, and thus provides a good measure for computing bias.

Electoral predictions. Respondents were asked: "If the election were held tomorrow and it was between Hillary Clinton and Donald Trump, which candidate do you think would win and become the next President of the U.S.?" Seven response options were "Clinton is much more likely to win" [coded: 0], "Clinton is somewhat more likely to win" [.16], "Clinton is a little more likely to win" [.33], "Both candidates are equally likely to win" [.50], "Trump is a little more likely to win" [.66], "Trump is somewhat more likely to win" [.83], "Trump is much more likely to win" [1].

Party identification (Party ID). Partisanship was measured with the traditional branched question that first asked whether respondents are Republican, Democrat, or Independent. Those who selected either party were asked a follow-up question about the strength of their identification (example: strong Republican vs. not a very strong Republican), and Independents were asked a follow-up question about whether they leaned towards either of the two parties or that they were fully independent. These four questions were combined to create a measure of party identification strength with seven points, ranging from 0 (strong Republican) to 1 (strong Democrat).

The predisposition to disagree ("the bias"). To index the extent to which respondents were predisposed to disagree with the result of the second poll, I reverse-coded the party-identification variable for respondents in experimental conditions where the second poll result showed a Democratic (Clinton) lead. Thus, the resulting measure indexed the match between

[18] In evaluations of relative accuracy, as opposed to evaluations of a single poll in itself, methodological quality provides a stronger truth benchmark because it is clear that one poll is methodologically better than the other. Without the adequate knowledge about polling quality, recognizing high quality is a harder task for ordinary citizens.

respondent partisanship and the second poll's result (i.e. predisposition to disagree with the second poll result).[19] This variable ranged from 0, when the respondent's party ID was strong and matched the leader in the second poll, to 1, when a respondent's party ID was strong and did not match the leader in the second poll. For example, when a Trump-leading poll came second, strong Republicans were coded 0 (indicating the least predisposition to disagree with the second poll) and strong Democrats were 1 (indicating the highest predisposition to disagree with the second poll) with weaker partisans and independents evenly spaced between these extremes.

Education. During recruitment to the panel, respondents were also asked about their education levels with four response options "less than high school" [0], "high school" [.33], "some college" [.67], and "college degree and more" [1]. For details, see Appendix O.

Analytical Procedure. RQ1 and H3 were tested using independent sample t-tests. H1, H2, RQ2, H4, and H5 were tested using ordinary least squares (OLS) regression estimation. The first dependent variable (relative credibility) did not have a normal distribution; however, to be consistent in predicting the second dependent variable (perceived probability of Trump win), and to conduct the mediation analysis between the two dependent variables, OLS regressions were implemented.[20] Item-nonresponse was minimal and did not vary across conditions. Inclusion of political interest as a control variable did not change the results (Appendix R). Education was included as a control variable because of the interaction tests and its relevance as a predictor of respondent ability to recognize methodological quality. As this was an experimental study and the use of weights on regressions is debated (see e.g. Gelman, 2007), I report regressions that were run on unweighted data; the weighted results did not differ.[21]

Results

[19] Note that the second poll was always the higher quality of the two when quality was inconsistent.
[20] I also ran the all analyses with ordinal logit regression, and there were no changes in the results (See Appendix V).
[21] I used weighted data to identify the prototypical American to produce the interaction plots.

Competing Poll Results. Much of the time, respondents tended to not discriminate between the credibility they conferred to the two polls they encountered. When the polls were of equivalent methodological quality (among C1 respondents), 69% of respondents correctly asserted that the polls were equally accurate. When one poll was of considerably higher quality than the other (C2 through C5 respondents), however, almost the same proportion of respondents asserted that the polls were equally accurate (60%, on average for C2 through C5). Despite these neutral perceptions of accuracy, respondents overwhelmingly had predictions about which of the two candidates would win if the election were held the following day. Only 22% of respondents, across all conditions, thought both candidates were equally likely to win (distributions in Appendix O, Table O2).

When people did discriminate between polls of equivalent quality, they overwhelmingly did so in accordance with their partisanship (**H1**). As shown in Table 6, partisans who were predisposed to find a poll result unfavorable – as Democrats did for the Trump-leading poll in C1 – tended to report that the poll was less accurate than did those for whom the result was agreeable (b= -.17, se= .03, p< .001, Column 1). Overall, 27% of strong Democrats asserted that the poll where Clinton led was more accurate compared to 10% who thought the Trump poll was better. In contrast, 33% of strong Republications regarded the Trump-leading poll as more accurate, with only 5% reporting that the Clinton poll was preferable (See Table O2 in Appendix O). Figure 9A presents the relationship between relative accuracy of the polls for a prototypical American by party identification.

These partisan biases appeared to spill over into respondents' assessments of who would win the election. Not only did I find that respondents exhibited partisan biases in their predictions of the election outcome (**H2**), but the relative accuracy of the two polls was closely associated with expected outcomes even when party identification was controlled. Overall, Democratic respondents were far more likely to expect that Clinton would win whereas Republican supporters expected that Trump would win (b= -.56, se= .05, p< .001, Table 6, Column 2; Figure 9B). Controlling for education and party identification, when respondents thought that the poll with Trump leading was more accurate, they were much more likely to believe that Trump would win (b= .44, se= .08, p< .001, Table U1, Appendix U). This suggests that evaluations of poll accuracy were related to the electoral expectations above and beyond partisanship.

Table 6. OLS Regressions predicting the perceived relative accuracy of the second poll (H1) and the perceived chances of Trump win (H2) when polls have inconsistent results but equivalent methodological quality (Condition 1)

	Perceived Relative Poll Accuracy (H1)		**Perceived Chance of Trump Win (H2)**	
	Coef.	**se**	**Coef.**	**se**
Predisposition to Disagree	-.17 ***	(.03)		
Democratic Respondent			-.56 ***	(.05)
Intercept	.62 ***	(.03)	.79 ***	(.04)
Education	-.04	(.03)	-.11 *	(.05)
N	299		306	
R^2	.11		.34	

Notes. Disagreement is the short name for Predisposition to Disagree. For H1, higher scores represent greater credibility being conferred to the poll that shows Trump lead. For H2, higher scores in the outcome variable represent respondent perceptions of a Trump win as more probable. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

When respondents were shown polls with similar results, their predisposition to disagree with the results did not uniquely predict the perceived relative accuracy of polls. Although quality differed, respondents were not sensitive to this information when both polls' results were unfavorable (**H3**), nor did their election predictions shift in the direction of the poll results (**H4**). See the Appendix S for more details.

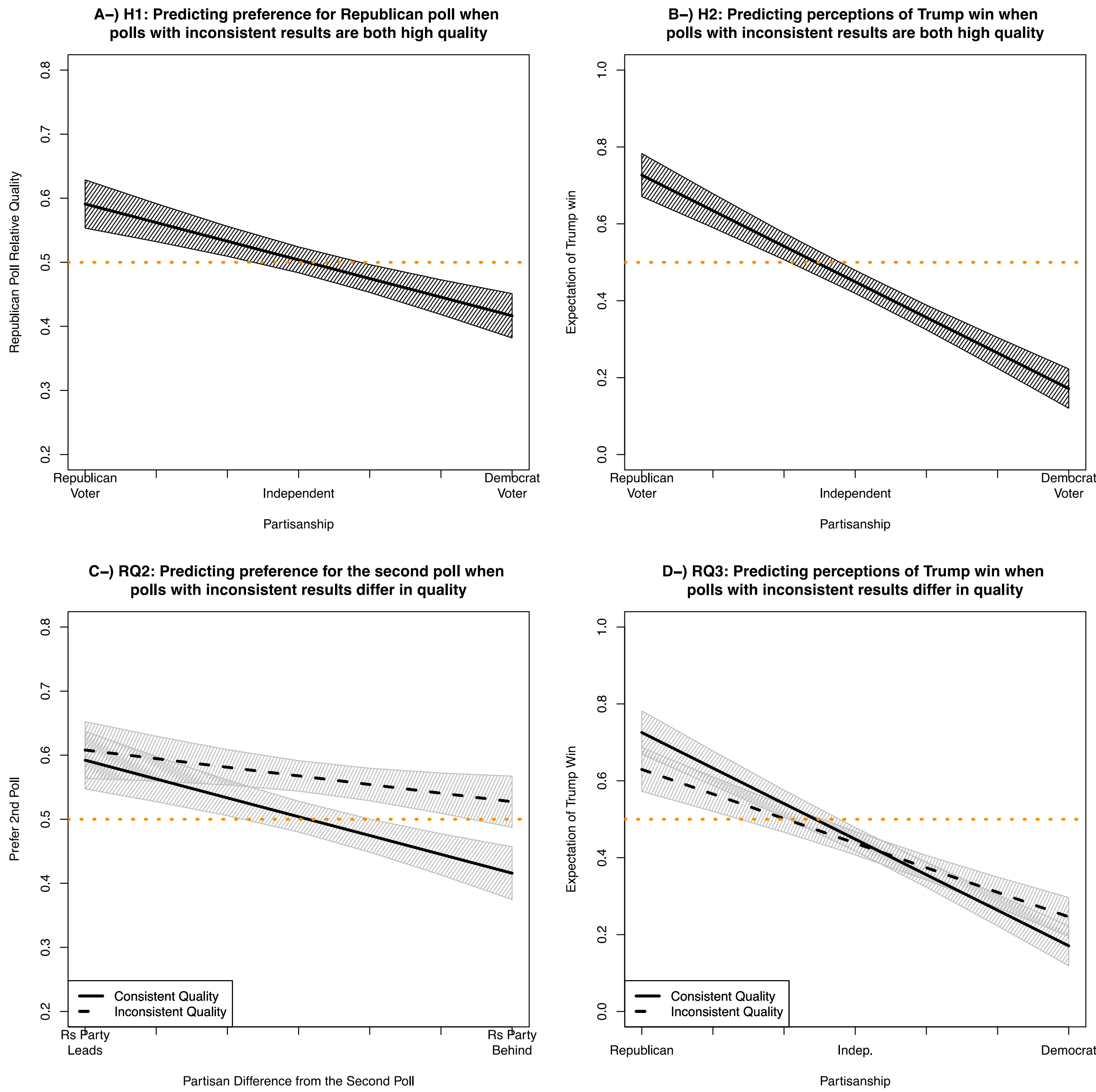


Figure 9. Interaction plots. The plots on the left show the predicted perceived relative accuracy of the second poll according to the typical American adult. Right plots show the predicted probabilities of a perceived Trump victory. The dotted lines at y= .5 are for visual help in comparing the slopes.

Methodological Quality of Polls

In general, before accounting for motivational biases, when the quality of polls differed among polls with similar results, people tended to recognize the better-quality polls. Two-thirds of respondents differentiated the polls (i.e. did not state that they were of equal accuracy), and a majority (68%) of those who differentiated indicated that the objectively better poll was more accurate ($t= 3.37$, $p< .001$, **RQ1**). This was also true when the results of two polls were conflicting; overall, 75% of respondents recognized the better poll was indeed more accurate ($t= 4.72$, $p< .001$, **H5**). Notably, the recognition of higher quality polls was no more pronounced for inconsistent poll results than consistent poll results ($t= -1.10$, $p= .27$).

Party affiliations shaped perceptions of accuracy when respondents encountered polls with conflicting results. This tendency to prefer favorable polls did not fully override the corrective influence of methodological quality, however. When polls had varying quality, individuals predisposed to disagree with the results were more likely to discredit them than those predisposed to agree with the results ($b= -.08$, $se= .04$, $p= .04$),[22] at the same time, these individuals were still more likely to identify the higher quality result as more accurate than to assert that their preferred result was the more accurate one (dashed line in Figure 9C). This inflated sense of accuracy with favorable poll is a weaker bias than what was observed when conflicting polls were of equivalent quality **(**$b= .10$, $se= .05$, $p= .06$, Table 7, Column 1).[23] It indicates that partisan biases were smaller when people were exposed to polls with varying methodological qualities (**RQ2**). Similarly, exposure to varying quality polls, as compared to equivalent quality polls, led to a reduction of partisan bias in respondents' expectations that their favored candidate would win ($b= .17$, $se= .06$, $p= .01$, Table 7, Column 2). As seen in Figure 9D, the differing quality condition had a shallower slope, indicating that expectations were less polarized when quality varied (**RQ3).**[24]

Education Moderation. Across the board, more educated respondents were more likely to recognize higher quality polls. When polls were of equivalent quality (condition 1 only),

[22] This significance test refers to the slope of the dashed line in Figure 9C (the impact of disagreement on credibility among polls with inconsistent quality and results). Regression is in Table S3 in Appendix S.
[23] The inclusion of the interaction term (Disagreement X Inconsistent Quality) improved the baseline model significantly, $F(2, 600)=9.40$, $p<.001$.
[24] I also tested whether consistency vs inconsistency among poll results would mitigate partisan biases. See Appendix U. There was no effect. Finally, as an additional (mediation) analysis, I tested whether perceptions of credibility mediated the role of partisan bias in shaping subsequent electoral predictions, see Appendix U.

education was not associated with perceived accuracy (b= -.04, se= .03, p= .20; Table 6, Column 1). In conditions where the polls' quality differed, highly educated respondents recognized the better polls as more accurate (b= .13, se=.03, p< .001, Table 8, Column 2).[25] Among those who graduated from high school, only 18% correctly identified the better poll; in contrast, among those with a college degree, 42% recognized the better poll.

Table 7. Predicting the perceived relative accuracy of the second poll (RQ2) and the perceived chances of Trump win (RQ3) when comparing polls that have equivalent vs varying methodological quality (Conditions 1, 4, and 5)

	Perceived Relative Poll Accuracy (RQ2)		**Perceived Chance of Trump Win (RQ3)**	
	Coef.	**se**	**Coef.**	**se**
Predisposition to Disagree (Disagree)	-.18 ***	(.04)		
Democratic Respondent			-.55 ***	(.05)
Inconsistent Quality Condition	.02	(.03)	-.10 *	(.04)
Disagree X Inconsistent Quality	.10 †	(.05)		
Democratic Respondent X Inconsistent Quality			.17 **	(.06)
Intercept	.58 ***	(.03)	.81 ***	(.04)
Education	.02	(.03)	-.13 ***	(.03)
N	605		614	
R^2	.07		.28	

Notes. For RQ2, higher scores in the outcome variable represent second poll being perceived as more accurate compared to the first poll; for RQ3, higher scores in the outcome variable represent respondent perceptions of a Trump win as more probable. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Education moderated biases in poll perceptions, although not always in the hypothesized direction (**H6**). Below, I present the results of these analyses as they pertain to our hypotheses. For the sake of parsimony, and because education did little to moderate electoral expectations beyond mean differences (more educated respondents were more likely to expect a Clinton victory; see Kennedy et al., 2017), education results for electoral predictions are presented in Appendix T.

In testing H1, I initially found evidence that individuals asserted that polls they were predisposed to agree with were of higher quality than those they were predisposed to disagree with.

[25] In testing for RQ2a (Table 7, Column 1), education coefficient is not significant because it includes C1 where poll qualities were same, which cancelled out the effect of education coming from C2 and C3.

Table 8. Predicting the perceived relative accuracy of the second poll (the higher quality one when the quality of polls is varying)) by Education

	Inconsistent Results & Equivalent Quality		**Consistent vs Varying Quality**	
	Coef.	**se**	**Coef.**	**se**
Predisposition to Disagree (Disagree)	-.30 ***	(.07)	-.30 ***	(.08)
Inconsistent Quality Condition	-	-	-.14 *	(.07)
Inconsistent Results Condition	-	-	-	-
Disagree X Inconsistent Quality	-	-	.24 *	(.11)
Disagree X Inconsistent Results	-	-	-	-
Disagree X Education	.19 *	(.10)	.19 †	(.11)
Inconsistent Quality X Education	-	-	.25 *	(.10)
Inconsistent Results X Education	-	-	-	-
Inconsistent Quality X Disagree X Education	-	-	-.23	(.16)
Disagree X Inconsistent Results X Education	-	-	-	-
Intercept	.68 ***	(.04)	.68 ***	(.05)
Education	-.14 *	(.06)	-.14 *	(.07)
Conditions Included	C1		C1, C4, C5	
N	299		605	
$\mathbf{R^2}$	.12		.07	
F-Test	F(1)=4.07*		F(3)=2.92*	

Notes. For H1, higher scores represent greater credibility being conferred to the poll that shows Trump lead. For RQ2, higher scores in the outcome variable represent second poll being perceived as more accurate compared to the first poll. F-tests compare the models to the corresponding baseline models reported in Table 6. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

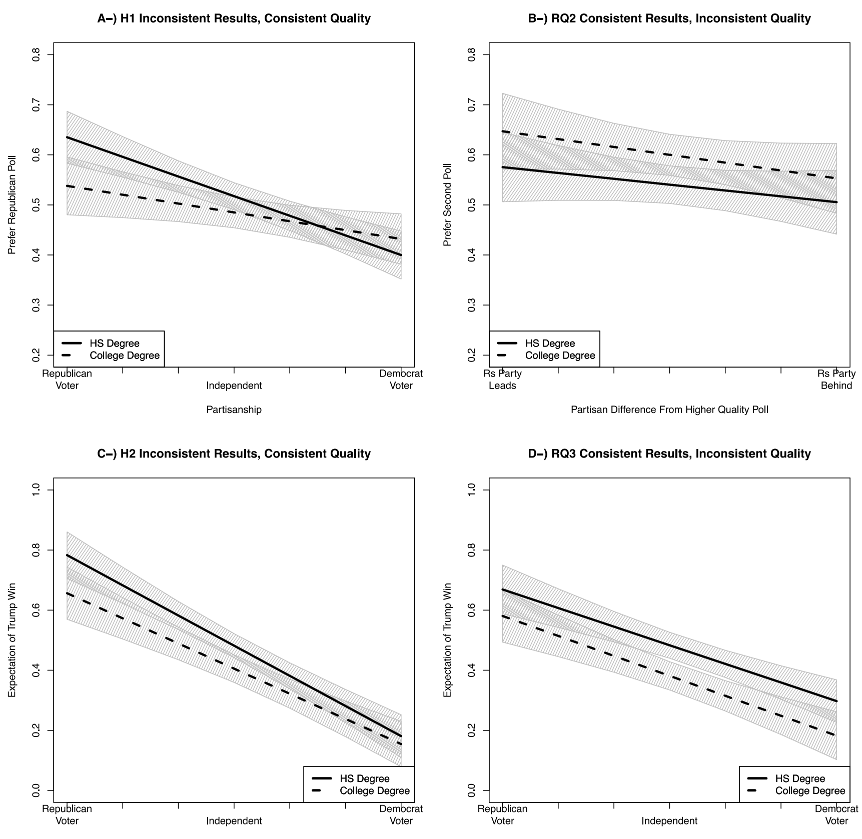


Figure 10. Interaction plots. The plots show the predicted probabilities of the perceived relative accuracy of the second poll, as moderated by education levels, according to the typical American adult.

In contrast to H6, this bias appears to have been stronger among lower education respondents than highly educated respondents (b= .19, se= .10, p= .04, Table 8, Column 1; Figure 10A).

I had found in RQ2 that differing quality mitigated motivational biases compared to equivalent quality. When individuals encountered polls with inconsistent results and varying quality, respondents displayed small and similar biases regardless of education levels (Figure 10B). This meant that the influence of quality variations operated principally by reducing bias among low education individuals (b= .25, se= .10, p= .01, Table 8, Column 2; compare solid line in Figure 10B to the solid line in Figure 10A).

Summary of Results

H1: Confirmed – Respondents found poll results where a favored candidate was winning as more credible than those suggesting otherwise.

H2: Confirmed - Respondents generated expectations about the likely victor in line with these own preferences.

H3: Not confirmed – Respondents were not sensitive to this information when both polls' results were unfavorable.

H4: Not confirmed – Respondents' electoral expectations did not change when both polls' results were unfavorable.

RQ1: When the quality of polls differed among polls with similar results, people tended to recognize the better-quality polls.

H5: Confirmed – When poll results differed, respondents mostly recognized the better poll accurately before accounting for their biases.

RQ2: Partisan biases in the perceived accuracy of polls were smaller when people were exposed to polls with varying methodological qualities.

RQ3: Partisan biases in electoral expectations were smaller when people were exposed to polls with varying methodological qualities.

H6: Not confirmed – Mostly, greater education led to less biased evaluation.

Discussion

Amidst a sea of election polls, Americans pick and choose which results to believe based in part on their own party affiliations. The current study establishes the prevalence of motivated reasoning in evaluations of the 2016 U.S. election polls as well as in subsequent expectations about the election outcome by experimentally manipulating results in the context the saturated preelection information environment. We found that quality differences between polls served as an informational corrective against partisan biases. Further, high education respondents were less susceptible to biases; if they viewed varying quality polls, they conferred more credibility to the higher quality poll although it was unfavorable. Finally, I also found that biased perceptions of the accuracy of polls subsequently influenced electoral expectations.

Evidence that individuals selectively process preelection polls builds on an extensive prior literature. Most notably, this sort of biased processing is indicative of partisan motivated reasoning (cf. Kunda, 1990; Taber and Lodge, 2013). Americans use their partisanship as a lens through which to evaluate the credibility they assign to various poll results, and these, in turn, reinforce biased perceptions of electoral outcomes. These findings build on evidence from public policy polls in the Empirical Study 1, where results were disproportionately discredited by respondents who learned that their position on an issue was at odds with the majority's view. In the current study, when exposed to multiple polls in the campaign context, people selectively chose which polls to believe by discrediting ones that showed unfavorable information for their presumed candidate preference. These results may explain why partisan attacks against the validity of polls, such as “rigged polls” in the 2016 campaign, can gain widespread interest and support in the public (Collison, 2016).

In this study, I show that making methodological quality of evidence more salient in the context of news reports could sometimes mitigate partisan biases. Especially when respondents encountered polls that varied in their quality, they tended to recognize the stronger evidence for public opinion more than when they encountered similar quality polls. Similarly, inflated certainty in individuals’ election predictions that their favored candidate would win was effectively reduced. In the Empirical Study 1, the presence (vs. absence) of methodological details seemed to act as ammunition for counter-arguing against unfavorable issue polls. In the horserace context, however, where many simultaneous poll results are presented in the media, differing levels of quality led respondents to make more objective judgments about polls and the election outcome. These findings add to research showing the potential of corrective attempts against motivational biases and misinformation (cf. Bode and Vraga, 2015; Redlawsk, Civettini, and Emerson, 2010). On the practical front, too, these findings are encouraging for endeavors like AAPOR’s Transparency Initiative and highlight the importance of media reporting that is cognizant of the methodological quality and limitations of public opinion data (Bhatti and Pedersen, 2016).

These findings also suggest that it is valuable to give people more data - by including more polling data from previous or contemporaneous similar polls - to contextualize the results of any given singular poll which may push them into thinking about polls’ quality (e.g. Silver, 2016). Polling-average panels that list and summarize the most recent few polls on a table (e.g. RealClearPolitics, Pollster etc.) may be especially useful for readers. This nurturing of more nuanced understanding should then reduce partisan evaluations of polling evidence. On the practical front, however, pollsters and journalists should ensure that different results of polls are not misinterpreted by the public, as sometimes the variations among results could be just "phantom changes" (Lauderdale and Rivers, 2016).

Education Level and Motivated Reasoning. Finally, the specific ways and contexts with which polling evidence is communicated will lead to different assessments by different individuals – depending, in part, on their education levels. The results showed that respondents with both low and high education were susceptible to biases, yet these biases operated in different ways: When there was no difference between polls on the basis of quality (i.e. when poll quality was consistent), the least educated respondents were the most biased. When encountering poll results and methodological qualities that varied, low education respondents' biases were reduced. These results imply that low education individuals exhibit greater bias when no quality differences are apparent. This finding is similar to what other research on policy information suggested (Mérola and Hitt, 2015).

This mixed finding is surprising, however, in light of the findings from Empirical Study 1 presented before which showed that the respondents with greater political knowledge were more likely to discredit public policy polls that showed their views in the minority. Therefore, the current results do not fully replicate that finding as well as findings from other studies in related areas (e.g. Kahan et al., 2013; Miller et al. 2015; Taber and Lodge 2006). However, it is important to note that these studies did not use the same constructs for *respondent ability* (education, political knowledge, numerical ability, polling literacy), so they might not be directly comparable.

However, when respondents are not predisposed to elaborate but quality differences are apparent, higher education respondents recognized the better of the two polls only when the results were favorable. This indicates greater bias for more educated respondents, because they treat the polls as equally accurate when they substantially varied in their quality. Whether this bias constitutes greater motivated reasoning, however, is debatable. According to motivated reasoning theory, individuals who dislike particular messages are motivated to find ways to counter-argue and rationalize the disproportionate discrediting of the disliked message (Taber and Lodge, 2013). Thus, our suggestion that more educated individuals differentiate polls based on quality when their results are favorable but not when their results are unfavorable is not fully consistent with the mechanisms proposed for motivated reasoning.

On the practical front, these results also imply that there are potential benefits of emphasizing poll quality. Although low and high education respondents seem to react in different ways, attempts at increasing polling literacy in general might be helpful in drawing people's attention to methodological quality. Another way to address this may be to deliver stronger and more direct messages that highlight and explain methodological quality, such as an expert commentary.

Limitations and Future Research. These findings come with a few limitations that could be addressed in future research. First, it is hard to conduct experiments in the middle of an election year. Although random assignment prevents a potential bias, future work should incorporate how these results stand in relation to the actual presentation of poll results at the time of the campaign. Relatedly, the manipulation effects on electoral expectations are small, expected to be temporary, and should not be overstated. This makes sense given that there are potentially many other factors shaping individuals' electoral expectations, although their party affiliation and polling exposure are likely to be some of the most important factors.

Second, media sources are kept constant across experimental conditions. Empirical Study 1 did not find any effect of media sources, whereas Chia and Chang (2017) demonstrated that exposure to unfavorable poll results fueled hostile media perceptions. Future research should investigate whether and how media source effects operate in the competitive information environment of horserace coverage when results from various media sources contradict or confirm each other.

Relatedly, although polls are ubiquitous in election coverage, and many campaign stories refer to recent previous (or other contemporaneous) poll findings, people are not always exposed to multiple polls simultaneously. The process of updating beliefs in response to sequential polls may differ from the simultaneous exposure tested here (cf. Tormala and Petty, 2001). Hence, future research could examine how consecutive exposure to polling within the context of long election campaigns could shape perceptions and beliefs (cf. Jonas et al., 2001).

Whereas the TESS data provided a nationally representative sample, I had to rely on party identification as a proxy variable for inferring respondents' candidate support. This might not have been ideal in an election where we saw a significant political coverage about the quality of the candidate choice - dismay by Democrats against the Democratic candidate and vice versa for Republicans (Newport and Dugan, 2016). Finally, both dependent variables were bipolar scales, which might have introduced midpoint response bias for some respondents who might satisfice by choosing the easiest (most acquiescent) midpoint option (cf. Garland, 1991).

Empirical Study 3: Cherry-picking from Diverse Quantifications of Public Opinion

Introduction

Today, coverage of public opinion relies on diverse metrics beyond the traditional polls. Polling averages, forecasting models, prediction markets and analyses of social media buzz are increasingly part of the mainstream coverage along with the traditional polls. While these metrics gauge public opinion, they substantially differ in what they show, as discussed in the Introduction chapter in detail. A crucial question prevails: What do people make of these entirely different metrics?

An extensive literature in psychology, communication, and political science leads us to expect that members of the public would not be critical as methodological experts and pundits in evaluating and comparing such reports. The vast literature on political knowledge documents that people are not well informed about politics (Carpini & Keeter, 1997). People are not so knowledgeable about polling, either (Traugott & Kang, 2000). Still, if some of the new digital tools (such as constantly-updated forecasting reports) are perceived to be, or are in fact, "better" quantitative metrics of public opinion, then there is a possibility that these reports would be perceived as more accurate by individuals. The popularity and success of Nate Silver in 2012 could be one example of how the public might be exposed to the rhetoric of "better" evidence in these reports (Butterworth, 2014). As an exploratory question, first, I investigate how people might be responsive to *the type* of these public opinion metrics and recognize their distinctions:

RQ1: Do people distinguish between different types of reports when they evaluate their perceived credibility?

However, not all individuals should be equally sensitive to the differences between the diverse metrics of public opinion. They might differ in how they evaluate reports along a set of theoretically-relevant individual characteristics, attitudes, and behaviors. To further explore some individual differences, I examine the correlates in the credibility evaluations:

RQ2: How are demographic (education, age), sophistication (political interest, knowledge, numeracy), and media-related (exposure to reports, general media attitudes) associate with individuals' perceptions of diverse public opinion metrics?

Considerable research in science communication showed how people's evaluations of new technological developments, such as nanotechnology, are shaped by their prior attitudes and how media frame the news (e.g. Druckman and Bolsen, 2011). I expect the similar biased information processing to influence how people make sense of emergent forms of public opinion metrics.

According to motivated reasoning theory, people rely on their motivations when they evaluate the new messages and sort them based on whether the new messages are favorable to their own positions and attitudes (Kunda, 1990; Lodge & Taber, 2013; Redlawsk, 2002). People engage in counter-arguing or discounting of the credibility of unfavorable stimuli to avoid cognitive dissonance. The biases I demonstrated in Empirical Studies 1 and 2 should also be at work in people's perceptions of diverse metrics of public opinion and how they compare them.

If motivational biases are to dominate these judgment processes when people constantly encounter diverse forms of digital metrics in the horse race, then people should confer more credibility to the metrics that show their candidates winning instead of the alternative types of reports that might suggest otherwise. In short, motivations could trump the distinctions between different quantifications. For example, an election prediction market based model result giving Clinton very high probability of winning could be perceived as much more credible by a Clinton supporter instead of a latest poll result or the polling average that actually show a close race. Even in cases when the results of diverse metrics are similar (all showing a single candidate winning), some metrics would be perceived as more credible than others: For example, a poll result might show that the desired candidate has 52% of the vote, and a forecasting model might show an 85% chance that this same candidate will win. The latter could be perceived as a better metric by the people who support that candidate. These biases could then lead people to reinforce their prior positions and form biased perceptions of the public opinion:

H1: People will discount credibility of reports that show an unfavorable candidate (candidate nominated by the party that the respondent does not identify with) winning.

Moreover, some individuals can exhibit this bias more strongly than others. The role of ability to counter-argue is a key mechanism in motivated reasoning that has been demonstrated by recent research (Redlawsk, 2002; Taber, Cann, & Kucsova, 2009; Miller, Saunders, and Farhart, 2015; Kahan et al., 2013). I expect to replicate findings from Empirical Study 1:

H2a: The effect of unfavorable messages on perceived credibility will be stronger for individuals with higher political knowledge

H2b: The effect of unfavorable messages on perceived credibility will be stronger for individuals with higher numeracy.

Finally, motivational biases would be expected to take effect when people encounter multiple and different types of public opinion reports – a scenario that is highly likely in today's digital data journalism during election years. Previous research has also shown that motivational biases impact selective exposure and selective attention processes (Iyengar & Hahn, 2009; Stroud, 2011). Given that citizens are exposed to multiple types of public opinion reports, I expect that they would engage in such motivationally-driven selection processes in circumstances that prompt them to compare and pick some reports over others:

H3: People will pick and choose (rank higher) the report that shows their own party's candidate winning as opposed to the report that shows the rival party's candidate winning, irrespective of the type of report.

For the exploratory part (RQ1 and RQ2), I conducted a small survey and for the theoretical testing part (H1, H2s, and H3), I conducted an experiment. I present these as two separate studies below as the samples and design are slightly different.

Empirical Study 3a: Exploring the public's engagement with diverse metrics

To pursue research questions 1 and 2, an exploratory online survey was conducted to understand what people think of diverse public opinion metrics as well as their exposure to them. By asking their views about these reports in general, this study attempts to understand whether people differentiate and make sense of these reports. As the public's engagement with diverse public opinion metrics has not been studied before, this survey serves as an important exploratory and descriptive endeavor.

Methods

Data. The data was collected on August 8, 2016 from 200 MTurk Prime workers (IRB approval for both studies as obtained on August 2, 2016). Amazon's new platform for academic research – MTurk Prime –provides additional information about the sampling procedure that was not retrievable in the traditional MTurk platform (see Litman, Robinson, & Abberbock, 2016). Only those respondents who live in the U.S., have a 99% approval rate in their Amazon HITs, and previously completed 1000 other tasks on the platform were allowed to take the survey. All respondents were compensated with small monetary funds in exchange for the voluntary participation. The completion rate of the task in MTurk was 88%, and the average HIT submission time was 15.7 minutes, whereas the bounce rate was 19%.[26] The survey completion time on the other hand, as calculated by Qualtrics, was 10.3 minutes.[27]

Measures. As respondents might not be familiar with specific terms about opinion metrics, they were provided with a brief explanations about each of the five types: polls, polling averages, forecasting models, analysis of social media buzz, and election prediction markets. Each

[26] Completion rate is the % of respondents who accepted a HIT and submitted it successfully. Completion time is the time that it takes respondent accepting a HIT and submitting their answer. Bounce rate is the number of people who viewed the HIT and did not accept to take it.
[27] For demographics: Appendix Y.

explanation included a list of examples and an example with a clickable link (Appendix Z). The survey progression locked for 30 seconds to encourage and ensure that respondents read and engage with the information provided. After this, respondents were led to the questionnaire.

The respondents were first asked about their *exposure* to these reports, “How frequently do you read the following type of election related reports in the news media?”, with response options, “Never”, “Once a month”, “Several times a month”, “Once a week”, “Several times a week”, and “Everyday”.

Perceived Credibility. Respondents were asked three questions to evaluate the perceived methodological quality of diverse reports: representativeness, accuracy, and relevance of the metric for the election. These three items would tap into their lay perceptions of the foundational methodological distinctions between the diverse metrics. For representativeness, respondents were asked “How representative do you think the following type of election related reports are in terms of showing information about the whole American electorate?” with response options “Not representative at all”, “Slightly representative”, “Somewhat representative”, “Very representative”, and “Extremely representative.” For accuracy, respondents were asked, “How accurately do you think the following type of election related reports portray the public support levels for the presidential candidates?” with the response options ranging from “Not accurate at all” to “Extremely accurate.” For relevance, respondents were asked “How relevant do you think the information in these reports are in predicting the results of the presidential election in November?” with response options ranging from “Not relevant at all” to “Extremely relevant.” All items are recoded to range from 0 to 1, and then averaged into an index measure of *perceived (methodological) credibility (PMC)***.**[28]

[28] Reliability scores for Polls**:** α=.92; Polling-averages: α=.93; Forecasting-models: α=.92; Analysis of social media buzz: α=.86; Election-prediction markets: α=.92.

After answering these questions separately for each metric type, participants were asked to rank-order them: "If you were to make a prediction about the winner of the election, which one of the following types of election related reports would you rely on the most and the least?" and they were asked to write their general evaluation for each report type in an open-ended question. Participants were then asked about their interest in general election news: "How interested are you in 2016 election-related news?" The question had five response options ranging from "Not interested at all" to "Extremely interested."

Ability Correlates. Political knowledge was measured with six items; it was specifically about respondents' knowledge of the 2016 election candidates and campaign. This scale is relevant for the assessment of respondents' real engagement levels with the current election.[29] Second, numeracy measured participants' general ability with numbers. This is a very relevant ability measure in the context of assessing their differential levels of engagement with various quantitative election reports. Three items were used from a validated numeracy scale (Weller et al., 2013).[30] Finally, demographic questions were also asked.[31]

As most of the newer forms of public opinion are digital-native and digital-only metrics, respondents were also asked about the mode of their news diet: "Do you get your political news mostly through offline (TV, newspaper, radio) or online (news websites, social media, phone applications) resources?" with seven response options ranging from "Only offline" to "Only online".

[29] An example item is "Who was the Iowa caucus winner for the Democrats?" and each question had two response options, one was correct and one was wrong (Appendix Z).
[30] An example item is "If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?" and each item had five response options, only one of them being correct (Appendix Z).
[31] The study asked respondents their age, sex, education level, income, and party identification too (Appendix Z).

Finally, respondents answered four statements about their overall attitudes toward media and election coverage (media skepticism). For example, they evaluated, “Media provide interesting, engaging reports and stories regarding the election” (reverse-coded, with higher scores showing greater criticism) with five response option ranging from “Not true at all” to “Extremely true”.[32]

Analytical Strategy. First, the qualitative examination of respondents’ comments in the open-ended questions provided an initial insight for understanding their familiarity and perceptions of these reports. Then, OLS regression was used to predict the outcome variable (perceived methodological credibility, PMC) to observe whether and how the perceptions of these reports would differ across a number of key predictors.

Finally, ranking of the reports was predicted by using the seemingly-unrelated regression (SUR) estimation. The variances in ranking of each report would be correlated with each other, because the ranking of one is inherently related to the ranking of another report (Henningsen, Hamann, & others, 2007), hence this special regression technique is used to predict the ranking order.

SUR estimates directly compare the different election reports as they predict the ranks respondents assign. Respondents ranked the five different reports, so the possible response options for the outcome variable (ranks) ranged from 1 to 5. Every report has received a value, and they were recoded as 1= .4, 2= .3, 3= .2, 4= .1 where the recoded values represent the relative strength (higher in the ranking) with equal intervals and these values add up to 1. After this recoding, the rank values each respondent assigned to each report are run in a system of regressions and the

[32] For descriptive statistics, see Appendix AA.

results provide regression results predicting rank order of each report by accounting for the dependency between the rankings of different models.

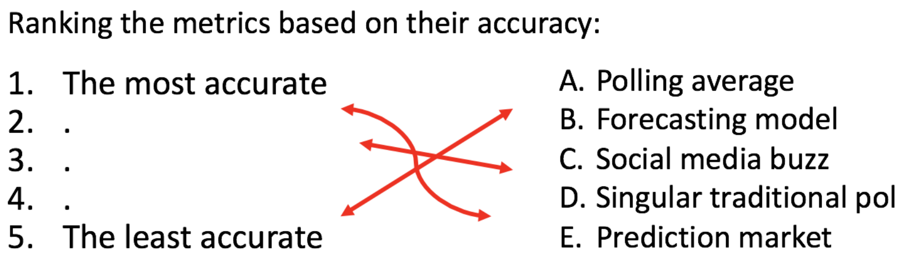


Figure 11. A representation of how respondents ranked the different metrics

Results

A reading of the all respondents' comments revealed a substantial level of critical understanding between the differences and limitations of the diverse public opinion metrics. In this regard, there were two distinct type of comments. Some comments were methodological in nature ("*completely irrelevant, social media/search represents a very small portion of the population*", "*A good picture that washes out individual poll biases",* "*Higher margin of error*"), others consisted of accusations of media being biased ("*Useless due to slant of developer*", "*These tend to be skewed, as the people running them word question to promote their own interests*", "*They are lies concocted by the media!*"). Whereas traditional poll reports were mostly viewed as being "useless" and "biased", polling averages and forecasting models were seen as "being more sophisticated/scientific" and "being more representative." Views on election prediction markets pointed to accuracy due to "money being involved," while social media analyses reports were criticized as only focusing on "Internet using populations" and as being "irrelevant" for predicting who would win the election. These results suggest that many people were able to distinguish diverse opinion metrics and critically evaluate them in either methodological or non-methodological ways (RQ1).[33]

Further, OLS results showed important demographic and media-consumption related differences in how people perceive the public opinion reports. There was no association between demographic variables and PMC. The only exception was that higher education lead to greater PMC for *polling averages* (b=.37, se=.21, for some college; b=.55, se=.30 for college; b=.35, se=.20 for postgraduate, Table 9). Greater exposure consistently lead to greater perceived methodological credibility for traditional polls (b=.12, se=.05, p<.05), polling averages (b =.18, se=.05, p<.001), forecasting models (b=.15, se=.05, p<.01), and for analyses of social media buzz (b=.09, se=.04, p<.05, see Table 9). Neither interest in the election nor greater online news use (vs offline) were related to the PMC for any of the reports. Controlling for all the variables, political knowledge and numeracy were not predictive of PMC, either, in almost all reports. The only effect was the large predictive coefficient numeracy had on the PMC of election prediction markets (b=-.54, se=.23, p<.05, Table 9). Finally, media skepticism had a large and highly significant negative coefficient for the credibility of all types of reports: polls (b= -.34, se=.08, p<.001), polling averages (b=-.30, se=.08, p<.001), forecasting models (b =-.38, se=.09, p<.001), election prediction markets (b=-.36, se=.08, p<.001), and analyses of social media buzz (b= -.24, se=.07, p<.001, Table 9). All these results provide insight for RQ2**.** They show that people's exposure and general views of the media are consistently related to their evaluations of these reports, whereas numeracy seems to matter for the credibility of election prediction markets only.

SUR results indicated some meaningful differences in how people compare the multiple reports to each other, and these effects especially mattered for forecasting models. Both greater

[33] See the dataset for all comments.

political knowledge (b=.13, se=.05, p<.05) and greater numeracy (b=.10, se=.03, p<.01) led to a higher ranking of forecasting models relative to the other four metrics (Table 11). On the other hand, greater political knowledge (b=-.09, se=.05, p<.10) and greater numeracy (b=-.06, se=.03, p<.05) led to lower ranking of the traditional polls compared to the other metrics (Table 10). Finally, more negative views about the media in general lead to greater ranking of analyses of social media buzz relative to the other metrics (b=.03, se=.01, p<.5, Table 10). These results provide insight for both RQ1 and RQ2.

Table 9. OLS Regression Results Predicting the Credibility of Diverse Election Reports – Study 1 (Empirical Study 3a)

	Polls		**Polling Averages**		**Forecasting Models**		**Election Prediction Markets**		**Media Analyses**	
	Coef.	**se**	**Coef.**	**se**	**Coef.**	**se**	**Coef.**	**se**	**Coef.**	**se**
Intercept	3.79 ***	(.48)	3.35 ***	(.51)	3.84 ***	(.52)	4.13 ***	(.50)	3.72 ***	(.43)
Edu (Some college)	.01	(.20)	.37 +	(.21)	.21	(.22)	-.02	(.21)	.15	(.18)
Edu (College)	.29	(.28)	.55 +	(.30)	.44	(.31)	-.07	(.29)	-.03	(.25)
Edu (Postgraduate)	-.04	(.19)	.35 +	(.20)	.11	(.21)	-.18	(.20)	.02	(.17)
Election Interest	.02	(.06)	-.04	(.06)	-.09	(.07)	.02	(.06)	.00	(.05)
Online News Use	.05	(.04)	.03	(.04)	.05	(.04)	.03	(.04)	-.01	(.04)
Exposure	.12 *	(.05)	.18 ***	(.05)	.15 **	(.05)	.02	(.05)	.09 *	(.04)
Political Knowledge	.10	(.36)	-.03	(.38)	.32	(.39)	-.09	(.37)	-.38	(.32)
Numeracy	-.34	(.22)	-.25	(.23)	-.19	(.24)	-.54 *	(.23)	-.25	(.20)
Media Skepticism	-.34 ***	(.08)	-.30 ***	(.08)	-.38 ***	(.09)	-.36 ***	(.08)	-.24 ***	(.07)
N	200		200		200		200		200	
R-square	.18		.19		.18		.16		.17	

Notes. Outcome variable is the credibility index composed of representativeness, accuracy, and relevance of these reports in general in gauging the public support in election campaigns. Age, gender, and income are also controlled for and they have no significant association with any of the models. Coef. denotes OLS coefficients, se denotes standard errors. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table 10. SUR Estimation of the Relative Ranking of Election Reports – Study 1 (Empirical Study 3a)

	Polls		**Polling Averages**		**Forecasting Models**		**Prediction Markets**		**Analyses of Media Buzz**	
	Coef.	**se**	**Coef.**	**se**	**Coef.**	**se**	**Coef.**	**se**	**Coef.**	**se**
Intercept	.41 ***	.06	.15 *	.06	.08	.07	.30 ***	.06	.06	.06
Election Interest	.00	.01	.00	.01	-.01	.01	.00	.01	.00	.01
Online News Use	.00	.01	.00	.01	.00	.01	.00	.01	.00	.01
Exposure	.00	.01	.01	.01	.01 +	.01	-.01	.01	-.01	.01
Political Knowledge	-.09 +	.05	.06	.05	.13 *	.05	-.05	.05	-.05	.05
Numeracy	-.06 *	.03	.03	.03	.10 **	.03	-.04	.03	-.02	.03
Media Skepticism	.00	.01	.00	.01	-.02	.01	-.01	.01	.03 *	.01
N	200		200		200		200		200	
R-square	.06		.02		.11		.04		.04	

Notes. Outcome variable is the relative ranking score of the five different election reports. Coef. denotes the change in the ranking where positive indicates that an increase in a variable is associated with an increase in the relative ranking of the election report. se denotes standard errors. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001.

All tests are two-tailed. Models that include the demographic variables did not differ from these results and demographic variables' results did not predict anything, hence this simplified model is presented. System N= 800.

Summary of Results

RQ1: There is some suggestive evidence that respondents recognize the differences between diverse metrics.

RQ2: Media cynicism had a persistent negative correlation with the evaluations of all types of public opinion reports.

Discussion

These results suggest that people can distinguish diverse reports and that there are important differences in how people evaluate them. The differences in respondent comments, as illustrated with the representative examples, suggest that most of the public are responsive to the representativeness and validity differences between the reports. Simultaneously, their general evaluations of specific media channels or media at large colored their judgments of these reports instead. OLS findings imply that greater exposure/familiarity with these reports bolster their credibility, although negative views about the media lowers it. This suggests that when people encounter different types of metrics, their evaluations of each of them are rather similar along these demographic, political, and media use correlates. Yet, when they are prompted, more directly, to compare them, their views of traditional polls and forecasting models seem to differ from others. They pick forecasting models as the most sophisticated metric with increasing knowledge and numeracy and avoid the single traditional poll reports. A lot of critique on limits of traditional polling in 2016 campaign period (and the lack of an equal amount of critique on newer metrics) as well as recent polling failures (e.g. Greece, Canada, Columbia, and Brexit) might have contributed to such differential skepticism about polls (e.g. Lepore, 2015; NYT Room for Debate, 2015).

The following limitations should be noted. First, Amazon MTurk is not generalizable to the U.S. population. Future studies should test larger and more representative samples. Second, respondents might have specific attitudes towards mainstream vs alternative news outlets. Although most of the mainstream news outlets integrate these diverse metrics in their horse race reporting, some of the well-known original sources of these alternative metrics are blogs and sites like 538, RealClearPolitics, Vox, and Predictit. Although media skepticism, which is included as a control variable in the models, is a proxy for measuring this, it does not really address it. Hence, future investigations should also consider the nature of media sources and how they would matter for public perceptions.

Empirical Study 3b: Measuring public reactions to distinct types of public opinion reports

Introduction

Whether the increasing diversity of public opinion reports leads to susceptibility to motivational biases remains to be investigated. People's reactions to three different types of public opinion reports (polling averages, forecasting models, and analyses of social media buzz) were measured within the context of the 2016 U.S. presidential election. Participants were exposed to hypothetical news reports via an online survey-experiment. Reports showed results favoring either Republican candidate Donald Trump or Democratic candidate Hillary Clinton. After reading the manipulation stories, participants' reactions were measured along with a set of other questions.

Methods

Data. The sample consists of a total of N=400 MTurk respondents. The survey was constructed in Qualtrics and data was collected on August 8-9, 2016 with the completion rate of 91%, the average HIT submission time of 11.7 minutes, and bounce rate of 15%. Respondents in Study 1 were not able to participate.

Measures. *Manipulations.* Each participant was assigned to one of the four experimental conditions where they viewed various combinations of results for the three types of public opinion reports (a polling-average, a forecasting models, and an analysis of social media buzz) about the presidential candidates Clinton and Trump's standings. A brief descriptions of these metrics were also included in the reports. To avoid cognitive overload of evaluating and comparing five different metrics and to keep survey length manageable, only three (instead of all five that were examined in the Empirical Study 3a) types of metrics were included in this design. Each respondent saw all three types of reports. Polling average results always showed Clinton ahead, whereas social media analysis reports' and forecasting model reports' results varied in all possible combinations (CC, TT, TC, CT, Table 11, see Figure 12 for an example).[34] These combinations of news stories provide a realistic sampling of diverse metrics that the respondents might have observed in the 2016 U.S. presidential election by focusing on the more popular ones.[35] After seeing each report, they responded to the survey questions.

Table 11. Manipulation combinations for Study 2 (Empirical Study 3b)

	Polling Average	**Forecasting Model**	**Social Media Buzz**
Condition 1	Clinton ahead	Clinton ahead	Clinton ahead
Condition 2	Clinton ahead	Trump ahead	Trump ahead
Condition 3	Clinton ahead	Clinton ahead	Trump ahead
Condition 4	Clinton ahead	Trump ahead	Clinton ahead

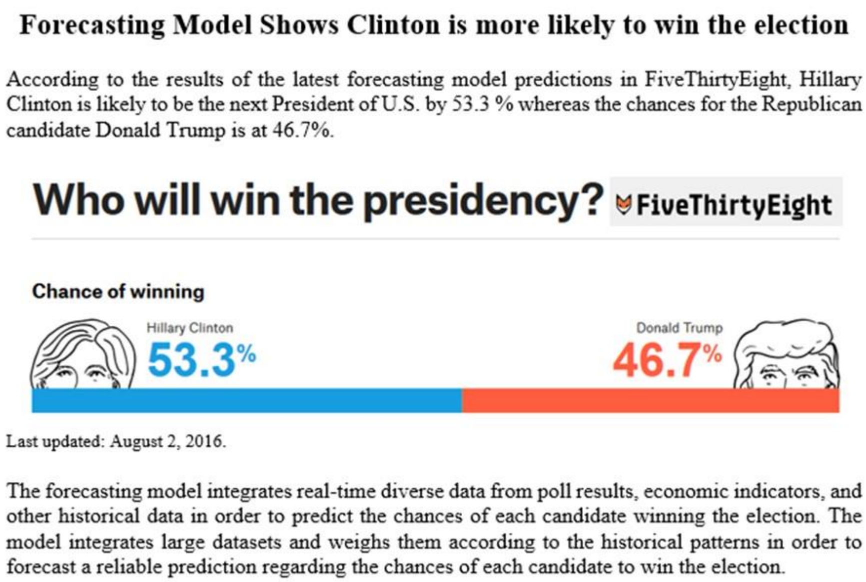
First, participants evaluated the representativeness, accuracy, and relevance of the reports as in Study 1 (see the Appendix Z for question wordings that slightly differed from Study 1). All

[34] The asymmetry regarding polling average reports, which always show a Clinton lead, is intended to leverage the external validity and believability of the news reports. At the time of the data collection, there was a wide Clinton lead in all available polling averages. Also, the news stories were made to look like real screenshots; so logos have been integrated (Appendix AB).

[35] The balance-check tests revealed that only political interest was significantly different in the baseline comparisons between the four conditions, hence it will be included as a control variables in the regressions (Appendix AC),

items were recoded to range from 0 to 1, and then averaged into an index measure of *perceived methodological credibility (PMC)*[36].

Figure 12. Hypothetical news report example


Forecasting Model Shows Clinton is more likely to win the election

According to the results of the latest forecasting model predictions in FiveThirtyEight, Hillary Clinton is likely to be the next President of U.S. by 53.3 % whereas the chances for the Republican candidate Donald Trump is at 46.7%.

Last updated: August 2, 2016.

The forecasting model integrates real-time diverse data from poll results, economic indicators, and other historical data in order to predict the chances of each candidate winning the election. The model integrates large datasets and weighs them according to the historical patterns in order to forecast a reliable prediction regarding the chances of each candidate to win the election.

After seeing all three stories and answering these questions individually for each of them, respondents also evaluated these reports in direct comparison, by ranking them" "If you were to be make a prediction about the winner of the election, which one of the election related reports you have seen would you rely on the most and the least?" They ranked the three stories, hence each story received a rank value of either 1, 2, or 3.[37]

A "disagreement with news story result" variable was constructed to measure the extent of a report's favorability to a respondent. It is computed by multiplying the party identification value of each respondent (1=Strong Democrat to 7=Strong Republican) with the result of the specific election report they have seen which showed a Trump or Clinton lead (separately calculated for

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[36] Reliability scores for Polling averages: α=.91; Forecasting models: α=.93; Analysis of social media buzz: α=.91.
[37] Like in Study 1, the rank scores were re-coded in a way to sum up to 1: 1= .66, 2= .33, and 3= 0. Also, the interaction effects with political knowledge and numeracy are hypothesized and examined for the OLS models. Theoretically, and analytically, whether such interactive effects would also apply for selective comparisons between multiple reports is beyond the scope of this study.

each of the three stories that every respondent read).[38] This measure indexes the extent of motivational bias. Aside from these, respondents answered most of the same questions reported in Study 1.

Analytical Strategy. As in Study 3a, OLS regression was used to predict credibility assessments of individual reports while SUR was used to predict ranking of different reports.[39]

Results

OLS Results showed that motivational bias is an important factor driving individuals' evaluations of all three reports. Greater disagreement was significantly predictive of substantial drops in perceived credibility for polling averages (b= -.12, se=.03, p<.001), forecasting models (b= -.11, se=.02, p<.001) as well as analyses of social media buzz (b= -.09, se=.02, p<.001, Table 12). Moreover, the significance of this main effect persisted across half of the consecutive models when additional interaction terms were entered. These results provide strong support for H1.[40]

Political knowledge had a number of different effects that provided evidence for H2 only partly whereas numeracy of respondents did not matter at all. In baseline models, increasing political knowledge lead to lower credibility assessments for both forecasting models (b=-.64, se=.29, p<.05) and analyses of social media buzz (b=-54, se=.27, p<05), yet this main effect disappeared in the interaction models (Table 12). Political knowledge interacted with disagreement only in models predicting the credibility of forecasting models. As hypothesized, the effect of

[38] The resulting *disagreement* vector gives the highest score to a strong Democrat who sees a report showing a Trump lead or to a strong Republican who sees a report showing Clinton lead; whereas on the other hand, a strong Democrat seeing a Clinton lead has the smallest value in this disagreement vector.
[39] OLS models tested the PMC index on the three types of election reports through four consecutive models. The Baseline Model includes all control variables. Disagreement Model is the addition of disagreement as a key predictor. Knowledge Interaction Model tests the interaction of disagreement and political knowledge. Numeracy Interaction Model tests the interaction of disagreement and numeracy. Knowledge and numeracy interactions were tested separately; in this way, multicollinearity and challenges in the theoretical interpretation are avoided.
[40] Supplementary Analyses: Item-by-item analysis of the outcome variable as well as direct comparison of Study 1 and 2 models are provided in Online Appendices F and G, which provide further support for the main conclusions.

disagreement on credibility was particularly strong for those more knowledgeable respondents (b= -.23, se=.10, p<.05, Table 12). The three dimensional plot in Figure 12 represents the nature of this interaction of the two continuous variables. As seen in Figure 12, greater political knowledge exacerbated the discounting of credibility for those in disagreement with the election report result,

Table 12. OLS Regression Results Predicting the Credibility of Three Experimental Election Stories – Study 2 (Empirical S. 3b)

	Baseline Model		Disagreement Model		Knowledge Interaction		Numeracy Interaction	
	Coef.	**se**	**Coef.**	**se**	**Coef.**	**se**	**Coef.**	**se**
Polling Average								
Intercept	2.58 ***	.26	3.04 ***	.28	3.37 ***	.45	3.00 ***	.34
Election Interest	.03	.04	.03	.04	.03	.04	.03	.04
Political Knowledge	.13	.27	.07	.27	-.36	.55	.07	.27
Numeracy	.23	.18	.21	.17	.22	.17	.28	.34
Disagreement			-.12 ***	.03	-.22 +	.12	-.11	.07
Disagreement X Political Knowledge					.13	.15		
Disagreement X Numeracy							-.02	.09
N	391		391		391		391	
R-square	.01		.06		.06		.06	
F-change	-		F(1)=22.17***		F(1)=.81		F(1)=.04	
Forecasting Model								
Intercept	2.93 ***	.28	3.11 ***	.27	2.67 ***	.32	3.02 ***	.30
Election Interest	.03	.05	.06	.04	.06	.04	.06	.04
Political Knowledge	-.64 *	.29	-.64 *	.28	-.10	.36	-.63 *	.28
Numeracy	.19	.19	.15	.18	.17	.18	.26	.24
Disagreement			-.11 ***	.02	.07	.08	-.08	.05
Disagreement X Political Knowledge					-.23 *	.10		
Disagreement X Numeracy							-.04	.06
N	391		391		391		391	
R-square	.01		.10		.12		.11	
F-change	-		F(1)=38.80***		F(1)=5.70*		F(1)=.50	
Analysis of Social Media Buzz								
Intercept	2.68 ***	.26	2.85 ***	.26	2.59 ***	.30	2.89 ***	.27
Election Interest	.06	.04	.05	.04	.05	.04	.05	.04
Political Knowledge	-.54 *	.27	-.45 +	.26	-.10	.34	-.45 +	.26
Numeracy	-.41 *	.18	-.36 *	.17	-.37 *	.17	-.41 +	.22
Disagreement			-.09 ***	.02	.03	.08	-.11 *	.05
Disagreement X Political Knowledge					-.15	.09		
Disagreement X Numeracy							.02	.06
N	391		391		391		391	
R-square	.03		.10		.10		.10	
F-change	-		F(1)=28.41***		F(1)=2.61		F(1)=.13	

Notes. Outcome variable is the credibility index composed of representativeness, accuracy, and relevance of these reports in general in gauging the public support in election campaigns. Coef. denotes OLS coefficients, se denotes standard errors. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F-test changes reported in the Disagreement Models show the difference between the Baseline Model and Disagreement Model, other F-tests compare against the Disagreement Models.

but for those who are not in disagreement, individual differences in political knowledge did not lead to such interactive effect. This result provides support for H2a, but only for forecasting models. Numeracy, on the other hand, did not moderate any of the disagreement effects on PMC in any of the election report types (H2b).

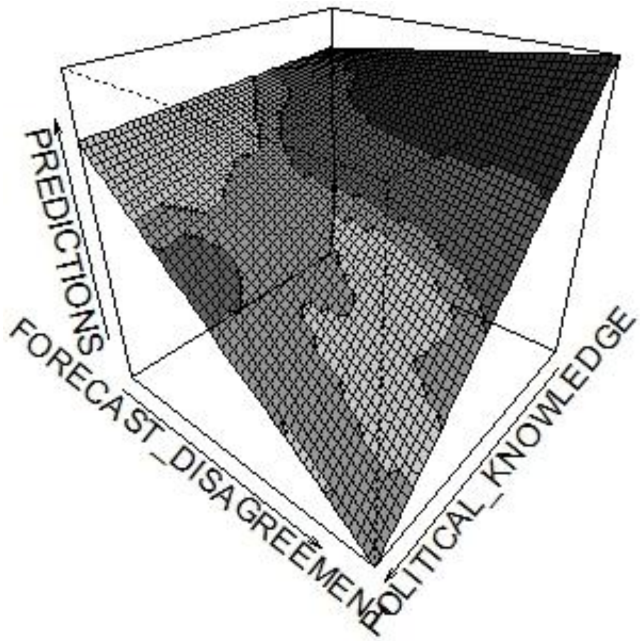
SUR estimates showed that motivational biases matter, but also suggested that rational evaluations might have an effect too. Disagreement was consistently and negatively related with the ranking degree of a metric, although with a small coefficient ($b= -.01$, $se=.001$, $p<.001$ for forecasting models, and $b= -.01$, $se=.001$, $p<.001$ for media analyses reports; for polling averages the effect was not significant, $b= -.01$, $se=.01$, $p<.10$; see Table 13), which shows some evidence supporting H3. However, results also showed that the control variable of numeracy was positively predictive of forecasting models' higher position in ranking ($b=.10$, $se=.04$, $p<.05$) and was negatively predictive of media analyses reports' ranking score ($b= -.17$, $se=.04$, $p<.001$, Table 13).

Table 13. SUR Estimation of the Relative Ranking of Election Reports – Study 2 (Empirical Study 3b)

	Polling Average		**Forecasting Models**		**Media Analyses**	
	Coef.	**se**	**Coef.**	**se**	**Coef.**	**se**
Intercept	.44 ***	.07	.33 ***	.06	.33 ***	.07
Election Interest	.00	.01	.00	.01	.00	.01
Political Knowledge	.02	.07	.01	.07	-.02	.07
Numeracy	.07	.04	.10 *	.04	-.17 ***	.04
Disagreement	-.01 +	.01	-.01 ***	.00	-.01 ***	.00
N	390		390		390	
R-square	.01		.06		.06	

Notes. Outcome variable is the relative ranking score of the five different election reports. Coef. denotes the change in the ranking where positive indicates that an increase in a variable is associated with an increase in the relative ranking of the election report. se denotes standard errors. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. System N= 1170, Note that one election report is taken as a baseline so that the procedure is conducted twice where another election report is taken as a baseline to produce the results for the baseline election report in the first system analysis. The results are the same when the baseline election report is changed.

Figure 13. Interaction of Disagreement and Political Knowledge Predicting the Credibility of Forecasting Models – Study 2 (Empirical Study 3b)



Notes. Three-dimensional graph shows the predicted probability of credibility judgments regarding the forecasting models subjects saw on the vertical dimension (higher scores are on top). The left side horizontal dimension represents the respondents' disagreement with the forecasting report result (higher scores represented closer to the front corner). The right side horizontal dimension represents the political knowledge (higher scores represented closer to the corner close to the reader in the perspective). The lighter tone represents more accumulation of respondents. An R package was utilized (Armstrong & Armstrong, 2010).

Summary of Results

H1: Confirmed – People discredited unfavorable results in all types of reports.

H2a: Partially confirmed (only for forecasting models) – Those with greater political knowledge discredited unfavorable forecasting model reports more.

H2b: Not Confirmed – Respondents' numeracy had no moderating effect on credibility evaluations.

H3: Confirmed – When directly comparing distinct reports, people tended to rank the ones that showed favorable evidence higher irrespective of reports' methodological and substantial differences.

Discussion

Overall, these results document that motivational biases are prevalent and substantial in both individual assessments of diverse public opinion metrics as well as in how people compare them. Which of the candidates the reports show as winning in the race seems to matter more than the methodological nature and distinctions between the diverse metrics of public opinion. This provides evidence in line with some other work which showed motivational biases in the assessments of polls (e.g. Empirical Studies 1, 2; Chia and Chang, 2015). Moreover, there is some evidence that, in the evaluation of forecasting models, this bias is more pronounced with greater ability to counter argue. This replicates the Empirical Study 1 finding that showed the increased bias with people who are more knowledgeable as well as other findings in the literature (e.g. Kahan, Peters, Dawson, & Slovic, 2013b; Miller, Saunders, & Farhart, 2015).

On the other hand, there is some evidence that comparative evaluations might be based on respondents' political involvement and ability as well. Analyses of rankings showed that whereas biases are still prevalent, more numerate people tended to prefer forecasting models over other forms, and especially avoided analyses of social media buzz. This suggests that people still exhibit some capacity to differentiate between the reports irrespective of their results' favorability, especially when they are directly prompted to compare them. In such comparison contexts, where central-route processing is arguably more dormant, their accuracy motivations might be triggered more (Kunda, 1990).

These findings from Study 3b come with a few limitations. First, unlike Study 3a, the Amazon sample is less of a problem for experimental studies, and the Study 3b had a considerably larger sample size. Yet, the believability of the manipulations is an issue, as they were tested in the middle of the 2016 horse race. It is hard to design such messages in the middle of an election campaign year when respondents are being bombarded with such tracking data nearly every day.

Another limitation arises as a side effect of trying to produce more believable stories. The news stories included some source logos, and it is possible that some source effects could have spilled over to the credibility judgments. Future research should try to sterilize these effects from media source evaluations or find a way to examine how much of an effect they have. Finally, we cannot know whether there would be order effects (such as carry-over effects) when respondents evaluate multiple reports consecutively - although the randomization in the presentation of the three reports minimizes the possibility of any such order effects.

General Discussion for Empirical Study 3

Overall, across the both studies, the results show that people are able to distinguish between these diverse metrics, but they fall prey to their motivational biases when they form their judgments about the perceived methodological credibility of these reports. The more interactive, graphical, and engaging features of such digital reporting tools could be an important change in the way the public makes sense of the public opinion statistics at large (Coddington, 2015; Lewis & Westlund, 2015). Yet, people evaluate these reports mostly based on their results instead of their methodological differences (see Lodge & Taber, 2013). This is an illustration of severe bias, which implies that people will hold onto and even bolster their biased perceptions of public opinion if they pick and choose from diverse metrics (for example, a Clinton supporter will discredit polls as well as polling averages that suggest a Trump win possible). Such sustained biases in perceptions of public opinion could then retain and even fuel political polarization on the horse race metrics in the elections (see Nir, 2011). These perceptions could also amplify the shock that unexpected election outcomes would produce in public perceptions.

Another concern is about the implications for public trust in the media. The results of these two studies suggest that ordinary citizens are increasingly familiar with these tools and they are frequently exposed to them. Given the *quantitative turn* of journalism (Coddington, 2015), these results could be good news for data journalism, as people's evaluations will improve with increasing familiarity. However, results have worrying implications for media trust in a number of ways as well. First, the excessive coverage of polls and campaign performance (at the expense of issue coverage) might bolster the public's negative views about the media (see Cappella & Jamieson, 1997). Similarly, data-driven journalism might amplify such skeptical assessments by the public. Second, people's bias-driven negative assessments of news reports might spill over to their perceptions of media sources. They can easily blame the media as biased, as some of the comments in open-ended questions in Study 1 suggested (i.e. hostile media perceptions, Chia and Chang, 2015).

Indeed, such partisan disbelief and polarization around public opinion metrics have been at the center of public discussion in the 2016 election: "The declining authority of statistics – and the experts who analyze them – is at the heart of the crisis that has become known as 'post-truth' politics." (Davies, 2017). This is why we have seen extensive media coverage on partisan claims such as "rigged polls," "the quality of online news-website polls (asking people who won the presidential debates)," and "oversampling of Democrats in the polls". Whether more options and different types of evidence fosters cherry picking of evidence matters greatly. Hence, future studies should continue to examine these psychological processes and figure out their implications for media trust and political attitudes in today's highly cacophonous information environment.

Future research should also examine whether data journalism is living up to its promise of increasing public engagement and communicating public opinion reports effectively (see media critiques of data journalism in Bounegru, 2014; Satell, 2014). Journalistic coverage could provide important tangible solutions to mitigate people's motivational biases when they process public opinion reports. Content analyses have shown that methodological details are not adequately presented in the media for traditional polls (Bhatti & Pedersen, 2015). It is likely to be a similar case for the new quantifications, although data journalism outlets such as 538, Vox, the NYT Upshot seem to have enhanced informative reporting. However initial evidence suggests that transparent reporting is problematic in digital outlets, too (Turcotte et al., 2017). Hence, the findings from this study once more underline the importance of transparent and informative communication of the distinctions, limitations, and relevance of diverse public opinion metrics within the contemporary practice of digital data journalism.

Indeed, during the 2016 election, it seemed that all evidence suggested a Clinton win (95% forecasting predictions), but the nominal values in these reports as opposed to traditional polls showing values around 48% to 52% support were interpreted uncritically by ordinary citizens as well as many members of the political elite. Such different metrics might create unrealistic expectations about elections. A recent Pew Report came out that examined these effects. Messing, Westwood, and Lelkes (2018) found that exposure to forecasting model results increased the perceived likelihood of winning and suppressed turnout. Hence, overall, whereas we see this technological shift from traditional polls to data journalism, the new types of public opinion reports, which provide more diverse types of results and metrics, might fuel motivational biases and prove unhelpful in accurately communicating public opinion and uncertainty of findings.

General Summary for Chapter 2

In this chapter, I have shown the prevalence of motivated reasoning in public perceptions of public opinion reports. I have documented the strong bias in both the issue and electoral contexts, in traditional polls and new quantifications of public opinion, and shown how educational and political sophistication characteristics of people as well as source cues moderate these biases.

Overall, people are strongly biased in their assessments, and the ideological affinity of the source transmitting poll results does not matter for the evaluations of polls. While increases in political knowledge and methodological knowledge are strongly related to a greater tendency to engage in motivated reasoning, education results are less clear. The effects of source cues are trumped by the favorability of reported results; hence source cues did not moderate the bias. I also showed how biased perceptions are also related to perceptions of public opinion (electoral expectations in Study 2). Overall these results provide strong reasons for us to worry about the detrimental consequences of motivated assessments of public opinion reports.

Chapter 3

How Can We Mitigate Biased Processing of Public Opinion Reports?

In this chapter I present empirical studies to test the feasibility of three different journalistic solutions to mitigate individuals' motivational biases in their processing of public opinion reports. These are (1) adequate disclosure of methodological details, (2) the presentation of aggregated and contextualized evidence with the explanation of methodological logic, and (3) expert commentaries focusing on methodological quality. Most of these journalistic practices are already employed in news coverage of public opinion reports to some extent, although inconsistently utilized. Hence, I examine their effectiveness both in terms of being a current practice and recommendation for future media coverage. Specifically, I investigate their effectiveness in mitigating individuals' biased processing of public opinion reports by relying on their broader potential of shifting the focus of individuals' judgment processes to methodological quality of evidence. The premise here is that by making the methodological quality of public opinion reports a salient and consequential factor in individuals' assessments we might be able to crowd out their tendency to focus on the favorability of the results in biased ways.

Theoretically, these journalistic remedies will be tested through the application of the motivated reasoning theory and the effectiveness of corrective attempts as moderators of this bias. Methodological details, the logic of aggregated evidence, and expert comments are three important informational correctives against individuals' motivational bias in their assessments of public opinion reports. I test whether these features in news reports moderate the effects of motivational bias in people's perceived accuracy of the reports. Given prior inconsistent literature which showed that corrections are at times effective (Bode and Vraga, 2015; 2017), do not work effectively or consistently (Redlawsk, Civettini, and Emmerson 2010; Nyhan et al., 2017; Wood and Porter, 2017), and sometimes even have backfiring effects by amplifying individuals' biases (Nyhan and Riefler, 2010), these remedies might or might not be effective reducing motivated reasoning.

In the first and third empirical studies of this chapter, I test the effectiveness of these techniques through extensions of the experimental studies reported in Chapter 2. For the second empirical study, I introduce a new study with new data collection.

Empirical Study 1: Methodological Transparency in News Reports

Introduction

Unlike many other forms of reporting, individuals who hear about poll results are often given the tools to evaluate the quality of the evidence. There are significant efforts to increase the methodological disclosures in poll reports, such as the Transparency Initiative of the American Association for Public Opinion Research,[41] and these efforts extend to journalists' practices as they are encouraged to include these details and provide adequate links to even greater methodological details elsewhere (e.g. Sonck and Loosveldt 2008; Turcotte et al., 2017).

Where methodological details are available along with public opinion reports' results, there are strong normative reasons to think that they should mitigate the influence of motivational biases. To the extent that individuals read about the sampling design, sample size, and margin of error of a poll, for instance, they may be able to draw conclusions about a report's objective quality. This, in turn, could lead to more objective judgments.

[41] https://www.aapor.org/AAPORKentico/Transparency-Initiative.aspx

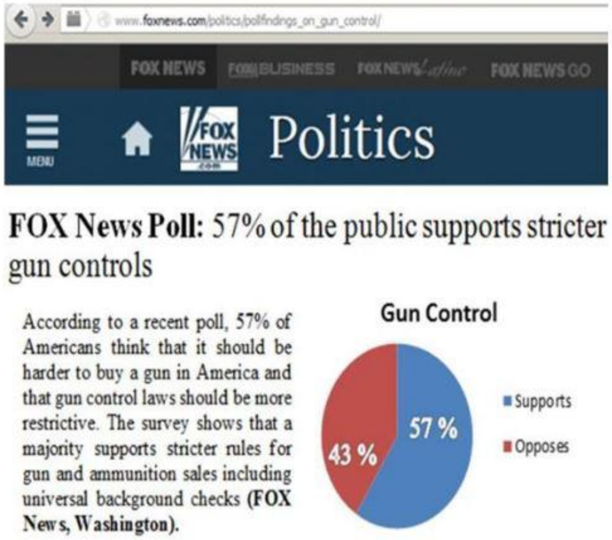
But there is also reason to be skeptical about this corrective's potential. Studies in related domains have shown that attempts to correct misperceptions sometimes backfire due to motivated reasoning (Nyhan and Reifler 2010). Through this process, negative information about candidates can sometimes render them more likeable (Redlawsk 2002), and it appears to take a large amount of corrective information to override initial perceptions (Redlawsk, Civettini, and Emmerson 2010). So, although additional information about a poll's methodological quality should increase confidence in the credibility of the results, individuals – especially those most knowledgeable - could also use this information as a basis for arguing against the poll's conclusions (cf. Lodge and Taber 2003). Hence, I investigate the effect of methodological details as a research question as details can both enhance or reduce motivated reasoning.:

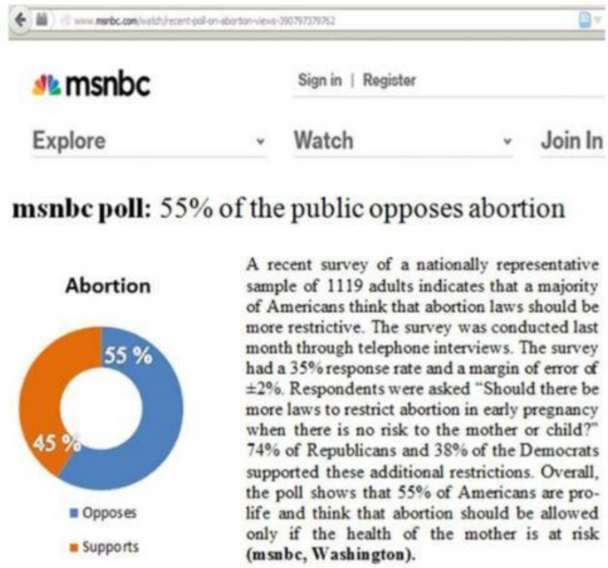
RQ1: Do presence of methodological details increase or decrease motivated reception of public opinion polls?

Methods

The data for the test of methodological details is part of the first empirical study reported in Chapter 2. In this experiment, aside from results of polls and the source of media reports, I had also manipulated whether news reports had adequate methodological details or not. Hence, the respondents actually had two different versions of the hypothetical stories in terms of absence of presence of methodological details. Note that the results reported in Chapter 2 controlled for this effect, but did not test the theorized moderation effect, which is RQ1 here.

Figure 14. Example news story examples





Detail Manipulation. Respondents in a detailed condition received information about the poll's margin of error, sampling mode, sample size, subsample statistics, response rate, and question wording. Respondents in a no detail condition were only provided with the proportion of Americans who held each attitude according to the poll. (Coding: detail:1, no-detail:0; Online Appendix G).

RQ1 was investigated by interacting disagreement and knowledge with the experimental condition of methodological details.

Results

The detailed reporting manipulation did nothing to either strengthen or mitigate motivational effects (RQ1; Table 14, column 5; F=.67, df=3, p=.57, Figure 15). The disagreement and knowledge interaction was robust against moderation by any of these factors (See Online Appendix I).

However, methodological knowledge appeared to moderate the effects of the methodological detail manipulation on credibility. Without controlling for the detail manipulation, there was a significant interaction effect of methodological knowledge and disagreement on credibility (b=-.10, s.e.=.04, p<.05; Table 15, column 1). When all other variables are at their mean values, this indicates a predicted difference of 10 percent of the range of credibility scores. In the 3-way interaction model, there was an interaction approaching significance between methodological knowledge and detail manipulation (b=.10, s.e.=.06, p=.08; Table 15, column 2; Figure 16A). This indicates that when a respondent disagreed with a poll and was knowledgeable about poll methodology, the presence of detail did not matter; and credibility was discounted in line with their motivations. However, when a respondent was in agreement with the poll, for those who were methodologically sophisticated, the credibility of detailed polls tended to be higher than those without detail (RQ1; Figure 16B). This means that the difference between those who agreed and disagreed with polls were slightly larger when details were presented.

Table 14. Predicting the Perceived Credibility of Poll Reports on Gun Control

	Baseline Model		**Knowledge Effects Model**		**Detailed Reporting**	
	Coef.	se	Coef.	se	Coef.	se
Disagreement	-.14 ***	.02	.00	.03	-.02	.05
Disagreement X Political Knowledge			-.26 ***	.06	-.26 **	.08
Disagreement X Detail					.04	.07
Political Knowledge X Detail					.05	.08
Disagreement X Political Knowledge X Detail					-.01	.11
Intercept	.46 ***	.03	.40 ***	.03	.42 ***	.04
Source Manipulation (1=Fox News)	-.01	.01	-.01	.01	-.01	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.01	.01	-.05	.05
Result Manipulation (1=Majority Support)	-.05 **	.02	-.06 ***	.02	-.06 ***	.02
S-I Consonance	.02	.01	.01	.01	.01	.01
S-M Dissonance	.00	.01	.00	.01	-.01	.01
Poll Interest	.37 ***	.03	.37 ***	.03	.37 ***	.03
Political Knowledge	-.12 ***	.03	.00	.04	-.02	.05
N	1205		1205		1205	
R-square	.18		.19		.19	
F Test (df)	-		21.06*** (1)		.67 (3)	

Notes. ** denotes p value lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model. See Online

Appendix M for the models that control for age, sex, race, education, income, political interest, and ideology. See Online Appendix N for the models that exclude poll interest.

Figure 15. Methodological detail interaction with political knowledge

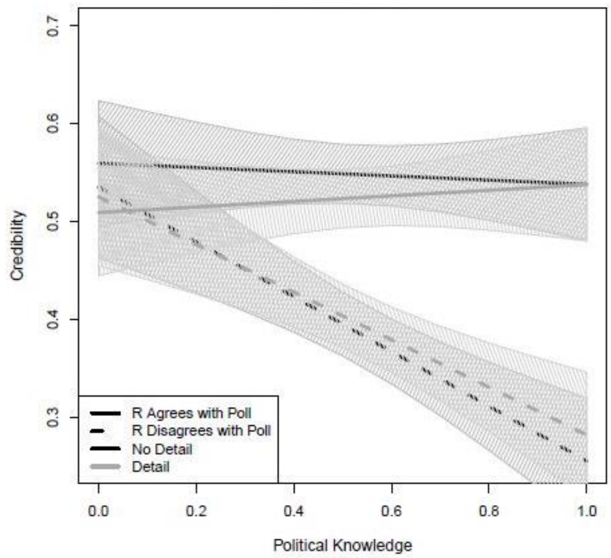


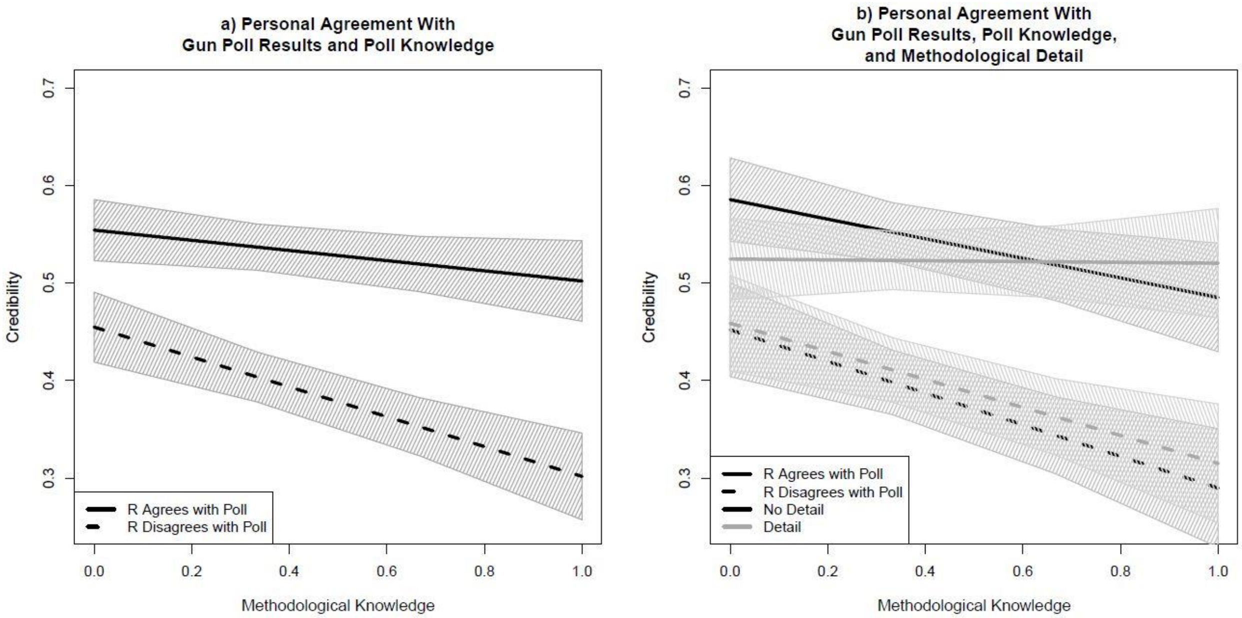
Table 15. Methodological Knowledge and Detailed Reporting Analysis for Predicting the Perceived Credibility

	Knowledge Effects Model		**Detailed Reporting**	
	Coef.	se	Coef.	se
Disagreement	-.10 ***	.02	-.13 ***	.03
Disagreement X Methodological Knowledge	-.10 *	.04	-.06	.06
Gun Disagreement X Detail			.07	.04
Methodological Knowledge X Detail			.10 +	.06
Disagreement X Methodological Knowledge X Detail			-.08	.08
Intercept	.42 ***	.02	.45 ***	.03
Source Manipulation (1=Fox News)	-.01	.01	-.01	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.06 *	.03
Result Manipulation (1=Majority Support)	-.05 **	.02	-.05 **	.02
S-I Consonance	.03 +	.01	.03 +	.01
S-M Dissonance	.00	.01	-.01	.01
Poll Interest	.36 ***	.03	.36 ***	.03
Methodological Knowledge	-.05 +	.03	-.10 *	.04
N	1208		1208	
R-square	.19		.19	
F Test (df)	-		1.61 (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model. See Online

Appendix M for the models that control for age, sex, race, education, income, political interest, and ideology. See Online Appendix N for the models that exclude poll interest.

Figure 16. Methodological Knowledge Interaction for Gun Control. Plot represents the predicted credibility levels by interaction terms for a respondent whose response to all other variables is at their mean value. Shaded area represents 95% confidence intervals.



Summary of Results

RQ1: Details mostly did not matter. If anything, there was suggestive evidence that details might increase biased processing of respondents with greater methodological knowledge.

Discussion

Results assessing the influence of details in poll reporting are somewhat discouraging. Although the transparent presentation of results is a normative good in and of itself, it appears that such transparency might not translate into increased poll credibility. Suggestive evidence that details may raise credibility among methodologically knowledgeable individuals who agree with the poll results implies that such details may not be entirely irrelevant, but it appears that they may enhance, rather than mitigate, the effects of motivated reasoning. Given that most poll reports disclose the summative finding from a poll in their headline/title, it is likely that motivational processing is triggered early and dominates the rest of the readers' engagement with the news story, thus amplifying biased perceptions even more (see Andrew 2007). Nonetheless, the effects of methodological detail merit further research.

Although the detailed reporting conditions in this design were all indicative of adequate methodology, it is unclear whether respondents would have been aware that this was the case. It would thus be valuable in future studies to assess respondent perceptions of methodological quality as a separate construct. Future research should also manipulate the objective quality of the polling methods reported (such as comparing a representative poll with a 25% response rate to a non-representative poll with a 5% response rate).

Empirical Study 2: Contextualized Reporting with More Data and Theoretical Information

Introduction

How do ordinary news consumers react to aggregated polling reports on public opinion? Aside from traditional polls, among different metrics of public opinion, especially in the election contexts, polling averages dominate the news coverage. What distinguishes polling averages from other distinct metrics of public opinion reports is that they provide clearly more reliable evidence because they provide a summative statistic about many of the same things (polls). These aggregated metrics provide more reliable results as they cancel out individual polls' biases and limitations by averaging all available evidence (Jackson, 2005). In turn, journalists increasingly refer to polling-average results when they report new singular poll findings.

Moreover, journalists and experts explicitly point out that people should look at polling averages in news reports and on data journalism sites (e.g. Silver, 2012; 2016; Jackson, 2016; Cohn, 2016). News reports listing differing results from the most recent surveys and presenting a summative average score representing the trend also provide a more nuanced and contextualized representation of public opinion to the news readers. Such reporting, in turn, could lead to more rational engagement with public opinion evidence. As findings in Chapter 1 show, people tend to discredit unfavorable poll results, hence polling average stories with more contextualization and evidence could mitigate motivated reception of the evidence.

A More Contextualized News Coverage: Providing Polling Averages. With increased computation in the public opinion industry, digitalization of news coverage, and popularization of data journalism platforms, the media coverage of public opinion polls increasingly relies on polling aggregations (Traugott, 2009). Polling averages started to get popularized especially in election coverage, where there are many polls, but they are also increasingly incorporated into issue and approval rating coverage as well.[42] Outlets such as FiveThirtyEight, Pollster, RealClearPolitics, CNN Poll of Polls, and the New York Times Upshot provide instantly-updated polling averages by pooling all available results. These reports typically show both the list of original poll results and an average metric summarizing the recent trend. Other news platforms also source polling averages from the data journalism platforms' in their news reports when they cover the election, a policy issue, or provide the results of a new poll. This helps to contextualize the results of new singular poll findings. As Cox and Katz (2016) point out:

> *"We think a quantitative forecast can help people to take a step back from obsessing over the latest daily poll release. By averaging polls together and arriving at a probabilistic forecast, the aim is to help people take a more nuanced view of the campaign, one that is less driven by whatever the latest polling number happens to be, and instead summarizes all of the available evidence, with the context of history."*

This increased focus on polling averages is a positive development in news coverage, because polling averages are methodologically better. There are many polls with differing results

[42] For example, see HuffPost Pollster's polling average tracking of public views on Obama health care law - http://elections.huffingtonpost.com/pollster/us-health-bill

and varying levels of methodological robustness. Hence, by averaging all available results, polling averages provide more reliable estimates by cancelling out biases and other methodological contingencies associated with individual polls (e.g. Jackman, 2005; Hillygus, 2011; Pasek, 2015). Hence, pundits and journalists highlight the value of looking at polling averages (e.g. Silver, 2016; Jackson, 2016; Cohn, 2016).

While media outlets increasingly integrate polling averages and experts promote them openly, how ordinary individuals evaluate polling averages is not known. Given findings documenting partisan biases in perceptions of individual public opinion polls in Study 1, whether individuals are responsive to higher quality of aggregated evidence is important. Recognizing that polling averages provide a stronger set of evidence, individuals might be less susceptible to motivated reasoning.

Although people are not interested in and knowledgeable about details of polling (Traugott and Kang, 2000), there are two major reasons that they may be responsive to the stronger methodological quality of polling averages. First, the simple logic of aggregation is part of everyday life. People engage in gathering evidence from multiple sources in simple decisions such as shopping (i.e. checking prices to see the market value). Second, the ways that experts openly promote looking at polling averages could resonate with citizens.

H1a: Thanks to a more nuanced and contextualized reporting with aggregated evidence, news readers will perceive polling averages to be more accurate than individual poll results

H1b: The effect observed in H1a will be especially strong when the logic of aggregation is explained.

People process evidence of public opinion in biased ways and nurture their skewed perceptions of public opinion (cf. Nir, 2011; Tsfati, 2015). I expect to replicate findings in the previous empirical study:

H2a: Unfavorable results will be discredited to some extent in both polls and polling averages.

H2b: Unfavorable polling average results will be discredited more than favorable ones whether or not they have explanations of the logic behind averaging.

Above and beyond this bias, polling averages might still serve as a strong informational corrective against partisan processing of public opinion evidence. Compared to singular poll findings, in the case of polling averages, individuals might be less susceptible to partisan evaluations. Aside from acknowledging polling averages as a stronger set of evidence, the very fact that polling averages include singular polls from diverse sources (different media outlets and pollsters), hence a more contextual and nuanced reporting of evidence might especially inoculate against accusations of bias.

H3a: Individuals will engage in less motivated reasoning, not dismissing unfavorable results coming from polling averages as much as those coming from singular poll results.

H3b: This reduction in bias will be more evident if the logic of polling aggregation is explained.

Finally, individuals might vary in the extent to which they evaluate polling averages. According to motivated reasoning theory, those individuals who are more sophisticated engage in more biased processing (Taber and Lodge, 2013; Kahan et al.,2013; Miller, Saunders, Farhart, 2015). Individuals with greater issue-related political knowledge and poll methodology knowledge discredit unfavorable issue polls disproportionately more, as shown in the previous empirical studies. Yet, recent research shows that most sophistication constructs do not correlate well (Låg et al., 2014) and they have distinct influence on motivated assessments (Pasek and Weeks, 2017). In this study's data collection, I was able to test three different sophistication variables. The three constructs range in their specificity in terms of their relation to the respondents' perceived credibility. [43] This allows me to replicate previous findings and compare different sophistication constructs in terms of whether their influence on perceived credibility of polling evidence is similar. Hence, I expect:

H4a: Individuals with greater education will engage in more biased processing.

H4b: Individuals with greater methodological knowledge will engage in more biased processing.

H4c: Individuals with greater election-related political knowledge will engage in more biased processing.

Methods

Data. The data were collected online through Qualtric between June 27 and June 30, 2016. The response rate was 10% and the total sample size was 1288. Qualtrics subcontracted to Survey Sampling International and Research Now, who sample from large online panels of survey participants (cf. Baker et al., 2010).

Procedure. I designed a survey experiment in the context of the 2016 US. Presidential election in which respondents were randomly assigned to one of the experimental conditions in which they read hypothetical news stories that included polling results. After the treatment, respondents provided their reactions in a series of questions, and then proceeded to a second round

[43] While education level is the most general one, election related political knowledge is more closely related to individuals assessments of polling evidence, and their methodological knowledge about polling is the most specific one.

of manipulation and questions before being debriefed. The empirical report focuses on only one set of results, those concerning at *time 1 (the first round of news stories and respondents' reactions to them)*; the rest of the tests are beyond the scope of this manuscript's topic.[44] All design details, manipulations, and analyses were preregistered at Evidence in Governance and Politics, ID #s 20160628AA.

Manipulations. I manipulated polls' results to show either Clinton or Trump in the lead, either in the form of a single poll or a polling average, and half of the polling average stories included a journalistic explanation about the logic of polling averages and why individuals should rely on them. See Appendix AF for the full combination of experimental conditions and the hypothetical news stories.

Table 16. Manipulation combinations

	Substantive Result	Report Type
Condition Set 1	Clinton ahead	singular poll
Condition Set 2	Clinton ahead	polling average
Condition Set 3	Clinton ahead	polling average with explanation
Condition Set 4	Trump ahead	singular poll
Condition Set 5	Trump ahead	polling average
Condition Set 6	Trump ahead	polling average with explanation

Note. For more detailed manipulation conditions, see the preregistration details in Appendices for Empirical Study 2 in Chapter 3

Outcome variable. Perceived credibility of the polling report is tapped by three items asking about its accuracy, trustworthiness, and informativeness which are then averaged into an index of perceived credibility. Accuracy was asked "How accurate do you think this *polling average* is in representing the public support for each of the candidates in this election?" with five response options "Not accurate at all", "Slightly accurate", "Somewhat accurate", "Very

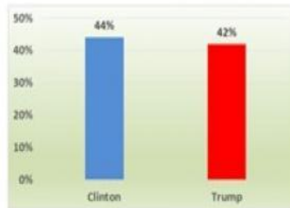
Figure 17. Hypothetical stories (top: singular; bottom: polling-average)

[44] The *time 2* manipulations were designed to measure order effects and belief updating, but also had some design flaws.

Poll Shows Clinton is ahead of Trump by 2 points

by Jordan Smith

Washington. Now that Hillary Clinton and Donald Trump are their parties' respective nominees, it is time to start paying attention to who is going to win in the Fall.



If the most recent poll by *Ipsos* is any indication, it appears that Hillary Clinton may be our next President. She was leading in the poll by 2 percentage points, with 44% of voters reporting that they would support Clinton, 42% favoring Trump and the rest were undecided.

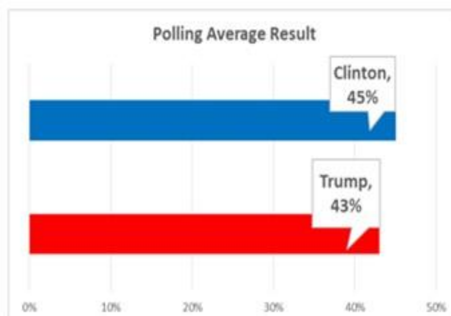
The poll was conducted from June 16th to 19th, had a sample size of 989 and a margin of error ±3%.

Polling Average Shows a Clinton Lead

by George Jackson

Washington. In our latest average of recent polls, Hillary Clinton appears to have the lead over Donald Trump. All but one of the most recent polls found that Clinton was leading and her average lead was 2 points.

The polling average summarizes five different individual polls that were conducted over the last week. When putting these results together, we find that Clinton has the support of 45% of likely voters compared to 43% for Trump. Remaining voters were either undecided or said they would support a third party candidate. Although a two-point lead may not seem like much, this kind of lead in the polling average is a strong suggestion that Clinton would indeed win if the election were held at this stage of the campaign.



Polling experts recommend looking at the average of recent polls instead of individual poll results. This is because each individual poll is associated with some error, but a polling average can reduce the size of those errors.

The polling average was conducted by taking the average of all polls reported in national media from June 15th to June 22nd. The margins of error and other methodological variations between the polls are considered when computing the polling average. The results of the individual polls are presented below.

Polling Firm	Support Trump	Support Clinton	Sample Size	Margin of Error	Difference between candidates
Langer Research	43%	46%	977	±3%	Clinton leads by 3%
SurveyUSA	46%	44%	1012	±3%	Trump leads by 2%
Morning Consult	44%	45%	1101	±3%	Clinton leads by 1%
ARG	41%	47%	1079	±3%	Clinton leads by 6%
Ipsos	42%	44%	989	±3%	Clinton leads by 2%
Polling Average	**43%**	**45%**	**5158**	**1.4%**	**Clinton leads by 2%**

accurate", "Extremely accurate". For full question wording for other items and other questions, see Appendix AG. The three items of the outcome variable had high reliability (α= .97) and were combined into a credibility index. I ran analyses with this index, but results also separately replicate with individual items as well.

Voting intention. At the beginning of the study, the respondents were asked, "If the election for President were held today and the candidates were Donald Trump, the Republican, and Hillary Clinton, the Democrat, for whom would you vote - or wouldn't you vote?" and the response options were "Hillary Clinton," "Donald Trump," "Some other person," "Would not vote." The order for the first two options was randomized.

Unfavorable result. To build a single bias predictor variable and reduce the number of interaction terms, I re-coded the voting intention variable in relation to the polling result each respondent saw to index an unfavorable result. For example, a Trump voter receives 0 if they are assigned to a news story with a favorable polling outcome for Trump, and 1 if the respondent encounters an unfavorable polling outcome for Trump, and vice versa for the Clinton case.[45]

Sophistication variables. After the manipulations, respondents also answered questions about their education level, 2016 election related political knowledge, and methodological knowledge about poll.

Education was asked as "What is your education level?" with 11 response options ranging from "No schooling completed" to "Doctorate degree," and was recoded into four categories "High school and less," "Some college or less," "College degree," and "More than college degree."

[45] As an alternative measurement of perceived bias, I also computed the unfavorable result variable by using respondents' party identification. I tested this because due to respondents who chose "Some other person" and "Would not vote", I lost 73 respondents when I use voting intention. Nevertheless results did not change.

A political knowledge battery asked six election-related knowledge items. For example, one item asked "Who was the Iowa caucus winner for the Republicans?" with response options "Donald Trump" and "Ted Cruz." Each question had two response options, one true and one false. The scores in six questions were averaged into an index.

A methodological knowledge battery asked four questions designed to test the respondent's knowledge about polling methodology. For example, one item asked "Assuming all other characteristics are the same, which of the following poll results would you be most confident represents a candidate who is supported by a majority of people?" with four response options that were "When the candidate got 47 % support, with a 2 % margin of error", "When the candidate got 51 % support, with a 2 % margin of error", "When the candidate got 54 % support, with a 2 % margin of error", and "Both 2nd and 3rd options show that the candidate is being supported by the majority".[46]

Analytical procedures. I conducted OLS regressions to predict the perceived accuracy of polling reports. The models included the bias predictors and sophistication variables in the interaction analyses. Note that conditions had slight differences in terms of the exact polling results. These differences were intentionally included to create small variability and to replicate another study by Rothschild and Malhotra (2014) looking at the influence of the level of magnitude in polling results. The conditions that are compared in each test were pre-registered prior to data collection, so this variability does not constitute a problem. Moreover, the results did not change when I tested the different set of conditions separately.

Results

[46] Reliability was low for both political knowledge (α= .18) and methodological knowledge (α= .32). This low score is not a problem given that it is a predictor variable and has no underlying construct dimension. Also, for an unrelated analysis beyond the scope of the current manuscript, I also asked about respondents' certainty of their response after they answered knowledge items.

Across the board, individuals tended to recognize polling averages as slightly more credible. I find that viewing results from a polling average as opposed to singular poll report led to slightly higher perceived credibility (b=.04, se=.02, p=.02, Table 17, Column 1), controlling for whether the respondent's preferred candidate is leading or not. This finding provides evidence in support of **H1a**. Among polling aggregation stories, however, there was no moderating influence of the explanation of logic behind polling averages across the board (b=-.04, se=.03, p=.21, Table 18, Column 1; not supporting **H1b**).

While respondents tended to distinguish between polling averages and polls in their evaluations of credibility, they consistently displayed partisan bias based on the results of these reports. When they encountered reports with unfavorable results, suggesting their preferred candidate losing, there was a strong reduction in the perceived credibility of the report as opposed to the credibility conferred to a report that included favorable results (b=-.14, se=01, p<.001, Table 17, Column 1). This supports **H2a.** Among the polling average stories, this bias persisted despite the explanation of the logic behind polling averages as well (b=-.13, se=.03, p<.001, Table 18, Column 1; **H2b** supported).

Across the board, providing results in polling averages as opposed to singular polls did not reduce individuals' motivational bias. There was no interaction between favorability and report type (b=.01, se=.03, p=.73, Table 17, Column 2) and between favorability and journalistic explanation about polling averages (b=.05, se=.06, p=.34, Table 18, Column 2). These findings do not lend support to **H3a** and **H3b**,

Although individuals evaluated polls in partisan ways, there are some differences among them based on their sophistication levels – only in the case of education levels. When results of

Table 17. Perceived Credibility of Polling Reports by Favorability of Results, Report Type, and Sophistication Measures

	Baseline Model 1		Baseline Model 2		Education Model		Election Knowledge Model		Methodological Knowledge Model	
	Coef.	se	Coef.	se	Coef.	se	Coef.	se	Coef.	se
Intercept	.47 ***	(.01)	.47 ***	(.01)	.48 ***	(.02)	.62 ***	(.06)	.52 ***	(.03)
Unfavorable result	-.14 ***	(.01)	-.14 ***	(.02)	-.10 ***	(.03)	-.04	(.08)	-.14 ***	(.03)
Report Type (polling average=1)	.04 *	(.02)	.03	(.02)	.04	(.04)	.10	(.10)	.08 †	(.04)
Education					-.02	(.04)				
Election knowledge							-.21 **	(.08)		
Methods knowledge									-.10 *	(.05)
Unfavorable X Report type			.01	(.03)	-.09	(.05)	-.18	(.13)	-.06	(.06)
Unfavorable X Education					-.10	(.06)				
Unfavorable X Election knowledge							-.13	(.10)		
Unfavorable X Methods knowledge									.00	(.06)
Report type X Education					-.02	(.07)				
Report type X Election knowledge							-.09	(.13)		
Report type X Methods knowledge									-.10	(.08)
Unfavorable X Report type X Education					.25 *	(.11)				
Unfavorable X Report type X Election knowledge							.26	(.17)		
Unfavorable X Report type X Methods knowledge									.14	(.11)
N	1031		1031		1004		1017		1013	
R-square	.08		.08		.09		.12		.10	

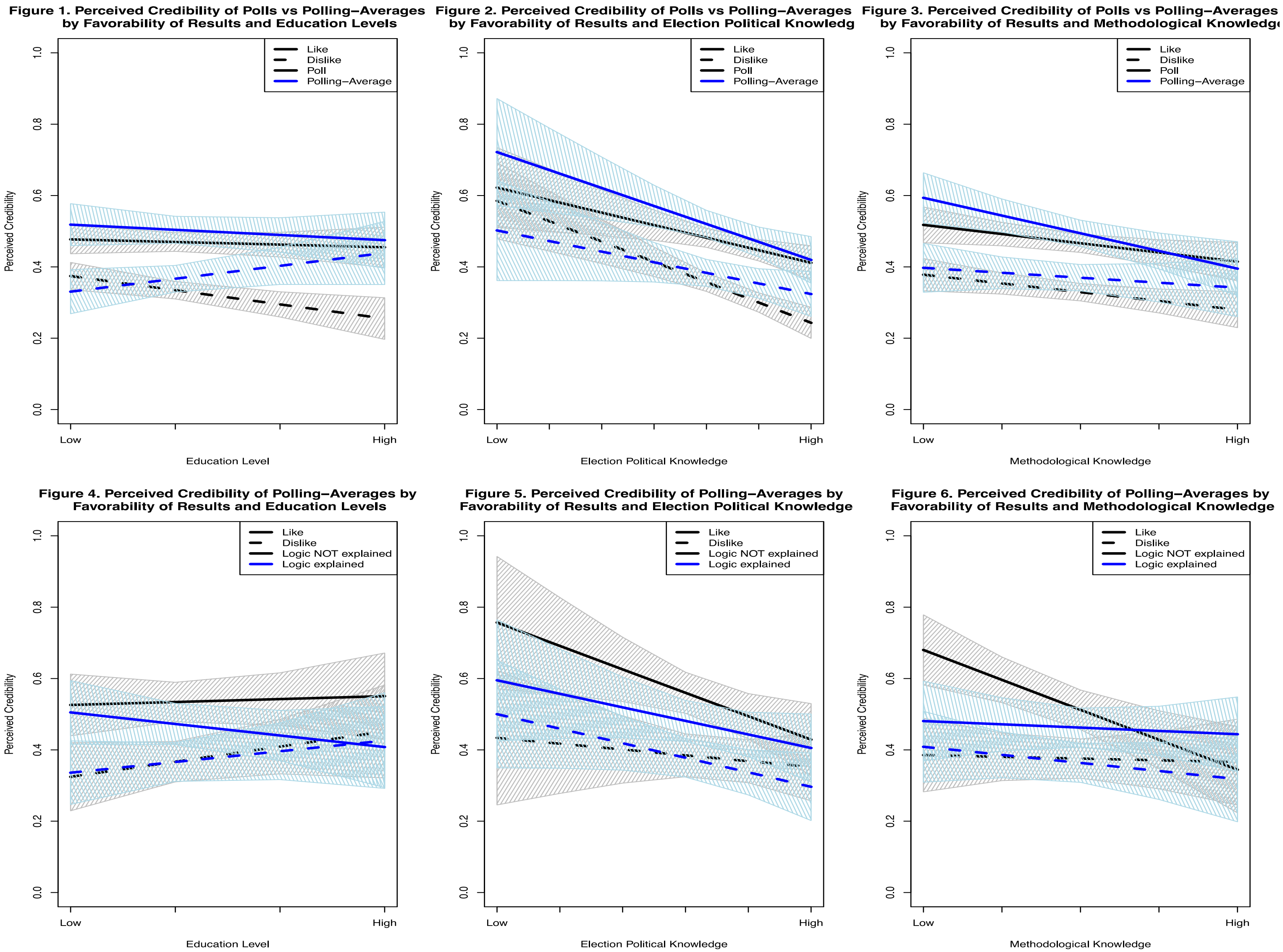
Note. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table 18. Perceived Credibility of Polling Reports (Polling-Averages only) by Favorability of Results, Explanation of Logic, and Sophistication Measures

	Baseline Model 1		Baseline Model 2		Education Model		Election Knowledge Model		Methodological Knowledge Model	
	Coef.	se	Coef.	se	Coef.	se	Coef.	se	Coef.	se
Intercept	.52 ***	(.02)	.53 ***	(.03)	.52 ***	(.07)	.82 ***	(.12)	.68 ***	(.05)
Unfavorable result	-.13 ***	(.03)	-.15 ***	(.04)	-.24 *	(.10)	-.37 *	(.17)	-.29 ***	(.07)
Explanation of logic	-.04	(.03)	-.06	(.04)	.02	(.10)	-.19	(.16)	-.20 **	(.08)
Education					.01	(.03)				
Election knowledge							-.39 *	(.16)		
Methods knowledge									-.34 ***	(.10)
Unfavorable X Explanation			.05	(.06)	.00	(.15)	.28	(.23)	.22 *	(.11)
Unfavorable X Education					.03	(.04)				
Unfavorable X Election knowledge							.30	(.23)		
Unfavorable X Methods knowledge									.32 *	(.14)
Explanation X Education					-.04	(.04)				
Explanation X Election knowledge							.17	(.22)		
Explanation X Methods knowledge									.30 *	(.14)
Unfavorable X Explanation X Education					.03	(.06)				
Unfavorable X Explanation X Election knowledge							-.31	(.30)		
Unfavorable X Explanation X Methods knowledge									-.37 †	(.19)
N	327		327		317		321		320	
R-square	.07		.07		.08		.11		.11	

Note. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Figure 18. Interaction Plots for Different Sophistication Moderators



polls and polling averages are favorable, there is no variance in credibility assessments, as respondents are not motivated to counter-argue against the credibility of the message, and there is no influence of differing education levels. Yet, when results are unfavorable, respondents discredited individual poll stories even more (b=.25, se=.11, p=.02, Table 17, Column 3; supports **H4a**). On the other hand, respondents with higher education levels conferred more credibility to polling averages, as opposed to singular polls, even when their results were unfavorable. High education respondents treated unfavorable and favorable polling averages similarly, which lends strong support for **H4a** while at the same time showing a mitigation of bias in the case of polling averages. This interaction is illustrated in Figure 18.1 in which the line representing the perceived credibility associated with polling average reports that present unfavorable results increased with higher education as opposed to the evaluations of singular polls.

However, I did not find similar results for respondents with higher election-related political knowledge (b=.26, se=.17, p=.14, Table 17, Column 4) and higher methodological knowledge about polling (b=14, se=.11, p=.22, Table 17, Column 5). As seen in Figures 3.2 and 3.3 respectively, although there seems to be some similar trends for polling averages, results are not significant.

Among polling average stories, respondents' sophistication levels did not alter their biased assessments in relation to explanation of logic behind aggregating. There was no moderation by respondents' education levels (b=.03, se-.06, p=.65, Table 18, Column 3; Figure 18.4) and election related political knowledge (b=-.31, se=.30, p=.30, Table 18, Column 4; Figure 18.5). However, the methodological knowledge about polling seemed to have an influence on respondents' responsivity to the journalistic explanation of aggregation logic, with only marginal significance (b=-.37, se=.19, p=.06, Table 18, Column 5). As seen in Figure 18.6, when respondent encountered unfavorable results, their perceived credibility did not change at all in relation to their methodological knowledge and the presence of a journalistic explanation, and the credibility difference between favorable and unfavorable polls seems to shrink when the logic explanation is included.

Summary of Results

H1a: Confirmed – News readers perceive polling averages to be more accurate than individual poll results.

H1b: Not Confirmed – There was no moderating influence of the explanation of logic on the credibility of polling averages.

H2a: Confirmed – Unfavorable results were disproportionately discredited no matter they came from singular polls or aggregations.

H2b: Confirmed – Unfavorable polling average results will be discredited more than favorable ones regardless of whether they include explanations of the logic or not.

H3a: Not Confirmed – Polling averages did not reduce biased processing overall.

H3b: Not Confirmed – Explanation of the logic in polling average did not reduce biased processing overall.

H4a: Not Confirmed – Respondents with greater education had less biased evaluations if the report type was a polling average instead of a singular poll.

H4b: Not Confirmed – Methodological knowledge did not have a moderating effect (did not reduce or increase biased processing).

H4c: Not Confirmed – Election related political knowledge did not have a moderating effect (did not reduce or increase biased processing).

Discussion

People generally find polling averages more credible than singular polls, although this difference is rather small. More importantly, individuals discredit quantitative evidence about public opinion, regardless of whether it comes from polls or polling averages. However, for high education respondents, I find that there is a mitigation of bias when they encounter aggregated evidence; yet this mitigation is not observed for election-related political knowledge and methodological knowledge. There seems to be no added benefit of a journalistic explanation about the logic of aggregation. These results together provide both a replication of motivated reasoning and new evidence about public perceptions of a new form of public opinion coverage.

The results underscore the strength of partisan evaluations of public opinion evidence and particularly the role of motivated reasoning. The finding that more educated respondents discredit unfavorable singular trial heat polls more strongly provides a replication for the Empirical Study 1 in the Chapter 2 that showed more issue-related politically knowledgeable respondents discredited unfavorable issue polls. In the current study, similar increased bias patterns, despite being insignificant, were observed for election-related political knowledge and methodological knowledge as well. Together, this set of findings add to the literature in related domains which challenges knowledge-deficiency models of public understanding of quantitative evidence (e.g. Kahan et al., 2013).

At the same time, I find a corrective potential of aggregation reports for biases in public perceptions, at least for highly educated respondents. Although high education respondents displayed stronger bias in singular poll evaluations, they recognized the higher quality of polling averages by not dismissing unfavorable poll averages as much as singular polls. This finding shows the value of aggregation and higher quality evidence in public opinion coverage and potentially when communicating other quantitative and scientific evidence to the public (cf. Nyhan et al., 2017).

At large, our findings highlight one particular problem that fuels skewed perceptions of public opinion and polarization in American politics. If individuals evaluate systematic evidence about public opinion in such biased ways, they will distrust pollsters, journalists, and politicians whom they think do not respond to their preferences (e.g. Chia and Chang, 2017). Such biased perceptions of polling evidence could, by extension, even fuel biases in perceived legitimacy of election outcomes (Manski and Delavande 2012) or similar other official statistics such as census results (e.g. Wines, 2017).

On the practical front, what should pollsters and journalists do? Although I find only modest effects, experts should emphasize such aggregated metrics when reporting singular new poll results. Moreover, the logic behind aggregation should be better explained, coupled with attempts to increase public polling literacy. To be more effective, journalists can provide these explanations in visually more salient and interactive information boxes in online news stories. As public opinion experts and scholars, our broader aim should be promoting a more nuanced and contextualized understanding of public opinion evidence to minimize partisan cherry-picking as much as possible.

A few limitations pave the road for future research. First, believability of the manipulations is an issue given that the data is collected during an election campaign. Second, while trying to design realistic news stories, I had variations in visual details and pictures of stories, which might reduce equivalence of stories (e.g. Noggle and Kaid, 2000). Yet, given that even the ideologically-slanted sources did not moderate biased perceptions of polls (Empirical Study 1 in Chapter 2), I expect such peripheral features to matter much less, and even if they influenced respondents, the balanced conditions should cancel out any systematic effect on our results. Third, the current study was pre-registered, but at the time of preregistration some theoretical and methodological ideas were not sufficiently developed, leading to some unclear hypotheses for the second part of the study (see preregistration details). In future experimental research, it might be useful to obtain peer feedback before preregistration, such as the peer review before data collection context organized by Lupia and Nyhan (2016).

Empirical Study 3: Expert and Partisan Commentaries in News Reports

Introduction

"It Wasn't the Polls that Missed, It Was the Pundits." (Trende, 2016)

Political communication scholars have long noted that polls – issue polls, horserace polls, approval ratings – have a central position in the communication of public opinion (Patterson 2005) and that an excessive focus on polls comes at the expense of substantive issue discussions (Capella and Jamieson, 1997). In particular, Chapter 2 documented that individuals disproportionately discredit polls and other metrics that show unfavorable results (see also Tsfati, 2001) and exhibit this bias more strongly with greater political sophistication but less with greater education.

Yet, aspects of the media presentation of polls have the potential to shape the interpretations of poll results and could thereby either mollify or exacerbate partisan biases. In today's cacophonous and polarized media ecosystem, there are many polls and a much larger body of competing interpretations of polling evidence. Poll findings reach ordinary citizens in the form of news reports, which usually include extensive punditry to produce more engaging stories and help readers make sense of the results (Brettschneider, Donsbach, and Traugott, 2008; Matthews, Pickup, Cutler, 2012).[47] In these reports, various pundits (e.g. academics, data journalists, polling

[47] Over the course of the 2016 election, I have collected more than 90 pre-election commentaries and op-eds debating the methods and information in public opinion reports (see the Appendix AH for Empirical Study 3 in

experts, or partisan representatives) weigh in on the quality of the evidence presented. And comments matter, because what pundits say might have more influence on people than the polls themselves (Trende, 2016). Given most individuals' lack of interest in and sufficient knowledge about polls (Traugott and Kang, 2000), pundits should presumably have an influence on how people process and interpret poll findings (cf. Bode & Vraga, 2017; Feldman 2011a). Specifically, objective expert commentaries focusing on the methodological quality of polls could help mitigate individuals' biases by highlighting their methodological robustness or weaknesses (cf. Dunwoody and Kohl, 2017). On the other hand, partisan commentaries or overall critiques of polls could instead bolster biases (cf. Suhay, Bello-Pardo, Maurer, 2018) due to their subjective nature.

In this study, I investigate how expert or partisan commentaries on the results of election polls shape individuals' evaluations of polls in the context of the 2016 U.S. presidential election. In an online pre-registered survey experiment on a nationally representative sample, I examine whether and how specific types of commentaries could have the potential to mitigate or amplify motivated reasoning in individuals' judgments. Specifically, I test the corrective influence of objective expert judgments about the methodological quality of polls, (2) the influence of general expert critiques about polls, and finally (3) the polarizing influence of subjective partisan commentaries on people's perceived accuracy judgments about polls.

I focus on expert comments in greater detail as they might serve as an important informational corrective. I investigate partisan comments and general critiques as counterfactuals to the corrective potential of expert comments and in order to increase the ecological validity in a news environment where there are so many partisan comments and attacks against public opinion evidence.

Chapter 3). This collection is based on a convenience sampling which was the result of my encounters in news outlets and search engine results.

How Punditry Can Influence Public Reception of Polls. Pundits' commentaries could have important and distinct influence on news readers' interpretations of poll results during horserace coverage. At the most basic level, we can expect individuals to confer credibility to what pundits say, because they are not much interested in and knowledgeable about details of polling (Traugott and Kang, 2000). However, previous research suggests that the influence of pundits' views would be more complicated, particularly interacting with individuals' motivational biases. As findings in Chapter 1 document, people are biased in their assessments. Hence, the influence of commentaries will likely depend on the favorableness of the poll results. More specifically, commentaries might increase or reduce partisan biases in processing of polls, and how this will play out should depend on the nature of the commentaries.

Expert Evaluations: Mitigating Biases or Backfiring? When the comments on polls come from experts who provide objective assessments of the methods and their limitations, individuals' motivational bias could be mitigated to some extent. For example, when an individual receives direct information that the poll they dislike has a robust methodology, their motivational discrediting of that poll could be reduced. A growing literature on fact-checking and corrective attempts against motivational biases documents that direct and explicit attempts to mitigate biases are sometimes effective, especially when polls vary greatly in their methodological quality (e.g. Fridkin, Kenney, & Wintersieck, 2015; Redlawsk, Civettini, & Emmerson, 2010). In science communication research, expert views on various issues influence the perceived accuracy of scientific claims (Dunwoody and Kohl, 2017; Bode and Vraga, 2017; Kohl et al., 2016; Lyons, 2017). Yet, corrections do not work in all situations. And such informational attempts can sometimes backfire (Nyhan & Reifler, 2010; Hart and Nisbett, 2012); although recent research shows that backfiring effects are rare (Nyhan et al., 2017; Guess and Coppock, 2017; Chan et al., 2017). The conditions under which corrective expert comments either mitigate or bolster individuals' partisan biases are thus unclear.

The effects of expert commentary had been previously studied in a related but different context where political pundits either provided strategy-frame or substantive issue-based comments (see Valentino, Beckmann, & Buhr, 2001). A previous review of election polls pointed at the importance of commentaries in media coverage because of the obfuscating nature of horserace coverage (e.g. Bartels & Broh, 1989).

When people encounter multiple polls as part of horserace coverage, the consistency of results should determine how individuals respond to expert comments. When respondents encounter polls with similar results and varying qualities, and an expert debunks the poor-quality poll, being told about the limitations of the poor-quality poll may trigger individuals to be more skeptical of the other (also unfavorable) poll as well (cf. Nyhan and Riefler, 2010; Nyhan et al., 2017).

H1: Expert commentary will enhance motivated reasoning for polls with consistent findings: respondents will probably discredit pairs of unfavorable polls.

When results are inconsistent, more elaboration in the form of a direct comparison of the polls is likely (c.f. Petty and Cacioppo, 1986). People should be more likely to focus on the reasons for the inconsistency; and experts' objective commentary, as a direct intervention, may provide a sensible explanation and a strong informational corrective.

H2: When results are inconsistent, expert commentary will reduce partisan bias.

That is, when respondents encounter an unfavorable poll result, they will be less likely to discredit the poll if there is an expert commentary highlighting its robust methodological quality and more likely to affirm it when the result is favorable.[48]

Finally, a general critique of polls might increase biased evaluations. As such critiques usually raise public awareness about the methodological issues and limitations of polling in general, it is likely that individuals might be more cynical (c.f. Capella and Jamieson, 1997).

> Hence, when individuals encounter an election poll which has an undesirable result (i.e. their candidate lagging), their heightened awareness of polling limitations in general – as primed by an expert debunking all polls – will be used as ammunition for selective discrediting of that poll **(H3).[49]**

The Polarizing Influence of Partisan Commentaries. In contrast to expert views, there are reasons to think that partisan commentary will amplify motivational biases. The overt persuasive nature of opinionated news has been shown to effect political attitudes (Boukes et al., 2014; Feldman, 2011c; Suhay, Bello-Pardo, Maurer, 2017), political learning (Feldman, 2011b), and perceptions of media bias (Feldman, 2011a) compared to non-opinionated straight news format. The attempts by partisans and campaign representatives to interpret poll findings could be perceived as manipulative by people who would question the impartiality of these sources (c.f. Chia and Chang, 2017; the hostile media effect). Thus, I expect that partisan commentary will enhance motivated reasoning and result in greater bias.

[48] The alternative possibility of a "backfiring effect" when people encounter inconsistent poll results, although less likely, deserves discussion. Given that one poll is of poor quality and there is an expert explicitly debunking that poll by directly explaining its methodological limitations, this expert view should be a very strong informational corrective and mitigate the respondents' tendency to discredit the unfavorable poll result that has a stronger methodology.

[49] This would constitute an increase in motivated discrediting, although not a backfiring effect, because such commentary is not targeted at a specific poll, but is on polls in general.

H4: That is, individuals will tend to regard a favorable poll result as more credible when that poll gets attacked by an out-partisan's commentary.

In sum, corrective expert comments on polls with consistent results and indiscriminate (overall) debunking as well as partisan comments to increase motivated reasoning while corrective expert comments on polls with inconsistent results should reduce individuals' tendency to engage in biased evaluations.

Finally, I investigate the moderating role of respondents' education levels on all of the expectations above; I expect that, in line with previous empirical studies (cf. Kahan et al., 2013):

H5: More educated respondents will be the most susceptible to motivational biases, as formal education gives them more ability to critique the methodological quality of polls.

Methods

This data constitutes the second part of the data of Empirical Study 2 of Chapter 2. The additional seven experimental conditions are explained below in detail, and other sections are kept as brief as possible. Please refer to the Empirical Study 2 of Chapter 2 for more detailed information about the variables.

Design. Each respondent encountered one news story that included two poll reports about the contest between Hillary Clinton and Donald Trump as candidates in the 2016 U.S. presidential election.

Data. An online survey-experiment was implemented through GfK as part of the Time-Sharing Experiments for the Social Sciences (TESS) Short Studies Program. The study was fielded from June 5 to June 20 2016, with 63.6% panel response rate and 2% cumulative response rate (CUMRR, Callegaro and Disogra, 2008). Total sample size was 2,078 in the 12 experimental conditions. Demographic composition details are in Appendix AI. The study was pre-registered at

EGAP- Evidence in Governance and Politics, ID #s 20160629AA <http://egap.org/> See Appendix AK for preregistration details. In this empirical study, the full sample is used, N=2,078.

Manipulated variables.

Twelve experimental conditions were used to test the hypotheses, each of which consisted of a news story with two recent election polls. The poll results (showing Clinton or Trump lead), methodological qualities of the polls (poor vs robust), and presence of commentaries about polls (objective expert, subjective partisan, and general critique of polls) were randomly manipulated.[50] The robust methodology poll was based on a representative sample, low margin of error, high response rate, etc. – as opposed to the details of the poor-quality poll. Corrective expert commentaries [tested on conditions where methodological quality varied as either poor or robust] objectively debunked the poll with poor methodology and praised the poll with robust methodology. The debunking of polls was tested on experimental conditions where polls were of equivalent quality in which an expert attacked polls in general by pointing to their common limitations and mentioning the recent election prediction failures. Partisan comments [tested on conditions where polls were of equivalent quality] came from campaign representatives who attacked one poll, in which the campaign representative's party lagged, as biased and endorsed one in which their candidate leads as a better metric. See Table 19 for all the combinations and the details, and Appendix AK for all versions of the manipulation stories.[51]

[50] (a) Due to the randomization and bipolar nature of the dependent variable (perceived relative accuracy), how manipulation stories' poll results compared to the body of actual poll results during the data collection time should not bias the results. (b) For the same two reasons, I was able to test our predictions without having full factorial design with a total of 12 experimental conditions.

[51] Each test relied on a specific comparison between multiple experimental conditions. As the condition 1 is compared against the combination of multiple conditions, it has been oversampled. These details have been preregistered as well.

Table 19. Design of the Experimental Conditions

Conditions	First Poll Details (KnowPolitics)	Second Poll Details (Public-Metrics)	Comment	Abbrev.	Sample Size	Used in the Analysis of H1	H2	H3	H4
C1	Clinton lead, high quality	Trump lead, high quality	None	DR	316	-	-	X	X
C2	Clinton lead, low quality	Clinton lead, high quality	None	dD	161	X	-	-	-
C3	Trump lead, low quality	Trump lead, high quality	None	rR	164	X	-	-	-
C4	Trump lead, low quality	Clinton lead, high quality	None	rD	158	-	X	-	-
C5	Clinton lead, low quality	Trump lead, high quality	None	dR	160	-	X	-	-
C6	Clinton lead, low quality	Clinton lead, high quality	Expert	dD-NP	160	X	-	-	-
C7	Trump lead, low quality	Trump lead, high quality	Expert	rR-NP	168	X	-	-	-
C8	Clinton lead, low quality	Trump lead, high quality	Expert	dR-NP	172	-	X	-	-
C9	Trump lead, low quality	Clinton lead, high quality	Expert	rD-NP	163	-	X	-	-
C10	Clinton lead, high quality	Trump lead, high quality	Partisan	DR-PN	140	-	-	-	X
C11	Trump lead, high quality	Clinton lead, high quality	Partisan	RD-PN	159	-	-	-	X
C12	Clinton lead, high quality	Trump lead, high quality	Expert	DR-NN	157	-	-	X	-

Notes. Explanation of Abbreviations: *D* (vs *R*) indicates a poll result showing the lead of Democratic candidate. Lowercase letters show poor methodological quality for that candidate, uppercases letters show robust methodological quality (for example rD shows a poor quality Republican leading poll and high quality Democrat leading poll). N is negative. P is positive.

Figure 19. Hypothetical news story example

Home Mail Flickr Tumblr News Sports Finance Celebrity Answers Groups

YAHOO! NEWS

poll 2016 presidential election

Search

Web

News

More

Clinton leads in one poll; Trump leads in another

By Jordan Smith

Washington. Recent polls have started to focus on Hillary Clinton and Donald Trump's electoral support at the national level as they are the two most likely candidates to compete in the general election. One poll by KnowPolitics suggests that Clinton is ahead of Trump, but another poll by Public-Metrics shows higher support for Trump than Clinton.

Clinton's ahead. In a poll conducted by KnowPolitics this week, 48% of respondents said they would vote for Clinton compared to only 44% for Trump, with the rest of respondents undecided. The margin of error for this result is ±6%. The poll was conducted with a set of online news consumers, and the response rate was 5%. The final sample size of the survey was 437 adults, with 175 Republicans, 189 Democrats, and 73 Independents.

Or maybe Trump is. But also this week, a poll by Public-Metrics reported that Trump would win the 49% of support in contrast to only 43% who support Clinton, the rest of respondents were undecided. The margin of error for this second poll is ±2%. The poll was conducted on a nationally representative sample of likely voters with a response rate of 21%. The final sample size of the survey was 1654 adults, with 611 Republicans, 678 Democrats, and 365 Independents.

Commentary. George Anderson, a polling expert affiliated with the National Council on Public Polls, cautioned against making conclusive judgments by relying on the results of the KnowPolitics poll that shows a Clinton lead. He pointed out that, "For one, the sample size is small, and it is not very representative. The margin of error in the KnowPolitics poll is large, so the finding that Clinton leads is not reliable." In contrast, Anderson praised the Public-Metrics poll showing a Trump lead. He said its results should be more reliable due to its higher quality on these methodological aspects.

Outcome variable. Perceived relative credibility of the two polls was measured with a single question: "Comparing the two polls directly, which poll do you think is more accurate in representing the public support for the likely candidates in this election?" with seven response options.

The other questions were party identification and education. See Empirical Study 2 in Chapter 2 for details.

Predisposition to disagree (with the poll result). To index the extent to which a poll result was unfavorable to each participant, I used the party identification variable that was available in the dataset as a proxy for support for each candidate (i. e. Democrats assumed to prefer Clinton leading polls).

Analytical Procedure. The research question and hypotheses are tested using interaction models in regressions. Nonresponse was negligible and did not vary by experimental condition.[52] Because the distribution of the dependent variable was not perfectly normal, I ran ordinal logit analyses as well. For ease of interpreting the interactions and plotting them, OLS results are presented in the text. See Appendix AL for the ordinal logit results, which were not different from the OLS. The results did not change when I employed the weights. When I controlled for the influence of political interest, our results did not change as well (Appendix AM).[53]

Results

Across the board, respondents discredited the polls that showed unfavorable results. This was true regardless of whether they encountered objective expert commentary (b=-.08, se=04,

[52] The distribution of refusals across the experimental conditions was homogeneous to a large extent, ranging from 3.5% to 5%. Only condition 10 had lower refusal rate than others (less than 1%, with only 1 respondent). For the outcome variable of election prediction, there was no outlier condition.

[53] I tested for the effect of political interest, because, political interest can influence respondents' attention to details in the poll reports, and hence their perceptions of accuracy.

p=.03, Table 20, Column 2), a critique of polls in general (b=-.18, se=.03, p=<.001, Table 20, Column 3), or subjective partisan commentary (b=-.18, se=.03, p=<.001, Table 21, Column 4).[54] There was some level of motivated reasoning in perceived credibility of polls regardless of the presence and nature of punditry.

Table 20. Predicting the perceived relative accuracy of the second poll (the higher quality one when the quality of polls is inconsistent)

	H1: Expert Comments on Consistent Results		**H2**: Expert Comments on Inconsistent Results		**H3**: Expert Debunking of Polls in General		**H4**: Partisan Comments on Inconsistent Results	
	Coef.	**se**	**Coef.**	**se**	**Coef.**	**se**	**Coef.**	**se**
Predisposition to Disagree (Disagree)	-.05	(.04)	-.08 *	(.04)	-.18 ***	(.03)	-.18 ***	(.03)
Commentary	-.02	(.03)	.03	(.03)	-.06 †	(.03)	-.08 **	(.03)
Disagree X Commentary	.07	(.05)	-.09 †	(.05)	.07	(.05)	.06	(.04)
Intercept	.46 ***	(.03)	.53 ***	(.03)	.60 ***	(.02)	.58 ***	(.02)
Education	.17 ***	(.03)	.13 ***	(.03)	-.02	(.03)	.02	(.02)
Conditions Included	C2, C3, C6, C7		C4, C5, C8, C9		C1, C12		C1, C10, C11	
N	626		628		451		590	
R-square	.07		.07		.09		.10	

Notes. Higher scores in the outcome variable represent second poll being perceived as more accurate compared to the first poll in all models; higher scores also represent greater perceived relative accuracy of the higher quality poll in H1 and H2. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. Conditions compared for Commentary variable: H1: C2+C3 vs C6+C7; H2: C4+C5 vs C8+C9; H3: C1 vs C12; H4: C1 vs C10+C11.

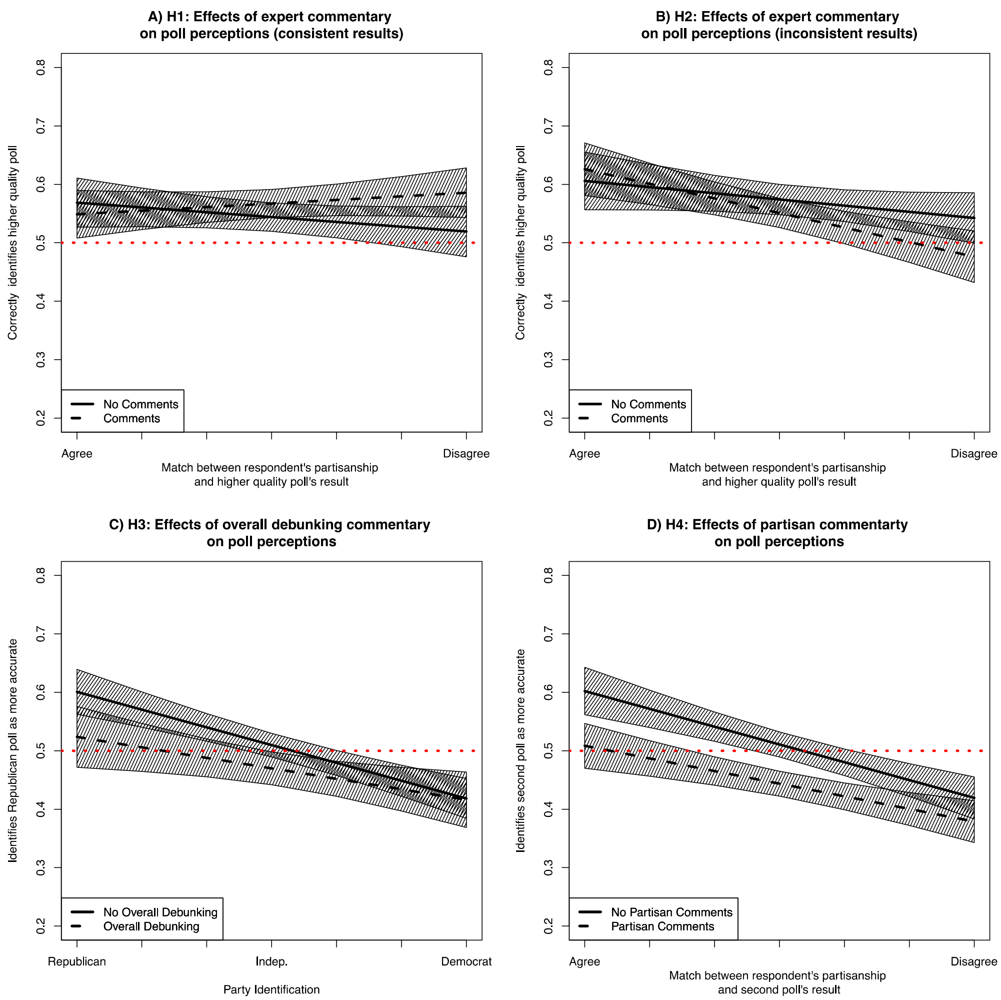
Overall, the provision of expert commentaries in the news stories, which highlighted the poll with better methodological quality and debunked the poll with poor methodological quality, did not change people's credibility judgments significantly (b=.07, se=.05, p=.15, Table 20, Column 1;Figure 20A).[55] I also examined Clinton-leading and Trump-leading polls separately, but the results did not change (Appendix AN).

[54] The predisposition to disagree coefficient is not significant in H1 model (Table 200, Column 1), because this analysis includes conditions in which polls results were the same, and our dependent variable - a bipolar item tapping relative credibility – cannot capture the bias. Those respondents who disliked both poll results could have selected the midpoint response option in the outcome variable (not differentiating between the polls).

[55] The inclusion of the interaction term (Disagreement X Expert on Consistent) did not improve the baseline model (without the interaction term) significantly, F(2, 621)=1.70, p=.18.

When presented with polls that had different results, expert commentary did not reduce the bias in perceived credibility either. Instead, if anything, it seemed to increase the bias against the unfavorable polls more than the case when there was no commentary at all, although this effect was only marginally significant (b=-.09, se=.05, p=.09, Table 20, Column 2).[56]Figure 20B represents this effect, where we can see a steeper slope (more bias) when there is expert commentary.[57]

Figure 20. Interaction plots for commentary moderations



[56] The inclusion of the interaction term (Disagreement X Expert on Inconsistent) did not improve the baseline model significantly, F(2, 623)=1.82, p=.16.

[57] To compare the influence of expert commentaries in polls with consistent and inconsistent results, I conducted an additional analysis which showed that expert commentaries worked to reduce biases significantly less when the results were inconsistent (b= -.20, se= .05 p< .001, Appendix AO).

On the other hand, overall debunking of polls by an expert seemed to result in less accuracy being conferred to the Trump-leading poll across the board (b=-.06, se=.03, p=.06, Table 20, Column 3). As seen inFigure 20C, especially for Democrats, the presence or absence of an overall polling critique did not make much difference. However, for Republicans, the overall critique decreased the inflated sense of credibility in the poll that showed Trump ahead when both polls had equal methodological quality.[58]

Contrary to what I expected, I did not find an across-the-board increase of partisan biases when respondents encountered partisan commentaries. When a partisan attacked the second poll in the news story, whether it was a favorable result or not, did not matter, and respondents discredited the second poll more than in the condition where there was no commentary (b=-.08, se=.03, p=.01, Table 20, Column 4). Respondents discredited unfavorable polls more when they were attacked subjectively by a partisan comment; yet, respondents' evaluations of favorable polls were also dampened if those polls were subjectively attacked in this fashion. This is an important across the board mean shift observable inFigure 20D.[59] However, the presence of partisan comments did not lead to an increase in the motivated discrediting for an unfavorable poll result more than in the one observed in favorable poll results (b= .06, se=.04, p=.20, Table 20, Column 4).[60]

Education Moderation. Education moderated most of the effects of commentaries in important ways. When the results of the two polls were consistent, there was a significant 3-way interaction between disagreement with poll result, presence of expert commentary, and education

[58] This suggestive Republican-Democratic heterogeneity in the effects is not statistically significant.
[59] Partisan commentary did not interact with disagreement, but this interaction improved the baseline model, F(2, 585)=6.92, p<.01.
[60] As an additional analysis, I examined the influence of Trump-favoring and Clinton-favoring commentators separately, and the results did not differ (Appendix AN).

level (b=.34, se=.15, p=.03, Table 21, Column 1). As seen in Figure 21A, highly educated respondents were responsive to the corrective expert commentaries. When there was no commentary, they exhibited strong biases; but when commentary was present, they recognized the better quality of the unfavorable poll just like the poll with the favorable result. For low education respondents, there was no effect of expert commentary and these individuals did not differentiate among polls as much. This finding shows that there is a significant and real effect of expert correctives, but it is only present for highly educated respondents. Additional analysis showed that this effect was mostly observed for Clinton-leading polls (Appendix AM).

When respondents encountered polls with inconsistent results, on the other hand, there were no significant effects of education (Table 21, Column 3). The interaction plot inFigure 21B suggests that less educated respondents were moving in the opposite direction of what experts promote, however this was not statistically significant.

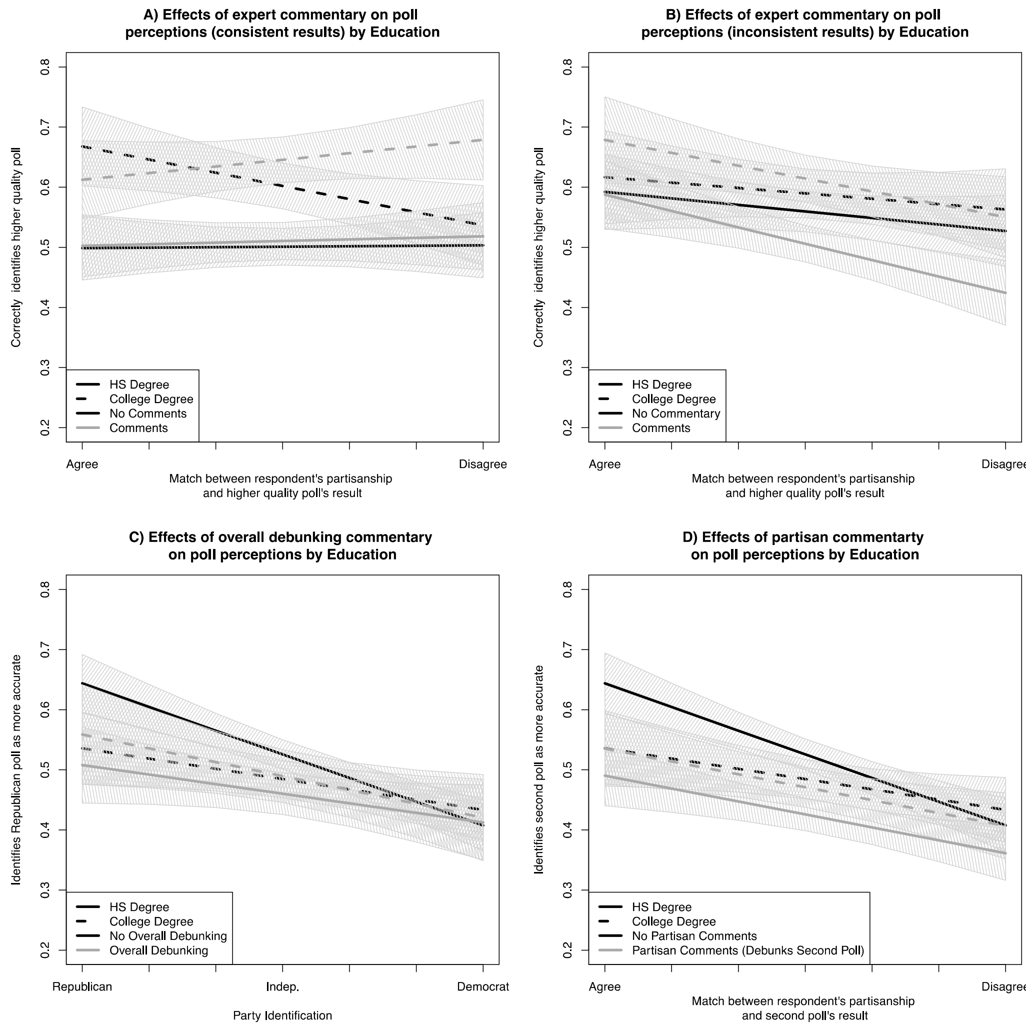
On the other hand, there was a significant three-way interaction between overall debunking of polls by an expert, predisposition to disagree, and education (b=-33, se=.16, p=.04, Table 21, Column 3). We can see that when I controlled for the education interaction, there was a significant interaction between predisposition to disagree and overall debunking commentary (b=.28, se=.11, p=.01, Table 21, Column 3). As seen inFigure 21C, overall debunking significantly lowered Republicans' sense of inflated credibility for Trump-leading polls. There was also an interaction between overall debunking and education (b=.24, se=.10, p<.05, Table 21, Column 3), showing that this reduction in the inflated credibility for favorable polls was only true for low educated respondents.

Table 21. Predicting the perceived relative accuracy of the second poll by education

	H1: Expert Comments on Consistent Results		**H2:** Expert Comments on Inconsistent Results		**H3:** Expert Debunking of Polls in General		**H4:** Partisan Comments on Inconsistent Results	
	Coef.	**Se**	**Coef.**	**Se**	**Coef.**	**Se**	**Coef.**	**Se**
Predisposition to Disagree (Disagree)	.30 ***	(.06)	-.06	(.08)	-.30 ***	(.07)	-.30 ***	(.07)
Commentary	.08	(.06)	.03	(.07)	-.21 **	(.07)	-.20 **	(.06)
Disagree X Commentary	-.13	(.11)	-.17	(.12)	.28 *	(.11)	.15	(.10)
Disagree X Education	-.27 *	(.11)	-.04	(.12)	.19 *	(.10)	.19 †	(.10)
Commentary X Education	-.15 †	(.09)	.00	(.10)	.24 *	(.10)	.19 *	(.09)
Disagree X Commentary X Education	.34 *	(.15)	.13	(.16)	-.33 *	(.16)	-.14	(.14)
			-	-	-	-	-	-
Intercept	.39 ***	(.04)	.54 ***	(.05)	.68 ***	(.04)	.68 ***	(.04)
Education	.12	(.07)	.11	(.07)	-.14 *	(.06)	-.14 *	(.06)
Conditions Included	C2, C3, C6, C7		C4, C5, C8, C9		C1, C12		C1, C10, C11	
N	626		628		451		590	
R-square	.08		.08		.10		.11	
F-change	F(3)=2.93†		F(3)=.85		F(3)=2.13†		F(3)=3.50*	

Notes. Higher scores in the outcome variable represent second poll being perceived as more accurate compared to the first poll in all models; higher scores also represent greater perceived relative accuracy of the higher quality poll in H1 and H2. F-tests compare the models to the corresponding baseline models reported in Table 20. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. Conditions compared for Commentary variable: H1: C2+C3 vs C6+C7; H2: C4+C5 vs C8+C9; H3: C1 vs C12; H4: C1 vs C10+C11.

Figure 21. Education interaction plots



When it comes to the effect of partisan commentary, highly educated respondents were unresponsive to partisans' subjective attacks; however, low-education respondents moved in the direction of the partisan comments (b=.19, se=.09, p=.03, Table 21, Column 4). As seen inFigure 21D, the effect of partisan comments was only present for less educated respondents. When a commentary from a co-partisan attacked an unfavorable poll, low education respondents discredited the undesirable poll more even though the poll was methodologically equivalent to the favorable result. Yet, when a commentary by an opposition partisan attacked a respondent's presumably favored poll result, the respondent's inflated sense of accuracy in that favored poll decreased as well.[61]

Finally, as an additional analysis, I examined all hypotheses on a second dependent variable, which is the respondents' expectations about the election outcome. I found strong bias in the expectations of respondents' favorable candidates winning, but none of the expert and partisan commentaries had any influence on electoral expectations (Appendix AP). This makes sense given that commentaries had little influence even on individuals' evaluations of polls.

Summary of Results

H1: Not confirmed – Expert commentary did not enhance motivated reasoning for polls with consistent findings.

H2: Not confirmed – When results are inconsistent, expert commentary did not reduce partisan bias.

H3: Not confirmed – There was no moderating effect of overall critique of polls.

H4: Not confirmed – There was no moderating effect of partisan commentary.

H5: Not confirmed – Generally education did not moderate these null findings. There was only one significant finding and it was in the unexpected direction. Those respondents with greater education levels responded to the corrective expert commentary in rational way, by not discrediting the unfavorable poll if the expert highlighted its methodological quality. But this was true only when poll results did not compete.

Discussion

I find that the extensive punditry linked to poll results has little influence in increasing or mitigating individuals' motivational biases. While people pick and choose which polls to believe

[61] Additional analysis showed that this effect was mostly observed when the partisan commentary came from a Trump campaign representative attacking the Clinton-leading poll (Appendix AN).

in, what commentators tell them seems to do little to influence individuals' focus on the favorability of the results. Specifically, expert commentaries serve to mitigate individuals' motivational biases, but these effects were limited to highly educated respondents and in competitive settings: where poll results differed, people remained attached to favorable poll results only. A general critique of polls also reduced the inflated sense of accuracy in Trump-leading polls among low education Republicans, although it is not clear how to interpret this finding. On the other hand, subjective partisan commentaries and overall debunking of polls seemed to influence less educated respondents, regardless of the favorability of the poll results. This set of findings reveals that pundit commentaries have a small and inconsistent influence on people's perceptions of polls and their subsequent electoral predictions.

Limited Effectiveness of Expert Comments. Expert commentaries can reduce motivated reasoning in poll perceptions. When an expert objectively explains to individuals which poll provides better evidence and lays out why by pointing out the methodological details that are presented in the news report, or when an expert attacks the limitations of polls in general, then individuals' partisan biases are reduced. This direct intervention builds on previous mixed findings (in Empirical Study 1 in this Chapter) about how the mere presence of methodological details can bolster motivated evaluations of polls. These results imply that expert pundits can provide more accurate communication of public opinion poll results as their evidence-based explanations are persuasive. Increasing popularity of data journalism and polling blogs like FiveThirtyEight, RealClearPolitics, the NYT Upshot, can help people evaluate evidence more objectively, and thereby curb skewed perceptions of public opinion. These encouraging findings speak to the effectiveness of more direct corrective attempts against political biases and misinformation in other contexts as well (e.g. Bode and Vraga, 2017; Redlawsk, Civettini, & Emmerson, 2010).

Yet, these results are highly contingent and need further research. First, it is only more educated respondents who attend to the objective comments of the experts. This points to the increasing importance pf investing in polling literacy in society (cf. Traugott and Kang, 2000). Second, this reduction of bias was only observed when the results of the polls were consistent. In competitive contexts where results contradicted each other, there was a marginally significant trend that showed an increase in biased perceptions, especially for highly educated respondents. This suggests that more educated respondents are always more reactive to the comments, and although this produce a reduction of bias in some cases, when individuals encounter conflicting evidence, they opt in to believe in favorable findings despite expert warnings about the quality of evidence. (cf. backfiring effect, Nyhan and Riefler, 2010; see also Nyhan et al., 2017; Chan et al., 2017).

Partisan Comments Do Not Polarize. Partisan commentaries do not contribute to the accurate flow of information in poll communication, but they did not amplify the motivated discrediting of unfavorable polls either. When a partisan commentator attacks a poll he or she does not like (showing the rival candidate winning), there is an across-the-board decrease in the perceived accuracy of that attacked poll regardless of its favorability to the respondent, especially for low education respondents. This suggests that these individuals innocently "listen to" the strong partisan comments and move in the direction of what they argue for. Since both polls were actually of equivalent methodological quality, there is no reason to listen to the partisan comments as well. Hence this movement in response to partisan comments constitutes a detrimental effect, however, it does not constitute amplification of bias (cf. Feldman, 2011a; Boukes et al., 2014; Suhay, 2017). Why low educated respondents discredit unfavorable polls more but also lose confidence in the accuracy of a favorable poll result remains unclear. One possibility is that these respondents were not able to recognize that the partisan comments were highly subjective and unfounded claims.[62]

Implications for the Journalistic Coverage of Polls. Given that there is potential for mitigating individuals' biases, journalists have an important responsibility in managing commentaries in news reports of polls more effectively and carefully. Journalists should ideally include objective expert commentaries when possible. Experts could objectively opine on the methodological aspects of specific poll results, point out their limitations or strengths, and remind news readers with the general issues in polling. Yet, expert commentaries do not constitute a complete solution. Education levels of individuals matter a lot too, which makes it crucial for expert commentaries to provide simple and clear explanations and avoid too much jargon. This also shows the need for interventions to improve polling literacy of the public (cf. Traugott and Kang, 2000).

Similarly, only criticizing polls en masse is not effective in reducing biases as well. While it is good to remind the public about the limitations of polling, the traditional polls remain the most objective and systematic sources of evidence about public opinion (Callegaro and Yang, 2018). The use of social media, such as Twitter and Facebook content, despite the increasing popularization of big data analyses, is highly biased towards social media user demographics.

On the other hand, journalists should avoid including partisan or pseudo-expert commentaries in poll stories, because they do not bolster the accurate delivery and processing of poll results. Even though they do not further polarize individuals' evaluations, they are not helpful either. In the contemporary news environment, full of misinformation, partisan tweaking of policy-relevant information, and even fake news – what has been popularly referred to as post-truth and

[62] The current study cannot compare the expert and partisan comments directly due to the nature of the experimental design.

post-fact society (Davies, 2016) – it is incumbent upon journalists and news organizations to fight against inaccurate and subjective claims against the polls in the media (e.g. “rigged polls”, “oversampling”, “un-skewed polls”, “fake polls”).

These findings on the influence of punditry on poll perceptions matter greatly in light of the structural changes taking place in today’s digital journalism. Contemporary horserace coverage is increasingly characterized by experts and institutions who provide polling averages, forecasting models, and election prediction markets (Kuru, 2016). Thus, the focus is increasingly on more data-driven and statistical reporting of the race, which challenges the traditional role of polls and punditry (Butterworth, 2014). Yet, as the forecasting models that suggested a 98% chance of a Clinton win led many to an inflated expectation of Clinton victory in the 2016 election, the effective communication of public opinion reports - what numbers mean, their contextuality and limitations - is ever more important (Messing, Westwood, Lelkes, 2018). And this underscores the importance of accurately communicating the scientific uncertainty in news reports; margin of error is an important quality indicator in the reliability of a poll result (cf. Fischhoff and Davis, 2014 Jensen, 2008). This responsibility is incumbent upon not only the journalists, but also on the polling industry that the media outlets heavily rely on (see the AAPOR Transparency Initiative).

Limitations and Future Research. Future research should disentangle the media source effects. First, our manipulations either came from experts or partisans, however, given the design, it was not possible to directly compare between expert (methodological) and partisan (non-methodological) comments. Second, I used Yahoo News as the source in all stories. Previous work showed that source effects did not moderate the biases in perceptions of issue polls (Kuru, Pasek, Traugott, 2017). Where the poll story is reported (liberal-leaning, conservative-leaning, or neutral source) could be consequential, and hence the liberal and conservative outlets should be compared.

Third, within the context of contemporary data journalism, whether commentaries come from mainstream news sites or political data blogs and outlets (e.g. 538, RealClearPolitics, NYT Upshot, Pollster) is also a potentially important distinction, especially given that the source of messages matters more in competitive environments (Tormala and Clarkson, 2007).

The second limitation is the types and timing of commentaries. Future research could investigate the impact of news-reader comments on TV, in online news settings or the impact of being exposed to poll stories through opinionated social media sharing with one's social network site friends (cf. Lee, 2012; McClain, Kuru, Pasek, 2017). Moreover, at a broader level, punditry is not limited to the interpretation of the statistical findings; experts and partisans weave the poll results into their coverage of the campaign and political issues. The interaction of such commentaries with issue poll results should be addressed in future work. Similarly, while many poll stories include commentaries, other comments come from other sources at different times. Especially when there is an important critique, comments tend to come after the original poll story is published. Whether and how these timing differences would matter is an important question, as timing seems to matter in the effectiveness of corrective messages (Garrett and Weeks, 2013). Finally, experts do not necessarily agree with each other all the time. Despite engaging in methodological and objective critiques, their final judgments can differ wildly (cf. Kuru, 2016; Kohl et al., 2016), and expert commentaries might be misleading and inaccurate as well, as was the case in the 2016 U.S. presidential election (Trende, 2016; Lauderdale and Rivers, 2016). The current design assumes that experts will be viewed as credible, although this is an empirical question in itself as well.

General Summary for Chapter 3

In this Chapter, I have shown the limited effectiveness of a variety of journalistic strategies for mitigating individuals' biased processing of public opinion reports. Overall, I have found that corrective strategies to make methodologically-based assessments of public opinion reports have only limited and contingent effectiveness in reducing partisan discrediting. I have shown that the presence of adequate methodological details, as opposed to absence, does not mitigate bias. If anything, those respondents with greater methodological knowledge tended to display greater bias if there were methodological details in the news report. Then I have shown that people display less bias when they evaluate aggregated and more contextualized evidence in the form of polling average stories. Those with greater education levels displayed less bias when they evaluated polling averages, but the presence of a theoretical explanation about the logic of aggregation did not have added benefits. Third, I have shown that expert comments directly debunking poor methodology polls and acknowledging the high quality polls had little influence. Such expert comments reduced motivated reasoning in assessments of polls only for those individuals with greater education and only when the polls results did not compete. Additional tests examined the influence of partisan comments and overall debunking of polls aside from expert comments; but these tests also did not find notable effects (i.e. in amplifying the motivational biases). Overall, these results indicate the persistence of motivational biases in people's processing of public opinion reports and present mixed findings about how individuals' education and knowledge factor into their responsiveness to these journalistic correctives.

Chapter 4

Discussion

In this final chapter, I will first go through a summary of the all empirical studies. Then I will discuss theoretical and practical implications and contributions of these studies. Finally, I will discuss limitations and directions for future research and conclusion.

A Summary of the Empirical Findings

In the first empirical section, Chapter 2 documented the extent of motivated reasoning in people's perceptions of public opinion reports in different contexts. Empirical Study 1 found that individuals discredit issue polls that suggest their views are in the minority, and those with greater political knowledge and methodological knowledge displayed this bias more strongly. Empirical Study 2 found that people pick and choose among multiple polls based on the favorability of their results. Partisan biases are mitigated when the polls themselves vary in objective indicators of quality. More educated respondents are more likely to identify high-quality polls, but they sometimes leverage this ability to reinforce their biases. Finally, these moderators influence respondents' electoral expectations. Empirical Study 3 found that people compare diverse metrics of public opinion more based on the favorability of their results than their methodological differences. Although people recognize the differences between metrics to some extent, they still pick and choose in a biased way when they evaluate their credibility. More political knowledge also exasperated the motivated discrediting for some of the reports but not all. Overall, these three studies show that biases are prevalent in the assessments of public opinion polls in various issue and election contexts, in competitive contexts (multiple polls and differing methodological qualities), and in different types of public opinion metrics (polls, forecasting models, analyses of social media buzz etc.). These studies also show that increased levels of political knowledge are associated with greater bias while there is a reverse trend with individual's education levels.

In the second empirical section, Chapter 3 examined the effectiveness of journalistic strategies in the communication of public opinion reports that might be effective in reducing the biased reception of public opinion reports. Empirical Study 1 found that the presentation of methodological details did not help reduce bias; instead, those with greater methodological knowledge about polls seemed to latch onto this additional piece of evidence to counter-argue against and dismiss the unfavorable polls even more strongly. Empirical Study 2 found that those people with greater education levels exhibited less bias when they encountered unfavorable results in the form of aggregated and contextualized polling reports as opposed to singular traditional poll findings. Empirical Study 3 found that expert commentaries work to reduce bias for highly educated individuals when they encounter non-competing poll results, such that they pick and choose based on the favorability of results less often. Yet partisan comments seemed to move the credibility evaluations of individuals in a persuasive way, irrespective of whether the information is congenial to the respondent. Overall, these studies present a mix of results and show that such journalistic correctives have minimal mitigating effects at large in reducing biases.

Theoretical Contributions

Biased Evaluations of Public Opinion Reports

Collectively, these studies have shown the prevalence of biased processing in a variety of contexts. Evidence that individuals engage in motivated reasoning when encountering poll results in the news is perhaps unsurprising. Surveys on salient political issues like those examined here are bound to either confirm or disconfirm respondents' preexisting beliefs. And when respondents learn that a majority of Americans disagree with their position on an issue, they should experience negative affect toward the new information (Lodge and Taber 2013; Nir 2011). Specifically, the growing motivated reasoning literature suggests that this affective response results in a counter-argumentative process that respondents use to discount the new information (Lodge and Taber 2000). When people encounter public opinion reports that are not favorable, they tended to discredit its accuracy and credibility, discounted it relative to other favorable metrics and ranked it lower in terms of its accuracy.

These results complement similar finding in other research and related literature. In the polling context, for example, people tend to show more interest reading favorable results (Van der Meer and Hakverdian, 2016). Other research shows that people discount the sources as untrustworthy when they view unfavorable polls (Chia and Chang, 2017). Previously, Tsfati (2001) had found that people evaluate polls based on what they experience in their immediate social surroundings. Beyond public opinion reports, these sorts of biases are similar to what has been observed in climate change communication (e.g. Hart and Nisbett, 2011), health care (e.g. Pasek, Sood, Krosnick, 2015), new technology (e.g. Druckman and Bolsen, 2011), false rumors about political candidates (e.g. Weeks and Garrett, 2014), and fake news (e.g. Pennycook and Rand, 2017). In all these examples, people view evidence in light of its favorability to their own perceptions, beliefs, positions, preferences, or behaviors.

Sophistication Moderation in Biased Processing

Not so surprisingly, not all individuals engage in this biased processing in the same way and with the same intensity. According to the expectations in motivated reasoning theory, individuals should discredit and successfully reject new information, especially if they have the capacity to argue against it. When they are more cognitively or informationally equipped to critically evaluate evidence, they will use this ability, unfortunately, in suboptimal ways by rationalizing favorable evidence disproportionately more and discrediting unfavorable evidence disproportionately more (Lodge and Taber 2013). In science communication and perceptions of numerical evidence, this is more specifically known as motivated numeracy (e.g. Kahan et al., 2015). Such greater ability and sophistication is usually reflected by individuals' political knowledge, education levels, methodological knowledge, and abilities. This is an important finding for understanding how the public makes sense of poll reports.

Across the studies, I almost always found that greater political knowledge, as well individuals' methodological knowledge about polls, are indeed associated with more tendency in biased discrediting of public opinion reports. It shows that biased evaluations are not simple results of knowledge deficiency but instead reflect a rationalization process that is more akin to systematic and central route of processing (Petty and Cacioppo, 1986; Eagly and Chaiken, 1984) and more specifically, the System Two Motivated Reasoning (Kahan, 2013). This finding implies that motivated reasoning in the context of public opinion reports is a very severe bias that is likely to be amplified with greater knowledge.

Yet, across the studies, we have mixed set of findings regarding different ability characteristics of individuals. As seen in Table 22, education does not always behave in the same way as do political and methodological knowledge. This summary table shows that political and methodological knowledge behave more similarly, and those respondents who score higher tend to process public opinion reports in more biased ways, by discrediting the unfavorable results more or by not responding to the informational correctives. However, education in particular as a general ability measure did not increase bias; instead those with greater education mostly had less bias in evaluating the reports. This effect was especially observed in the context of comparing the two polls the Empirical Study 2 in Chapter 2 and the Empirical Study 3 in Chapter 3. Note that the methodological differences between the studies that tested education and knowledge, especially on the outcome variable, could explain some of these differences as well, which is discussed in further detail in the limitations section later on.

Table 22. A Summary of the Ability-Sophistication Moderators in Level of Discrediting Unfavorable Public Opinion Reports

Individual Effects	Moderator Type	Moderation Result
Chapter 2 - Empirical Study 1 (perceived credibility of issue polls by respondent issue position and poll result)	Political Knowledge	More bias
Chapter 2 - Empirical Study 1 (perceived credibility of issue polls by respondent issue position and poll result)	Methodological Knowledge	More bias
Chapter 2 - Empirical Study 2 (perceived relative accuracy of election polls by candidate preference and poll result)	Education	Less bias
Chapter 2 - Empirical Study 2 (perceived relative accuracy of election polls by candidate preference, poll result, and varying methodological quality)	Education	No moderation
Chapter 2 - Empirical Study 3 (perceived methodological credibility of election metrics by candidate preference and metric results)	Political Knowledge	More bias
Chapter 2 - Empirical Study 3 (perceived methodological credibility of election metric by candidate preference and metric's results)	Numeracy	No moderation
Chapter 3 - Empirical Study 1 (perceived credibility of issue polls by respondent issue position and poll result)	Political Knowledge	More bias
Chapter 3 - Empirical Study 1 (perceived credibility of issue polls by respondent issue position and poll result)	Methodological Knowledge	More bias
Chapter 3 - Empirical Study 2 (perceived credibility of poll by respondent candidate preference and poll's result)	Education	More bias
Chapter 3 - Empirical Study 2 (perceived credibility of metric by respondent candidate preference and metric's result)	Education	Less bias
Chapter 3 - Empirical Study 2 (perceived credibility of metric result by respondent candidate preference and poll results)	Political Knowledge	No moderation
Chapter 3 - Empirical Study 2 (perceived credibility of metric result by respondent candidate preference and poll results)	Methodological Knowledge	More bias
Chapter 3 - Empirical Study 3 (perceived relative accuracy of election polls by candidate preference, poll result, and expert commentary)	Education	Less bias

What are the implications of these mixed findings for motivated reasoning theory? Why did I find different pattern of results for sophistication variables? It is seen that, as the most general measure of sophistication, greater education level is associated with less bias. These respondents should act in more rational ways due to their potentially greater analytical thinking skills. Yet, the confirmed hypotheses about political knowledge and methodological knowledge provide evidence that this bias is indeed motivated discrediting. Alternatively, more educated respondents might be more inclined to scrutinize the news reports in more detail, hence avoiding biased processing. Finally, these heterogeneous results also contribute to the recent findings that show low correlations among these constructs (Låg et al., 2014) and differing relationships with biased evaluations (Pasek and Weeks, 2017).

Given these results, how do we know that this biased processing is motivated reasoning? For one, these studies documented that people disproportionately dismiss the same set of evidence based on the favorability of the results. Moreover, results mostly showed that more knowledgeable people displayed more bias, and increased education also was related to greater bias in one study (Empirical Study 3 in Chapter 3). I take these as also evidence for motivated reasoning.

Alternative Explanations: Bayesian Updating and Expressive Responding

According to Bayesian updating theory, people might not always definitively dismiss all unfavorable information (Gerber & Green, 1999). A study in German and Austrian samples found that increased political knowledge reduced wishful thinking in predictions about the election outcome (Meffert et al., 2011). However it is important to see that poll credibility and predictions in relation to polls are two different constructs (Gerber and Green, 1999). When it comes to prediction, people might be more accuracy-oriented rather than condoning their immediate biases in evaluating individual poll reports (see Kunda 1990).[63] Given a poll result that is unfavorable to them, people might update their prediction regarding the favorable candidate in realistic and objective terms, by incorporating the unpleasant poll finding to some level. Despite the fact that motivations would still be at work, this would constitute a case of Bayesian updating (cf. Bullock, 2009). However, recent research compared theories of motivated reasoning and Bayesian updating in the context of public opinion issues and found support for motivated reasoning (e.g. Dvir-Gvirsman, 2015b; Fischle, 2000).

Another possibility is expressive responding and that the biases documented in the current studies are partly a methodological survey response phenomenon - a theoretical bias that is similar to overtly-expressed social desirability. Expressive responding happens when individuals state inaccurate beliefs not because they truly believe in them but only to cheerlead their own party, candidate, or issue positions in a deliberate way (Bullock et al, 2015). For example, a voter who does not like President Obama might state that he or she believes that he is foreign born or Muslim. Although they might know this is not true at all, they state this misinformation strategically to contribute unfavorable public knowledge and public opinion against Obama (cf. Berinsky, 2018). Recent research on partisan misinformation and misperceptions showed that some of the measured misinformation or partisan biases might in fact be due to expressive responding (Bullock et al, 2015). Whereas Berinsky (2018) showed that there is little evidence for expressive responding, Prior, Sood, and Khanna (2015) were able to reduce partisan differences in beliefs about economic facts by offering monetary rewards and describing the importance of the research which indicates evidence for expressive responding.

[63] Research on the aggregated accuracy of voter expectations and 'wisdom of crowds' support this possibility (Graefe, 2014; Wang, Rothschild, Goel, & Gelman, 2015). However, social influence (knowledge of majority standing) has been shown to impact the wisdom of crowd performance in a prediction task as well (Lorenz, Rauhut, Schweitzer, & Helbing, 2011).

The current empirical studies' designs had no way of directly testing the possibility of expressive responding influencing the results. My hunch is that even if there is indeed some level of expressive responding in individuals' biased evaluations of public opinion reports, what people tell others, either literally or rhetorically, constitutes a misinformation and misrepresentation in the marketplace of systematic public opinion evidence in our communicative environment.

Deleterious Consequences of Biased Processing of Public Opinion Reports

The conclusion that motivated reasoning takes place in the public interpretations of public opinion reports should be concerning. Unlike many other forms of information such as anecdotes, interviews, and focus groups, well-conducted public opinion reports are arguably one of social sciences' most important contributions to public debate as they provide systematic and objective evidence that should guide public perceptions regardless of the favorability of the results. Evidence that motivational processes influence these perceptions is hence very problematic. For one, the public dissemination of polling results may lead to an apparent "false consensus effect" among some members of the poll's audience: if individuals regularly accept messages that the public agrees with them and reject messages that the public disagrees with them, this would result in their incorrectly thinking that "most people" believe what they do (cf. Ross, Greene, and House 1977). Additionally, such results refine previous findings that the public has general levels of poll skepticism and distrust in pollsters (e.g. Kim et al. 2011); I show that, in addition to overall trends, perceived credibility actually varies substantively at the individual level, and does so in a very polarizing manner.

These results have implications for political elite perceptions and their policy-making preferences, too. Elite polarization might also result in part from a combination of motivated reasoning processes. Indeed, elites may be especially susceptible to motivational processes due to their high levels of political knowledge and engagement. A lot of evidence suggests that policymakers pay attention to public preferences (Jacobs and Shapiro 2000). These findings on motivated reception of public opinion reports may explain why legislators often have skewed perceptions of public opinion (Broockman and Skovron 2018). Also see Baekgaard et al. (2017) and Friedman, Lerner, Zeckhauser (2015) for recent work in related domains that document the biases political elites have in evaluating information. A working paper also showed that experts also exhibit ideological bias when they evaluate policy-relevant information (Banuri et al., 2017).

Moreover, the biases identified in this study have detrimental consequences for democracy at large. Biased perceptions of polls could have important downstream consequences ranging from attitude change to decisions about turnout and voting preferences (Moy and Rinke, 2012). To the extent that people selectively interpret polls based on their partisanship, they are likely to reinforce cleavages in society at large. Existing work already shows that poll results shape people's perceptions of public opinion (Sonck and Loosveldt, 2010) and expectations about election results (Delavande and Manski, 2012; also see Daniller, Silver and Moehler, 2013). The motivated reception of polls could further bias these downstream effects of exposure.

Similarly, the abundance of public opinion reports nurtures an environment that encourages people to cherry pick favorable metrics for themselves. With this selective interpretation, people could tune into media outlets that are likely to show them results that are disproportionately favorable to their preferred candidates (Stroud, 2010) and this bias could be exasperated by real biases in news media coverage of polls (Searles, Ginn, & Nickens, 2016) and the competitive multiple messages being delivered to the citizens (cf. Chong and Druckman, 2007). The findings from Empirical Study 3 in Chapter 2 especially resonate with the recent Pew study in which the authors found that exposure to the forecasting reports, which show greater nominal values as compared to polls (95% chance of winning the election, for example), influence individuals' perceptions in unique way and discourage them from turnout (Westwood, Messing, Lelkes, 2018). More data and more diverse data cause a confusion in public perceptions, and this confusion might especially be prone to perceptions that are driven by motivated reasoning.

These processes might further skew assessments of what the public wants (cf. Nir, 2011; Ross, Greene, & House, 1977) and increase beliefs in "rigged elections" (Sances and Stewart, 2015) as well as negative views about both the political opposition and the media (i.e. Chia and Chang, 2017). By reinforcing existing partisan divisions, the biases identified here add to polarization in American society. Increasingly there are two Americas with very different views of what the country wants (Iyengar and Westwood, 2015), and polls, despite their ostensibly objective nature, may bifurcate Americans further.

Effectiveness of Mitigation Strategies

Results showed that mere disclosure of methodological details does not help reduce individuals' motivated processing. While this does not mean that we should stop presenting methodological details (cf. AAPOR Transparency Initiative), more research is needed to tease out under what conditions the methodological details might be more influential in individuals' perceptions. It also shows that simply providing more information is not a solution in itself. Instead, how that information is presented and highlighted to the newsreaders might make a difference.

Aggregated-contextualized reporting results are more encouraging, as individuals with higher education displayed less bias when they saw evidence with context and aggregation. This finding implies that more information and explanatory journalism does not really help in this specific scenario to reduce misperceptions. However, the fact that explanation of logic behind polling averages had no effect should be studied further, because journalists try hard to popularize more contextualized and aggregated reporting such as polling average (e.g. Silver, 2012; 2016; Jackson, 2016; Cohn, 2016). This might indicate that it does not help to highlight polling averages for public to have more accurate judgments; or else, the journalists should find other and more effective ways when communicating the contextualized and aggregated evidence.

Expert commentaries do not help a lot, either. The only normatively positive finding is that more educated individuals listened to the what experts told them and chose the higher quality poll as more accurate. However, this was true only when multiple poll results did not compete, such that, when there was one favorable and one unfavorable poll, there was cherry picking; there was no corrective influence of expert comments. From a practical point of view, this gives us little hope, what use do expert commentaries have if they cannot be effective in competitive contexts (cf. Dunwoody and Kohl, 2017; Kohl et al., 2016)?

Practical Implications and Recommendations

Direct Recommendations

What should actors involved in public opinion reporting - in industry, academia, and the media - do to foster the accurate interpretation of public opinion evidence and mitigate motivational biases? The results from this dissertation has important practical implications and recommendations for these diverse actors as well, because not only have I shown the prevalence and nature of bias, but tested the effectiveness of journalistic correctives.

It should be made very clear that I have not found much corrective effectiveness of these strategies to reduce motivated assessments of public opinion reports. As summarized in the previous subsection in the Discussion chapter, the influence of corrective attempts are very minimal and contingent. Regardless, the findings I obtained are not conclusive in and of themselves. There might be other methodologies to assess the influence of these journalistic correctives, or there might be other ways to present them in the context of news reports in order to bolster their salience and effectiveness for ordinary news readers.

- The polling industry should abide by adequate methodological disclosure, in line with the Transparency Initiative of the American Association for Public Opinion Research.
- Industry actors should coordinate with journalists and academics more in preparing simplified public opinion reports for the lay public.
- Media reports on public opinion evidence should have adequate methodological disclosure and links for detailed information elsewhere.
- Methodological details in news reports should be accessible to public interpretation. They should include clickable information boxes defining concepts (such as margin of error) and some information about what counts as robust evidence (e.g. convenience samples are bad; poll results following big events such as mass shootings might not reflect long term opinions).
- Media reports should include expert commentaries to discuss the results and methodological quality of the public opinion evidence being presented.
- Expert commentaries should not directly attack the results, but instead focus on methodological quality and provide detailed theoretical explanations and logical conclusions in evaluating the evidence.
- Partisan commentaries should be avoided. If campaign representatives' partisan comments are included, they should be highlighted as being subjective and not evidence based to the readers.

- Data journalists who provide metrics others than polls – forecasting models, prediction markets, analyses of social media buzz – should be transparent about their data and analytical procedures.
- Journalists should highlight aggregated evidence and its logic and stop focusing on singular evidence of public opinion a lot.

Other recommendations

During the writing of this dissertation, the American Association for Public Opinion Research put together an ad-hoc committee in response to the partisan rhetoric against polls in 2016 election campaign period. I am serving as a committee member in this group and contributed to the initial report. Below I present a sample list of items that are included in this report. These ideas are included in various forms in the initial committee report as well (Ayers et al., 2017).

- Academics should write more public commentaries to inform the public about research findings that document how they might be biased in their processing of public opinion reports (e.g. Kuru, Pasek, Traugott 2016; 2017b; Kuru, 2016; 2018). Such dissemination of research findings could increase self-consciousness and inoculate individuals against biased processing, as noted in the future research section below.
- Public opinion evidence should be regarded as systematic and scientific research. It is mostly academicians' responsibility to highlight the scientific nature of public opinion reports to the university students and the larger public – particularly journalists (e.g. Corzine and Woolley, 2018). They should defend partisan attacks against the systematic evidence (e.g. rigged polls, oversampling of Democrats, fake polls).

- Journalists should clearly communicate the differences between different metrics (forecasting models, prediction markets, analyses of social media buzz), and what they can and cannot communicate about the state of public opinion.
- Social media outlets, such as in the case of Twitter Polls (Kuru, 2018), should include warning labels in order to clarify the unscientific nature of entertainment tools that are being manipulated by partisan outlets.
- Polling literacy and education of the public – as well as journalists – should be increased with educational interventions.

Limitations and Future Research

There are some theoretical and methodological limitations that need consideration in this dissertation. On the theoretical front, the studies mostly focused on the evaluations of public opinion reports and did not examine the subsequent effects on public perceptions or trust. Only two out of the six studies had an additional outcome variable of interest which is the electoral expectations of respondents. While the perceived credibility of public opinion reports provides us important information about people’s immediate judgments, these judgments are probably short-lived and do not have long-term effects.

Across the six studies, the outcome variable of interest varied slightly as well. While most of the studies used perceived credibility as an index of multiple items (accuracy, trustworthiness, reliability), the ones based on the nationally representative TESS data (data source for the empirical study 2 in Chapter 2 and the empirical study 3 in Chapter 3) had to rely on the single item of “accuracy”. Similarly, Empirical Study 2 in Chapter 2 and Empirical Study 3 in Chapter 3 measured perceive relative accuracy with a bipolar dependent variable to index the comparisons of respondents, while the study comparing polls, forecasting models, and analyses of social media buzz had ranking order as the dependent variable. These methodological variations in operationalizing the outcome variable and its variance enriches the rigor of the study, but we need to be careful about interpreting the results in general, especially when we compare the results of the studies' conclusions. It would have been ideal to test these different ways of operationalization within the context of a single study in order to compare them directly and conduct ad-hoc tests to identify any possible methodological artefacts.

Similarly, the conceptualization and operationalization of "bias" has also some limitations and variations across the empirical studies. What is bias when we talk about biased processing of public opinion reports? All of the studies quantified bias cross-sectionally by comparing between the groups who viewed different versions of the fundamentally same news reports. Future research should tease out within individual and long-term conceptualization and operationalization of bias. Second, the studies relying on the TESS data examined "perceived relative accuracy" in relation to a comparative truth benchmark – whether one poll has indeed more robust methodological quality or not. Given that even methodological experts can disagree on what constitutes a robust poll, measuring by referencing to the relative methodological quality of two polls makes the most sense (one poll had clearly much better quality compared to the other one (Baker et al., 2013). In contrast to this, in the rest of the studies, the bias is completely operationalized in a cross-sectional group comparison way, such that bias is not indexed in relation to its deviation from an objective indication of truth – accuracy. One final limitation is that not all public opinion reports' results could be orthogonally categorized into unfavorable or favorable evidence. What should be made of tie results? Or how could we measure individuals who have ambivalent of middle-of-the-road preferences such that they could not be ideally categorized as liking or disliking a clear result? Future research should address these issues to come up with a more sophisticated conceptualization and operationalization of bias.

Aside from perceived credibility of public perceptions, these studies had a limited opportunity to examine further outcome variables such as perceptions of public opinion as well. Electoral expectations were also measured as a dependent variable in Empirical Study 2 in Chapter 2 and Empirical Study 3 in Chapter 3 (the TESS data). The effects were mostly null; although people were biased in their electoral expectations, due to design limitations, it was not directly discernible and entirely clear whether these effects were shaped as a result of the motivated processing of the polls that participants were engaged in.

There are some methodological limitations of the experimental designs as well. In a context where people encounter many public opinion reports nearly every day, the believability of the hypothetical news reports is always an issue. I have exercised utmost care to produce real-looking news stories. This has sometimes created tensions between external (resemblance to real life contexts) and internal (theoretical inference) validity. For example, after the empirical studies using the TESS data showed that source did not matter, I have included a new source logo in all experimental conditions. This source was ideologically neutral and was kept constant across the conditions to make the hypothetical stories more realistic. Yet, source effects might be more salient in competitive contexts in which respondents had viewed multiple competing poll results.

The design of hypothetical news stories should be improved in future research in terms of stylistic elements as well. Considerable research in political psychology and science communication shows that the ways titles (Goidel and Ura, 2016), fonts, pictures, and quantitative graphics are designed could have an influence in people’s engagement with news reports (cf. Cairo, 2013; e.g. Fagerlin et al., 2005). Research centers such as Center for Media Engagement provide many reports on how online website designs shape news readers' engagement with information. Hence, especially with the increasing importance of data journalism which incorporate interactive graphs and visual presentation of data, these details' potential influence in people's processing of public opinion reports should be studied.

Believability of the results of public opinion reports are also an issue when we consider people's prior knowledge about the content and focus of the reports. For example, particularly in the election context, in which people get exposed to pre-election polls constantly, the believability of the hypothetical news stories might be compromised. Still, these potential issues are not likely to create a systematic bias as if there is any effect, it should be equally true in all experimental conditions. Further, aside from political knowledge, the studies controlled for the effect of and tested the moderating role of another knowledge construct - methodological knowledge – and found no differences (Chapter 2, Empirical Study 1).

Future research on this front could focus on a variety of domains to advance our understanding of how people process information in an increasingly social and mobile communication technology. Our studies on the credibility of online content should consider such features of the platforms (cf. Metzger, Flanagin and Medders, 2010). Particularly social media contexts provide each user a different experience of public opinion within their own personal networks and this could be influential on how they process public opinion reports that they encounter in social media (e.g. Baek, Jeong, Rhee, 2015; cf. Messing and Westwood, 2012). More broadly, in contemporary media ecosystems which have advanced and rapidly-evolving communication technology, individuals encounter political facts and misinformation through social media and mobile devices that increasingly integrate tools of data journalism.

Subsequently, people engage with scientific and political information in more interactive, visual, omnipresent, and dynamic (e.g. live updates, simultaneous fact-checking) forms. Hence, it is important to examine how interactive explanations of data and visual graphics concerning the representation of scientific and systematic facts shape individuals' judgments (e.g. Cairo, 2016; Hawley et al., 2008; Wang et al., 2018). Research could also focus on users' incessant and real-time engagement with mobile news, mobile news applications, and use of social media for quantitative public opinion reports and other political or scientific evidence (e.g. Dunaway, Paul, Searles, 2016). Earlier research showed that there might be differences in online vs traditional polls, again showing the potential role of communication mode in shaping individuals' processing (e.g. Kim, Weaver, Willnat, 2001). Similarly, how people engage with non-visual news such as on the radio, podcasts or the TV could be studied in future research.

Second, how elites engage in public opinion reports and rely on them in their decisions in policy-making processes should be further investigated. Understandably, we would expect important differences in their processing and behaviors due to the strategic and calculated behavior, unlike ordinary citizens. Some recent research has already started to tackle elite processing of evidence and potential for motivated reasoning (e.g. Baekgaard et al., 2017; Friedman, Lerner, Zeckhauser, 2015).

Not all public opinion evidence is quantitative. Another interesting area for future research is to investigate the role of "human voice" in an increasingly data-dominated news coverage about public opinion. While there is so much de-individuated public opinion data and its aggregation and re-processing in the cascades of endless news coverage, qualitative evidence is increasingly undermined. Although anecdotes, interviews, in-depth reporting about public opinion are still existent and provide valuable information, in an increasingly data-driven public opinion reporting, we should investigate how hybrid reporting that uses both narratives (qualitative and anecdotal evidence) and quantitative evidence of public opinion reports could influence people's perceptions and judgments of evidence (cf. Dillard et al., 2010).

This resonates with the increasing importance of local journalism in the post-2016 election era during. Many critiques raised issues with media conglomerates accumulating in coastal cities and how journalists relied on de-individuated aggregated data that is stripped of direct human voice and declining attention to local journalism (cf. Radcliffe and Ali, 2017; e.g. Abernathy, 2017). Yet, there are good examples of integrating narratives and quantitative data in public opinion reporting. The best journalistic example is the Associated Press reporting. In its reports, the AP presents polling evidence but also provides direct quotations from some respondents. Future research should examine how individuals process such narrative and quantitative evidence when they are bundled together as in the AP reporting (e.g. Alonso-Zalzivar and Swanson, 2017). A large literature examining episodic and thematic frames (e.g. Iyengar and Kinder, 1987), and the influences of narratives in media coverage have found important influence of anecdotal reporting in changing people's perceptions (e.g. Dal Cin, Zanna, Fong, 2004; Otsfeld & Mutz, 2014; Wojcieszak & Kim, 2016). In the context of public opinion reports, one possibility is that narrative evidence could boost the credibility of numerical evidence (cf. Daschmann, 2000).

One final direction for future research is meta-cognitive processes. In increasing science blogging and dissemination of simplified social research, ordinary individuals are increasingly exposed to social science findings. One of the most covered research findings is political polarization and partisan motivated reasoning in American politics. It is important to understand how people react to the reporting about these social scientific findings, particularly how their engagement with this kind of information that is about their own cognitive processes might influence their perceptions of public opinion evidence that they encounter afterwards. For example, various findings from this dissertation have been blogged about in popular outlets such as the Washington Post, the Huffington Post, and the Mediashift. How would an ordinary news reader might react to public opinion evidence after being exposed to the findings from this dissertation? Studying human behavior and presenting findings to the public would undoubtedly have an important influence on people's perceptions of evidence. One such claim was the coverage of party politics in the 2016 election and how the political elite might have reacted to the research evidence (Yglesias, 2016).

Conclusion

In conclusion, this dissertation documents evidence that ordinary individuals' processing of public opinion evidence is biased. People tend to discredit systematic information, and their increased ability in the form of higher political knowledge and methodological knowledge usually exacerbates this bias. People also mostly resist a variety of objective informational correctives in journalistic reporting of public opinion evidence. While contextualized-aggregated evidence and expert comments seem to reduce bias, these findings are true only for those more responsive high education individuals and only when multiple sets of evidence do not compete. Overall, such biases would fuel skewed perceptions of public opinion and erode trust in public opinion reports, pollsters, journalists and government responsivity.

APPENDICES

Appendix A – Sample Characteristics

Table A1. Comparison of the Amazon and Qualtrics samples

	Amazon Mechanical Turk		**Qualtrics Online Sample**	
	Counts	Percentages*	Counts	Percentages*
Sample size (completes)	1053	-	1226	-
Effective sample size (valid completes**)	987	-	1211	-
Completion time (mean)	16'54"	-	20'10"	-
Date of collection	Feb-15	-	Jul-15	-
Female	451	45.7%	655	54.0%
Is married	371	37.6%	610	50.4%
Age (18-24)	96	9.7%	182	15.0%
Age (25-34)	409	41.4%	144	11.9%
Age (35-44)	230	23.3%	229	18.9%
Age (45-54)	117	11.9%	224	18.5%
Age (55-64)	102	10.3%	224	18.5%
Age (65+)	33	3.3%	208	17.2%
White	742	75.2%	794	65.6%
Black/African American	67	6.8%	139	11.5%
Mexican	31	3.1%	87	7.2%
Puerto Rican	6	.6%	46	3.8%
Cuban	4	.4%	21	1.7%
American Indian/Alaskan	7	.7%	20	1.7%
Asian	101	10.2%	69	5.7%
Native Hawaiian - Pacific Islander	3	.3%	2	.2%
Other	19	1.9%	3	.2%
Edu - high school, equivalents or less	107	10.8%	235	19.4%
Edu - college degree equivalents or less	341	34.5%	459	37.9%
Edu - college degree (Bachelor's)	417	42.2%	344	28.4%
Edu - graduate degree or equivalents	122	12.4%	172	14.2%
Household income - less than $25k	257	26.0%	249	20.6%
Household income - $25k to $50k	309	31.3%	340	28.1%
Household income - $50k to $75k	200	20.3%	250	20.6%
Household income - $75k to $100k	118	11.9%	174	14.4%
Household income - more than $100k	103	10.3%	193	15.9%
Strong Republican	65	6.6%	195	16.1%
Republican	103	10.4%	202	16.7%
Republican-leaning Independent	64	6.5%	97	8.0%
Independent with no leaning	139	14.1%	155	12.8%

Democrat-leaning Independent	161	16.3%	142	11.7%
Democrat	249	25.2%	143	11.8%
Strong Democrat	206	20.9%	221	18.2%
Strong Conservative	40	4.10%	93	7.70%
Conservative	89	9.00%	206	17.00%
Conservative-leaning	112	11.30%	132	10.90%
No inclination	167	16.90%	340	28.10%
Liberal-leaning	169	17.10%	113	9.30%
Liberal	282	28.60%	175	14.50%
Strong Liberal	121	12.30%	85	7.00%
Owns gun personally	-	-	218	18.0%
Respondent's household has a gun	243	24.6%	389	32.1%
Has been a gun victim personally	-	-	95	7.8%
Has witnessed gun violence personally	-	-	200	16.5%
Has an acquaintance who has been a gun victim	154	15.6%	356	29.4%
Has had abortion	-	-	81	6.7%
Has an acquaintance who has had abortion	424	43.9%	520	42.9%

Notes. *Percentages may not sum to 100% due to item non-response. **Valid completes is set of respondents who passed attention and minimum completion time (detected speeders) filters. Blank cells indicate either absence of percentage or a question that was not asked in the Amazon sample. All tests are two-tailed.

Initially 10% of the total number of targeted respondents were invited to complete the survey experiment on June 17th. We initially planned to continue data collection on June 18th after checking data quality for these initial respondents. Following the Charleston Church shooting, which occurred on the evening of June 17th (after all initial responses had been collected), we decided to postpone the rest of the data collection for two weeks. We were worried that the presence of a recent shooting might alter attitudes about gun control and thus cloud the results of our experiment. There were no substantive differences between the personal characteristics of individuals interviewed in these two periods, including ideology and abortion issue positions. However there was a slight difference in attitudes supportive of gun control among respondents interviewed before and after the Charleston shooting, $t(1209)=1.95$, $p=.05$ ($M_{pre\text{-}Charleston}=.62$ and $M_{post\text{-}Charleston}=.68$). These differences were driven mostly by an increase in support for gun control among Independents; there were no notable party differences.

Appendix B – Amazon Replication

Description of Amazon Sample

The sample is composed of 1053 Amazon Mechanical Turk participants and the data were collected through the Qualtrics survey platform in February 2015. The participants were US-based Amazon MTurk workers who had a 99% assignment approval rate and had completed at least 1000 assignments. They received $1 compensation for participating. The mean completion time was 16.9 minutes (s.d.=6.49). Participants who completed the survey under 2 minutes (most of them were incomplete cases – 63 participants) and those who finished it in more than an hour (3 participants) were eliminated, leaving us with an effective sample size of 987. Respondents were instructed to complete the survey at one setting because we thought this was important for observing manipulation effects in time. The mean respondent age was 36.5 years (s.d.=12.4): there are 478 females and 572 males; and 568 of the respondents had Bachelor's degree or higher. There were 833 Whites, 109 Asians, 69 Blacks or African Americans. The median total household income was in the $40,000-$49,000 range. The sample reported itself as 589 liberals and 246 conservatives, and 616 Democrats, 232 Republicans, and 139 Independents.

Table B1. Predicting the Perceived Credibility of Poll Reports on Gun Control

	Baseline Model Coef.	se	**Knowledge Effects Model** Coef.	se	**Source-Ideology Consonance** Coef.	se	**Source-Message Dissonance** Coef.	se	**Detailed Reporting** Coef.	se
Disagreement X Political Knowledge			-.13 *	.06	-.22 **	.08	-.24 **	.08	-.07	.08
Disagreement X S-I Consonance					-.14 +	.08				
Political Knowledge X S-I Consonance					-.07	.08				
Disagreement X Political Knowledge X S-I Consonance					.22 +	.12				
Disagreement X S-M Dissonance							-.11	.08		
Political Knowledge X S-M Dissonance							-.08	.08		
Disagreement X Political Knowledge X S-M Dissonance							.23 +	.12		
Disagreement X Detail									.00	.08
Political Knowledge X Detail									.10	.08
Disagreement X Political Knowledge X Detail									-.09	.11
Intercept	.47 ***	.03	.44 ***	.03	.42 ***	.04	.42 ***	.04	.46 ***	.04
Source Manipulation (1=Fox News)	-.02	.01	-.02	.01	-.02	.01	-.01	.01	-.02	.01
Reporting Manipulation (1=Detailed)	.01	.01	.01	.01	.01	.01	.01	.01	-.03	.05
Result Manipulation (1=Majority Support)	.02	.01	.01	.01	.01	.01	.02	.01	.01	.01
S-I Consonance	.04 *	.01	.04 *	.01	.08	.05	.03 +	.02	.04 *	.01
S-M Dissonance	.03 *	.01	.03 *	.01	.02	.02	.06	.05	.02 +	.01
Poll Interest	.30 ***	.03	.30 ***	.03	.30 ***	.03	.30 ***	.03	.30 ***	.03
Disagreement	-.13 ***	.01	-.05	.04	.01	.05	.01	.05	-.06	.05
Political Knowledge	-.28 ***	.03	-.22 ***	.04	-.20 ***	.05	-.19 **	.06	-.28 ***	.06
N	980		980		980		980		980	
R-square	.21		.21		.22		.22		.22	
F Test (df)	-		4.74* (1)		1.29 (3)		1.48 (3)		1.68 (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model.

Table B2. Methodological Knowledge and Detailed Reporting Analysis for Predicting the Perceived Credibility of Poll Reports on Gun Control

	Knowledge Effects Model		**Detailed Reporting**	
	Coef.	se	Coef.	se
Disagreement X Methodological Knowledge	.02	.04	-.03	.06
Gun Disagreement X Detail			-.11 +	.06
Methodological Knowledge X Detail			.04	.06
Disagreement X Methodological Knowledge X Detail			.10	.08
Intercept	.40 ***	.03	.4 ***	.04
Source Manipulation (1=Fox News)	-.03 +	.01	-.03 +	.01
Reporting Manipulation (1=Detailed)	.	.01	.	.04
Result Manipulation (1=Majority Support)	.02	.01	.02	.01
S-I Consonance	.03 +	.02	.03 +	.02
S-M Dissonance	.03 *	.01	.03 +	.01
Poll Interest	.23 ***	.03	.23 ***	.03
Disagreement	-.15 ***	.03	-.09 *	.04
Methodological Knowledge	-.10 ***	.03	-.12 **	.04
N	980		980	
R-square	.15		.16	
F Test (df)	-		3.30* (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model.

Table B3. Predicting the Perceived Credibility of Poll Reports on Abortion

	Baseline Model		Knowledge Effects Model		Source-Ideology Consonance		Source-Message Dissonance		Detailed Reporting	
	Coef.	se	Coef.	se	Coef.	se	Coef.	se	Coef.	se
Disagreement X Political Knowledge			-.20 **	.06	-.21 **	.08	-.23 **	.08	-.12	.08
Disagreement X S-I Consonance					-.10	.08				
Political Knowledge X S-I Consonance					-.05	.08				
Disagreement X Political Knowledge X S-I Consonance					.05	.12				
Disagreement X S-M Dissonance							-.08	.08		
Political Knowledge X S-M Dissonance							-.08	.08		
Disagreement X Political Knowledge X S-M Dissonance							.07	.12		
Disagreement X Detail									.11	.08
Political Knowledge X Detail									.08	.08
Disagreement X Political Knowledge X Detail									-.17	.12
Intercept	.44 ***	.03	.39 ***	.03	.36 ***	.04	.36 ***	.04	.41 ***	.04
Source Manipulation (1=Fox News)	-.01	.01	-.02	.01	-.02	.01	-.02	.02	-.02	.01
Reporting Manipulation (1=Detailed)	.02	.01	.01	.01	.01	.01	.01	.01	-.04	.05
Result Manipulation (1=Majority Support)	.02	.01	.01	.02	.01	.02	.01	.02	.01	.02
S-I Consonance	.05 ***	.01	.05 ***	.01	.12 *	.05	.06 ***	.02	.05 ***	.01
S-M Dissonance	.03 *	.01	.03 *	.01	.05 **	.02	.10 +	.05	.03 *	.01
Poll Interest	.30 ***	.03	.30 ***	.03	.30 ***	.03	.30 ***	.03	.30 ***	.03
Disagreement	-.15 ***	.01	-.03	.04	.00	.05	.01	.06	-.08	.05
Political Knowledge	-.26 ***	.03	-.17 ***	.04	-.15 **	.05	-.13 *	.06	-.21 ***	.05
N	980		980		980		980		980	
R-square	.23		.24		.25		.25		.25	
F Test (df)	-		10.85** (1)		1.78 (3)		.76 (3)		.74 (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model.

Table B4. Methodological Knowledge and Detailed Reporting Analysis for Predicting the Perceived Credibility of Poll Reports on Abortion

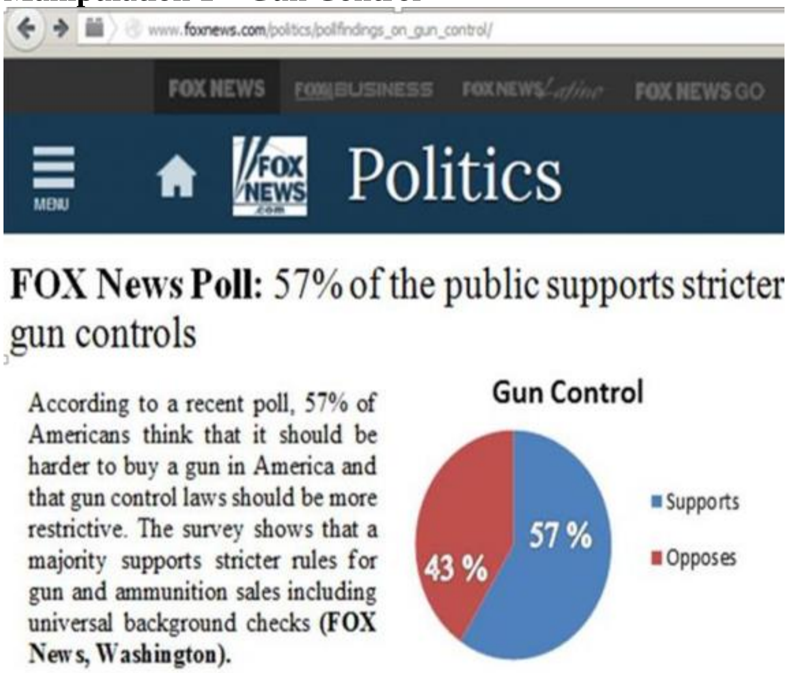
	Knowledge Effects Model		**Detailed Reporting**	
	Coef.	se	Coef.	se
Disagreement X Methodological Knowledge	.01	.04	-.03	.06
Gun Disagreement X Detail			-.05	.06
Methodological Knowledge X Detail			.06	.06
Disagreement X Methodological Knowledge X Detail			.09	.09
Intercept	.38 ***	.03	.40 ***	.03
Source Manipulation (1=Fox News)	-.02	.02	-.02	.02
Reporting Manipulation (1=Detailed)	.01	.01	-.03	.04
Result Manipulation (1=Majority Support)	.02	.02	.02	.02
S-I Consonance	.05 **	.02	.04 **	.02
S-M Dissonance	.04 **	.01	.04 *	.01
Poll Interest	.24 ***	.03	.23 ***	.03
Disagreement	-.17 ***	.03	-.14 ***	.04
Methodological Knowledge	-.10 ***	.03	-.13 ***	.04
N	980		980	
R-square	.19		.20	
F Test (df)	-		2.16+ (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model.

Appendix C – Manipulations

Figure C1. Manipulations

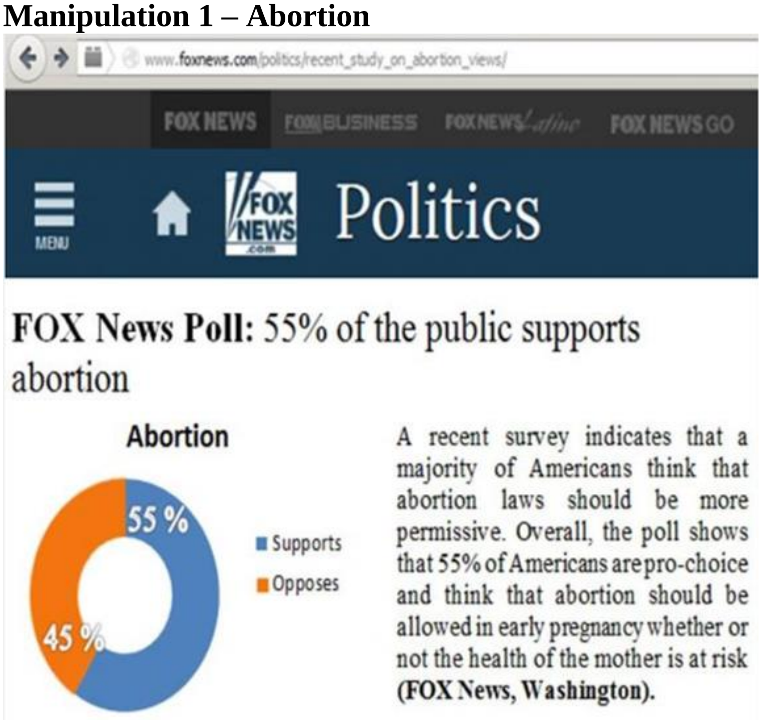
Manipulation 1 – Gun Control



FOX News Poll: 57% of the public supports stricter gun controls

According to a recent poll, 57% of Americans think that it should be harder to buy a gun in America and that gun control laws should be more restrictive. The survey shows that a majority supports stricter rules for gun and ammunition sales including universal background checks **(FOX News, Washington).**

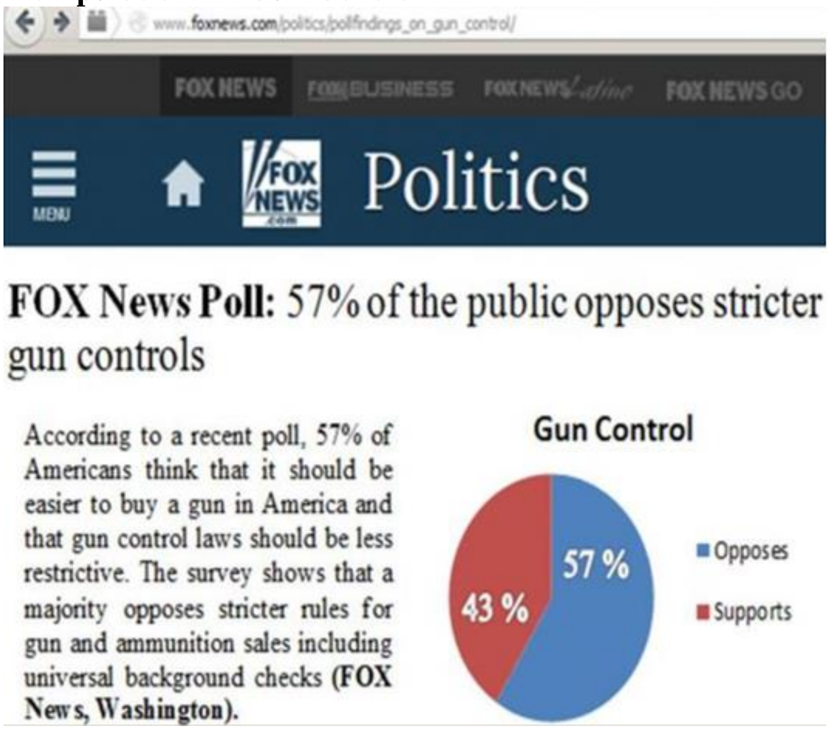
Manipulation 1 – Abortion



FOX News Poll: 55% of the public supports abortion

A recent survey indicates that a majority of Americans think that abortion laws should be more permissive. Overall, the poll shows that 55% of Americans are pro-choice and think that abortion should be allowed in early pregnancy whether or not the health of the mother is at risk **(FOX News, Washington).**

Manipulation 2 – Gun Control



www.foxnews.com/politics/pollfindings_on_gun_control/

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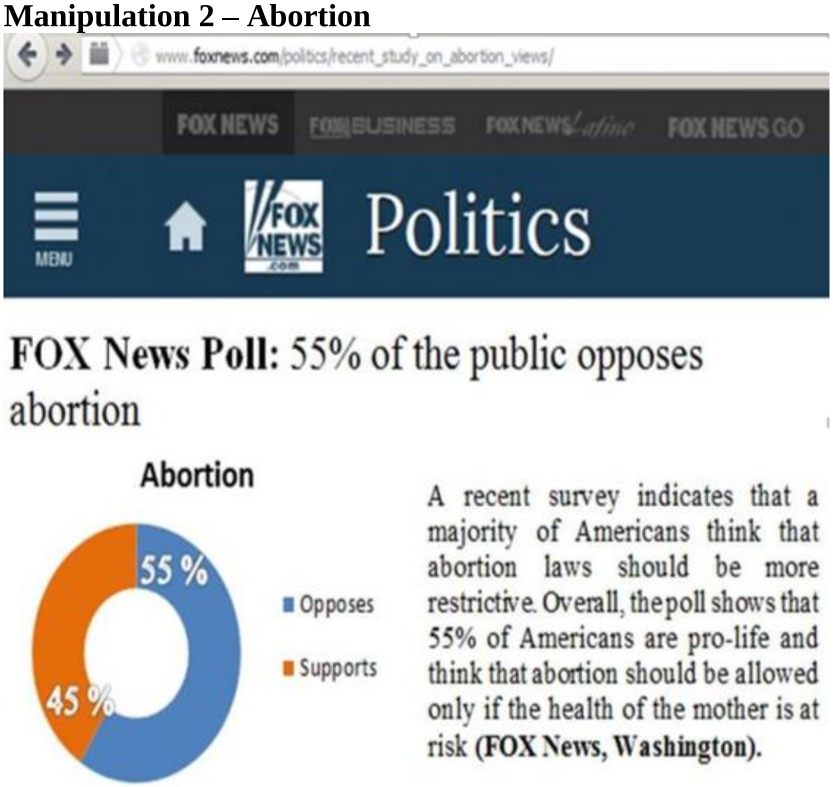
FOX News Poll: 57% of the public opposes stricter gun controls

According to a recent poll, 57% of Americans think that it should be easier to buy a gun in America and that gun control laws should be less restrictive. The survey shows that a majority opposes stricter rules for gun and ammunition sales including universal background checks **(FOX News, Washington).**

Manipulation 2 – Abortion



www.foxnews.com/politics/recent_study_on_abortion_views/

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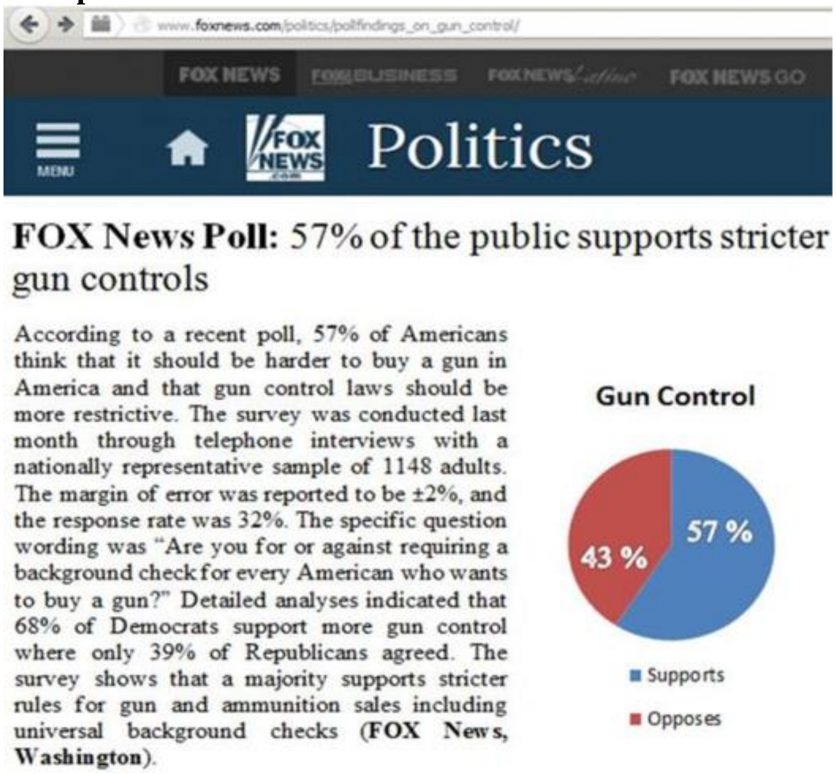
FOX News Poll: 55% of the public opposes abortion

A recent survey indicates that a majority of Americans think that abortion laws should be more restrictive. Overall, the poll shows that 55% of Americans are pro-life and think that abortion should be allowed only if the health of the mother is at risk **(FOX News, Washington).**

Manipulation 3 – Gun Control



www.foxnews.com/politics/pollfindings_on_gun_control/

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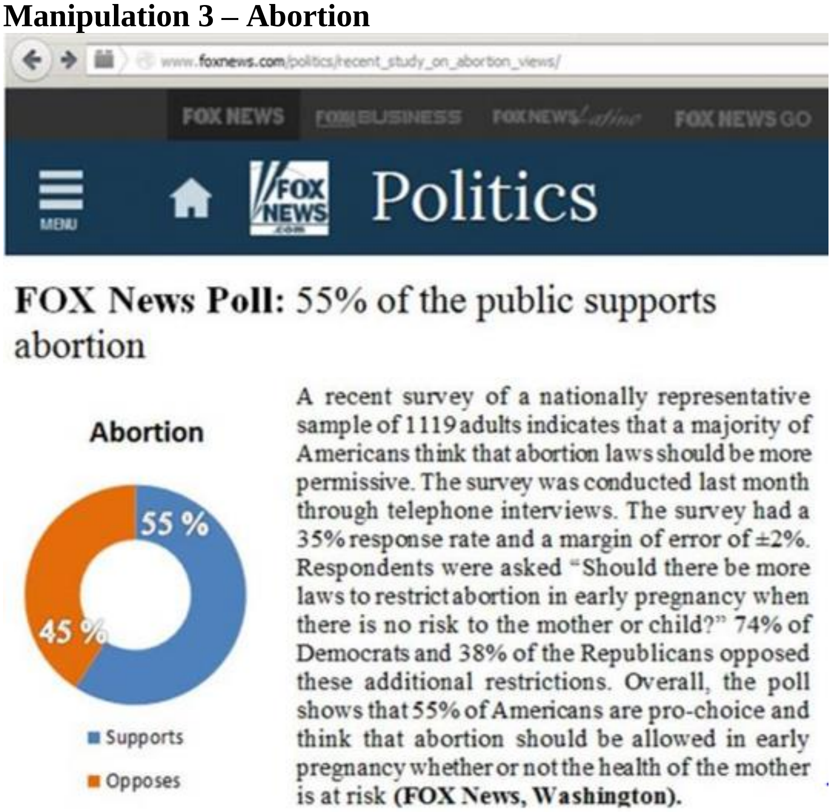
FOX News Poll: 57% of the public supports stricter gun controls

According to a recent poll, 57% of Americans think that it should be harder to buy a gun in America and that gun control laws should be more restrictive. The survey was conducted last month through telephone interviews with a nationally representative sample of 1148 adults. The margin of error was reported to be ±2%, and the response rate was 32%. The specific question wording was "Are you for or against requiring a background check for every American who wants to buy a gun?" Detailed analyses indicated that 68% of Democrats support more gun control where only 39% of Republicans agreed. The survey shows that a majority supports stricter rules for gun and ammunition sales including universal background checks (**FOX News, Washington**).

Manipulation 3 – Abortion



www.foxnews.com/politics/recent_study_on_abortion_views/

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FOX News Poll: 55% of the public supports abortion

A recent survey of a nationally representative sample of 1119 adults indicates that a majority of Americans think that abortion laws should be more permissive. The survey was conducted last month through telephone interviews. The survey had a 35% response rate and a margin of error of ±2%. Respondents were asked "Should there be more laws to restrict abortion in early pregnancy when there is no risk to the mother or child?" 74% of Democrats and 38% of the Republicans opposed these additional restrictions. Overall, the poll shows that 55% of Americans are pro-choice and think that abortion should be allowed in early pregnancy whether or not the health of the mother is at risk **(FOX News, Washington).**

Manipulation 4 – Gun Control

www.foxnews.com/politics/pollfindings_on_gun_control/

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FOX News Poll: 57% of the public opposes stricter gun controls

According to a recent poll, 57% of Americans think that it should be easier to buy a gun in America and that gun control laws should be less restrictive. The survey was conducted last month through telephone interviews with a nationally representative sample of 1148 adults. The margin of error was reported to be ±2%, and the response rate was 32%. The specific question wording was "Are you for or against requiring a background check for every American who wants to buy a gun?" Detailed analyses indicated that 68% of Republicans oppose more gun control where only 39% of Democrats opposed. The survey shows that a majority opposes stricter rules for gun and ammunition sales including universal background checks **(FOX News, Washington)**.

Manipulation 4 – Abortion

www.foxnews.com/politics/recent_study_on_abortion_views/

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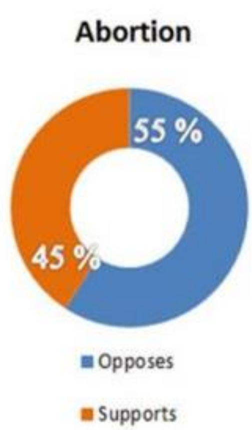
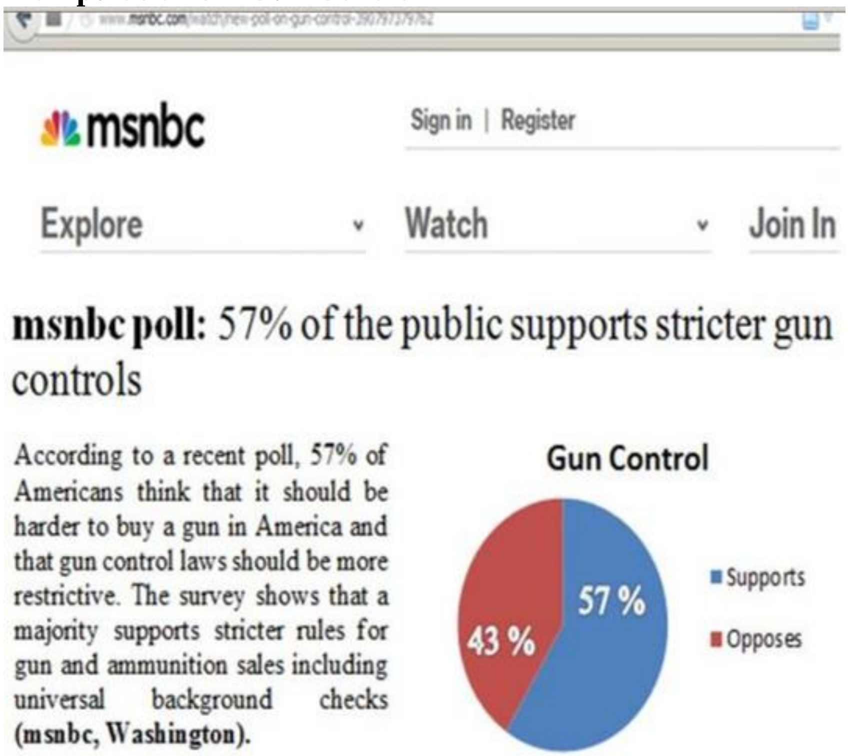
MENU Politics

FOX News Poll: 55% of the public opposes abortion

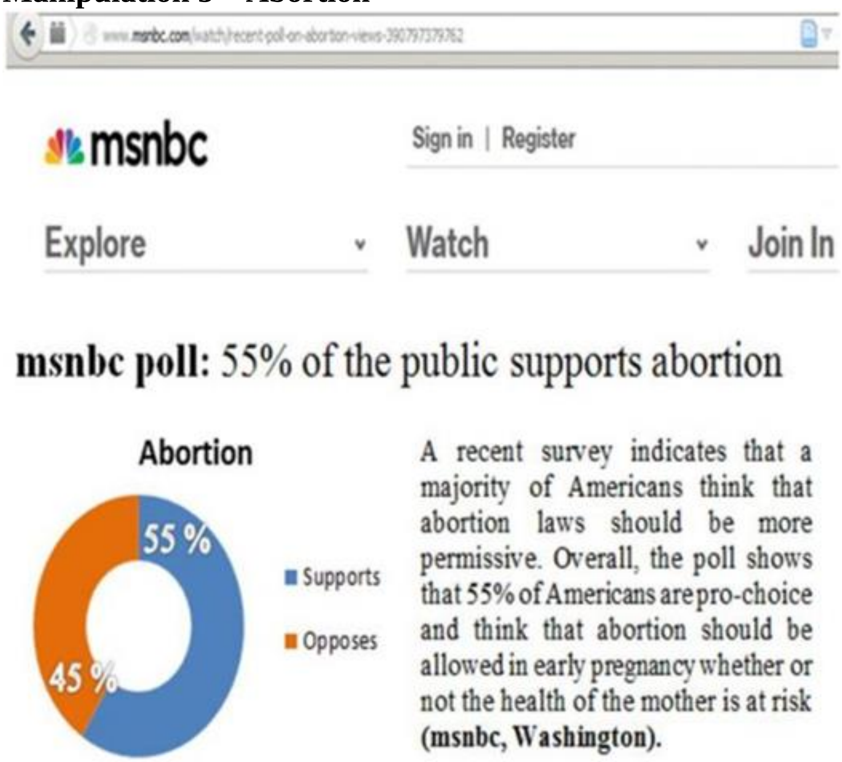


A recent survey of a nationally representative sample of 1119 adults indicates that a majority of Americans think that abortion laws should be more restrictive. The survey was conducted last month through telephone interviews. The survey had a 35% response rate and a margin of error of ±2%. Respondents were asked "Should there be more laws to restrict abortion in early pregnancy when there is no risk to the mother or child?" 74% of Republicans and 38% of the Democrats supported these additional restrictions. Overall, the poll shows that 55% of Americans are pro-life and think that abortion should be allowed only if the health of the mother is at risk **(FOX News, Washington)**.

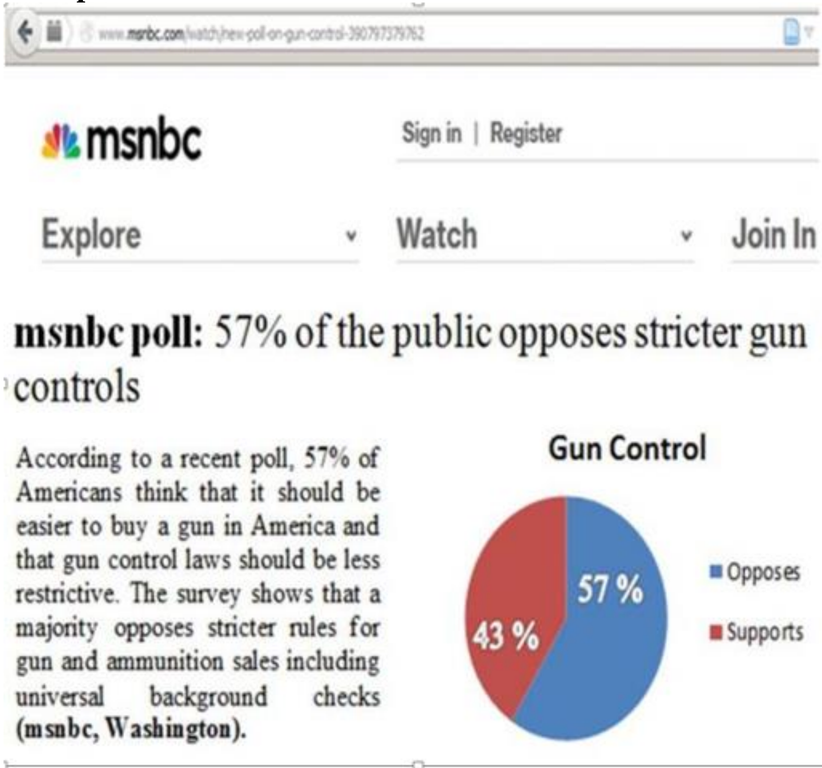
Manipulation 5 – Gun Control



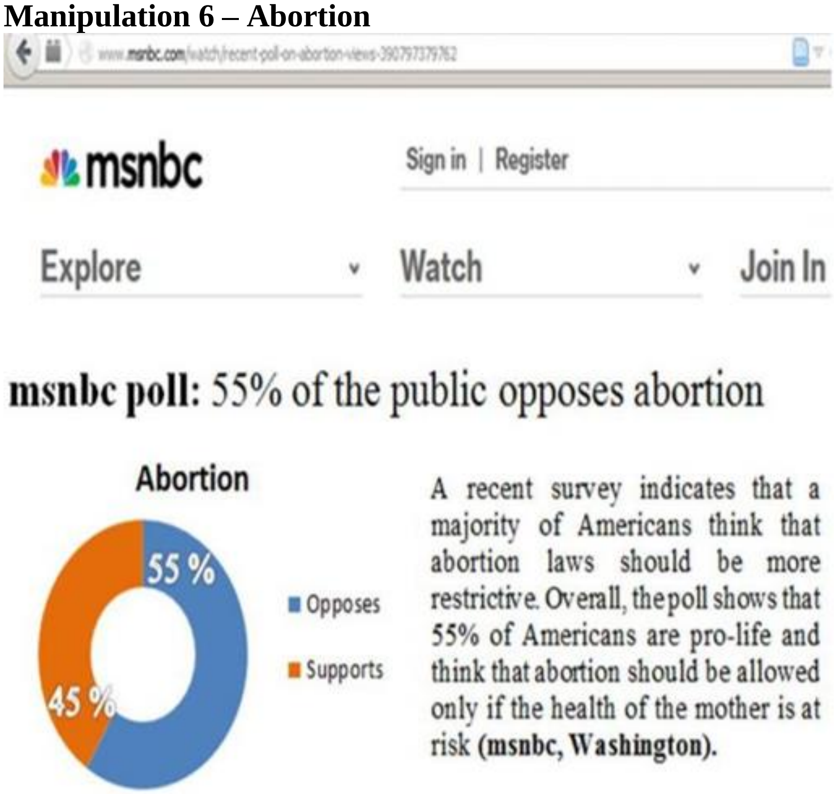
Manipulation 5 – Abortion



Manipulation 6 – Gun Control



Manipulation 6 – Abortion



Manipulation 7 – Gun Control

www.msnbc.com/watch/new-poll-on-gun-control-390797379762

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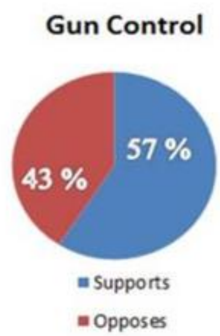
msnbc poll: 57% of the public supports stricter gun controls

According to a recent poll, 57% of Americans think that it should be harder to buy a gun in America and that gun control laws should be more restrictive. The survey was conducted last month through telephone interviews with a nationally representative sample of 1148 adults. The margin of error was reported to be ±2%, and the response rate was 32%. The specific question wording was "Are you for or against requiring a background check for every American who wants to buy a gun?" Detailed analyses indicated that 68% of Democrats support more gun control where only 39% of Republicans agreed. The survey shows that a majority supports stricter rules for gun and ammunition sales including universal background checks (**msnbc, Washington**).



Manipulation 7 – Abortion

www.msnbc.com/watch/recent-poll-on-abortion-views-390797379762

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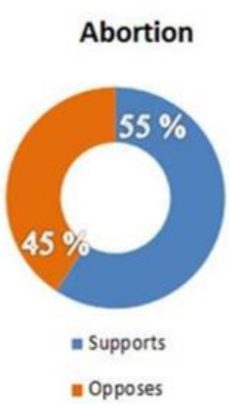
msnbc poll: 55% of the public supports abortion



A recent survey of a nationally representative sample of 1119 adults indicates that a majority of Americans think that abortion laws should be more permissive. The survey was conducted last month through telephone interviews. The survey had a 35% response rate and a margin of error of ±2%. Respondents were asked "Should there be more laws to restrict abortion in early pregnancy when there is no risk to the mother or child?" 74% of Democrats and 38% of the Republicans opposed these additional restrictions. Overall, the poll shows that 55% of Americans are pro-choice and think that abortion should be allowed in early pregnancy whether or not the health of the mother is at risk **(msnbc, Washington).**

Manipulation 8 – Gun Control

www.msnbc.com/watch/new-poll-on-gun-control-390797379762

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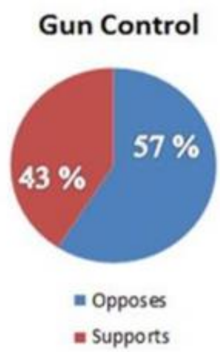
msnbc poll: 57% of the public opposes stricter gun controls

According to a recent poll, 57% of Americans think that it should be easier to buy a gun in America and that gun control laws should be less restrictive. The survey was conducted last month through telephone interviews with a nationally representative sample of 1148 adults. The margin of error was reported to be ±2%, and the response rate was 32%. The specific question wording was "Are you for or against requiring a background check for every American who wants to buy a gun?" Detailed analyses indicated that 68% of Republicans oppose more gun control where only 39% of Democrats opposed. The survey shows that a majority opposes stricter rules for gun and ammunition sales including universal background checks (**msnbc, Washington**).



Manipulation 8 – Abortion

www.msnbc.com/watch/recent-poll-on-abortion-views-390797379762

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msnbc poll: 55% of the public opposes abortion

A recent survey of a nationally representative sample of 1119 adults indicates that a majority of Americans think that abortion laws should be more restrictive. The survey was conducted last month through telephone interviews. The survey had a 35% response rate and a margin of error of ±2%. Respondents were asked "Should there be more laws to restrict abortion in early pregnancy when there is no risk to the mother or child?" 74% of Republicans and 38% of the Democrats supported these additional restrictions. Overall, the poll shows that 55% of Americans are pro-life and think that abortion should be allowed only if the health of the mother is at risk **(msnbc, Washington).**

Appendix D - Survey Instrument

Notes.

Questions appeared as below. See Appendix C for Manipulations.
We added a "request response" alert when participants left blank (item non-response) but allowed the respondents to move on if they chose to leave it blank despite this warning. The only exceptions were age, sex, race and party ID; these questions were mandatory items as they were used to get quotas during sampling process and thus were asked by Qualtrics at the very beginning of the survey. Respondents were not able to turn back to the previous page to change their responses.

The Survey Instrument:

1. *Which year were you born?*

Dropdown List 1920 to 1997

2. *Are you of Hispanic, Latino, or of Spanish origin?*

No, not of Hispanic, Latino, or of Spanish origin
Yes, Mexican, Mexican American, or Chicano
Yes, Puerto Rican
Yes, Cuban
Yes, another Hispanic, Latino, or Spanish origin

3. *Which of the following describes your race? Please select all that apply.*

White or Caucasian
Black or African American
American Indian or Alaska Native
Asian
Native Hawaiian or other Pacific Islander
Other
What is your sex?
Male
Female

4. *Generally speaking, do you usually think of yourself as a Republican, a Democrat, or an Independent?*

Republican
Democrat
Independent
No preference

5. *You stated you are independent. Do you consider yourself as closer to the Republican or the Democratic party?*

Republican
Democrat
Neither

Would you consider yourself a strong or not a very strong Republican?

Strong Republican
Not a very strong Republican

Would you consider yourself a strong or not a very strong Democrat?

Strong Democrat
Not a very strong Democrat

6. *How would you describe your level of general interest in politics?*

Not at all interested
Slightly interested
Moderately interested
Interested
Very interested

7. *How frequently do you talk about politics with family or friends?*

Never
Less than once a month
1 to 3 times a month
Once a week
Several times a week
Once every day
Several times a day

8. *Now focus on just this last week in answering this question and try to remember: How many days in the past week did you talk about politics and public issues with family or friends*

0,1,2,3,4,5,6,7

9. *Overall, do you support or oppose stricter GUN CONTROL laws in the US?*

Strongly support stricter laws
Moderately support stricter laws
Moderately oppose stricter laws
Strongly oppose stricter laws
No opinion

10. *Please indicate your support or opposition to the following specific gun control laws:*

Stricter laws for gun sales
Stricter laws for ammunition sales
Stricter laws for universal background checks
Response Options: Support strongly, support moderately, oppose moderately, oppose strongly, no opinion

11. *Overall, do you support or oppose stricter ABORTION laws in the US?*

Strongly support stricter laws
Moderately support stricter laws
Moderately oppose stricter laws
Strongly oppose stricter laws
No opinion

12. *Do you think abortion should be legal in all cases, legal in most cases, illegal in most cases or illegal in all cases?*

Legal in all cases
Legal in most cases
Illegal in most cases
Illegal in all cases
No opinion

13. *Please indicate whether each of the following statements is true or false.*

Recreational marijuana use is legal only in the state of California.
More Americans have health insurance today than in 2009, before Obamacare.
The US uses drones (un-manned aircraft) to fight against the Taliban and Al Quaeda.
The Guantanamo Bay Detention Center has been closed under President Obama's administration.
Unemployment today is lower than it was in 2009.
Response options: Definitely true, probably true, probably false, definitely false, no idea/don't know

14. *What are the first and last names of the people who hold these positions currently?*

Current Vice President of the United States:
Current Chief Justice of the United States Supreme Court:
Current Chancellor of Germany:
Current Secretary General of the United Nations:

15. *How interested are you in reading various poll results reported in the media?*

Not at all interested
Slightly interested
Somewhat interested
Interested
Very Interested

16. *How frequently do you read polls reported in various media outlets such as newspapers, online news sites, and social media at the different times given below?*

In general, when there is no election
During an election campaign
The last month before election day
Response options: Never, Less than once a month, 1-3 times a month, once a week, several times a week, once every day, several times a day

Manipulation 1st Story Presented (Gun Control or Abortion – order randomized)

17. **Manipulation Check:** *What does the result of this poll say? Please briefly describe it in your own words.*

18. *How informative do you find this poll result?*

Not at all informative
Slightly informative
Moderately informative
Informative
Very informative

19. *How accurate do you think the results of this poll represent public opinion on this issue in the United States?*

Not at all accurate
Slightly accurate
Moderately accurate
Accurate
Very accurate

20. *How trustworthy do you think the results of this poll are?*

Not at all trustworthy
Slightly trustworthy
Moderately trustworthy
Trustworthy
Very trustworthy

Manipulation 2nd Story Presented (Gun Control or Abortion – order randomized)

21. **Manipulation Check:** *What does the result of this poll say? Please briefly describe it in your own words*

Q-17, 18, 19 repeated.

22. *Which of the following scenarios do you think would give a more accurate estimate of an election outcome, considering that all other factors are the same?*

If the poll is conducted 2 days before the actual election
If the poll is conducted 2 weeks before the actual election
If the poll is conducted 2 months before the actual election
Timing of the poll would not make any difference under any circumstances as long as the sample is representative
Do not know/have no idea

23. *Assuming all other characteristics are the same, which of the following polls' sample characteristics would provide the best estimate of support levels in the country for a particular policy position?*

When the sample size of the poll is 5,000, half of it coming from cities and the other half of it coming from rural areas
When the sample size of the poll is 10,000, and is representative of 3 big cities: New York, Chicago, and Los Angeles
When the sample size of the poll is 5,000, but it is not a representative sample
When the sample size of the poll is 5,000, and it is a nationally representative sample
Do not know/have no idea

24. *Assuming all other characteristics are the same, which of the following poll results would you be most confident represents a policy position that is supported by a majority of people?*

Policy position X got 47 % support, with a 2 % margin of error
Policy position X got 51 % support, with a 2 % margin of error
Policy position X got 54 % support, with a 2 % margin of error
Both 2nd and 3rd options show that position X is being supported by the majority
Do not know/have no idea

25. *When it comes to politics do you usually think of yourself as extremely liberal, liberal, slightly liberal, moderate or middle of the road, slightly conservative, conservative, extremely conservative, or haven't you thought much about this?*

Extremely Liberal
Liberal
Slightly Liberal
Moderate, middle of the road
Slightly Conservative
Conservative
Extremely Conservative
Do not know; have not thought about it

26. *What is your education level?*

No schooling completed
Complete 8th grade or less
Some high school, no diploma
High school graduate, diploma or the equivalent (for example: GED)
Some college credit, no degree
Trade/technical/vocational training
Associate degree
Bachelor's degree, college graduate
Master's degree
Professional degree
Doctorate degree

27. *Which category approximately represents the total combined household income of all members of your family during the past 12 months? This includes money from jobs, net income from business, farm or rent, pensions, dividends, interest, social security payments and any other money income received by members of your family who are 15 years of age or older.*

Less than $5,000; $5,000 to $7,499; $7,500 to $9,999; $10,000 to $12,499; $12,500 to $14,999; $15,000 to $19,999; $20,000 to $24,999; $25,000 to $29,999; $30,000 to $34,999; $35,000 to $39,999; $40,000 to $49,999; $50,000 to $59,999; $60,000 to $74,999; $75,000 to $99,999; $100,000 to $149,999; $150,000 or more.

28. *Have you ever witnessed a gun-related violent event?*

Yes
No
Do not want to answer

29. *Have you ever been a victim of gun-related violence?*

Yes
No
Do not want to answer

30. *Do you know anyone (family member or friend) who has been a victim of gun-related violence?*

Yes
No
Do not want to answer

31. *Does anyone in your household own a gun?*

Yes, I do
Yes, someone else does
No
Do not want to answer

32. *Have you ever had an abortion?*

Yes
No
Do not want to answer

33. *Do you know anyone (family member or friend) who has had an abortion?*

Yes
No
Do not want to answer

Debriefing made.

Appendix E – Descriptive Tables

Table E1. Comparison of the Descriptive Statistics for Amazon (left) and Qualtrics (right) Samples

	N	Mean	sd	N	Mean	sd
Political interest 1 (general interest)	987	**.54**	.27	1211	**.61**	.29
Political interest 2 (political discussion frequency)	987	**.45**	.25	1211	**.50**	.27
Political interest 3 (talk in last 7 days)	987	**.32**	.28	1211	**.41**	.30
Political Interest Index (3 items)	987	**.44**	.24	1211	**.51**	.26
Ideology (Conservative)	980	**.38**	.28	1144	**.52**	.29
Issue knowledge 1 (marijuana)	987	**.85**	.31	1207	**.72**	.41
Issue knowledge 2 (health insurance)	987	**.51**	.38	1207	**.50**	.39
Issue knowledge 3 (drones)	987	**.75**	.34	1207	**.63**	.39
Issue knowledge 4 (Guantanamo bay)	987	**.54**	.45	1207	**.43**	.45
Issue knowledge 5 (unemployment)	987	**.48**	.40	1206	**.41**	.41
Issue Knowledge Index (5item)	987	**.63**	.24	1206	**.54**	.24
Methods Knowledge 1 (sampling time)	987	**.60**	.49	1209	**.46**	.50
Methods Knowledge 2 (sample size and place)	986	**.65**	.48	1208	**.41**	.49
Methods Knowledge 3 (margin of error)	987	**.66**	.47	1209	**.34**	.47
Interest in reading poll news	987	**.43**	.25	1209	**.47**	.29
Poll reading frequency (in general)	987	**.28**	.23	1210	**.32**	.27
Poll reading frequency (during campaign)	987	**.48**	.26	1209	**.48**	.28
Poll reading frequency (last month before vote)	987	**.54**	.28	1210	**.51**	.30
Poll Interest Index (4 items)	987	**.44**	.22	1210	**.45**	.25
Outcome variables for gun control						
Poll is informative	987	**.42**	.28	1211	**.51**	.30
Poll accurately represents public opinion	987	**.40**	.26	1211	**.46**	.29
Poll is trustworthy	987	**.36**	.26	1211	**.44**	.29
Gun Control Poll Credibility Index	987	.39	.24	1210	**.47**	.26
Outcome variables for abortion						
Poll is informative	987	**.42**	.28	1211	**.51**	.30
Poll accurately represents public opinion	987	**.38**	.26	1211	**.45**	.28
Poll is trustworthy	987	**.36**	.27	1211	**.43**	.28
Abortion Poll Credibility Index	987	.38	.24	1208	**.47**	.26
Stricter gun control laws in the US	952	**.58**	.37	1167	**.58**	.39
Stricter laws for gun sales	949	**.62**	.37	1165	**.68**	.36
Stricter laws for ammunition sales	924	**.59**	.38	1153	**.65**	.37
Stricter laws for universal background checks	957	**.76**	.32	1170	**.79**	.32
Gun issue position index (support gun control) (4 items)	914	**.64**	.34	1191	**.68**	.33
Stricter abortion laws in the US	917	**.71**	.38	1071	**.60**	.40
Legality in abortion (none to all cases)	917	**.28**	.38	1104	**.57**	.33
Abortion issue position index (support abortion) (2 items)	913	**.69**	.32	1131	**.58**	.32

Notes.
All variables are recoded to range from 0 to 1.

Appendix E continues:

Index Computation Details for Variables not Reported in the Main Text:

Abortion Issue Position Index. Respondent's attitudes toward abortion were measured with two items. Respondents were asked, "Overall, do you support or oppose stricter abortion laws in the US?" Response options were, "Strongly support stricter laws" (coded: 1), "Moderately support stricter laws" (.66), "Moderately oppose stricter laws" (.33), and "Strongly oppose stricter laws" (0), including a "No opinion". Responses to the two questions were averaged to create an index (M = .58, s.d.= .31, α= .65).

Political interest. Three questions were used to assess respondents' political interest. Respondents were asked, "How would you describe your level of general interest in politics?" Response options were, "Not at all interested" (coding: 0), "Slightly interested" (.25), "Moderately interested" (.5), "Interested" (.75), and "Very interested" (1). Respondents were also asked, "How frequently do you talk about politics with family or friends?" Response options were, "Never" (coding: 0), "Less than once a month" (.17), "1 to 3 times a month" (.33), "Once a week" (.5), "Several times a week" (.67), "Once every day" (.83), and "Several times a day" (1). And finally, respondents were asked, "How many days in the past week did you talk about politics and public issues with family or friends?" Response options ranged from 0 to 7, but were recoded to range from 0 to 1 by dividing the answer by 7. The items were averaged to form an index (M= .51, s.e.= .26, α=.88).

Appendix F – Reliabilities of Indexes

Table F1. Cronbach's Alpha Statistics for the Reliabilities of the Indexes

	Amazon Mechanical Turk	Qualtrics Online Sample
Political Interest (3 items)	.85	.88
Political Knowledge (5 items)	.61	.53
Poll Reading-Interest Index (4 items)	.88	.88
Gun Control Issue Position (4 items)	.94	.93
Abortion Issue Position (2 items)	.65	.65
Poll Credibility - Gun Control (3 items)	.86	.89
Poll Credibility - Abortion (3 items)	.88	.89
Methodological Knowledge (3 item)	.46	.42

Appendix G - Baseline Comparisons (Balance Checks)

Random assignment achieved a fair level across equivalence of experimental conditions. The number of participants that ended up in each of the 8 conditions varied between 136 and 176. Despite random automatic allocation of conditions we had this slight variation in the number of respondents who completed the survey in each one (136, 137, 138, 145, 150, 163, 166, 176). These variations might result from the demographic-quotas that were considered during the sampling in Qualtrics, and there is no reason that any of the manipulations would trigger a systematic dropout. Two-way ANOVA results indicate there are no baseline credibility score mean differences across the conditions, $F(7, 1210)=1.33$ for gun control and $F(7, 1210)=1.03$ for abortion. Tukey's post-hoc analysis reveals no significant difference in means in any pairwise comparison of conditions as well (See **Table G1**). These results constitute the first evidence that conditions have been created equally and random assignment has been successful. **Table G2** also extends this balance check into all predictor variables. As both the omnibus and post-hoc comparisons reveal, all predictors appear to be randomly distributed across the experimental conditions.

Table G1. Baseline (Raw means) Credibility Scores Comparisons across the Experimental Conditions

		Amazon Sample			Qualtrics Sample		
		Mean	**sd**	**F Test**	**Mean**	**sd**	**F Test**
Gun Control	F, Sup, S	.41	.22	**3.56****	.50	.26	**1.24**
	F, Opp, S	.35	.26		.43	.27	
	F, Sup, D	.43	.21		.44	.25	
	F, Opp, D	.32	.25		.48	.27	
	M, Sup, S	.42	.24		.49	.27	
	M, Opp, S	.38	.22		.46	.27	
	M, Sup, D	.42	.23		.46	.26	
	M, Opp, D	.39	.24		.47	.26	
Abortion	F, Sup, S	.41	.21	**6.39*****	.48	.26	**1.06**
	F, Opp, S	.33	.26		.43	.27	
	F, Sup, D	.44	.21		.43	.24	
	F, Opp, D	.29	.25		.46	.27	
	M, Sup, S	.42	.24		.50	.27	
	M, Opp, S	.35	.25		.46	.27	
	M, Sup, D	.43	.23		.48	.25	
	M, Opp, D	.38	.24		.47	.26	

Notes. Values represent credibility scores. In experimental condition type, F=Fox, M=MSNBC, Sup=Poll result showing public support, Opp=Poll results showing public opposition, S=simple report, D=detailed report of methods of the poll. * denotes significance at $p < .05$, ** at $p < .01$, and *** at $p < .001$. All tests are two-tailed. ANOVA results indicate that in Amazon sample there is a significant difference in baseline scores for both gun control and abortion poll credibility scores. Due to unequal condition samples sizes, Tukey's test is chosen for post-hoc comparisons, and this omnibus significant difference is seen to be largely due to the consistently low score of condition 4. ANOVA results indicate there are no baseline credibility score differences across the conditions for Qualtrics sample. Although 2nd and 3rd condition appear to have lower scores in different measures, these are not significant. Tukey's post-hoc analysis reveals no significant difference in means in any pairwise comparison of conditions in Qualtrics sample.

Table G2. Balance test of experimental conditions (random assignment check)

Variables	F Test	p value
Gun Control Issue Position	$F(7, 1183) = 1.38$	0.21
Abortion Issue Position	$F(7, 1123) = .77$	0.61
Political Interest	$F(7, 1203) = .83$	0.57
Poll Interest	$F(7, 1202) = .57$	0.78
Political Knowledge	$F(7, 1198) = .71$	0.66
Poll Knowledge	$F(7, 1200) = .65$	0.71
Ideology	$F(7, 1203) = .91$	0.50
Party Identification	$F(7, 1147) = 1.50$	0.16
Age	$F(7, 1203) = 1.17$	0.32
Female	$F(7, 1203) = .47$	0.86
White	$F(7, 1203) = 1.43$	0.19
Education	$F(7, 1202) = .70$	0.67
Income	$F(7, 1198) = .55$	0.80

Notes. One-way ANOVA has been conducted with experimental conditions (8 stories) as the factor. F tests show that none of the variables are significant, revealing that the random assignment worked as expected. We also conducted Tukey's post-hoc analysis to see if any pair-wise combinations of the experimental conditions were unbalanced, but none of the post-hoc tests revealed a significant difference as well.

Appendix H – Supplementary Knowledge Tests

The issue knowledge battery contains a mixture of debated and undebated facts, the answers to which sometimes favor each political party. However, debated facts may be susceptible to biased processing, as suggested by some recent work on expressive responding (Prior et al. 2016; though see Berinsky, 2012 for an alternative view). In order to test this possibility, we replicated our results using a variety of additional approaches. We first tested each knowledge item from the index separately by itself. Then we tested the dichotomized (true vs false) versions of these items (where the *certainty* dimension was removed), separately for each of them and as an index of dichotomized items. Although all of these moderators accounted for less variance than the measures used (and thus sometimes did not reach statistical significance), the overall pattern of results was consistent and free of motivational differences between items (see Table H1 in Appendix H). The results also replicated using alternative knowledge measures in the form of awareness of public officials (although this is not a relevant or effective knowledge scale given our topic, we had also asked this set of more traditional knowledge items for comparison) and education - as a theoretical proxy variable to knowledge (see Table H2 in Appendix H). Finally the results we report on methodological knowledge about polls also provide a consistent story for our knowledge moderation finding.

Table H1. Item by Item Analysis of *Political Knowledge X Disagreement* Interaction with and without the Certainty Factor

		Item 1 (Marijuana)			Item 2 (Healthcare)			Item 3 (Drones)			Item 4 (Guantanamo)			Item 5 (Unemployment)		
		Est.	**se**	**p**	**Est.**	**se**	**p**	**Est.**	**se**	**p**	**Est.**	**se**	**p**	**Est.**	**se**	**p**
Item by Item	(Q) Gun Control	-.07	**(.03)**	.04	-.07	**(.04)**	.07	-.08	**(.04)**	.03	-.09	**(.03)**	.00	-.17	**(.04)**	.00
	(Q) Abortion	-.10	**(.03)**	.00	-.04	**(.04)**	.26	.01	**(.04)**	.87	-.08	**(.03)**	.01	-.01	**(.03)**	.75
	(A) Gun Control	-.01	**(.04)**	.91	-.01	**(.04)**	.84	-.06	**(.04)**	.12	-.06	**(.03)**	.05	-.08	**(.04)**	.03
	(A) Abortion	-.05	**(.04)**	.30	-.08	**(.04)**	.03	-.06	**(.04)**	.13	-.02	**(.03)**	.56	-.13	**(.04)**	.00
Item by Item (Dichotomous)	(Q) Gun Control	-.05	**(.03)**	.16	-.00	**(.03)**	.96	-.06	**(.04)**	.11	-.07	**(.04)**	.01	-.11	**(.03)**	.00
	(Q) Abortion	-.09	**(.03)**	.01	-.02	**(.03)**	.51	.02	**(.03)**	.47	-.05	**(.03)**	.09	.02	**(.03)**	.46
	(A) Gun Control	-.02	**(.05)**	.74	.03	**(.03)**	.42	-.03	**(.05)**	.54	-.04	**(.03)**	.18	-.04	**(.03)**	.19
	(A) Abortion	-.07	**(.05)**	.14	-.04	**(.03)**	.20	-.07	**(.05)**	.15	-.01	**(.03)**	.68	-.07	**(.03)**	.01

Notes. Dependent variable is perceived poll credibility. Q denotes Qualtrics sample, A denotes Amazon sample. Item by Item analysis is conducted on each item of the political knowledge index including the certainty dimension (response scores: 0 vs 0.5 vs 1 for each item). Item by item (dichotomous) analysis is conducted with certainty dimension removed (response scores: 0 vs 1 for each item). The coefficients represent the *Political Knowledge Item X Disagreement* interaction in the models. All tests are two-tailed. We also tested the significance for the improvement in model fits and results were substantially same because all predictors have been recoded to range from 0 to 1. All other variables (reported in the manuscript) are also controlled for in these models. Out of 40 models, only 4 had positive interaction coefficient signs and all of these were insignificant. A sign test was used to assess the probability that 36 of the 40 coefficients would be negative if there was no overall relationship; the p-value of this test was <.001 (two-tailed), suggesting that the relations were considerably more negative than would be expected by chance. These results show that items of our political knowledge index are not prone to expressive responding or they do not vary to an extent that would be problematic for our inferences in the interaction models.

Table H2. Auxiliary Evidence for Political Knowledge Moderation in Motivated Poll Perceptions

	Index of Dichotomous Items			Officer Knowledge Index			Education		
	Est.	**se**	**p**	**Est.**	**se**	**p**	**Est.**	**se**	**p**
(Q) Gun Control	-.20	.06	.00	-.12	.04	.01	-.01	.01	.07
(Q) Abortion	-.08	.05	.13	-.01	.04	.76	.01	.01	.40
(A) Gun Control	-.09	.06	.13	-.01	.05	.89	-.01	.01	.15
(A) Abortion	-.15	.06	.02	-.08	.05	.10	.00	.01	.98

Notes. Q denotes Qualtrics sample, A denotes Amazon sample. Index of Dichotomized Items is the index (average) of dichotomized items reported in Table H1. Officer knowledge scale had open-ended questions on who current people holding positions as Vice President of the U.S., the Chief Justice of the Supreme Court, the Chancellor of Germany, the General Secretary of the UN (responses are coded as true and false, and 4 items are averaged). All three measures range from 0 to 1. The coefficients represent their interaction with the disagreement factor. All tests are two-tailed. All other variables (reported in the manuscript) are also controlled in these models.

Appendix I – Independently Tested Effects of Key Variables

Table I1. Individual Effects of Key Independent Variables and Their Interaction with Political Knowledge in the Prediction of Perceived Credibility of Public Opinion Polls

Main Effect Only (Model 1)			**Interaction with Political Knowledge (Model 2)**		
	Coef.	**se**		**Coef.**	**se**
Fox	-.01	.02	Fox	.01	.04
			Political Knowledge	-.01	.05
			Fox X Political Knowledge	-.04	.06
Detailed Reporting	-.01	.02	Detail	-.01	.04
			Political Knowledge	-.04	.04
			Detail X Political Knowledge	.01	.06
Majority Support	.02	.02	Majority Support	-.08 *	.04
			Political Knowledge	-.14 **	.05
			Majority Support X Political Knowledge	.19 **	.06
Disagreement with Result (Gun control)	-.12 ***	.01	Disagreement with Result (Gun control)	.00	.04
			Political Knowledge	.07 +	.04
			Disagreement with Result (Gun control) X Political Knowledge	-.24 ***	.06
Disagreement with Result (Abortion)	-.04 **	.01	Disagreement with Result (Abortion)	.07 +	.04
			Political Knowledge	.02	.04
			Disagreement with Result (Abortion) X Political Knowledge	-.20 ***	.06
Source-Ideology Consonance	.03 *	.02	Source-Ideology Consonance	.02	.04
			Political Knowledge	-.04	.04
			Source-Ideology Consonance X Political Knowledge	.02	.07
Source-Message Dissonance	.00	.02	Source-Message Dissonance	-.02	.04
			Political Knowledge	-.05	.04
			Source-Message Dissonance X Political Knowledge	.04	.06

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. The left column effects are obtained when these variables are entered as the only predictor in the models whereas the right column effects provide the coefficients when there is an interaction with Political Knowledge.

Appendix J – Abortion Replication (Qualtrics)

Table J1. Predicting the Perceived Credibility of Poll Reports on Abortion

	Baseline Model		Knowledge Effects Model		Source-Ideology Consonance		Source-Message Dissonance		Detailed Reporting	
	Coef.	se	Coef.	se	Coef.	se	Coef.	se	Coef.	se
Disagreement X Political Knowledge			-.18 **	.06	-.21 **	.07	-.18 *	.08	-.21 **	.08
Disagreement X S-I Consonance					-.09	.07				
Political Knowledge X S-I Consonance					-.01	.08				
Disagreement X Political Knowledge X S-I Consonance					.11	.12				
Disagreement X S-M Dissonance							.02	.07		
Political Knowledge X S-M Dissonance							.02	.08		
Disagreement X Political Knowledge X S-M Dissonance							.00	.12		
Disagreement X Detail									.01	.07
Political Knowledge X Detail									.08	.08
Disagreement X Political Knowledge X Detail									.06	.11
Intercept	.40 ***	.02	.36 ***	.03	.36 ***	.03	.37 ***	.04	.39 ***	.03
Source Manipulation (1=Fox News)	-.03 *	.01	-.03 *	.01	-.03 *	.01	-.03 *	.01	-.03 *	.01
Reporting Manipulation (1=Detailed)	.00	.01	.00	.01	.00	.01	.00	.01	-.07	.05
Result Manipulation (1=Majority Support)	.01	.01	.00	.01	.00	.01	.00	.01	.00	.01
S-I Consonance	.01	.01	.00	.01	.02	.05	.00	.02	.00	.01
S-M Dissonance	.00	.01	.00	.01	.00	.01	-.02	.05	.00	.01
Poll Interest	.43 ***	.03	.43 ***	.03	.43 ***	.03	.43 ***	.03	.43 ***	.03
Disagreement	-.05 ***	.01	.04	.03	.07 +	.04	.03	.05	.04	.05
Political Knowledge	-.17 ***	.03	-.09 *	.04	-.08 +	.05	-.09 +	.05	-.12 *	.05
N	1204		1204		1204		1204		1204	
R-square	.17		.18		.18		.18		.18	
F Test (df)	-		9.69** (1)		.69 (3)		.27 (3)		2.23+ (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against the Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model.

Table J2. Methodological Knowledge and Detailed Reporting Analysis for Predicting the Perceived Credibility of Poll Reports on Abortion

	Knowledge Effects Model		**Detailed Reporting**	
	Coef.	se	Coef.	se
Disagreement X Methodological Knowledge	-.13 **	.04	-.19 **	.06
Gun Disagreement X Detail			-.02	.04
Methodological Knowledge X Detail			.01	.06
Disagreement X Methodological Knowledge X Detail			.12	.08
Intercept	.35 ***	.02	.36 ***	.03
Source Manipulation (1=Fox News)	-.03 *	.01	-.03 *	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.03	.03
Result Manipulation (1=Majority Support)	.00	.01	.00	.01
S-I Consonance	.01	.01	.01	.01
S-M Dissonance	.00	.01	.00	.01
Poll Interest	.41 ***	.03	.41 ***	.03
Disagreement	-.01	.02	.00	.03
Methodological Knowledge	-.07 *	.03	-.08 +	.04
N	1206		1206	
R-square	.04		.04	
F Test (df)	-		1.86 (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against the Knowledge Effects model.

Appendix K – Party ID Split Analysis on Qualtrics Sample

Table K1. Key Results by Party ID across the Issues (Qualtrics)

		Democrats (N=506)				Republicans (N=494)			
		Gun Control		Abortion		Gun Control		Abortion	
		Coef.	se	Coef.	se	Coef.	se	Coef.	se
(1) Knowledge Effects	Disagreement X Political Knowledge	-.35 ***	.09	-.24 **	.08	-.06	.09	.05	.09
(2) Source-Ideology Consonance	Disagreement X Political Knowledge	-.35 ***	.10	-.27 **	.10	-.02	.12	-.03	.12
	Disagreement X S-I Consonance	-.02	.12	-.06	.12	-.01	.11	-.11	.11
	Political Knowledge X S-I Consonance	-.04	.13	-.06	.13	.01	.12	-.08	.13
	Disagreement X Political Knowledge X S-I Consonance	.01	.19	.09	.18	-.08	.19	.19	.19
(3) Source-Message Dissonance	Disagreement X Political Knowledge	-.33 **	.12	-.22 +	.12	-.07	.13	.06	.13
	Disagreement X S-M Dissonance	-.05	.11	.07	.10	-.01	.11	.05	.10
	Political Knowledge X S-M Dissonance	-.01	.12	.00	.11	.05	.12	.07	.13
	Disagreement X Political Knowledge X S-M Dissonance	-.02	.17	-.05	.17	.01	.19	-.01	.18
(4) Detailed Reporting	Disagreement X Political Knowledge	-.34 **	.11	-.20 +	.11	.06	.14	-.04	.14
	Disagreement X Detail	.04	.10	.11	.10	.16	.11	-.03	.10
	Political Knowledge X Detail	.07	.11	.15	.11	.04	.12	-.06	.13
	Disagreement X Political Knowledge X Detail	-.02	.17	-.08	.16	-.19	.19	.17	.18
(5) Methodological Knowledge Effects	Disagreement X Methodological Knowledge	-.10	.06	-.16 **	.06	-.03	.07	-.13 *	.07
(6) Detailed Reporting by Methodological Knowledge	Disagreement X Methodological Knowledge	-.01	.09	-.16 *	.08	-.03	.10	-.21 *	.10
	Disagreement X Detail	.10	.07	.05	.06	.08	.07	-.02	.07
	Methodological Knowledge X Detail	.19 *	.09	.06	.08	.05	.08	.03	.10
	Disagreement X Methodological Knowledge X Detail	-.18	.13	.01	.12	-.01	.14	.16	.13

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001.

Appendix L – Regression Predicting Perceived Poll Credibility with Disagreement Strength

Because the majority manipulation was randomly assigned, whether respondents disagreed with the poll result was also randomly assigned for all individuals whose attitudes were not at the midpoint. This simple dummy computation assumes that degree of disagreement with a given poll result does not make a difference, which we thought would have more ecological validity. Appendix L shows the results for an alternative coding in which strength of disagreement is taken in relation to respondent's distance from the response scale midpoint.

Table L1. Predicting the Perceived Credibility of Poll Reports on Gun Control

	Baseline Model		**Knowledge Effects Model**		**Source-Ideology Consonance**		**Source-Message Dissonance**		**Detailed Reporting**	
	Coef.	se	Coef.	se	Coef.	se	Coef.	se	Coef.	se
Disagree S. X Political Knowledge			-.63 ***	.15	-.69 ***	.18	-.65 ***	.19	-.63 **	.20
Disagree S. X S-I Consonance					-.25	.19				
Political Knowledge X S-I Consonance					.01	.08				
Disagree S. X Political Knowledge X S-I Consonance					.23	.31				
Disagree S. X S-M Dissonance							.06	.18		
Political Knowledge X S-M Dissonance							.00	.07		
Disagree S. X Political Knowledge X S-M Dissonance							.03	.30		
Disagree S. X Detail									.07	.18
Political Knowledge X Detail									.03	.07
Disagree S. X Political Knowledge X Detail									.02	.29
Intercept	.43 ***	.03	.38 ***	.03	.38 ***	.03	.39 ***	.03	.40 ***	.03
Source Manipulation (1=Fox News)	-.01	.01	-.01	.01	-.01	.01	.00	.02	-.01	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.01	.01	-.01	.01	-.01	.01	-.04	.04
Result Manipulation (1=Majority Support)	-.04 **	.02	-.05 **	.02	-.05 **	.02	-.05 **	.02	-.05 **	.02
S-I Consonance	.02	.01	.02	.01	.03	.05	.01	.02	.02	.01
S-M Dissonance	.00	.01	.00	.01	.00	.01	-.02	.04	-.01	.01
Poll Interest	.37 ***	.03	.38 ***	.03	.38 ***	.03	.38 ***	.03	.38 ***	.03
Disagree S.	-.35 ***	.04	.01	.09	.08	.11	-.03	.12	-.04	.13
Political Knowledge	-.09 **	.03	.00	.04	.00	.04	.00	.05	-.01	.05
N	1205		1205		1205		1205		1205	
R-square	.18		.19		.19		.19		.19	
F Test (df)	-		18.86*** (1)		1.14 (3)		.34 (3)		.60 (3)	

Notes. Disagree S. denotes disagreement strength. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model.

Table L2. Methodological Knowledge and Detailed Reporting Analysis for Predicting the Perceived Credibility of Poll Reports on Gun Control

	Knowledge Effects Model		**Detailed Reporting**	
	Coef.	se	Coef.	se
Disagree S. X Methodological Knowledge	-.22 *	.10	-.07	.14
Disagree S. X Detail			.21 +	.11
Methodological Knowledge X Detail			.10 +	.05
Disagree S. X Methodological Knowledge X Detail			-.29	.21
Intercept	.41 ***	.02	.43 ***	.03
Source Manipulation (1=Fox News)	-.01	.01	-.01	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.06 *	.03
Result Manipulation (1=Majority Support)	-.05 **	.02	-.05 **	.02
S-I Consonance	.03 +	.01	.03 +	.01
S-M Dissonance	.00	.01	-.01	.01
Poll Interest	.37 ***	.03	.37 ***	.03
Disagree S.	-.26 ***	.06	-.37 ***	.08
Methodological Knowledge	-.06 *	.03	-.11 **	.04
N	1208		1208	
R-square	.18		.19	
F Test (df)	-		1.75 (3)	

Notes. Disagree S. denotes disagreement strength. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against the Knowledge Effects model.

Table L3. Predicting the Perceived Credibility of Poll Reports on Abortion

	Baseline Model		Knowledge Effects Model		Source-Ideology Consonance		Source-Message Dissonance		Detailed Reporting	
	Coef.	se	Coef.	se	Coef.	se	Coef.	se	Coef.	se
Disagree S. X Political Knowledge			-.26 +	.16	-.24	.19	-.21	.22	-.20	.22
Disagree S. X S-I Consonance					.06	.20				
Political Knowledge X S-I Consonance					.05	.07				
Disagree S. X Political Knowledge X S-I Consonance					-.08	.33				
Disagree S. X S-M Dissonance							.18	.19		
Political Knowledge X S-M Dissonance							.01	.07		
Disagree S. X Political Knowledge X S-M Dissonance							-.08	.32		
Disagree S. X Detail									.25	.19
Political Knowledge X Detail									.10	.07
Disagree S. X Political Knowledge X Detail									-.12	.31
Intercept	.41 ***	.02	.39 ***	.03	.40 ***	.03	.41 ***	.03	.43 ***	.03
Source Manipulation (1=Fox News)	-.03 *	.01	-.03 *	.01	-.03 *	.01	-.02 +	.01	-.03 *	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.01	.01	-.01	.01	-.01	.01	-.08 *	.04
Result Manipulation (1=Majority Support)	-.01	.01	-.01	.01	-.01	.01	-.01	.01	-.01	.01
S-I Consonance	.01	.01	.01	.01	-.02	.04	.00	.02	.01	.01
S-M Dissonance	.00	.01	.00	.01	.00	.01	-.03	.04	.00	.01
Poll Interest	.42 ***	.03	.42 ***	.03	.42 ***	.03	.42 ***	.03	.42 ***	.03
Disagree S.	-.25 ***	.04	-.10	.10	-.12	.12	-.20	.13	-.23 +	.13
Political Knowledge	-.15 ***	.03	-.12 ***	.03	-.13 **	.04	-.12 **	.05	-.17 ***	.05
N	1204		1204		1204		1204		1204	
R-square	.19		.19		.19		.20		.20	
F Test (df)	-		2.77+ (1)		.16 (3)		1.09 (3)		3.20* (3)	

Notes. Disagree S. denotes disagreement strength. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against the Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model.

Table L4. Methodological Knowledge and Detailed Reporting Analysis for Predicting the Perceived Credibility of Poll Reports on Abortion

	Knowledge Effects Model		**Detailed Reporting**	
	Coef.	se	Coef.	se
Disagree S. X Methodological Knowledge	-.22 *	.11	-.28 +	.15
Disagree S. X Detail			.08	.12
Methodological Knowledge X Detail			.03	.05
Disagree S. X Methodological Knowledge X Detail			.20	.22
Intercept	.37 ***	.02	.39 ***	.02
Source Manipulation (1=Fox News)	-.03 *	.01	-.03 *	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.04 +	.03
Result Manipulation (1=Majority Support)	-.01	.01	-.01	.01
S-I Consonance	.02	.01	.02	.01
S-M Dissonance	.00	.01	.00	.01
Poll Interest	.41 ***	.03	.41 ***	.03
Disagree S.	-.16 **	.06	-.21 *	.08
Methodological Knowledge	-.10 ***	.02	-.11 **	.04
N	1206		1206	
R-square	.20		.21	
F Test (df)	-		2.62* (3)	

Notes. Disagree S. denotes disagreement strength. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against the Knowledge Effects model.

Appendix M – Qualtrics Results Including Additional Control Variables

Table M1. Full Regression Table for Gun Control Poll Credibility – Including All Control Variables

	Baseline Model		Knowledge Effects Model		Source-Ideology Consonance		Source-Message Dissonance		Detailed Reporting	
	Coef.	**se**	**Coef.**	**se**	**Coef.**	**se**	**Coef.**	**se**	**Coef.**	**se**
Intercept	.46***	(.06)	.40***	(.06)	.39***	(.06)	.40***	(.06)	.42***	(.06)
Source Manipulation (1=Fox News)	-.01	(.01)	-.01	(.01)	-.01	(.01)	-.01	(.02)	-.01	(.01)
Reporting Manipulation (1=Detailed)	-.01	(.01)	-.01	(.01)	-.01	(.01)	-.01	(.01)	-.06	(.05)
Result Manipulation (1=Majority Support)	-.04**	(.02)	-.05***	(.02)	-.05***	(.02)	-.05***	(.02)	-.05***	(.02)
Liberal-Conservative	.00	(.03)	.00	(.03)	.00	(.03)	.00	(.03)	.00	(.03)
Age	-.04	(.03)	-.05	(.03)	-.05	(.03)	-.05	(.03)	-.05	(.03)
Female	.02	(.01)	.02	(.01)	.02	(.01)	.02	(.01)	.02	(.01)
High School Graduate	.06	(.05)	.07	(.05)	.07	(.05)	.07	(.05)	.07	(.05)
Some College	.03	(.05)	.04	(.05)	.04	(.05)	.04	(.05)	.04	(.05)
College Graduate	-.01	(.05)	.00	(.05)	.00	(.05)	.00	(.05)	.00	(.05)
Post Graduate	.02	(.05)	.04	(.05)	.04	(.05)	.04	(.05)	.04	(.05)
$ 25-50K	-.01	(.02)	-.01	(.02)	-.01	(.02)	-.01	(.02)	-.01	(.02)
$ 50-75K	-.02	(.02)	-.02	(.02)	-.02	(.02)	-.02	(.02)	-.02	(.02)
$ 75-100K	-.01	(.02)	-.01	(.02)	-.01	(.02)	-.01	(.02)	-.01	(.02)
More than $ 100K	-.04†	(.03)	-.04	(.02)	-.04	(.02)	-.04	(.02)	-.04	(.02)
White	-.05***	(.02)	-.05***	(.02)	-.05***	(.02)	-.05***	(.02)	-.05***	(.02)
Political Interest	.00	(.04)	-.01	(.04)	-.01	(.04)	.00	(.04)	.00	(.04)
Poll Interest	.37***	(.04)	.37***	(.04)	.37***	(.04)	.37***	(.04)	.37***	(.04)
Political Knowledge	-.06*	(.03)	.06	(.04)	.06	(.05)	.06	(.06)	.03	(.06)
Disagreement	-.14***	(.02)	.00	(.03)	.03	(.04)	.00	(.05)	-.03	(.05)
S-I Consonance	.02	(.02)	.02	(.01)	.06	(.05)	.01	(.02)	.02	(.01)
S-M Dissonance	.00	(.01)	.00	(.01)	.00	(.01)	-.02	(.05)	.00	(.01)

Table M1 continues on next page

Table M1 Continues

Political Knowledge X Disagreement		-.28*** (.06)	-.30*** (.07)	-.30*** (.08)	-.26** (.08)
S-I Consonance X Political Knowledge			-.03 (.08)		
S-I Consonance X Disagreement			-.10 (.07)		
S-I Consonance X Political Knowledge X Disagreement			.09 (.12)		
Political Knowledge X S-M Dissonance				.00 (.08)	
Disagreement X S-M Dissonance				.01 (.07)	
Political Knowledge X Disagreement X S-M Dissonance				.04 (.12)	
Detail X Political Knowledge					.06 (.08)
Detail X Disagreement					.05 (.07)
Detail X Disagreement X Political Knowledge					-.03 (.11)
N	1202	1202	1201	1202	1202
Adj. R-square	.19	.20	.20	.20	.20
F Test (df)	-	22.98*** (1)	.98 (3)	.30 (3)	.83 (3)

Notes. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against the Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model.

Table M2. Gun Control Poll Credibility – Methodological Knowledge – Including All Control Variables

	Baseline Model		Methods Knowledge Model	
	Coef.	**se**	**Coef.**	**Se**
Intercept	.46***	(.06)	.48***	(.06)
Source Manipulation (1=Fox News)	-.01	(.01)	-.01	(.01)
Reporting Manipulation (1=Detailed)	.00	(.01)	-.06*	(.03)
Result Manipulation (1=Majority Support)	-.04**	(.02)	-.05**	(.02)
Liberal-Conservative	.00	(.03)	.00	(.03)
Age	-.04	(.03)	-.04	(.03)
Female	.02	(.01)	.02	(.01)
High School Graduate	.05	(.05)	.05	(.05)
Some College	.03	(.05)	.03	(.05)
College Graduate	-.01	(.05)	-.01	(.05)
Post Graduate	.02	(.05)	.03	(.05)
$ 25-50K	-.01	(.02)	-.01	(.02)
$ 50-75K	-.02	(.02)	-.02	(.02)
$ 75-100K	-.01	(.02)	-.01	(.02)
More than $ 100K	-.04†	(.03)	-.04†	(.02)
White	-.05**	(.02)	-.05**	(.02)
Political Interest	.00	(.04)	.00	(.04)
Poll Interest	.37***	(.04)	.37***	(.04)
Political Knowledge	-.04	(.03)	-.04	(.03)
Disagreement	-.14***	(.02)	-.14***	(.03)
S-I Consonance	.03†	(.02)	.03†	(.01)
S-M Dissonance	.00	(.01)	-.01	(.01)
Methods Knowledge	-.06*	(.02)	-.06	(.04)
Methods Knowledge X Disagreement			-.06	(.06)
Detail X Methods Knowledge			.11†	(.06)

Detail X Disagreement		.07 (.04)
Detail X Disagreement X Methods Knowledge		-.09 (.08)
N	1201	1201
Adj. R-square	.19	.20
F Test (df)	-	2.69* (3)

Notes. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against the Baseline Model.

Table M3. Full Regression Table for Abortion Poll Credibility – Including All Control Variables

	Baseline Model		Knowledge Effects Model		Source-Ideology Consonance		Source-Message Dissonance		Detailed Reporting	
	Coef.	**se**	**Coef.**	**se**	**Coef.**	**se**	**Coef.**	**se**	**Coef.**	**se**
Intercept	.43***	(.05)	.40***	(.05)	.39***	(.06)	.41***	(.06)	.44***	(.06)
Source Manipulation (1=Fox News)	-.03*	(.01)	-.03*	(.01)	-.03*	(.01)	-.03*	(.01)	-.03*	(.01)
Reporting Manipulation (1=Detailed)	.00	(.01)	.00	(.01)	.00	(.01)	.00	(.01)	-.09†	(.04)
Result Manipulation (1=Majority Support)	.01	(.01)	.01	(.01)	.01	(.01)	.01	(.01)	.00	(.01)
Liberal-Conservative	.03	(.03)	.03	(.03)	.03	(.03)	.03	(.03)	.03	(.03)
Age	-.09**	(.03)	-.09**	(.03)	-.09**	(.03)	-.09**	(.03)	-.09**	(.03)
Female	.04*	(.01)	.04*	(.01)	.04*	(.01)	.04*	(.01)	.04**	(.01)
High School Graduate	.01	(.05)	.00	(.05)	.00	(.05)	.01	(.05)	.00	(.05)
Some College	-.02	(.05)	-.03	(.05)	-.03	(.05)	-.02	(.05)	-.03	(.05)
College Graduate	-.06	(.05)	-.07	(.05)	-.07	(.05)	-.07	(.05)	-.07	(.05)
Post Graduate	-.05	(.05)	-.05	(.05)	-.05	(.05)	-.05	(.05)	-.05	(.05)
$ 25-50K	.02	(.02)	.02	(.02)	.02	(.02)	.02	(.02)	.02	(.02)
$ 50-75K	.00	(.02)	.00	(.02)	.00	(.02)	.00	(.02)	.00	(.02)
$ 75-100K	.03	(.02)	.03	(.02)	.03	(.02)	.03	(.02)	.03	(.02)
More than $ 100K	-.03	(.02)	-.02	(.02)	-.03	(.02)	-.02	(.02)	-.03	(.02)
White	-.06***	(.01)	-.06***	(.01)	-.06***	(.01)	-.06***	(.01)	-.06***	(.01)
Political Interest	.04	(.03)	.04	(.03)	.04	(.03)	.04	(.03)	.04	(.03)
Poll Interest	.40***	(.04)	.40***	(.04)	.40***	(.04)	.40***	(.04)	.40***	(.04)
Political Knowledge	-.09**	(.03)	-.03	(.04)	-.03	(.05)	-.04	(.05)	-.08	(.05)
Disagreement	-.05***	(.01)	.02	(.03)	.05	(.04)	.01	(.05)	.01	(.05)
S-I Consonance	.01	(.01)	.01	(.01)	.01	(.05)	.00	(.02)	.01	(.01)
S-M Dissonance	-.01	(.01)	.00	(.01)	.00	(.01)	-.02	(.05)	-.01	(.01)

Table M3 continues on next page

Table M3 continues

Political Knowledge X Disagreement			-.15**	(.06)	-.17*	(.07)	-.15†	(.08)	-.16*	(.08)
S-I Consonance X Political Knowledge					.01	(.08)				
S-I Consonance X Disagreement					-.08	(.07)				
S-I Consonance X Political Knowledge X Disagreement					.09	(.12)				
Political Knowledge X S-M Dissonance							.02	(.08)		
Disagreement X S-M Dissonance							.02	(.07)		
Political Knowledge X Disagreement X S-M Dissonance							-.01	(.11)		
Detail X Political Knowledge									.11	(.08)
Detail X Disagreement									.04	(.07)
Detail X Disagreement X Political Knowledge									.02	(.11)
N	1200		1200		1200		1200		1200	
Adj. R-square	.20		.21		.21		.21		.21	
F Test (df)	-		6.88** (1)		.76 (3)		.17 (3)		2.58† (3)	

Notes. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against the Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model.

Table M4. Abortion Poll Credibility – Methodological Knowledge – Including All Control Variables

	Baseline Model		Methods Knowledge Model	
	Coef.	**se**	**Coef.**	**se**
Intercept	.43***	(.05)	.42***	(.06)
Source Manipulation	-.03*	(.01)	-.03*	(.01)
Reporting Manipulation	.00	(.01)	-.04	(.03)
Result Manipulation (1=Majority Support)	.01	(.01)	.01	(.01)
Liberal-Conservative	.04	(.03)	.03	(.02)
Age	-.09**	(.03)	-.08**	(.03)
Female	.04*	(.01)	.04**	(.01)
High School Graduate	.00	(.05)	.00	(.05)
Some College	-.02	(.05)	-.02	(.05)
College Graduate	-.06	(.05)	-.06	(.05)
Post Graduate	-.05	(.05)	-.05	(.05)
$ 25-50K	.02	(.02)	.02	(.02)
$ 50-75K	.00	(.02)	.00	(.02)
$ 75-100K	.03	(.02)	.03	(.02)
More than $ 100K	-.03	(.02)	-.03	(.02)
White	-.06***	(.01)	-.06***	(.01)
Political Interest	.04	(.03)	.04	(.03)
Poll Interest	.40***	(.04)	.40***	(.04)
Political Knowledge	-.06†	(.03)	-.06†	(.03)
Disagreement	-.06***	(.01)	.00	(.03)
S-I Consonance	.01	(.01)	.01	(.01)
S-M Dissonance	.00	(.01)	.00	(.01)
Methods Knowledge	-.08***	(.02)	-.03	(.04)
Methods Knowledge X Disagreement			-.18**	(.06)
Detail X Methods Knowledge			.03	(.06)

Detail X Disagreement		.00 (.04)
Detail X Disagreement X Methods Knowledge		.10 (.08)
N	1199	1199
Adj. R-square	.21	.22
F Test (df)	-	4.51** (3)

Notes. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against the Baseline Model.

Appendix N – Results without the Poll Interest Variable

Table N1. Predicting the Perceived Credibility of Poll Reports on Gun Control (Models excluding *Poll Interest* variable)

	Baseline Model		**Knowledge Effects Model**		**Source-Ideology Consonance**		**Source-Message Dissonance**		**Detailed Reporting**	
	Coef.	se	Coef.	se	Coef.	se	Coef.	se	Coef.	se
Disagreement X Political Knowledge			-.25 ***	.06	-.28 ***	.08	-.29 ***	.09	-.24 **	.09
Disagreement X S-I Consonance					-.12	.08				
Political Knowledge X S-I Consonance					-.09	.09				
Disagreement X Political Knowledge X S-I Consonance					.12	.13				
Disagreement X S-M Dissonance							-.03	.07		
Political Knowledge X S-M Dissonance							-.02	.08		
Disagreement X Political Knowledge X S-M Dissonance							.09	.13		
Disagreement X Detail									.05	.07
Political Knowledge X Detail									.02	.08
Disagreement X Political Knowledge X Detail									-.03	.12
Intercept	.57 ***	.03	.52 ***	.03	.50 ***	.03	.52 ***	.04	.53 ***	.04
Source Manipulation (1=Fox News)	.00	.01	.00	.01	-.01	.01	.00	.02	.00	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.01	.01	-.01	.01	-.01	.01	-.04	.05
Result Manipulation (1=Majority Support)	-.04 *	.02	-.05 **	.02	-.05 **	.02	-.05 **	.02	-.05 **	.02
S-I Consonance	.03 *	.02	.03 +	.02	.11 *	.05	.03	.02	.03 +	.02
S-M Dissonance	.00	.01	-.01	.01	.00	.02	-.01	.05	-.01	.01
Disagreement	-.15 ***	.02	-.01	.04	.02	.04	.00	.05	-.04	.05
Political Knowledge	-.04	.03	.07 +	.04	.10 +	.05	.08	.06	.07	.06
N	1205		1205		1205		1205		1205	
R-square	.07		.08		.08		.08		.08	
F Test (df)	-		16.72*** (1)		1.44 (3)		.32 (3)		.65 (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model.

Table N2. Methodological Knowledge and Detailed Reporting Analysis for Predicting the Perceived Credibility of Poll Reports on Gun Control (Models excluding *Poll Interest* variable)

	Knowledge Effects Model		**Detailed Reporting**	
	Coef.	se	Coef.	se
Disagreement X Methodological Knowledge	-.11 *	.04	-.09	.06
Gun Disagreement X Detail			.06	.05
Methodological Knowledge X Detail			.06	.06
Disagreement X Methodological Knowledge X Detail			-.03	.09
Intercept	.56 ***	.02	.58 ***	.03
Source Manipulation (1=Fox News)	.00	.01	.00	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.05 +	.03
Result Manipulation (1=Majority Support)	-.04 **	.02	-.04 **	.02
S-I Consonance	.04 **	.02	.04 **	.02
S-M Dissonance	.00	.01	-.01	.01
Disagreement	-.10 ***	.02	-.13 ***	.03
Methodological Knowledge	-.03	.03	-.06	.04
N	1209		1209	
R-square	.08		.08	
F Test (df)	-		1.15 (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model.

Table N3. Predicting the Perceived Credibility of Poll Reports on Abortion (Models excluding *Poll Interest* variable)

	Baseline Model		Knowledge Effects Model		Source-Ideology Consonance		Source-Message Dissonance		Detailed Reporting	
	Coef.	se	Coef.	se	Coef.	se	Coef.	se	Coef.	se
Disagreement X Political Knowledge			-.19 **	.06	-.24 **	.08	-.15 +	.09	-.22 *	.09
Disagreement X S-I Consonance					-.15 +	.08				
Political Knowledge X S-I Consonance					-.09	.09				
Disagreement X Political Knowledge X S-I Consonance					.18	.13				
Disagreement X S-M Dissonance							.08	.07		
Political Knowledge X S-M Dissonance							.07	.08		
Disagreement X Political Knowledge X S-M Dissonance							-.09	.13		
Disagreement X Detail									.00	.07
Political Knowledge X Detail									.04	.08
Disagreement X Political Knowledge X Detail									.05	.12
Intercept	.53 ***	.03	.48 ***	.03	.46 ***	.03	.51 ***	.04	.50 ***	.04
Source Manipulation (1=Fox News)	-.02	.01	-.02	.01	-.02	.01	-.02	.02	-.02	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.01	.01	-.01	.01	-.01	.01	-.04	.05
Result Manipulation (1=Majority Support)	.02	.02	.01	.02	.01	.02	.01	.02	.01	.02
S-I Consonance	.02	.02	.02	.02	.10 +	.06	.02	.02	.02	.02
S-M Dissonance	.00	.01	.00	.01	.00	.02	-.06	.05	.00	.01
Disagreement	-.04 *	.01	.07 +	.04	.11 *	.04	.03	.05	.07	.05
Political Knowledge	-.08 *	.03	.01	.04	.04	.05	-.02	.06	-.01	.06
N	1204		1204		1204		1204		1204	
R-square	.02		.02		.03		.03		.03	
F Test (df)	-		9.69** (1)		1.39 (3)		.75 (3)		.80 (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model except for the one reported in the Knowledge Effects model itself which is tested against the Baseline Model.

Table N4. Methodological Knowledge and Detailed Reporting Analysis for Predicting the Perceived Credibility of Poll Reports on Abortion (Models excluding *Poll Interest* variable)

	Knowledge Effects Model		**Detailed Reporting**	
	Coef.	se	Coef.	se
Disagreement X Methodological Knowledge	-.13 **	.04	-.21 ***	.06
Gun Disagreement X Detail			-.05	.05
Methodological Knowledge X Detail			-.02	.06
Disagreement X Methodological Knowledge X Detail			.16 +	.09
Intercept	.50 ***	.02	.50 ***	.03
Source Manipulation (1=Fox News)	-.02	.01	-.02	.01
Reporting Manipulation (1=Detailed)	-.01	.01	-.01	.03
Result Manipulation (1=Majority Support)	.01	.01	.01	.01
S-I Consonance	.03 +	.02	.03 *	.02
S-M Dissonance	.00	.01	.00	.01
Disagreement	.01	.02	.03	.03
Methodological Knowledge	-.05	.03	-.03	.04
N	1206		1206	
R-square	.04		.04	
F Test (df)	-		1.86 (3)	

Notes. + denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. F change is tested against Knowledge Effects model.

Appendix O: Descriptive Statistics of the Sample and Key Variables

Table O1. Weighted descriptive statistics of the demographic variables (N=959; C1, C2, C3, C4, C5)

Variable	Response Options	Mean	sd	Frequency	Percentage
Age		47.44	(17.7)		
Sex	Male			461.95	48.17%
	Female			497.04	51.82%
Education level	Less than high school			261.31	12.57%
	High school			608.95	29.30%
	Some college			587.64	28.28%
	Bachelor's degree or higher			620.00	29.84%
Race	White, Non-Hispanic			618.79	64.52%
	Black, Non-Hispanic			112.42	11.72%
	Other, Non-Hispanic			69.29	7.23%
	Hispanic			148.31	15.46%
	2+ Races, Non-Hispanic			10.20	1.06%
Income	Less than $5,000			39.73	4.14%
	$5,000 to $7,499			14.81	1.54%
	$7,500 to $9,999			8.96	0.93%
	$10,000 to $12,499			20.83	2.17%
	$12,500 to $14,999			16.75	1.75%
	$15,000 to $19,999			27.27	2.84%
	$20,000 to $24,999			38.42	4.01%
	$25,000 to $29,999			45.10	4.70%
	$30,000 to $34,999			56.56	5.90%
	$35,000 to $39,999			42.17	4.40%
	$40,000 to $49,999			60.41	6.30%
	$50,000 to $59,999			83.56	8.71%
	$60,000 to $74,999			86.64	9.03%
	$75,000 to $84,999			81.37	8.48%
	$85,000 to $99,999			55.55	5.79%
	$100,000 to $124,999			125.52	13.09%
	$125,000 to $149,999			53.84	5.61%
	$150,000 to $174,999			37.20	3.88%
	$175,000 or more			64.20	6.71%
Marital Status	Married			494.63	51.58%
	Widowed			44.36	4.63%
	Divorced			101.97	10.63%
	Separated			14.98	1.56%
	Never married			245.35	25.58%
	Living with partner			57.71	6.02%

Note on Managing the samples. Each specific hypothesis or research question relied on a subsample of the whole dataset (as clarified in preregistration) by using the data only from specific conditions (see Table 1 in the manuscript). This is necessary because the dependent variable, relative poll credibility, is a bipolar item where extreme ends represent high relative credibility (Poll A is much more accurate than poll B vs vice versa). Hence, the number of comparisons across the conditions differs and this led to the comparison of Condition 1 multiple times. Hence Condition 1 (C1) is oversampled (has twice the sample size of other conditions, Table 1).

Table O2. Weighted Descriptive Statistics for the Key Variables across the Experimental Conditions and in Aggregate (N=959; C1, C2, C3, C4, C5)

Relative Credibility of the Second Poll						
Mean	.54					
Standard deviation	.54					
	C1 (DR)	**C2 (dD)**	**C3 (rR)**	**C4 (rD)**	**C5 (dR)**	**All**
First poll much more accurate	4.00%	10.62%	2.28%	6.44%	7.34%	5.66%
First poll somewhat more accurate	6.23%	2.91%	3.01%	0.80%	1.90%	3.50%
First poll slightly more accurate	4.84%	3.05%	4.27%	2.55%	0.09%	3.40%
Both polls are equally accurate	68.89%	56.75%	63.53%	61.09%	57.28%	62.67%
Second poll slightly more accurate	7.04%	7.69%	10.51%	9.11%	7.41%	8.14%
Second poll somewhat more accurate	5.42%	9.62%	7.99%	9.43%	9.54%	7.92%
Second poll much more accurate	3.95%	9.34%	8.40%	10.54%	15.64%	8.69%

Perceived Probability of Trump Win						
Mean	.43					
Standard deviation	.31					
	C1 (DR)	**C2 (dD)**	**C3 (rR)**	**C4 (rD)**	**C5 (dR)**	**All**
Clinton much more likely to win	19.38%	21.43%	19.52%	17.92%	18.13%	19.31%
Clinton somewhat more likely to win	14.91%	12.96%	11.78%	9.39%	15.88%	13.32%
Clinton a little more likely to win	12.55%	13.63%	10.09%	16.48%	13.45%	13.09%
Both candidates equally likely to win	18.08%	26.68%	22.58%	25.85%	22.82%	22.37%
Trump is a little more likely to win	17.83%	9.22%	17.79%	16.10%	13.96%	15.42%
Trump is somewhat more likely to win	6.51%	7.16%	10.17%	5.18%	9.35%	7.52%
Trump is much more likely to win	10.73%	8.91%	8.05%	9.06%	6.39%	8.96%

Party Identification						
Mean	.54					
Standard deviation	.33					
	C1 (DR)	**C2 (dD)**	**C3 (rR)**	**C4 (rD)**	**C5 (dR)**	**All**
Strong Republican	11.70%	14.50%	15.64%	13.10%	10.09%	12.87%
Moderate Republican	8.59%	6.96%	10.54%	12.52%	9.18%	9.39%
Republican leaning	22.18%	19.06%	17.55%	25.01%	16.26%	20.35%
Independent	5.60%	8.54%	6.29%	7.67%	4.48%	6.37%
Democrat leaning	20.66%	21.39%	19.81%	14.89%	24.87%	20.39%
Moderate Democrat	14.97%	9.43%	13.77%	10.77%	15.90%	13.30%
Strong Democrat	16.29%	20.09%	16.39%	16.02%	19.21%	17.39%

Political Interest						
Mean	.52					
Standard deviation	.35					
	C1 (DR)	**C2 (dD)**	**C3 (rR)**	**C4 (rD)**	**C5 (dR)**	**All**
Not at all interested	19.25%	22.91%	18.67%	16.21%	25.56%	20.35%
Slightly interested	24.19%	25.82%	21.90%	33.71%	20.40%	24.99%
Somewhat interested	39.15%	25.28%	34.48%	31.81%	32.02%	33.58%
Very interested	17.41%	25.98%	24.95%	18.26%	22.01%	21.08%

Notes. All refers to the statistics of the whole sample.

Full wording of the variables

Perceived relative accuracy of the polls: “Comparing the two polls directly, which poll do you think is more accurate in representing the public support for the likely candidates in this election?”
“The first poll (KnowPolitics) is much more accurate than the second one (Public-Metrics)”,
“The first poll (KnowPolitics) is somewhat more accurate than the second one (Public-Metrics)”,
“The first poll (KnowPolitics) is a little more accurate than the second one (Public-Metrics)”,
“Neither poll is more accurate than the other poll”,
“The second poll (Public-Metrics) is a little more accurate than the first one (KnowPolitics)”,
“The second poll (Public-Metrics) is somewhat more accurate than the first one (KnowPolitics)”,
“The second poll (Public-Metrics) is much more accurate than the first one (KnowPolitics)”

Election predictions: “If the election were held tomorrow and it was between Hillary Clinton and Donald Trump, which candidate do you think would win and become the next President of the U.S.?”
“Clinton is much more likely to win”,
“Clinton is somewhat more likely to win”,
“Clinton is a little more likely to win”,
“Both candidates are equally likely to win”,
“Trump is a little more likely to win”,
“Trump is somewhat more likely to win”,
“Trump is much more likely to win”

Party Identification: Party identification (Party ID) was asked with the traditional vetted question that first asked whether respondents are Republican, Democrat, or Independent. Those who selected either party were asked a follow-up question about the strength of their identification (example: strong Republican vs not a very strong Republican), and Independents were asked a follow-up question about whether they leaned towards any of the two parties or that they were fully independent. These four questions were combined to create a measure of party identification strength with seven points, ranging from 0 (strong Republican) to 1 (strong Democrat).

Political Interest: “In general, how interested are you in politics and public affairs?”
“Not at all interested,”
“Slightly interested,”
“Somewhat interested,”
“Very interested.”

Appendix P: Manipulation Stories and Preregistration

Note. First, I informed respondents that these were real screenshots from a website and I stylized them to support this claim. I included a byline (gender-variant names chosen), title, candidate picture, and introductory contextualizing paragraph, and two separate paragraphs with poll results and methodological details. I chose Yahoo! News as the platform where the poll story presumably was reported. Also, two polling firm names were made up carefully to prevent any possible name effects. Compared to conditions where poll results were different, producing the conditions where results were similar (without making them the same) was harder, especially when I want to keep the stories realistic. For example, I used a 4% points gap between the candidates in experimental condition 2 and a 6% gap in condition 3. This might introduce some unintended variation, although such small differences did not matter as I checked for order effects.

Figure P1. Manipulations
[Condition 1]

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Clinton leads in one poll; Trump leads in another

By Jordan Smith

Washington. Recent polls have started to focus on Hillary Clinton and Donald Trump's electoral support at the national level as they are the two most likely candidates to compete in the general election. One poll by KnowPolitics suggests that Clinton is ahead of Trump, but another poll by Public-Metrics shows higher support for Trump than Clinton.

Clinton's ahead. In a poll conducted by KnowPolitics this week, 48% of respondents said they would vote for Clinton compared to only 42% for Trump, with the rest of respondents undecided. The margin of error for this result is ±2%. The poll was conducted on a nationally representative sample of likely voters with a response rate of 19%. The final sample size was 1703 adults, with 669 Republicans, 738 Democrats, and 296 Independents.

Or maybe Trump is. But also this week, a poll by Public-Metrics reported that Trump would win the 49% of support in contrast to only 43% who support Clinton, the rest of respondents were undecided. The margin of error for this second poll is ±2%. The poll was conducted on a nationally representative sample of likely voters with a response rate of 21%. The final sample size of the survey was 1654 adults, with 611 Republicans, 678 Democrats, and 365 Independents.

[Condition 2]

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Polls indicate that Clinton is ahead of Trump

By Jordan Smith

Washington. Recent polls have started to focus on Hillary Clinton and Donald Trump's electoral support at the national level as they are the two most likely candidates to compete in the general election. One poll by KnowPolitics suggests that Clinton is ahead of Trump, and another poll by Public-Metrics shows higher support for Clinton as well.

Clinton's ahead. In a poll conducted by KnowPolitics this week, 48% of respondents said they would vote for Clinton compared to only 44% for Trump, with the rest of respondents undecided. The margin of error for this result is ±6%. The poll was conducted with a set of online news consumers, and the response rate was 5%. The final sample size of the survey was 437 adults, with 175 Republicans, 189 Democrats, and 73 Independents.

Similar trend. Also this week, a poll by Public-Metrics reported that Clinton would win the 49% of support in contrast to only 43% who support Trump, the rest of respondents were undecided. The margin of error for this second poll is ±2%. The poll was conducted on a nationally representative sample of likely voters with a response rate of 21%. The final sample size of the survey was 1654 adults, with 611 Republicans, 678 Democrats, and 365 Independents.

[Condition 3]

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Polls indicate that Trump is ahead of Clinton

By Jordan Smith

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Trump's ahead. In a poll conducted by KnowPolitics this week, 48% of respondents said they would vote for Trump compared to only 44% for Clinton, with the rest of respondents undecided. The margin of error for this result is ±6%. The poll was conducted with a set of online news consumers, and the response rate was 5%. The final sample size of the survey was 437 adults, with 175 Republicans, 189 Democrats, and 73 Independents.

Similar trend. Also this week, a poll by Public-Metrics reported that Trump would win the 49% of support in contrast to only 43% who support Clinton, the rest of respondents were undecided. The margin of error for this second poll is ±2%. The poll was conducted on a nationally representative sample of likely voters with a response rate of 21%. The final sample size of the survey was 1654 adults, with 611 Republicans, 678 Democrats, and 365 Independents.

[Condition 4]

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Trump leads in one poll; Clinton leads in another

By Jordan Smith

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[Condition 5]

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Clinton leads in one poll; Trump leads in another

By Jordan Smith

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Preregistration Notes

Preregistration Institution: Evidence in Governance and Politics
Preregistration Title: Redacted
Preregistration ID: Redacted
Note: Some wording changes are made to clarify the tests better in the manuscript text; however, as seen, all research questions and hypotheses are kept the same.

- Preregistration Text Starts Here -
[title redacted]
EGAP Preregistration
GATED until [redacted]

Note: This study has received Time-Sharing Experiments in Social Sciences Small Studies Program Grant. This preregistration document is a shortened and updated version of the TESS application that was submitted to TESS PIs in **[redacted]**. The TESS application has contained all hypotheses as well, and the TESS documents will become public in a year as well. GfK (working for TESS) fielded this study in **[redacted]** and provided the researchers with the dataset on **[redacted]** While submitting this preregistration to EGAP, the researchers have not made any changes to the hypotheses or other information I submitted in the TESS application.

Introduction.

How does the public evaluate and react to polls? Opinion polls are very important as they constitute one of the major communicative pathways of public opinion. Whereas extensive research has examined effects of polls on attitudes (e.g. bandwagon and underdog) as well as behavior (e.g. turnout, voting preferences), our understanding of the mechanisms that mediate how the public engages with polls (perceptions and credibility evaluations of polls) is rather limited. Especially in the context of horse-race journalism in the election years, media reports are saturated with poll reports, which have either consistent or inconsistent results, have varying methodological qualities, and are often interpreted along with heavy partisan or expert commentaries from polling pundits.

The current study proposes a survey experiment designed to leverage the horse-race dynamics in the 2016 elections. Specifically, I will examine how individuals perceive, evaluate, and react to polls by manipulating multiple polls' results, their methodological quality, and partisan and expert opinionation of the findings in hypothetical poll reports. I investigate how the public perceive and react to polls. I draw from literatures on motivated reasoning, correctives/fact-checking and opinionated news in formulating our research questions and hypotheses.

Theoretical Background

Motivated Reasoning. Motivations play an important role in public opinion processes leading us to discount information that challenges our pre-existing views. Similarly, people interpret polls in line with their motivations; they discredit polling results that suggest their favorite issue position or candidate are in the minority. This motivational bias is stronger among the respondents who are more knowledgeable (and hence have greater capacity to counter-argue). To date, it is unclear whether motivated responses to poll results operate in the contested horse-race environment where individuals are often exposed to multiple and conflicting poll results simultaneously or within short intervals of time. Hence, one of the core questions of this study concerns how people would respond to consistent or inconsistent results of polls that might or might not be favorable to their choices.

Fact-checking/Corrective Attempts. As a way to help the public interpret polling results, pollsters have long pushed to include information about survey methodology in media reports. The presence of methodological details could serve as a corrective against the potential of motivational biases in the public's assessments of polls. Similarly, media organizations often invite polling experts to comment on results and methodological details to help people properly interpret poll news. A growing literature on fact-checking and attempts to correct misinformation, however, raises questions about whether either of these practices can counter motivated reasoning in the polling context.

Partisan opinionation. In practice, however, objective commentators are not the only individuals who attempt to sway the public's understanding of poll results. Poll reports are often accompanied by partisan commentaries as well. And there are strong reasons to think that partisan commentary may enhance motivational biases.

Design

In this study I test how polling results, polling quality, and the presence of expert and partisan opinionation can influence the public's interpretation of poll results. Specifically, I examine how these factors alter the perceived accuracy of poll results as well as respondents' perceptions of who would win the election. I formulated 12 experimental conditions (See Table 1 below). In each condition, respondents are presented with a news story about two poll results. I manipulate whether each poll finds a Democratic or Republican candidate lead, whether the polls are of consistently high or mixed methodological quality, whether polling experts render objective assessments, and whether partisan commentators render political judgments on which polls to believe.

In **[redacted],** I have collected nationally representative sample of 2078 Americans via GfK through a TESS Small Study grant I received.

Table P1. Design of the Experimental Conditions

Condition	**Result (who leads)**	**Quality of Methods**	**Expert or Partisan Opinionation**
C1	Dem-Rep	High-High	None
C2	Dem-Dem	Low-High	None
C3	Rep-Rep	Low-High	None
C4	Rep-Dem	Low-High	None
C5	Dem-Rep	Low-High	None
C6	Dem-Dem	Low-High	Expert Debunk-Expert Praise
C7	Rep-Rep	Low-High	Expert Debunk-Expert Praise
C8	Dem-Rep	Low-High	Expert Debunk-Expert Praise
C9	Rep-Dem	Low-High	Expert Debunk-Expert Praise
C10	Dem-Rep	High-High	Partisan Praise-Partisan Debunk
C11	Rep-Dem	High-High	Partisan Praise- Partisan Debunk
C12	Dem-Rep	High-High	Expert Debunk-Expert Debunk

Notes. *High* (vs *Low*) indicates poll with high methodological quality. *Dem* (vs *Rep*) indicates a poll result showing the lead of Democratic candidate. *Debunk* (vs *Praise* or *None*) indicates that expert or partisan source debunks the poll's methodology.

The 12 conditions proposed will allow us to test eight substantive hypotheses and two research questions. Our first set of hypotheses concern the presence of motivated reasoning and how it depends on poll quality. First, I expect to find evidence that motivated reasoning operates when respondents simultaneously encounter conflicting poll results (H1). I plan to test this by looking at differences in the perceptions of polls in condition C1 by partisanship (See Table 1).

Next, I expect that partisans will differ from one another in the credibility that they associate with polls that have consistent results (H2; C2 and C3 by partisanship). These same conditions will allow us to answer our first research question: Do people recognize methodological quality differences between polls with consistent results? (RQ1; C2 and C3). When polls are inconsistent, however, I expect that individuals will be responsive to methodological quality (H3; C4 and C5). Whether variations in methodological quality will enhance or mitigate motivational biases in conflicting polls is a key question (RQ2; C4 and C5 by partisanship vs C1 by partisanship). Compared to conditions where poll results are consistent, I expect that inconsistent results will trigger stronger methods-based assessments (H4; C4 and C5 by partisanship vs C2 and C3 by partisanship).

Our second set of hypotheses concern how commentary on polls might further moderate poll evaluations. Because out-partisans can latch onto expert critiques to dismiss disliked results, I expect that expert commentary will enhance motivated reasoning for polls with consistent findings (H5; C6 and C7 by partisanship vs C2 and C3 by partisanship). In contrast, I expect that expert commentary will reduce motivational biases where polls' results are inconsistent, because they will serve as an informational corrective (H6; C8 and C9 by partisanship vs C4 and C5 by partisanship). Partisan commentary, on the other hand, should enhance motivated reasoning (H7; C10 and C11 by partisanship vs C1). Finally, I included an additional condition in which an expert critiques conflicting polls both of which are high quality. In this condition, I expect the effects of motivational biases will be stronger than in a condition without expert commentary (H8; C12 vs C1). This final condition is also important for ecological validity reasons as the entire polling industry has increasingly come under fire.

Across all of the conditions, I expect to replicate the earlier studies' findings that more politically aware respondents will be the most susceptible to motivational biases; I plan to use education and party strength to test this. Aside from the respondents' perceptions of accuracy, I will also examine whether our manipulations alter respondents' perceptions of likely election outcomes.

Importance of Study. To date, much of the research on motivated reasoning has illustrated that individuals encounter political information with a series of cognitive biases. This study provides a novel window into how those biases might fuel partisan differences in perceptions of polls in the context of an election year. The results of this study will provide important information on how media organizations can potentially mitigate the polarizing effects of poll reports. It does so in an ecologically valid way that recognizes the complex informational environment that characterizes American political campaigning and news reporting. This study taps the dynamic aspects of the horserace by focusing on the competitive poll results, their varying methodological qualities, and impact of competing commentaries in media coverge.

- Preregistration Text Ends Here -

Appendix R: Results controlling for political interest

Table R1. OLS Regressions Predicting the Perceived Relative Accuracy of Polls, Controlling for Political Interest

	Coef.		se	Coef.		se
A-) *Regressions predicting preference for Republican poll when both polls are high quality* **(H1)**						
Intercept	.62	***	(.03)	.69	***	(.04)
Interest	.01		(.03)	.02		(.03)
Education	-.05		(.03)	-.17	**	(.06)
Democratic Voter	-.17	***	(.03)	-.31	***	(.07)
Democratic Voter X Education				.22	*	(.09)
N (c1)	286			286		
R^2	.11			.13		
F-change	-			F(1)=5.8*		
B-) *Regressions assessing conditions under which individuals identify quality distinctions between polls with similar results* **(H2)** *(Republican Ahead is dummy variable where rR=1, dD=0)*						
Intercept	.41	***	(.04)	.28	***	(.06)
Interest	.03		(.04)	.03		(.04)
Education	.16	***	(.04)	.38	***	(.09)
Disagreement	.04		(.05)	.29	**	(.11)
Republican Ahead	.09	*	(.04)	.22	*	(.09)
Disagreement X Republican Ahead	-.15	*	(.07)	-.38	*	(.15)
Disagreement X Education				-.44	**	(.16)
Republican Ahead X Education				-.22		(.13)
Disagreement X Republican Ahead X Education				.40	†	(.22)
N (c2, c3)	300			300		
R^2	.07			.10		
F-change	-			F(1)=2.59†		
C-) *Regressions assessing conditions under which individuals recognize quality distinctions among polls with contradictory results* **(RQ2)** *(Inconsistent Quality is a dummy variable where* rD and dR are 1, and DR is 0)						
Intercept	.57	***	(.03)	.68	***	(.05)
Interest	.04		(.03)	.04	†	(.03)
Education	.00		(.03)	-.18	*	(.07)
Disagreement	-.17	***	(.04)	-.31	***	(.08)
Inconsistent Quality	.01		(.03)	-.15	*	(.07)
Disagreement X Inconsistent Quality	.09	†	(.05)	.25	*	(.11)
Disagreement X Education				.23	*	(.11)
Inconsistent Quality X Education				.26	**	(.10)
Disagreement X Inconsistent Quality X Education				-.25		(.16)
N (c1, c4, c5)	585			585		
R^2	.06			.08		
F-change	-			F(3)=3.14*		
D-) *Regressions assessing differences in quality recognition when polls have consistent vs inconsistent results* **(H4)** *(Inconsistent Results is a dummy variable where* rD and dR are 1, and dD and rR are 0)						
Intercept	.47	***	(.03)	.37	***	(.05)
Interest	.05	*	(.03)	.05	†	(.03)
Education	.11	***	(.03)	.27	***	(.07)
Disagreement	-.04		(.04)	.11		(.08)
Inconsistent Results	.04		(.03)	.16	*	(.07)
Disagreement X Inconsistent Results	-.04		(.05)	-.17		(.12)
Disagreement X Education				-.25	*	(.11)
Inconsistent Results X Education				-.20	†	(.10)
Disagreement X Inconsistent Results X Education				.23		(.17)
N (c2, c3, c4, c5)	599			599		
R^2	.04			.04		
F-change	-			F(3)=2.29†		

Notes. Left columns are simple models, right columns are education interaction models. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Note the specific subsamples that are utilized in each of the models (C#s in parentheses represent condition numbers as shown in Table 1). † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table R2. OLS Regressions Predicting Perceptions of Trump Win, Controlling for Political Interest

A-) *Regressions predicting perceptions of Trump win when both polls are high quality* **(H1)**

	Coef.	**se**	**Coef.**	**se**
Intercept	.83 ***	(.05)	.88 ***	(.07)
Interest	-.03	(.05)	-.02	(.05)
Education	-.13 **	(.05)	-.22 *	(.09)
Democratic Voter	-.56 ***	(.05)	-.66 ***	(.10)
Democratic Voter X Education			.16	(.14)
N	292		292	
R-square	.35		.36	
F-change	-		F(1)=1.20	

B-) *Predicting perceptions of Trump win when individuals encounter polls with similar results, varying methodological quality* **(H2)** *(Republican Ahead is dummy variable where rR=1, dD=0)*

	Coef.	**se**	**Coef.**	**se**
Intercept	.73 ***	(.05)	.75 ***	(.08)
Interest	.03	(.04)	.03	(.04)
Education	-.11 *	(.05)	-.14	(.12)
Democratic Voter	-.51 ***	(.06)	-.55 ***	(.12)
Republican Ahead	.03	(.05)	.03	(.11)
Republican Ahead X Democratic Voter	-.01	(.08)	.01	(.18)
Democratic Voter X Education			.07	(.19)
Republican Ahead X Education			.01	(.17)
Democratic Voter X Republican Ahead X Education			-.04	(.26)
N	307		307	
R-square	.35		.35	
F-change	-		F(3)=.05	

C-) *Regressions predicting perceptions of Trump win when polls with contradictory results have different qualities* **(RQ2)** *(Inconsistent Quality is a dummy variable where* rD and dR are 1, and DR is 0)

	Coef.	**se**	**Coef.**	**se**
Intercept	.82 ***	(.04)	.87 ***	(.07)
Interest	.00	(.03)	.00	(.03)
Education	-.15 ***	(.04)	-.23 *	(.09)
Democratic Voter	-.55 ***	(.05)	-.66 ***	(.10)
Inconsistent Quality	-.10 *	(.04)	-.16 †	(.09)
Democratic Voter X Inconsistent Quality	.17 **	(.06)	.31 *	(.15)
Democratic Voter X Education			.16	(.15)
Inconsistent Quality X Education			.10	(.13)
Democratic Voter X Inconsistent Quality X Education			-.21	(.21)
N	593		593	
R-square	.28		.28	
F-change	-		F(3)=.46	

D-) *Regressions predicting perceptions of Trump win when polls have consistent vs inconsistent results* **(H4)** *(Inconsistent Results is a dummy variable where* rD and dR are 1, and dD and rR are 0)

	Coef.	**se**	**Coef.**	**se**
Intercept	.76 ***	(.04)	.76 ***	(.06)
Interest	.03	(.03)	.03	(.03)
Education	-.13 ***	(.03)	-.13	(.08)
Democratic Voter	-.52 ***	(.04)	-.55 ***	(.09)
Inconsistent Results	-.07 †	(.04)	-.07	(.09)
Democratic Voter X Inconsistent Results	.14 *	(.06)	.20	(.14)
Democratic Voter X Education			.05	(.13)
Inconsistent Results X Education			.00	(.12)
Democratic Voter X Inconsistent Results X Education			-.10	(.20)
N	608		608	
R-square	.28		.28	
F-change	-		F(3)=.26	

Notes. Left columns are simple models, right columns are education interaction models. Higher scores in the outcome variable represent respondent perceptions of a Trump win as more probable. Note the specific subsamples that are utilized in each of the models (C#s in parentheses represent condition numbers as shown in Table 1). † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Appendix S: Details of H2 Analysis

When results are consistent with each other, people should not care about the differences between pieces of evidence. Hence, we expect that partisans will differ from one another in the credibility that they associate with polls that have consistent results. That is, they will evaluate multiple polls similarly in both directions; uniformly debunking unfavorable ones and praising favorable ones (**H2).**

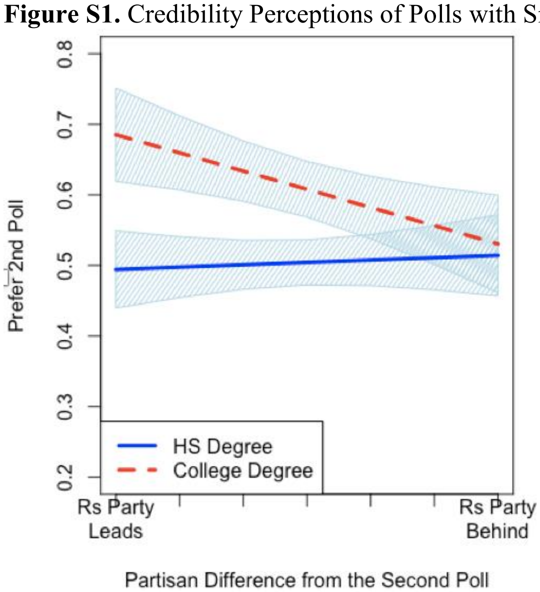
When respondents encountered polls that showed the same result but differed in their methodological quality (robust vs poor), their credibility evaluations were not influenced by the poll result's favorability to their own position (b=-.03, se=.05, p=ns, Table S1, Column 1). However, education has both a main effect and interaction. More educated people tend to recognize the better-quality poll correctly, yet, when they disagree with the results of the both polls, they tend to not care about the quality differences (b=-.48, se=.16, p=.01, Table S1, Column 2, Figure S1).

Table S1. *Regressions assessing conditions under which individuals identify quality distinctions between polls with similar results* **(H2)** *(Republican Ahead is dummy variable where rR=1, dD=0)*

	Coef.	se	Coef.	se
Intercept	.42 ***	(.04)	.28 ***	(.06)
Education	.17 ***	(.04)	.41 ***	(.09)
Disagreement	.03	(.05)	.31 **	(.11)
Republican Ahead	.09 *	(.04)	.23 *	(.09)
Disagreement X Republican Ahead	-.14 *	(.07)	-.40 **	(.15)
Disagreement X Education			-.48 **	(.16)
Republican Ahead X Education			-.24 †	(.13)
Disagreement X Republican Ahead X Education			.44 *	(.22)
N (c2, c3)	311		311	
R^2	.08		.10	
F-change			F(3)=3.30*	

Notes. Left columns are simple models, right columns are education interaction models. Higher scores in the outcome variable represent second poll being perceived as more accurate compared to the first poll. Note the specific subsamples that are utilized in each of the models (C#s in parentheses represent condition numbers as shown in Table 1). † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Figure S1. Credibility Perceptions of Polls with Similar Results



Finally, polls with similar results and dissimilar methodological quality did not influence respondents' predictions of the election outcome (Table S2).

Table. S2. *Predicting perceptions of Trump win when individuals encounter polls with similar results, varying methodological quality* **(H2)** *(Republican Ahead is dummy variable where rR=1, dD=0)*

	Coef.	se	Coef.	se
Intercept	.74 ***	(.05)	.76 ***	(.08)
Education	-.09 *	(.05)	-.12	(.12)
Democratic Voter	-.51 ***	(.06)	-.57 ***	(.12)
Republican Ahead	.03	(.05)	.03	(.11)
Democratic Voter X Republican Ahead	.00	(.08)	.04	(.18)
Democratic Voter X Education			.09	(.18)
Republican Ahead X Education			.00	(.16)
Democratic Voter X Republican Ahead X Education			-.06	(.26)
N (c2, c3)	318		318	
R^2	.33		.34	
F-change	-		F(3)=.14	

Notes. Left columns are simple models, right columns are education interaction models. Higher scores in the outcome variable represent respondent perceptions of a Trump win as more probable. Note the specific subsamples that are utilized in each of the models (C#s in parentheses represent condition numbers as shown in Table 1). † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Additional Analysis for RQ2a (mentioned in manuscript):

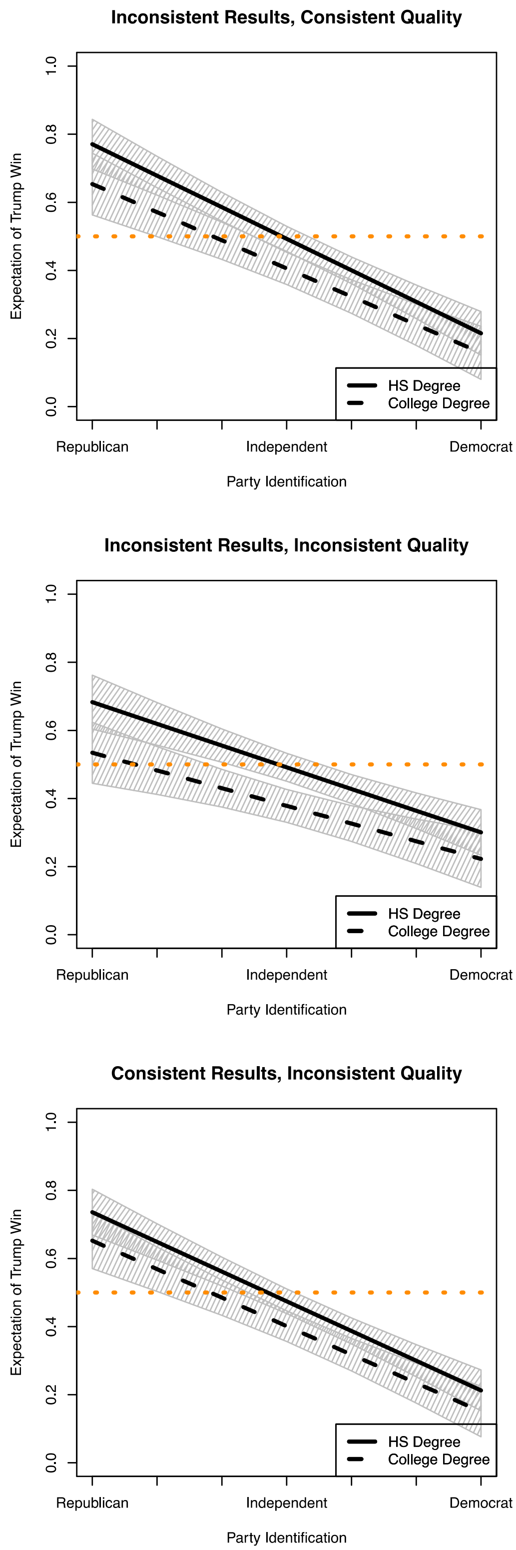
Table S3. Regression Predicting Perceived Accuracy of the Second Poll For Polls *Among* Inconsistent Results and Varying Methodological Qualities

	Coef.		se
Intercept	.55	***	(.04)
Education	.09	*	(.04)
Predisposition to Disagree	-.08	*	(.04)
Conditions Included	C4, C5		
N	307		
R-square	.03		

Notes. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Appendix T: Details of Education Moderation

Figure T1. Details of Education Moderation for Electoral Expectations: Interaction Plots



Details of Education Moderation for Electoral Expectations

Table T1. Predicting Perceptions of Trump Win – Education Moderation

A-) *Regressions predicting perceptions of Trump win when both polls are high quality* **(H1)** (Democratic Voter is the 7-point party-identification variable where greater values indicate stronger Democrat identity)				
	Coef.	**se**	**Coef.**	**se**
Intercept	.79 ***	(.04)	.85 ***	(.06)
Education	-.11 *	(.05)	-.19 *	(.09)
Democratic Voter	-.56 ***	(.05)	-.65 ***	(.10)
Democratic Voter X Education			.15	(.14)
N (c1)	306		306	
R^2	.34		34	
F-change	-		F(1)=1.08	
B-) *Regressions predicting perceptions of Trump win when polls with contradictory results have different qualities* **(RQ2)** *(Inconsistent Quality is a dummy variable where* rD and dR are 1, and DR is 0)				
	Coef.	**se**	**Coef.**	**se**
Intercept	.81 ***	(.04)	.85 ***	(.06)
Education	-.13 ***	(.03)	-.19 *	(.09)
Democratic Voter	-.55 ***	(.05)	-.65 ***	(.10)
Inconsistent Quality	-.10 *	(.04)	-.13	(.09)
Democratic Voter X Inconsistent Quality	.17 **	(.06)	.29 *	(.15)
Democratic Voter X Education			.15	(.15)
Inconsistent Quality X Education			.06	(.13)
Democratic Voter X Inconsistent Quality X Education			-.19	(.20)
N (c1, c4, c5)	614		614	
R^2	.28		.28	
F-change	-		F(3)=.53	
C-) *Regressions predicting perceptions of Trump win when polls have consistent vs inconsistent results* **(H4)** *(Inconsistent Results is a dummy variable where* rD and dR are 1, and dD and rR are 0)				
	Coef.	**se**	**Coef.**	**se**
Intercept	.77 ***	(.03)	.77 ***	(.06)
Education	-.12 ***	(.03)	-.12	(.08)
Democratic Voter	-.52 ***	(.04)	-.55 ***	(.09)
Inconsistent Results	-.07 †	(.04)	-.06	(.09)
Democratic Voter X Inconsistent Results	.13 *	(.06)	.19	(.14)
Democratic Voter X Education			.06	(.13)
Inconsistent Results X Education			-.01	(.12)
Democratic Voter X Inconsistent Results X Education			-.10	(.19)
N (c2, c3, c4, c5)	626		626	
R^2	.27		.27	
F-change	-		F(3)=.41	

Notes. Left columns are simple models, right columns are education interaction models. Higher scores in the outcome variable represent respondent perceptions of a Trump win as more probable. Note the specific subsamples that are utilized in each of the models (C#s in parentheses represent condition numbers as shown in Table 1). † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Appendix U:
Consistent vs Inconsistent Results and Causal Effects (Mediation) of Perceived Credibility Causal Effects of Perceived Credibility

A. Consistent vs Inconsistent Results

On the other hand, because inconsistent results encourage elaboration, as noted above, individuals should be more likely to recognize poll quality under conditions where the results are inconsistent as opposed to when polls have consistent results (cf. Petty and Cacioppo, 1986). People who view inconsistent results should identify higher quality methods more frequently, regardless of partisanship **(H7),** and should exhibit less partisan certainty in their subsequent electoral predictions **(H8).**

Whether results were consistent or inconsistent did not matter for the evaluations of polls with differing quality (b= -.04, se= .05, p= .51, Table U1, Column 1).[64] There was no notable difference in the slopes for consistent and inconsistent-results (Figure 1E).[65] Still, across the board, respondents generally recognized the higher quality poll as more accurate (Figure 1E).
These results do not support **H7.**

Table U1. OLS Regressions predicting the perceived relative accuracy of the second (which is always higher quality) poll (H4a) and the perceived chances of Trump win (H4b) when comparing polls that have consistent vs inconsistent results (Conditions 2, 3, 4, and 5)

	Perceived Relative Poll Accuracy (H7)		Perceived Chance of Trump Win (H8)	
	Coef.	se	Coef.	se
Predisposition to Disagree (Disagree)	-.05	(.04)		
Democratic Respondent			-.52 ***	(.04)
Inconsistent Results Condition	.04	(.03)	-.07 †	(.04)
Disagree X Inconsistent Results	-.04	(.05)		
Democratic Respondent X Inconsistent Results			.13 *	(.06)
Intercept	.49 ***	(.03)	.77 ***	(.03)
Education	.13 ***	(.03)	-.12 ***	(.03)
N	617		626	
R^2	.04		.27	

Notes. For H7, higher scores in the outcome variable represent second poll (which is always the higher quality poll) being perceived as more accurate compared to the first poll; for H8, higher scores in the outcome variable represent respondent perceptions of a Trump win as more probable. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

In contrast, for electoral predictions, exposure to inconsistent results (vs consistent results) made respondents less certain about the chances of their favorable candidate winning (b= .13, se= .06, p= .03). This relationship is visible in Figure 1F, as inconsistent results led to a shallower slope for respondents' election predictions. These findings were in line with expectations from **H8**, which posited that inconsistent results would increase elaboration and thereby reduce the partisan driven certainty in electoral expectations.

[64] In Table 2, Column 3, disagreement variable is not significant. This is because half of the conditions in this model had polls with consistent results, which push respondents who dislike them to the midpoint response option.
[65] And the inclusion of the interaction term (Disagreement X Inconsistent Results) did not improve the baseline model, F(2, 610)=.73, p=.48.

Discussion

I had found little support for H4 which expected that individuals would be more likely to identify high quality polls when results were inconsistent. In interacting with respondent education, however, I complicate this story. Highly educated respondents who encountered polls with consistent results that supported their partisan positions effectively discriminated between polls with high and low quality methods. These same respondents did not differentiate by quality when they were predisposed to find the results disagreeable, however ($b= -.19$, $se= .10$, $p= .06$). Because more educated respondents were more likely to assert that the favorable poll was of higher quality in this condition, their assessments reflect greater partisan bias than lower educated respondents (H5). I take up these seemingly contradictory results below.

Similarly, presentation of polls with inconsistent results also reduced individuals' partisan confidence about the chances of favored candidate winning. In other words, when the evidence was consistently showing that their favored candidate would lose, respondents exhibited weaker beliefs that their favored candidate would win. These results thus echo recent research documenting that consistent findings matter more than inconsistent poll results in changing people's beliefs (Tappin, van der Leer, McKay, 2017). However, given that there might be other factors in respondents' electoral expectations and updating of their beliefs in response to *what they believe* is credible polling evidence, whether this finding constitutes a "reduction of motivational bias" or not is a theoretical debate that needs further research.

B. Causal Effects (Mediation) of Perceived Credibility Causal Effects of Perceived Credibility

Does Perceived Poll Accuracy Matter for Electoral Predictions?

One of the important questions I was interested in was whether perceptions of poll accuracy influenced predictions about the election outcome. In examining the results for H1, I found that perceived accuracy was significantly related to electoral expectations above and beyond party identification. That is, individuals who found the Trump-leading poll more credible were more likely to expect that Trump would win, controlling for partisanship and education. But, this analysis cannot establish causality, as it could be the case that election expectations shaped poll perceptions.

To assess whether perceived accuracy had a causal effect on electoral predictions, I leveraged differences between experimental conditions. When controlling for all variables, compared to the baseline condition of C1 (inconsistent results, equivalent quality), the interactions of experimental conditions with the perceived accuracy of Clinton-leading polls were uniquely associated with perceptions of Clinton victory, and same effect was observed for Trump (difference from baseline model, $F(5)= 10.95$, $p< .001$; $\Delta R^2= .03$; details in Appendix U). Such that, an increase in the perceived accuracy of a poll lead to that candidate being perceived as more likely to win across the experimental conditions.

Table U2. Predicting Perceptions of Trump Win, Controlling for Poll Credibility

	Coef.	**se**
Intercept	.53 ***	(.06)
Relative Credibility of the Trump-leading poll	.44 ***	(.08)
Education	-.09 *	(.04)
Democratic Voter	-.49 ***	(.05)
N	299	
R-square	.41	

Notes. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. Note that this analysis is based on C1.

Table U3. Examining the Causal Effect of Perceived Credibility on Election Predictions

	Baseline Model			**Perceived Accuracy and Condition Interactions**			**Perceived Accuracy, Partisanship, and Condition Interactions**		
	Coef.		se	Coef.		se	Coef.		se
Intercept	.72	***	(.04)	.54	***	(.06)	.53	***	(.09)
Education	-.13	***	(.03)	-.12	***	(.03)	-.12	***	(.03)
Democratic Voter	-.53	***	(.05)	-.49	***	(.05)	-.45	***	(.13)
dD	-.04		(.05)	.11		(.08)	.14		(.13)
rR	-.02		(.05)	.13		(.09)	.12		(.14)
rD	-.06		(.05)	.38	***	(.09)	.30	*	(.14)
dR	-.14	**	(.05)	-.01		(.09)	-.03		(.15)
Second Poll Credibility	.16	***	(.04)	.44	***	(.08)	.47	**	(.15)
Democratic Voter X dD	.02		(.08)	-.03		(.08)	-.07		(.19)
Democratic Voter X rR	.03		(.08)	-.02		(.08)	.01		(.21)
Democratic Voter X rD	.08		(.08)	.05		(.08)	.21		(.21)
Democratic Voter X dR	.22	**	(.08)	.17	*	(.08)	.21		(.20)
Democratic Voter X Second Poll Credibility	-		-	-		-	-.06		(.23)
Second Poll Credibility X dD	-		-	-.24	*	(.12)	-.29		(.23)
Second Poll Credibility X rR	-		-	-.26	*	(.13)	-.23		(.23)
Second Poll Credibility X rD	-		-	-.77	***	(.13)	-.63	**	(.23)
Second Poll Credibility X dR	-		-	-.23	†	(.12)	-.18		(.23)
Democratic Voter X Second Poll Credibility X dD	-		-	-		-	.09		(.33)
Democratic Voter X Second Poll Credibility X rR	-		-	-		-	-.06		(.36)
Democratic Voter X Second Poll Credibility X rD	-		-	-		-	-.28		(.37)
Democratic Voter X Second Poll Credibility X dR	-		-	-		-	-.06		(.35)
N	915			915			915		
R-square	0.32			0.35			0.35		
F-change from the previous model	-			F(4)=9.73***			F(5)=.38		
F-change from the Baseline Model							F(9)=4.51***		

Notes. dD, rR, rD, and dR are the experimental conditions where reference category is the first experimental condition (DR). Baseline model includes perceived accuracy as a control. The second model interacts this variable with experimental conditions to infer causal effects. The third model examines whether these causal effects differ for Republicans and Democrats. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Appendix V: Ordinal Logit Models

Table V1. Ordinal Logit Regressions Predicting the Perceived Relative Accuracy of Polls (H1)

	Simple Model			Education Interaction		
	Coef.		se	Coef.		se
Education	-.25		(.38)	-1.33	†	(.73)
Democratic Voter	-2.22	***	(.41)	-3.50	***	(.85)
Democratic Voter X Education				1.95	†	(1.15)
1st poll >>> 2nd poll | 1st poll >> 2nd poll	-4.75	***	(.48)	-5.46	***	(.63)
1st poll >> 2nd poll | 1st poll > 2nd poll	-3.74	***	(.42)	-4.45	***	(.59)
1st poll > 2nd poll | 1st poll = 2nd poll	-3.28	***	(.40)	-3.99	***	(.58)
1st poll = 2nd poll | 1st poll < 2nd poll	.55	†	(.33)	-.15		(.51)
1st poll < 2nd poll | 1st poll << 2nd poll	1.22	***	(.35)	.53		(.52)
1st poll << 2nd poll | 1st poll <<< 2nd poll	2.16	***	(.41)	1.50	**	(.56)
Residual Deviance	652.07			649.17		
AIC	668.07			667.17		
N	299			299		

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more accurate, << is somewhat more accurate, < is slightly more accurate, = is equally accurate.

Table V2. Ordinal Logit Regressions Predicting the Perceived Relative Accuracy of Polls with Similar Results (H2)

	Simple Model			Education Interaction		
	Coef.		se	Coef.		se
Education	1.55	***	(.36)	3.56	***	.82
Disagreement	.28		(.47)	2.93	**	1.00
Republican Ahead	.64	†	(.39)	1.59	*	.81
Disagreement X Republican Ahead	-1.11	†	(.65)	-3.34	*	1.40
Disagreement X Education				-4.49	**	1.50
Republican Ahead X Education				-1.62		1.15
Disagreement X Republican Ahead X Education				3.81	†	2.01
1st poll >>> 2nd poll | 1st poll >> 2nd poll	-1.77	***	(.38)	-.65		.55
1st poll >> 2nd poll | 1st poll > 2nd poll	-1.34	***	(.36)	-.21		.54
1st poll > 2nd poll | 1st poll = 2nd poll	-.93	**	(.34)	.21		.54
1st poll = 2nd poll | 1st poll < 2nd poll	2.12	***	(.37)	3.33	***	.58
1st poll < 2nd poll | 1st poll << 2nd poll	2.70	***	(.38)	3.91	***	.59
1st poll << 2nd poll | 1st poll <<< 2nd poll	3.53	***	(.40)	4.76	***	.61
Residual Deviance	823.14			813.75		
AIC	843.14			839.75		
N	311			311		

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more accurate, << is somewhat more accurate, < is slightly more accurate, = is equally accurate.

Table V3. Ordinal Logit Regressions Predicting the Perceived Relative Accuracy of Polls with Consistent vs Inconsistent Quality (RQ2)

	Simple Model			Education Interaction		
	Coef.		**se**	**Coef.**		**se**
Education	.35		(.26)	-1.15	†	(.69)
Disagreement	-1.83	***	(.36)	-2.95	***	(.79)
Inconsistent Quality	.13		(.30)	-1.11		(.69)
Disagreement X Inconsistent Quality	1.18	*	(.49)	1.99	†	(1.10)
Disagreement X Education				1.68		(1.08)
Inconsistent Quality X Education				1.93	*	(.97)
Disagreement X Inconsistent Quality X Education				-1.22		(1.54)
1st poll >>> 2nd poll | 1st poll >> 2nd poll	-3.45	***	(.33)	-4.44	***	(.53)
1st poll >> 2nd poll | 1st poll > 2nd poll	-2.86	***	(.31)	-3.85	***	(.52)
1st poll > 2nd poll | 1st poll = 2nd poll	-2.49	***	(.30)	-3.48	***	(.51)
1st poll = 2nd poll | 1st poll < 2nd poll	.93	***	(.27)	-.03		(.49)
1st poll < 2nd poll | 1st poll << 2nd poll	1.44	***	(.28)	.49		(.49)
1st poll << 2nd poll | 1st poll <<< 2nd poll	2.23	***	(.30)	1.29	**	(.50)
Residual Deviance	1476.95			1468.71		
AIC	1496.95			1494.71		
N	605			605		

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more accurate, << is somewhat more accurate, < is slightly more accurate, = is equally accurate.

Table V4. Ordinal Logit Regressions Predicting the Perceived Relative Accuracy of Polls with Consistent vs Inconsistent Results (H4)

	Simple Model			Education Interaction		
	Coef.		**se**	**Coef.**		**se**
Education	1.22	***	(.25)	2.67	***	(.58)
Disagreement	-.29		(.32)	1.19	†	(.68)
Inconsistent Results	.30		(.28)	1.52	*	(.61)
Disagreement X Inconsistent Results	-.30		(.46)	-2.00	*	(1.01)
Disagreement X Education				-2.39	*	(.97)
Inconsistent Results X Education				-1.95	*	(.86)
Disagreement X Inconsistent Results X Education				2.72	†	(1.43)
1st poll >>> 2nd poll | 1st poll >> 2nd poll	-2.11	***	(.27)	-1.24	**	(.41)
1st poll >> 2nd poll | 1st poll > 2nd poll	-1.78	***	(.26)	-.90	*	(.40)
1st poll > 2nd poll | 1st poll = 2nd poll	-1.45	***	(.25)	-.57		(.40)
1st poll = 2nd poll | 1st poll < 2nd poll	1.61	***	(.25)	2.52	***	(.41)
1st poll < 2nd poll | 1st poll << 2nd poll	2.11	***	(.26)	3.02	***	(.42)
1st poll << 2nd poll | 1st poll <<< 2nd poll	2.90	***	(.28)	3.82	***	(.43)
Residual Deviance	1629.60			1621.79		
AIC	1649.60			1647.79		
N	617			617		

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more accurate, << is somewhat more accurate, < is slightly more accurate, = is equally accurate.

Table V5. Ordinal Logit Regressions predicting perceptions of Trump win when both polls are high quality (H1)

	Simple Model			**Education Interaction**		
	Coef.		**se**	**Coef.**		**se**
Education	-.64	*	(.32)	-1.21	†	(.63)
Democratic Voter	-3.47	***	(.35)	-4.15	***	(.73)
Democratic Voter X Education				1.03		(.97)
Clinton >>> Trump | Clinton >> Trump	-3.99	***	(.35)	-4.36	***	(.50)
Clinton >> Trump | Clinton > Trump	-3.02	***	(.32)	-3.40	***	(.48)
Clinton > Trump | Clinton = Trump	-2.32	***	(.30)	-2.69	***	(.47)
Clinton = Trump | Clinton < Trump	-1.39	***	(.28)	-1.76	***	(.45)
Clinton < Trump | Clinton << Trump	-.25		(.28)	-.62		(.45)
Clinton << Trump | Clinton <<< Trump	.37		(.30)	.01		(.45)
Residual Deviance	1042.93			1041.79		
AIC	1058.93			1059.79		
N	306			306		

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more likely to win, << is somewhat more likely to win, < is slightly more likely to win, = is equally likely to win.

Table V6. Ordinal Logit Regressions Predicting perceptions of Trump win when individuals encounter polls with similar results, varying methodological quality (H2)

	Simple Model			**Education Interaction**		
	Coef		**se**	**Coef.**		**se**
Education	-.62	*	(.31)	-.49		(.80)
Democratic Voter	-3.33	***	(.44)	-3.49	***	(.83)
Republican Ahead	.33		(.36)	.64		(.75)
Democratic Voter X Republican Ahead	-.19		(.57)	-.20		(1.20)
Democratic Voter X Education				.25		(1.24)
Republican Ahead X Education				-.49		(1.10)
Democratic Voter X Republican Ahead X Education				-.01		(1.73)
Clinton >>> Trump | Clinton >> Trump	-3.75	***	(.38)	-3.69	***	(.56)
Clinton >> Trump | Clinton > Trump	-2.94	***	(.36)	-2.88	***	(.55)
Clinton > Trump | Clinton = Trump	-2.26	***	(.34)	-2.20	***	(.54)
Clinton = Trump | Clinton < Trump	-.91	**	(.32)	-.84		(.52)
Clinton < Trump | Clinton << Trump	.02		(.32)	.09		(.52)
Clinton << Trump | Clinton <<< Trump	.92	**	(.35)	.99	†	(.54)
Residual Deviance	1068.75			1068.01		
AIC	1088.75			1094.01		
N	318			318		

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more likely to win, << is somewhat more likely to win, < is slightly more likely to win, = is equally likely to win.

Table V7. Ordinal Logit Regressions predicting perceptions of Trump win when polls have consistent vs inconsistent quality (RQ2)

<table>
<tr><th></th><th colspan="3">Simple Model</th><th colspan="3">Education Interaction</th></tr>
<tr><th></th><th>Coef.</th><th></th><th>se</th><th>Coef.</th><th></th><th>se</th></tr>
<tr><td>Education</td><td>-.75</td><td>***</td><td>(.23)</td><td>-1.24</td><td>*</td><td>(.63)</td></tr>
<tr><td>Democratic Voter</td><td>-3.53</td><td>***</td><td>(.33)</td><td>-4.23</td><td>***</td><td>(.72)</td></tr>
<tr><td>Inconsistent Quality</td><td>-.52</td><td>†</td><td>(.27)</td><td>-.74</td><td></td><td>(.63)</td></tr>
<tr><td>Democratic Voter X Inconsistent Quality</td><td>.97</td><td>*</td><td>(.43)</td><td>1.62</td><td></td><td>(1.00)</td></tr>
<tr><td>Democratic Voter X Education</td><td></td><td></td><td></td><td>1.06</td><td></td><td>(.97)</td></tr>
<tr><td>Inconsistent Quality X Education</td><td></td><td></td><td></td><td>.34</td><td></td><td>(.88)</td></tr>
<tr><td>Democratic Voter X Inconsistent Quality X Education</td><td></td><td></td><td></td><td>-.98</td><td></td><td>(1.38)</td></tr>
<tr><td>Clinton >>> Trump | Clinton >> Trump</td><td>-4.10</td><td>***</td><td>(.28)</td><td>-4.42</td><td>***</td><td>(.47)</td></tr>
<tr><td>Clinton >> Trump | Clinton > Trump</td><td>-3.19</td><td>***</td><td>(.27)</td><td>-3.51</td><td>***</td><td>(.46)</td></tr>
<tr><td>Clinton > Trump | Clinton = Trump</td><td>-2.45</td><td>***</td><td>(.26)</td><td>-2.77</td><td>***</td><td>(.46)</td></tr>
<tr><td>Clinton = Trump | Clinton < Trump</td><td>-1.43</td><td>***</td><td>(.24)</td><td>-1.75</td><td>***</td><td>(.45)</td></tr>
<tr><td>Clinton < Trump | Clinton << Trump</td><td>-.38</td><td></td><td>(.24)</td><td>-.69</td><td></td><td>(.45)</td></tr>
<tr><td>Clinton << Trump | Clinton <<< Trump</td><td>.36</td><td></td><td>(.25)</td><td>.04</td><td></td><td>(.45)</td></tr>
<tr><td>Residual Deviance</td><td colspan="3">2134.19</td><td colspan="3">2132.78</td></tr>
<tr><td>AIC</td><td colspan="3">2154.19</td><td colspan="3">2158.78</td></tr>
<tr><td>N</td><td colspan="3">614</td><td colspan="3">614</td></tr>
</table>

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more likely to win, << is somewhat more likely to win, < is slightly more likely to win, = is equally likely to win.

Table V8. Ordinal Logit Regressions predicting perceptions of Trump win when polls have consistent vs inconsistent results (H4)

<table>
<tr><th></th><th colspan="3">Simple Model</th><th colspan="3">Education Interaction</th></tr>
<tr><th></th><th>Coef.</th><th></th><th>se</th><th>Coef.</th><th></th><th>se</th></tr>
<tr><td>Education</td><td>-.73</td><td>**</td><td>(.23)</td><td>-.67</td><td></td><td>(.54)</td></tr>
<tr><td>Democratic Voter</td><td>-3.39</td><td>***</td><td>(.31)</td><td>-3.50</td><td>***</td><td>(.61)</td></tr>
<tr><td>Inconsistent Results</td><td>-.37</td><td></td><td>(.26)</td><td>-.18</td><td></td><td>(.58)</td></tr>
<tr><td>Democratic Voter X Inconsistent Results</td><td>.75</td><td>†</td><td>(.42)</td><td>.81</td><td></td><td>(.93)</td></tr>
<tr><td>Democratic Voter X Education</td><td></td><td></td><td></td><td>.19</td><td></td><td>(.86)</td></tr>
<tr><td>Inconsistent Results X Education</td><td></td><td></td><td></td><td>-.29</td><td></td><td>(.82)</td></tr>
<tr><td>Democratic Voter X Inconsistent Results X Education</td><td></td><td></td><td></td><td>-.09</td><td></td><td>(1.30)</td></tr>
<tr><td>Clinton >>> Trump | Clinton >> Trump</td><td>-3.96</td><td>***</td><td>(.27)</td><td>-3.93</td><td>***</td><td>(.40)</td></tr>
<tr><td>Clinton >> Trump | Clinton > Trump</td><td>-3.13</td><td>***</td><td>(.26)</td><td>-3.10</td><td>***</td><td>(.40)</td></tr>
<tr><td>Clinton > Trump | Clinton = Trump</td><td>-2.40</td><td>***</td><td>(.25)</td><td>-2.37</td><td>***</td><td>(.39)</td></tr>
<tr><td>Clinton = Trump | Clinton < Trump</td><td>-1.18</td><td>***</td><td>(.23)</td><td>-1.15</td><td>**</td><td>(.38)</td></tr>
<tr><td>Clinton < Trump | Clinton << Trump</td><td>-.24</td><td></td><td>(.23)</td><td>-.20</td><td></td><td>(.38)</td></tr>
<tr><td>Clinton << Trump | Clinton <<< Trump</td><td>.64</td><td>**</td><td>(.24)</td><td>.68</td><td>†</td><td>(.39)</td></tr>
<tr><td>Residual Deviance</td><td colspan="3">2160.84</td><td colspan="3">2160.23</td></tr>
<tr><td>AIC</td><td colspan="3">2180.84</td><td colspan="3">2186.23</td></tr>
<tr><td>N</td><td colspan="3">626</td><td colspan="3">626</td></tr>
</table>

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more likely to win, << is somewhat more likely to win, < is slightly more likely to win, = is equally likely to win.

Appendix Y: Demographic Composition of the Samples

Table Y1. Demographics across the samples of Study 1 and 2

	Study 1 (N=200)		Study 2 (N=401)	
	Freq.	**%**	**Freq.**	**%**
Age (18-24)	23	11.5	38	9.5
Age (25-34)	96	48	166	41.4
Age (35-44)	38	19	90	22.4
Age (45-54)	24	12	47	11.7
Age (55-64)	14	7	50	12.5
Age (65+)	5	2.5	10	2.5
Male	108	54	224	55.9
Female	92	46	177	44.1
High school or less	27	13.5	47	11.7
Some college credit, no degree	61	30.5	97	24.2
Postgraduate degree or studies	96	48	203	50.6
College degree	16	8	54	13.5
Less than $24,999	46	23	89	22.2
$25,000 to $49,499	68	34	119	29.7
$50,000 to $74,999	53	26.5	91	22.7
$75,000 to $99,999	15	7.5	56	14.
$100,000 to $149,999	15	7.5	33	8.2
More than $150,000	3	1.5	13	3.2
Strong Democrat	29	14.5	78	19.5
Moderate Democrat	26	13	71	17.7
Democrat-leaning Independent	28	14	70	17.5
Independent	63	31.5	77	19.2
Republican-leaning Independent	21	10.5	29	7.2
Moderate Republican	13	6.5	39	9.7
Strong Republican	12	6	26	6.5
No preference	8	4	11	2.7

Notes. %s are valid frequencies (and add up to 100); because of force-response, there are no item non-response in these questions.

Appendix Z: The Survey Instrument

Note: Questions that are explained in the manuscript are not included here.

[Media skepticism-1] Media is politically biased in its coverage of the election

[Media skepticism-2] Media is excessively focused on the race between the candidates

[Media skepticism-3] Media does a good job of covering the election issues important to the public

[Media skepticism-4] Media provide interesting, engaging reports and stories regarding the election

[Knowledge-1] Which of the candidates served as the United States Secretary of State?

Donald Trump, Hillary Clinton

[Knowledge-2] In the primaries, which Democratic candidate wanted to replace Obamacare with a single-payer system?

Hillary Clinton, Bernie Sanders

[Knowledge-3] Which Republican primary candidate was known for his surgical skills?

John Kasich, Ben Carson

[Knowledge-4] Who was the Republican campaigner who got the second most vote share during the 2016 primaries?

Marco Rubio, Ted Cruz

[Knowledge-5] Who was the Iowa caucus winner for the Democrats?

Hillary Clinton, Bernie Sanders

[Knowledge-6] Who was the Iowa caucus winner for the Republicans?

Donald Trump, Ted Cruz

[Numeracy-1] If the chance of getting a disease is 20 out of 80, this would be the same as having what percentage (%) chance of getting the disease?

20%, 25%, 30%, 40%

[Numeracy-2] If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?

3 seconds, 1 minute, 5 minutes, 10 minutes, 100 minutes

[Numeracy-3] Imagine that we roll a fair, six-sided die 600 times. Out of 600 rolls, how many times do you think the die would come up as an even number?

50, 100, 200, 300, 600

[Age] What year were you born?

List ranges from year corresponding to age 18 to 100

[Sex] What is your sex?

Male, Female

[Education] What is your education level?

High school or less, Some college credit, no degree, College degree, Postgraduate degree or studies

[Income] Which category approximately represents the total combined household income of all members of your family during the past 12 months?

Less than $24,999, $25,000 to $49,499, $50,000 to $74,999, $75,000 to $99,999, $100,000 to $149,999, More than $150,000

[Party ID] Generally speaking, do you usually think of yourself as a Republican, a Democrat, or an Independent?

Strong Democrat, Moderate Democrat, Democrat-leaning Independent, Independent, Republican-leaning Independent, Moderate Republican, Strong Republican, No preference

Election polls summarize the levels of public support for the presidential candidates through surveys that are conducted at a particular time before the election.

Examples: Gallup poll, CBS News poll, Fox News poll

> Click here for an example of election polls

Forecasting models predict the chances of winning the presidential election for each candidate by combining the results of numerous election polls, economic indicators, and election-related historical statistics.

Examples: FiveThirtyEight's model, New York Times' forecasting model

> Click here for an example of forecasting models

Polling averages summarize the results of numerous election polls reported in the media by averaging their results.

Examples: CNN poll of polls, HuffingtonPost's polling average, RealClearPolitics's polling average

> Click here for an example of polling averages

Search-term and social media analyses summarize what the public search on search-engines and post/share in their social media accounts regarding the presidential candidates and the election.

Examples: Associated Press Election Buzz, TwitterWonk analysis

> Click here for an example of search-term and social media analyses

Election prediction markets are betting markets where the chances of winning the election for each presidential candidate is being evaluated by the people. The stock prices for each candidate in these markets reflect what people believe about the candidates' chances of winning.

Examples: Iowa Prediction Markets, Predictit.org, CNN political prediction market

> Click here for an example of election prediction markets

Appendix AA: Descriptive and Univariate Results

Table AA1. Frequencies of Exposure and Outcome Variable Items - Study 1

		Polls		**Polling Averages**		**Forecasting Models**		**Media Analyses**		**Prediction Markets**	
		Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Exposure	Never	8	4	27	13.5	36	18	54	27	110	55
	Once a month	21	10.5	34	17	49	24.5	58	29	34	17
	Several times a month	45	22.5	46	23	46	23	40	20	26	13
	Once a week	46	23	47	23.5	37	18.5	27	13.5	21	10.5
	Several times a week	62	31	38	19	27	13.5	19	9.5	9	4.5
	Everyday	18	9	8	4	5	2.5	2	1	0	0
Representativeness	Not representative at all	12	6	12	6	15	7.5	22	11	42	21
	Slightly representative	38	19	45	22.5	33	16.5	71	35.5	75	37.5
	Somewhat representative	91	45.5	79	39.5	87	43.5	88	44	62	31
	Very representative	51	25.5	54	27	52	26	18	9	19	9.5
	Extremely representative	8	4	10	5	13	6.5	1	0.5	2	1
Accuracy	Not accurate at all	11	5.5	15	7.5	17	8.5	25	12.5	38	19
	Slightly accurate	42	21	39	19.5	26	13	76	38	79	39.5
	Somewhat accurate	86	43	83	41.5	88	44	78	39	58	29
	Very accurate	54	27	54	27	54	27	19	9.5	23	11.5
	Extremely accurate	7	3.5	9	4.5	15	7.5	2	1	2	1
Relevance	Not relevant at all	12	6	12	6	19	9.5	25	12.5	51	25.5
	Slightly relevant	39	19.5	44	22	28	14	76	38	63	31.5
	Somewhat relevant	76	38	68	34	77	38.5	64	32	62	31
	Very relevant	58	29	60	30	60	30	31	15.5	21	10.5
	Extremely relevant	15	7.5	16	8	16	8	4	2	3	1.5

Notes. %s are valid frequencies (and add up to 100); because of force-response, there are no item non-response in these questions.

Table AA2. Descriptive Statistics of Exposure and Outcome Variable Items in Study 1

		Polls	Polling Averages	Forecasting Models	Media Analyses	Prediction Markets
Exposure	Mean	3.94	3.30	2.93	2.53	1.93
	sd	1.30	1.41	1.39	1.33	1.23
Representativeness	Mean	3.03	3.03	3.08	2.53	2.32
	sd	.92	.97	.99	.83	.94
Accuracy	Mean	3.02	3.02	3.12	2.49	2.36
	sd	.92	.97	1.02	.87	.95
Relevance	Mean	3.13	3.12	3.13	2.57	2.31
	sd	1.01	1.03	1.06	.96	1.01

Notes. sd denotes standard deviation of the mean.

Table AA3. Media Attitudes (Skepticism) Frequencies in Study 1

	Media is biased		Too much horse race		Media covers issues effectively		Media provide engaging reports	
	Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Not true at all	9	4.5	12	6	52	26	42	21
A little true	23	11.5	17	8.5	47	23.5	43	21.5
Somewhat true	54	27	54	27	70	35	75	37.5
Very true	49	24.5	53	26.5	21	10.5	31	15.5
Extremely true	65	32.5	64	32	10	5	9	4.5

Notes. See the complete wording of the four items in Appendix B. %s are valid frequencies (and add up to 100); because of force-response, there are no item non-response in these questions.

Table AA4. Descriptive Statistics of Political and Other Correlates across the samples of Study 1 and 2:

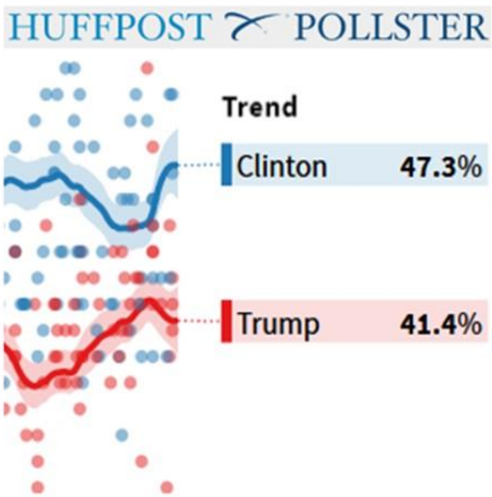
			Study 1		Study 2	
			freq.	**%**	**freq.**	**%**
Election Interest	Not interested at all		12	6	19	4.74
	A little interested		16	8	53	13.22
	Somewhat interested		59	29.5	98	24.44
	Very interested		57	28.5	122	30.42
	Extremely interested		56	28	109	27.18
		mean (sd)	**3.65 (1.15)**		**3.62 (1.15)**	
News Consumption Mode	Only offline		3	1.5	6	1.50
	Mostly offline		17	8.5	37	9.23
	Slightly more on offline		6	3	24	5.99
	Equally on offline and online		34	17	60	14.96
	Slightly more on online		13	6.5	36	8.98
	Mostly online		95	47.5	189	47.13
	Only online		32	16	49	12.22
		mean (sd)	**5.25 (1.54)**		**5.11 (1.55)**	
Political Knowledge	Item 1 - Incorrect		6	3	3	.75
	Item 1 - Correct		194	97	398	99.25
	Item 2 - Incorrect		40	20	56	13.97
	Item 2 - Correct		160	80	345	86.03
	Item 3 - Incorrect		33	16.5	51	12.72
	Item 3 - Correct		167	83.5	350	87.28
	Item 4 - Incorrect		32	16	45	11.22
	Item 4 - Correct		168	84	356	88.78
	Item 5 - Incorrect		71	35.5	162	40.4
	Item 5 - Correct		129	64.5	239	59.6
	Item 6 - Incorrect		116	58	227	56.61
	Item 6 - Correct		84	42	174	43.39
		mean (sd)	**.75 (.18)**		**.77 (.18)**	
Numeracy	Item 1 - Incorrect		48	24	63	15.71
	Item 1 - Correct		152	76	338	84.29
	Item 2 - Incorrect		64	32	149	37.16
	Item 2 - Correct		136	68	252	62.84
	Item 3 - Incorrect		38	19	55	13.72
	Item 3 - Correct		162	81	346	86.28
		mean (sd)	**.75 (.29)**		**.78 (.27)**	

Notes. Freq is frequency, sd is standard deviation.

Appendix AB: Manipulation Stories

Figure AB1. Manipulations
Polling Average Story – Clinton Ahead

Polling Average Shows Clinton is Ahead of Trump



Washington. In the latest average of recent polls, Hillary Clinton appears to have the lead over Donald Trump, by about 6% points difference.

The polling average summarizes all individual polls that were conducted over the last week. The figure on the left shows the latest situation as reported on HuffingtonPost averaging of polls that were conducted over the last week.

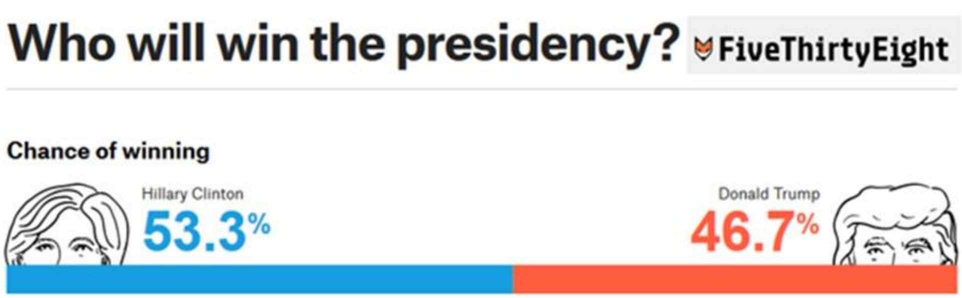
Polling experts recommend looking at the average of recent polls instead of individual poll results. This is because each individual poll is associated with some error, but a polling average can reduce the size of those errors.

Notes. Each point represents the results of an individual poll. Red points are poll results for Trump whereas blue points are for Clinton. Last updated: August 2, 2016.

Forecasting Model Story – Clinton Ahead

Forecasting Model Shows Clinton is more likely to win the election

According to the results of the latest forecasting model predictions in FiveThirtyEight, Hillary Clinton is likely to be the next President of U.S. by 53.3 % whereas the chances for the Republican candidate Donald Trump is at 46.7%.



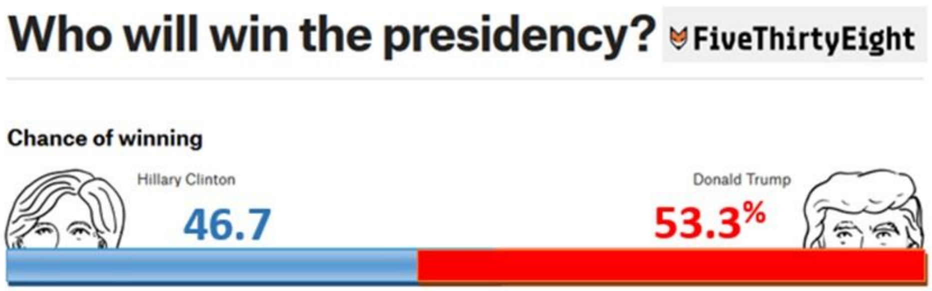
Last updated: August 2, 2016.

The forecasting model integrates real-time diverse data from poll results, economic indicators, and other historical data in order to predict the chances of each candidate winning the election. The model integrates large datasets and weighs them according to the historical patterns in order to forecast a reliable prediction regarding the chances of each candidate to win the election.

Forecasting Model Story – Trump Ahead

Forecasting Model Shows Trump is more likely to win the election

According to the results of the latest forecasting model predictions in FiveThirtyEight, Donald Trump is likely to be the next President of U.S. by 53.3 % whereas the chances for the Democratic candidate Hillary Clinton is at 46.7%.



Last updated: August 2, 2016.

The forecasting model integrates real-time diverse data from poll results, economic indicators, and other historical data in order to predict the chances of each candidate winning the election. The model integrates large datasets and weighs them according to the historical patterns in order to forecast a reliable prediction regarding the chances of each candidate to win the election.

Social Media Analytic Report – Clinton Ahead

Analysis of Google searches and Twitter content show that Clinton is more likely to win the election

AP Election Buzz
powered by Google Trends and
Last updated: Aug. 2, 2016, 4:49 p.m. EDT

The latest election analysis comes from tools that automatically process and evaluate the frequencies of Google searches and public conversation on Twitter. According to this real-time election buzz analysis by Associated Press, Clinton gets the majority of positive conversation on both of these platforms whereas Trump gets a small attention, which might indicate that Clinton is much more likely to have greater electoral support.

Search interest for candidates — Google Trends
in the past 24 hours
Filter by: GOP DEM ALL

Change in search interest		Share of search interest
+17%	Hillary Clinton	68.6%
-4%	Donald Trump	28.7%
-12%	Bernie Sanders	2.7%

Most mentioned candidates
in the past 24 hours
Filter by: GOP DEM ALL

Change in conversation		Share of conversation
+22%	Hillary Clinton	63.1%
+13%	Donald Trump	33.7%
-24%	Bernie Sanders	3.1%

Left: Google search-term analytics **Right:** Analysis of Twitter content

The analysis was conducted by focusing on the frequencies with which candidates' names were mentioned with political issues and adjectives (such as "competent", "responsible", and "honest") on the Google searches and the content of what social media users have posted and commented on. Millions of searches and posts shared on social media were compiled and analyzed in real-time.

Social Media Analytic Report – Trump Ahead

Analysis of Google searches and Twitter content show that Trump is more likely to win the election

AP Election Buzz
powered by Google Trends and Twitter
Last updated: Aug. 2, 2016, 4:49 p.m. EDT

The latest election analysis comes from tools that automatically process and evaluate the frequencies of Google searches and public conversation on Twitter. According to this real-time election buzz analysis by Associated Press, Trump gets the majority of positive conversation on both of these platforms whereas Clinton gets a small attention, which might indicate that Trump is much more likely to have greater electoral support.

Search interest for candidates — Google Trends
in the past 24 hours
Filter by: GOP DEM ALL

Change in search interest		Share of search interest
+17%	Donald Trump	68.6%
-4%	Hillary Clinton	28.7%
-12%	Bernie Sanders	2.7%

Left: Google search-term analytics

Most mentioned candidates
in the past 24 hours
Filter by: GOP DEM ALL

Change in conversation		Share of conversation
+22%	Donald Trump	63.1%
+13%	Hillary Clinton	33.7%
-24%	Bernie Sanders	3.1%

Right: Analysis of Twitter content

The analysis was conducted by focusing on the frequencies with which candidates' names were mentioned with political issues and adjectives (such as "competent", "responsible", and "honest") on the Google searches and the content of what social media users have posted and commented on. Millions of searches and posts shared on social media were compiled and analyzed in real-time.

Appendix AC: Balance Checks across the Treatments

Table AC1. Experimental Condition Balance Checks in Study 2

Variables	**F-test**	**p**
Age	F(3,397)=1.94	
Sex	F(3,397)=1.20	
Education	F(3,397)=2.50	†
Income	F(3,397)= .40	
Election Interest	F(3,397)=3.02	*
New Consumption Mode	F(3,397)=1.12	
Political Knowledge	F(3,397)=1.03	
Numeracy	F(3,397)= .44	
Party Identification (Dem to Rep)	F(3,397)=1.63	

Notes. The results of one-way ANOVA tests showing the compositional differences of the samples of the four experimental conditions. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AC2. Baseline Comparison of Outcome Variables across the Conditions in Study 2

Variables	**F-test**	**p**
Polling Average-Representativeness	F(3,397)=.51	
Forecasting Model-Representativeness	F(3,397)=9.47	***
Social Media-Representativeness	F(3,397)=6.88	***
Polling Average-Accuracy	F(3,397)=.04	
Forecasting Model-Accuracy	F(3.397)=12.94	***
Social Media-Accuracy	F(3,397)=7.99	***
Polling Average-Relevance	F(3,397)=1.09	
Forecasting Model-Relevance	F(3,397)=12.83	***
Social Media-Relevance	F(3,397)=4.24	**
Polling Average-Ranking	F(3,397)=4.66	**
Forecasting Model-Ranking	F(3,397)=5.16	**
Social Media-Ranking	F(3,397)=5.14	**

Notes. The results of one-way ANOVA tests shows the baseline mean differences of outcome variables between the four experimental conditions. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Appendix AD: Item by Item Analysis of Outcome Variable via GLM in Study 2
(Instead of Predicting the Index Outcome Variable)

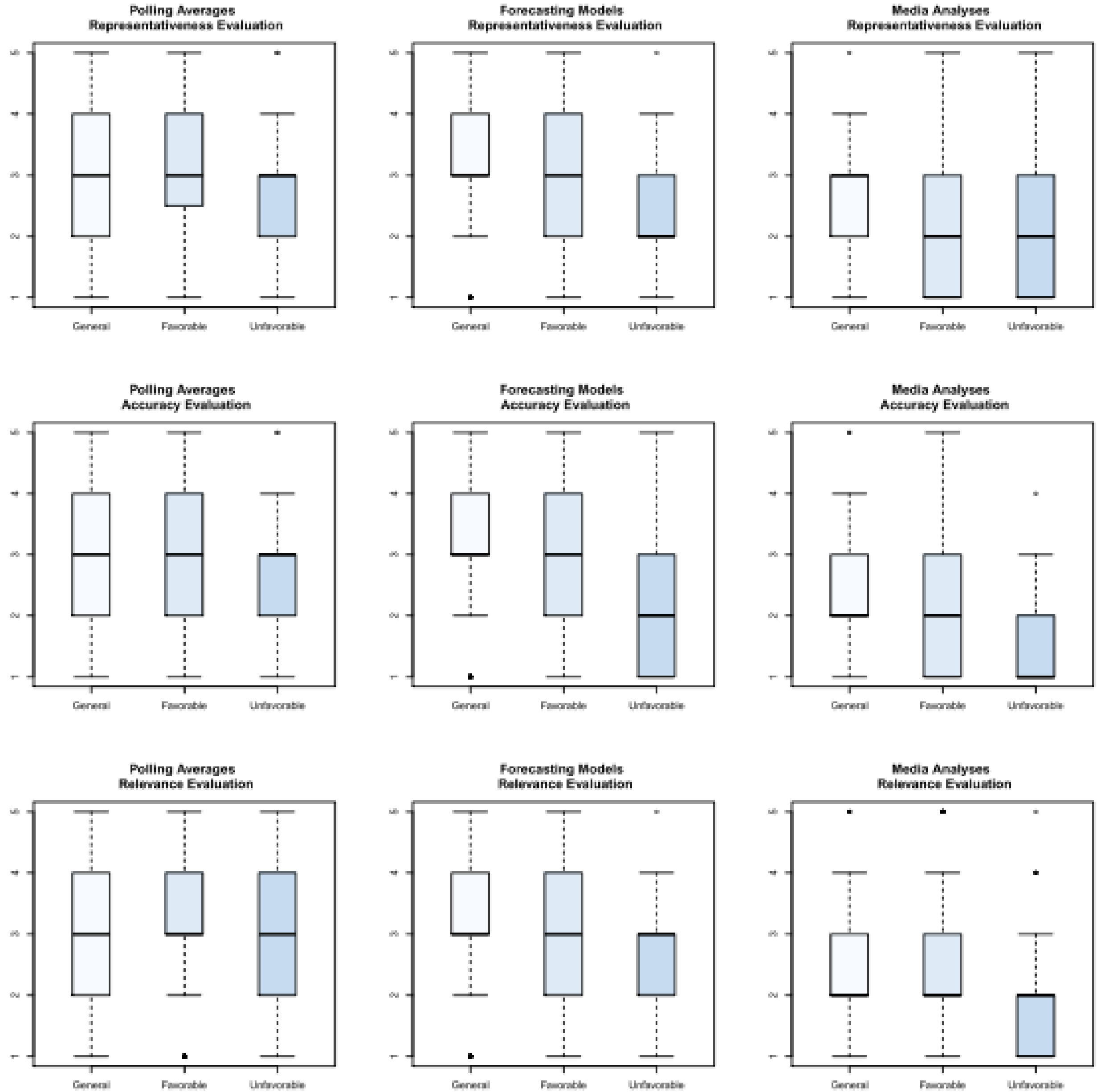
Table AD1. General Linear Model (GLM) Predictions of the Evaluations of Representativeness, Accuracy, and Relevance of the Analysis of the Three Election Reports – Study 2

		Polling Averages		**Forecasting Models**		**Analyses of Social Media Buzz**	
		Coef.	**se**	**Coef.**	**se**	**Coef.**	**se**
Representativeness	Intercept	3.02 ***	(.30)	3.11 ***	(.28)	2.72 ***	(.27)
	Election Interest	.02	(.05)	.06	(.05)	.06	(.04)
	Numeracy	.29	(.18)	.12	(.18)	-.30	(.18)
	Political Knowledge	.02	(.29)	-.67 *	(.29)	-.39	(.28)
	Disagreement	-.11 ***	(.03)	-.10 ***	(.02)	-.09 ***	(.02)
	N	394		394		394	
	McFadden R^2	.05		.08		.08	
Accuracy	Intercept	3.02 ***	(.29)	2.93 ***	(.29)	2.70 ***	(.27)
	Election Interest	.01	(.04)	.06	(.05)	.06	(.04)
	Numeracy	.18	(.18)	.21	(.19)	-.30 +	(.18)
	Political Knowledge	.10	(.28)	-.54 +	(.30)	-.47 +	(.27)
	Disagreement	-.11 ***	(.03)	-.12 ***	(.02)	-.10 ***	(.02)
	N	394		394		394	
	McFadden R^2	.04		.10		.11	
Relevance	Intercept	3.10 ***	(.31)	3.30 ***	(.30)	3.14 ***	(.30)
	Election Interest	.05	(.05)	.06	(.05)	.01	(.05)
	Numeracy	.17	(.20)	.13	(.20)	-.48 *	(.20)
	Political Knowledge	.10	(.30)	-.70 *	(.31)	-.48	(.31)
	Disagreement	-.14 ***	(.03)	-.12 ***	(.02)	-.08 ***	(.02)
	N	394		394		394	
	McFadden R^2	.06		.09		.07	

Notes. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. McFadden R^2 is a pseudo R-square parameter for the models [(1- (residual deviance/null deviance)].

Appendix AE: Comparing Study 1 and Study 2 Directly

Figure AE1. Boxplots comparing the distributions of evaluations across the three types of election reports in general vs specific story examples.



Notes. Left column is the comparison of samples regarding polling averages, whereas the middle column is for forecasting models, and the right column is for media analyses. The top row is representativeness evaluation, and middle one is for accuracy evaluation, and the bottom row is for relevance evaluation. In each boxplot, the left bar is the "general" (Study 1, views on a type of election report in general) whereas the middle bar is the report showing a favorable result and the right one is the unfavorable result (Study 2, views on a specific example of election report that has a clear result as to which presidential candidate is in lead). $N_{study\ 1}$=200, $N_{study\ 2}$=400. Results here (significance tests are in Table AE1) show that unfavorable messages always evaluated worse than others.

Table AE1. Comparing Neutral, Favorable and Unfavorable Messages across Study 1 and Study 2

	Group	Mean	Group	Mean	Mean Difference	
					t	p
Representativeness	Neutral Polling Average	3.02	Favorable Polling Average	3.05	-.28	
	Neutral Polling Average	3.03	Unfavorable Polling Average	2.70	2.55	*
	Favorable Polling Average	3.05	Unfavorable Polling Average	2.70	2.88	**
	Neutral Forecast	3.08	Favorable Forecast	2.79	3.06	**
	Neutral Forecast	3.08	Unfavorable Forecast	2.34	6.42	***
	Favorable Forecast	2.79	Unfavorable Forecast	2.34	4.16	***
	Neutral Media Analyses	2.52	Favorable Media Analyses	2.24	3.41	***
	Neutral Media Analyses	2.52	Unfavorable Media Analyses	2.19	3.01	**
	Favorable Media Analyses	2.24	Unfavorable Media Analyses	2.19	.41	
Accuracy	Neutral Polling Average	3.01	Favorable Polling Average	2.97	.47	
	Neutral Polling Average	3.01	Unfavorable Polling Average	2.63	.12	
	Favorable Polling Average	2.97	Unfavorable Polling Average	2.63	2.79	**
	Neutral Forecast	3.12	Favorable Forecast	2.76	3.76	***
	Neutral Forecast	3.12	Unfavorable Forecast	2.18	8.18	***
	Favorable Forecast	2.76	Unfavorable Forecast	2.18	5.22	***
	Neutral Media Analyses	2.49	Favorable Media Analyses	2.30	2.18	*
	Neutral Media Analyses	2.49	Unfavorable Media Analyses	1.60	9.54	***
	Favorable Media Analyses	2.30	Unfavorable Media Analyses	1.60	7.60	***
Relevance	Neutral Polling Average	3.12	Favorable Polling Average	3.14	-.15	
	Neutral Polling Average	3.12	Unfavorable Polling Average	2.73	2.81	**
	Favorable Polling Average	3.14	Unfavorable Polling Average	2.73	3.06	**
	Neutral Forecast	3.13	Favorable Forecast	2.92	2.05	*
	Neutral Forecast	3.13	Unfavorable Forecast	2.43	5.77	***
	Favorable Forecast	2.92	Unfavorable Forecast	2.43	4.22	***
	Neutral Media Analyses	2.57	Favorable Media Analyses	2.41	1.67	†
	Neutral Media Analyses	2.57	Unfavorable Media Analyses	1.83	6.81	***
	Favorable Media Analyses	2.41	Unfavorable Media Analyses	1.83	5.34	***

Notes. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. These are the numerical mean values and the t-tests comparing the all distributions in the boxplots in Figure AE1.

Appendix AF: Anonymized preregistration details

Biases in Message Credibility and Voter Expectations
EGAP Preregisration

Summary.
Election polls in horserace coverage characterize a competitive information environment with inconsistent results being published within short intervals of time. And these small or large differences in results do not always reflect real electoral shift.

In response to variability in the results and methodological quality of polls, over the last decade, we have seen the increasing use and media coverage of polling aggregations/averages from sites like RealClearPolitics, FiveThirtyEight, CNN poll of polls, and Huffpost Pollster. Polls vary in direction, in terms of the gap between candidates, and poll of polls either replicate or stand in contrast to individual poll findings.

Whereas a large literature documents the effects of polls on citizens' perceptions, attitudes, and political behavior in various contexts, these dynamic aspects of the competitive information environment as well as the perceptions of polling averages have not been investigated. Such an information environment provides a perfect scenario to test motivational biases and objective updating of beliefs (Bayesian updating) in an experimental set up where we present, consecutively, various combinations of multiple messages.

We set-up an online survey experiment in order to leverage these dynamics of horserace coverage in the context of 2016 U.S. presidential elections. We test through a large national survey experiment (N=1200, Qualtrics), the extent to which people engage in motivational resistance (motivated reasoning) or Bayesian updating (objective assessment of poll finding) while they encounter consecutively presented consistent (or inconsistent) singular poll reports (or polling averages of five recent polls) that represent small (or large gaps) between the presumptive nominees (Clinton and Trump). As outcome measures, we focus on perceived credibility of messages and voter expectations of support for candidates.

Table AF1. Manipulations Set up

Condition	Time 1	Trump-Clinton Time 1	Time 2	Trump-Clinton Time 2
c1	summative T+2	45-43	singular T+6	47-41
c2	summative C+2	43-45	singular C+6	41-47
c3	summative T+2	45-43	singular C+2	44-46
c4	summative C+2	43-45	singular T+2	46-44
c5	singular T+2	44-42	summative T+2	45-43
c6	singular C+2	42-44	summative C+2	43-45
c7	singular T+6	47-41	summative T+2	45-43
c8	singular C+6	41-47	summative C+2	43-45
c9	singular C+2	44-46	summative T+2	45-43
c10	singular T+2	46-44	summative C+2	43-45
c11a	singular T+2	45-43	singular C+2	44-46
c11b	Singular C+2	44-46	Singular T+2	45-43
c12a	singular C+2	44-46	singular C+2	43-45
c12b	singular T+2	44-46	singular T+2	43-45

Table Notes.

1. T is Trump, C is Clinton.
2. Singular is single poll result and Summative is a polling average result
3. Plus (+) sign mean that candidate's % is leading the other candidate by that amount.
4. Conditions 1 through 10 have also 2 versions (a and b) where we either include or exclude a basic explanation of the logic behind polling averages. It is technically another manipulation although we treat it as a dosage (strenght of message) and will test its impact as well as running analyses with a and bs combined for each condition.

Methodology.

1. Online survey experiment on a national sample of N=1200 respondents, Qualtrics panel where we present hypothetical news stories
2. Within subjects cross-sectional study with 2 sets of manipulation screening and outcome question answering.
3. Outcome variables: Poll Credibility (asked both at t1 and t2), Voter Prediction (asked only at t2).
4. We plan to conduct OLS and logistic regression analyses with interaction tests to predict the outcome variables.

Manipulations.

Please interpret below manipulations togethr with the Table 1 above and example manipulation stories at the end of this document.

1. Poll result: Clinton lead vs Trump lead
2. Poll gap: 2% vs 6% (only for singular polls)
3. Poll type: Singular poll vs Aggregate poll
4. Poll consistency: Consistent vs Inconsistent
5. Poll order: Singular+Summative vs Summative+Singular vs Singular+Singular
6. Theoretical explanation: Absence of presence of 3rd paragraph in polling average stories (only for polling averages, see Note 4 in Table Notes above)

Hypotheses.
For simplicity, we refer only to poll credibility below, but these hypotheses apply to the direction and magnitude of shifts in voter predictions as well. Bias is operationalized as discounting of unfavorable message, both in credibility and election prediction assessments.

1. Respondents will discredit unfavorable polls (those showing their candidate as losing) more than those favorable polls.
   (c1 through c12b by party identification at t1)
2. Summative polls will have greater effect size than singular polls (at t1) and they will do so more if the logic of polling average is included in the news story.
   (c1 through c4 vs c5 through c12b by party identification at t1)
3. The consonance between summative and singular polls will facilitate biased perceptions, the dissonance will mitigate it.
   (c1 through c10 by party identification at t2)
4. When summative is presented first, it will lead to less biased evaluation of secondarily-presented individual polls (at t2).
   (c1 through c4 vs c5 through c10 by party identification at t2)
5. When summative comes post hoc, it will facilitate bias (if both singular and summative poll is favorable), or it serves as a corrective attempt by mitigating bias (if singular poll is favorable and the summative poll is unfavorable).
   (c5 through c10 by party identification at t2)
6. The effect sizes of singular polls in which there is wider gap between candidates will be stronger than those that have smaller gaps (at t1).
   (c7 through 8 vs c5,6,9,10 by party identification at t1)
7. When two consecutively presented singular polls contradict each other, there will be less bias, than when they align with each other.
   (c11 vs c12a and b by party identification at t2)
8. The cumulative effects of singular+summative polls will be greater (both in facilitating and reducing bias) than singular+singular polls (at t2).
   (c1 through c10 vs c11 through c12b by party identification at t2)
9. All these relationships will be moderated by political knowledge, methodological knowledge/numeracy. According to motivated reasoning, those with greater ability should have greater bias (at t1 and t2).
   (c1 through c12b by party identification and ability measures at both t1 and t2)

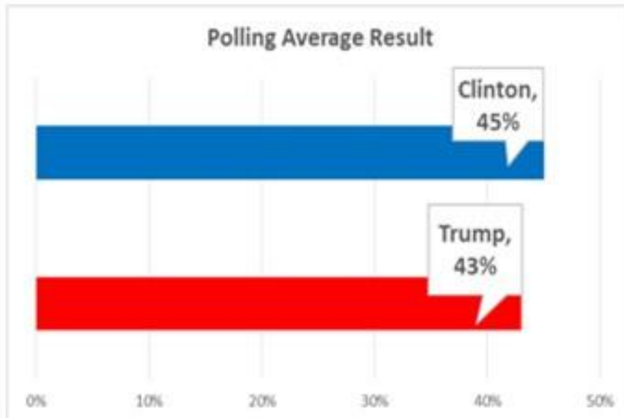
Figure AF1. Manipulations
Example manipulation story 1: A polling average result showing Clinton lead with the 3rd explanatory (corrective) paragraph included.

Polling Average Shows a Clinton Lead

by George Jackson

Washington. In our latest average of recent polls, Hillary Clinton appears to have the lead over Donald Trump. All but one of the most recent polls found that Clinton was leading and her average lead was 2 points.

The polling average summarizes five different individual polls that were conducted over the last week. When putting these results together, we find that Clinton has the support of 45% of likely voters compared to 43% for Trump. Remaining voters were either undecided or said they would support a third party candidate. Although a two-point lead may not seem like much, this kind of lead in the polling average is a strong suggestion that Clinton would indeed win if the election were held at this stage of the campaign.



Polling experts recommend looking at the average of recent polls instead of individual poll results. This is because each individual poll is associated with some error, but a polling average can reduce the size of those errors.

The polling average was conducted by taking the average of all polls reported in national media from June 15th to June 22nd. The margins of error and other methodological variations between the polls are considered when computing the polling average. The results of the individual polls are presented below.

Polling Firm	Support Trump	Support Clinton	Sample Size	Margin of Error	Difference between candidates
Langer Research	43%	46%	977	±3%	Clinton leads by 3%
SurveyUSA	46%	44%	1012	±3%	Trump leads by 2%
Morning Consult	44%	45%	1101	±3%	Clinton leads by 1%
ARG	41%	47%	1079	±3%	Clinton leads by 6%
Ipsos	42%	44%	989	±3%	Clinton leads by 2%
Polling Average	**43%**	**45%**	**5158**	**1.4%**	**Clinton leads by 2%**

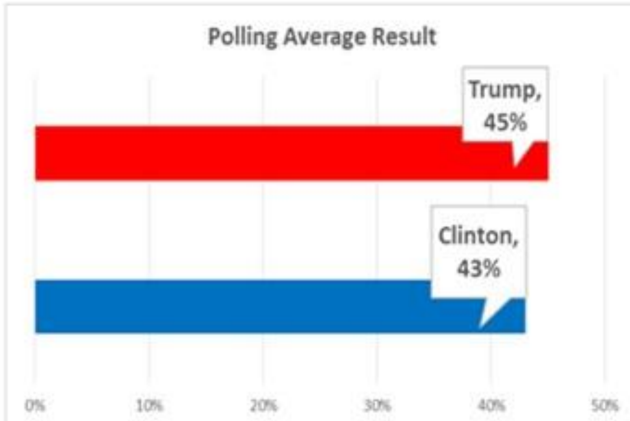
Example manipulation story 2: A polling average result showing Trump lead with the 3rd explanatory (corrective) paragraph excluded.

Polling Average Shows a Trump Lead

by George Jackson

Washington. In our latest average of recent polls, Donald Trump appears to have the lead over Hillary Clinton. All but one of the most recent polls found that Trump was leading and his average lead was 2 points.

The polling average summarizes five different individual polls that were conducted over the last week. When putting these results together, we find that Trump has the support of 45% of likely voters compared to 43% for Clinton. Remaining voters were either undecided or said they would support a third party candidate. Although a two-point lead may not seem like much, this kind of lead in the polling average is a strong suggestion that Trump would indeed win if the election were held at this stage of the campaign.



The polling average was conducted by taking the average of all polls reported in national media from June 15th to June 22nd. The margins of error and other methodological variations between the polls are considered when computing the polling average. The results of the individual polls are presented below.

Polling Firm	Support Clinton	Support Trump	Sample Size	Margin of Error	Difference between candidates
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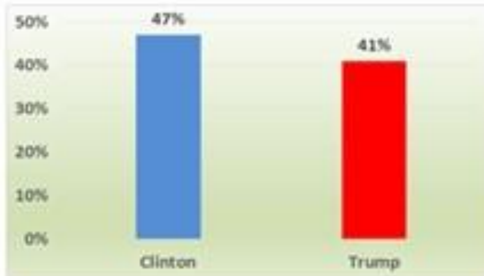
Ipsos	42%	44%	989	±3%	Trump leads by 2%
Polling Average	**43%**	**45%**	**5158**	**1.4%**	**Trump leads by 2%**

Example manipulation story 3: A poll result showing Clinton lead with a 6% gap

Poll Shows Clinton is ahead of Trump by 6 points

by Jordan Smith

Washington. Now that Hillary Clinton and Donald Trump are their parties' respective nominees, it is time to start paying attention to who is going to win in the Fall.



If the most recent poll by *ARG* is any indication, it appears that Hillary Clinton may be our next President. She was leading in the poll by 6 percentage points, with 47% of voters reporting that they would support Clinton, 41% favoring Trump and the rest were undecided.

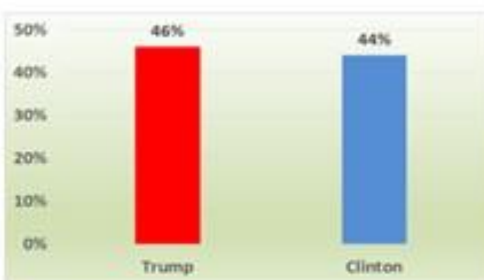
The poll was conducted from June 16th to 19th, had a sample size of 1079 and a margin of error ±3%.

Example manipulation story 4: A poll result showing Trump lead with a 2% gap

Poll Shows Trump is ahead of Clinton by 2 points

by Jordan Smith

Washington. Now that Hillary Clinton and Donald Trump are their parties' respective nominees, it is time to start paying attention to who is going to win in the Fall.



If the most recent poll by *SurveyUSA* is any indication, it appears that Donald Trump may be our next President. He was leading in the poll by 2 percentage points, with 46% of voters reporting that they would support Trump, 44% favoring Clinton and the rest were undecided.

The poll was conducted from June 16th to 19th, had a sample size of 1012 and a margin of error ±3%.

Appendix AG: Full question wordings

Voting Preference Intention

If the election for President were held today and the candidates were Donald Trump, the Republican, and Hillary Clinton, the Democrat, for whom would you vote - or wouldn't you vote?
- Donald Trump (1)
- Hillary Clinton (2)
- Some other person (4)
- Would not vote (3)

If the election for President were held today and the candidates were Hillary Clinton, the Democrat, and Donald Trump, the Republican, for whom would you vote - or wouldn't you vote?
- Hillary Clinton (1)
- Donald Trump (2)
- Some other person (4)
- Would not vote (3)

Party Identification

Generally speaking, do you usually think of yourself as a Republican, a Democrat, or an Independent?
- Republican (1)
- Democrat (2)
- Independent (3)
- No preference (4)

Do you consider yourself as closer to the Republican or the Democratic party?
- Republican (1)
- Democratic (2)
- Neither (3)

Would you consider yourself a strong or not a very strong Republican?
- Strong Republican (1)
- Not a very strong Republican (2)

Would you consider yourself a strong or not a very strong Democrat?
- Strong Democrat (1)
- Not a very strong Democrat (2)

Outcome Variable Items

How trustworthy do you think this polling average is?
- ☐ Not trustworthy at all (1)
- ☐ Slightly trustworthy (2)
- ☐ Somewhat trustworthy (3)
- ☐ Very Trustworthy (4)
- ☐ Extremely trustworthy (5)

How accurate do you think this polling average is in representing the public support for each of the candidates in this election?
- ☐ Not accurate at all (1)
- ☐ Slightly accurate (2)
- ☐ Somewhat accurate (3)
- ☐ Very accurate (4)
- ☐ Extremely accurate (5)

How informative do you find this polling average?
- ☐ Not informative at all (1)
- ☐ Slightly informative (2)
- ☐ Somewhat informative (3)
- ☐ Very informative (4)
- ☐ Extremely informative (5)

How trustworthy do you think this poll is?
- ☐ Not trustworthy at all (1)
- ☐ Slightly trustworthy (2)
- ☐ Somewhat trustworthy (3)
- ☐ Very Trustworthy (4)
- ☐ Extremely trustworthy (5)

How accurate do you think this poll is in representing the public support for each of the candidates in this election?
- ☐ Not accurate at all (1)
- ☐ Slightly accurate (2)
- ☐ Somewhat accurate (3)
- ☐ Very accurate (4)
- ☐ Extremely accurate (5)

How informative do you find this poll?
- ☐ Not informative at all (1)
- ☐ Slightly informative (2)
- ☐ Somewhat informative (3)
- ☐ Very informative (4)
- ☐ Extremely informative (5)

Education Level

What is your education level?
- ☐ No schooling completed (1)
- ☐ Complete 8th grade or less (2)
- ☐ Some high school, no diploma (3)
- ☐ High school graduate, diploma or the equivalent (for example: GED) (4)
- ☐ Some college credit, no degree (5)
- ☐ Trade/technical/vocational training (6)
- ☐ Associate degree (7)
- ☐ Bachelor's degree, college graduate (8)
- ☐ Master's degree (9)
- ☐ Professional degree (10)
- ☐ Doctorate degree (11)

Election Related Political Knowledge

Which of the candidates served as the United States Secretary of State?
- ☐ Donald Trump (1)
- ☐ Hillary Clinton (2)

In the primaries, which Democratic candidate wanted to replace Obamacare with a single-payer system?
- ☐ Hillary Clinton (1)
- ☐ Bernie Sanders (2)

Which Republican primary candidate was known for his surgical skills?
- ☐ John Kasich (1)
- ☐ Ben Carson (2)

Who was the Republican campaigner who got the second most vote share during the 2016 primaries?
- ☐ Marco Rubio (1)
- ☐ Ted Cruz (2)

Who was the Iowa caucus winner for the Democrats?
- ☐ Hillary Clinton (1)
- ☐ Bernie Sanders (2)

Who was the Iowa caucus winner for the Republicans?
- ☐ Donald Trump (1)
- ☐ Ted Cruz (2)

Poll Methodology Knowledge

Which of the following scenarios do you think would give a more accurate estimate of an election outcome, considering that all other factors are the same?
- ☐ If the poll is conducted 2 days before the actual election (1)

□ If the poll is conducted 2 weeks before the actual election (2)
□ If the poll is conducted 2 months before the actual election (3)
□ Timing of the poll would not make any difference under any circumstances as long as the sample is representative (4)

Assuming all other characteristics are the same, which of the following sample characteristics of a poll would provide the best estimate of support levels in the country for a particular candidate?
□ When the sample size of the poll is 5,000, half of it coming from cities and the other half of it coming from rural areas (1)
□ When the sample size of the poll is 10,000, and is representative of 3 big cities: New York, Chicago, and Los Angeles (2)
□ When the sample size of the poll is 5,000, but it is not a representative sample (3)
□ When the sample size of the poll is 5,000, and it is a nationally representative sample (4)

Assuming all other characteristics are the same, which of the following response rates would provide a poll result that is most representative of the country?
□ A poll that reached 1000 people; 700 people responded and 300 refused to take the poll (1)
□ A poll that reached 2000 people, 1900 people responded and 100 refused to take the poll (2)
□ A poll that reached 1800 people, 1700 people responded and 100 refused to take the poll (3)
□ A poll that reached 1900 people, 1800 people responded and 100 refused to take the poll (4)

Assuming all other characteristics are the same, which of the following poll results would you be most confident represents a candidate who is supported by a majority of people?
□ When the candidate got 47 % support, with a 2 % margin of error (1)
□ When the candidate got 51 % support, with a 2 % margin of error (2)
□ When the candidate got 54 % support, with a 2 % margin of error (3)
□ Both 2nd and 3rd options show that the candidate is being supported by the majority (4)

Appendix AH: A Compilation of Polling Critiques in the 2016 U.S. Presidential Election

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Appendix AI: Demographic Details

Table AI1. Weighted descriptive statistics of the demographic variables

Variable	Response Options	mean	sd	Frequency	Percentage
Age		47.30	17.50		
Sex	male			1000.99	48.17%
	female			1077.01	51.82%
Education level	Less than high school			261.30	12.57%
	High school			608.95	29.30%
	Some college			587.74	28.28%
	Bachelor's degree or higher			620.00	29.83%
Race	White, Non-Hispanic			1346.68	64.81%
	Black, Non-Hispanic			240.34	11.57%
	Other, Non-Hispanic			140.52	6.76%
	Hispanic			325.25	15.65%
	2+ Races, Non-Hispanic			25.20	1.21%
Income	Less than $5,000			69.08	3.32%
	$5,000 to $7,499			37.64	1.81%
	$7,500 to $9,999			26.02	1.25%
	$10,000 to $12,499			45.80	2.20%
	$12,500 to $14,999			43.84	2.11%
	$15,000 to $19,999			62.35	3.00%
	$20,000 to $24,999			77.03	3.71%
	$25,000 to $29,999			103.14	4.96%
	$30,000 to $34,999			109.75	5.28%
	$35,000 to $39,999			108.07	5.20%
	$40,000 to $49,999			120.86	5.82%
	$50,000 to $59,999			182.81	8.80%
	$60,000 to $74,999			186.41	8.97%
	$75,000 to $84,999			165.26	7.95%
	$85,000 to $99,999			134.53	6.47%
	$100,000 to $124,999			283.18	13.63%
	$125,000 to $149,999			123.98	5.97%
	$150,000 to $174,999			75.10	3.61%
	$175,000 or more			123.14	5.93%
Marital Status	Married			1098.95	52.88%
	Widowed			97.66	4.70%
	Divorced			224.48	10.80%
	Separated			28.04	1.35%
	Never married			515.49	24.81%
	Living with partner			113.38	5.46%

Notes. N=2078; C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12

Appendix AK: Manipulation Stories and Preregistration Details

Notes

Preregistration Notes: The same pregistration notes are available in the appendices for Empirical Study 2 in Chapter 2.

Manipulations for the conditions 1 through 5 are already presented in the appendices of the Empirical Study 2 in Chapter 2. Below the remaining manipulation stories are presented, those of the conditions 6 through 12.
Figure AK1. Manipulations
[Condition 6]

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Polls indicate that Clinton is ahead of Trump

By Jordan Smith

Washington. Recent polls have started to focus on Hillary Clinton and Donald Trump's electoral support at the national level as they are the two most likely candidates to compete in the general election. One poll by KnowPolitics suggests that Clinton is ahead of Trump, and another poll by Public-Metrics shows higher support for Clinton as well.

Clinton's ahead. In a poll conducted by KnowPolitics this week, 48% of respondents said they would vote for Clinton compared to only 44% for Trump, with the rest of respondents undecided. The margin of error for this result is ±6%. The poll was conducted with a set of online news consumers, and the response rate was 5%. 437 adults, with 175 Republicans, 189 Democrats, and 73 Independents.

Similar trend. Also this week, a poll by Public-Metrics reported that Clinton would win the 49% of support in contrast to only 43% who support Trump, the rest of respondents were undecided. The margin of error for this second poll is ±2%. The poll was conducted on a nationally representative sample of likely voters with a response rate of 21%. The final sample size of the survey was 1654 adults, with 611 Republicans, 678 Democrats, and 365 Independents.

Commentary. George Anderson, a polling expert affiliated with the National Council on Public Polls, cautioned against making conclusive judgments by relying on the results of the KnowPolitics poll, the first one reported above. He pointed out that, "For one, the sample size is small, and it is not very representative. The margin of error in the KnowPolitics poll is large, so its finding is not reliable." In contrast, Anderson praised the Public-Metrics poll which showed a Clinton lead as well. He said its results should be more reliable due to its higher quality on these methodological aspects.

[Condition 7]

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Polls indicate that Trump is ahead of Clinton

By Jordan Smith

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[Condition 8]

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Clinton leads in one poll; Trump leads in another

By Jordan Smith

Washington. Recent polls have started to focus on Hillary Clinton and Donald Trump's electoral support at the national level as they are the two most likely candidates to compete in the general election. One poll by KnowPolitics suggests that Clinton is ahead of Trump, but another poll by Public-Metrics shows higher support for Trump than Clinton.

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[Condition 9]

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Trump leads in one poll; Clinton leads in another

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[Condition 10]

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Clinton leads in one poll; Trump leads in another

By Jordan Smith

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Or maybe Trump is. But also this week, a poll by Public-Metrics reported that Trump would win the 49% of support in contrast to only 43% who support Clinton, the rest of respondents were undecided. The margin of error for this second poll is ±2%. The poll was conducted on a nationally representative sample of likely voters with a response rate of 21%. The final sample size of the survey was 1654 adults, with 611 Republicans, 678 Democrats, and 365 Independents.

Commentary. George Anderson, a representative from the Clinton campaign pointed out the importance of the KnowPolitics poll: "This poll is more evidence that Clinton is increasing her support at the national level," and he also dismissed the poll by Public-Metrics as biased. Anderson said that Trump is trying to boost his performance by reporting results from poorly conducted polls like this one, and pointed out he is sure that some of these polls showing a Trump lead, like this one by Public-Metrics, might have been funded by his campaign. We could not reach a representative from the Trump campaign for comment by the time this story was published.

[Condition 11]

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Trump leads in one poll; Clinton leads in another

By Jordan Smith

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[Condition 12]

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Clinton leads in one poll; Trump leads in another

By Jordan Smith

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Commentary. George Anderson, a polling expert affiliated with the National Council on Public Polls, cautioned against making conclusive judgments by relying on the results of these polls. Anderson said that it is too early to predict who would win the election: "Such polls are just not reliable enough in this early stage of the campaign to figure out who is going to win an election this close," and pointed out the recent failures of polls predicting election results in Canada and the UK.

Appendix AL: Results Based on Ordinal Logit Models

Table AL1. Regressions predicting the perceived credibility of the second poll when there is expert commentary on polls with consistent results

<table>
<tr><th></th><th colspan="2">Simple Model</th><th colspan="2">Education Interaction</th></tr>
<tr><th></th><th>Coef.</th><th>se</th><th>Coef.</th><th>se</th></tr>
<tr><td>Education</td><td>1.66 ***</td><td>(.25)</td><td>1.21 †</td><td>(.68)</td></tr>
<tr><td>Disagreement</td><td>-.32</td><td>(.32)</td><td>2.75 ***</td><td>(.58)</td></tr>
<tr><td>Expert on Consistent</td><td>-.06</td><td>(.27)</td><td>.71</td><td>(.57)</td></tr>
<tr><td>Disagreement X Expert on Consistent</td><td>.47</td><td>(.44)</td><td>-1.41</td><td>(.96)</td></tr>
<tr><td>Disagreement X Education</td><td></td><td></td><td>-2.47 *</td><td>(.97)</td></tr>
<tr><td>Expert on Consistent X Education</td><td></td><td></td><td>-1.24</td><td>(.81)</td></tr>
<tr><td>Disagreement X Expert on Consistent X Education</td><td></td><td></td><td>3.03 *</td><td>(1.36)</td></tr>
<tr><td>1st poll >>> 2nd poll | 1st poll >> 2nd poll</td><td>-2.15 ***</td><td>(.28)</td><td>-1.49 ***</td><td>(.42)</td></tr>
<tr><td>1st poll >> 2nd poll | 1st poll > 2nd poll</td><td>-1.63 ***</td><td>(.26)</td><td>-.97 *</td><td>(.40)</td></tr>
<tr><td>1st poll > 2nd poll | 1st poll = 2nd poll</td><td>-1.11 ***</td><td>(.24)</td><td>-.45</td><td>(.40)</td></tr>
<tr><td>1st poll = 2nd poll | 1st poll < 2nd poll</td><td>1.79 ***</td><td>(.25)</td><td>2.46 ***</td><td>(.41)</td></tr>
<tr><td>1st poll < 2nd poll | 1st poll << 2nd poll</td><td>2.42 ***</td><td>(.26)</td><td>3.10 ***</td><td>(.42)</td></tr>
<tr><td>1st poll << 2nd poll | 1st poll <<< 2nd poll</td><td>3.43 ***</td><td>(.28)</td><td>4.12 ***</td><td>(.43)</td></tr>
<tr><td>Residual Deviance</td><td>1731</td><td></td><td>1724</td><td></td></tr>
<tr><td>AIC</td><td>1751</td><td></td><td>1750</td><td></td></tr>
<tr><td>N</td><td>626</td><td></td><td>626</td><td></td></tr>
</table>

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more accurate, << is somewhat more accurate, < is slightly more accurate, = is equally accurate.

Table AL2. Regressions predicting the perceived credibility of the second poll when there is expert commentary on polls with inconsistent results

<table>
<tr><th></th><th colspan="2">Simple Model</th><th colspan="2">Education Interaction</th></tr>
<tr><th></th><th>Coef.</th><th>se</th><th>Coef.</th><th>se</th></tr>
<tr><td>Education</td><td>1.26 ***</td><td>(.25)</td><td>.75</td><td>(.66)</td></tr>
<tr><td>Disagreement</td><td>-.63 †</td><td>(.34)</td><td>-.87</td><td>(.76)</td></tr>
<tr><td>Expert on Inconsistent</td><td>.25</td><td>(.28)</td><td>.14</td><td>(.63)</td></tr>
<tr><td>Disagreement X Expert on Inconsistent</td><td>-.83 †</td><td>(.46)</td><td>-1.32</td><td>(1.02)</td></tr>
<tr><td>Disagreement X Education</td><td></td><td></td><td>.37</td><td>(1.07)</td></tr>
<tr><td>Expert on Inconsistent X Education</td><td></td><td></td><td>.17</td><td>(.88)</td></tr>
<tr><td>Disagreement X Expert on Inconsistent X Education</td><td></td><td></td><td>.82</td><td>(1.43)</td></tr>
<tr><td>1st poll >>> 2nd poll | 1st poll >> 2nd poll</td><td>-2.67 ***</td><td>(.31)</td><td>-3.02 ***</td><td>(.50)</td></tr>
<tr><td>1st poll >> 2nd poll | 1st poll > 2nd poll</td><td>-2.17 ***</td><td>(.29)</td><td>-2.52 ***</td><td>(.49)</td></tr>
<tr><td>1st poll > 2nd poll | 1st poll = 2nd poll</td><td>-1.86 ***</td><td>(.28)</td><td>-2.21 ***</td><td>(.49)</td></tr>
<tr><td>1st poll = 2nd poll | 1st poll < 2nd poll</td><td>1.38 ***</td><td>(.27)</td><td>1.05 *</td><td>(.47)</td></tr>
<tr><td>1st poll < 2nd poll | 1st poll << 2nd poll</td><td>1.80 ***</td><td>(.28)</td><td>1.47 **</td><td>(.47)</td></tr>
<tr><td>1st poll << 2nd poll | 1st poll <<< 2nd poll</td><td>2.74 ***</td><td>(.29)</td><td>2.41 ***</td><td>(.48)</td></tr>
<tr><td>Residual Deviance</td><td>1613</td><td></td><td>1610</td><td></td></tr>
<tr><td>AIC</td><td>1633</td><td></td><td>1636</td><td></td></tr>
<tr><td>N</td><td>628</td><td></td><td>628</td><td></td></tr>
</table>

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more accurate, << is somewhat more accurate, < is slightly more accurate, = is equally accurate.

Table AL3. Regressions predicting the perceived credibility of the second poll when there is overall debunking commentary on polls with inconsistent results

	Simple Model		Education Interaction	
	Coef.	**se**	**Coef.**	**se**
Education	-.01	(.31)	-1.35 †	(.74)
Democrtic Voter	-2.30 ***	(.40)	-3.60 ***	(.85)
Overall Debunking	-.65	(.40)	-2.05 *	(.90)
Democrtic Voter X Overall Debunking	.60	(.62)	2.27	(1.39)
Democrtic Voter X Education			1.99 †	(1.15)
Overall Debunking X Education			2.20 †	(1.28)
Democrtic Voter X Overall Debunking X Education			-2.61	(1.98)
1st poll >>> 2nd poll | 1st poll >> 2nd poll	-4.57 ***	(.41)	-5.45 ***	(.60)
1st poll >> 2nd poll | 1st poll > 2nd poll	-3.70 ***	(.37)	-4.58 ***	(.57)
1st poll > 2nd poll | 1st poll = 2nd poll	-3.22 ***	(.36)	-4.10 ***	(.56)
1st poll = 2nd poll | 1st poll < 2nd poll	.71 *	(.31)	-.15	(.52)
1st poll < 2nd poll | 1st poll << 2nd poll	1.39 ***	(.32)	.54	(.52)
1st poll << 2nd poll | 1st poll <<< 2nd poll	2.28 ***	(.37)	1.44 **	(.55)
Residual Deviance	958		953	
AIC	978		979	
N	451		451	

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more accurate, << is somewhat more accurate, < is slightly more accurate, = is equally accurate.

Table AL4. Regressions predicting the perceived credibility of the second poll when there is partisan commentary on polls with inconsistent results

	Simple Model		Education Interaction	
	Coef.	**se**	**Coef.**	**se**
Education	.37	(.27)	-1.36 †	(.73)
Disagreement	-2.16 ***	(.38)	-3.49 ***	(.83)
Partisan Commentary	-.98 **	(.33)	-2.54 ***	(.75)
Disagreement X Partisan Commentary	.73	(.51)	2.06 †	(1.14)
Disagreement X Education			1.99 †	(1.14)
Partisan Commentary X Education			2.39 *	(1.04)
Disagreement X Partisan Commentary X Education			-1.98	(1.59)
1st poll >>> 2nd poll | 1st poll >> 2nd poll	-4.03 ***	(.35)	-5.19 ***	(.57)
1st poll >> 2nd poll | 1st poll > 2nd poll	-3.27 ***	(.33)	-4.42 ***	(.55)
1st poll > 2nd poll | 1st poll = 2nd poll	-2.84 ***	(.32)	-3.99 ***	(.55)
1st poll = 2nd poll | 1st poll < 2nd poll	.92 **	(.29)	-.18	(.51)
1st poll < 2nd poll | 1st poll << 2nd poll	1.63 ***	(.31)	.52	(.52)
1st poll << 2nd poll | 1st poll <<< 2nd poll	2.82 ***	(.38)	1.74 **	(.56)
Residual Deviance	1302		1293	
AIC	1322		1319	
N	590		590	

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more accurate, << is somewhat more accurate, < is slightly more accurate, = is equally accurate.

Table AL5. Regressions predicting the perceived likelihood of Trump victory when there is expert commentary on polls with consistent results

<table>
<tr><th></th><th colspan="2">Simple Model</th><th colspan="2">Education Interaction</th></tr>
<tr><th></th><th>Coef.</th><th>se</th><th>Coef.</th><th>se</th></tr>
<tr><td>Education</td><td>-.41 †</td><td>(.22)</td><td>-3.47 ***</td><td>(.61)</td></tr>
<tr><td>Democratic Voter</td><td>-3.37 ***</td><td>(.31)</td><td>-.65</td><td>(.54)</td></tr>
<tr><td>Expert on Consistent</td><td>-.11</td><td>(.25)</td><td>.00</td><td>(.54)</td></tr>
<tr><td>Democratic Voter X Expert on Consistent</td><td>.27</td><td>(.40)</td><td>-.35</td><td>(.87)</td></tr>
<tr><td>Democratic Voter X Education</td><td></td><td></td><td>.17</td><td>(.86)</td></tr>
<tr><td>Expert on Consistent X Education</td><td></td><td></td><td>-.17</td><td>(.77)</td></tr>
<tr><td>Democratic Voter X Expert on Consistent X Education</td><td></td><td></td><td>.95</td><td>(1.24)</td></tr>
<tr><td>Clinton >>> Trump | Clinton >> Trump</td><td>-3.78 ***</td><td>(.27)</td><td>-3.93 ***</td><td>(.40)</td></tr>
<tr><td>Clinton >> Trump | Clinton > Trump</td><td>-2.90 ***</td><td>(.25)</td><td>-3.04 ***</td><td>(.39)</td></tr>
<tr><td>Clinton > Trump | Clinton = Trump</td><td>-2.18 ***</td><td>(.24)</td><td>-2.33 ***</td><td>(.39)</td></tr>
<tr><td>Clinton = Trump | Clinton < Trump</td><td>-.97 ***</td><td>(.23)</td><td>-1.12 **</td><td>(.38)</td></tr>
<tr><td>Clinton < Trump | Clinton << Trump</td><td>-.06</td><td>(.23)</td><td>-.20</td><td>(.38)</td></tr>
<tr><td>Clinton << Trump | Clinton <<< Trump</td><td>.76 **</td><td>(.24)</td><td>.62</td><td>(.38)</td></tr>
<tr><td>Residual Deviance</td><td colspan="2">2198</td><td colspan="2">2196</td></tr>
<tr><td>AIC</td><td colspan="2">2218</td><td colspan="2">2222</td></tr>
<tr><td>N</td><td colspan="2">639</td><td colspan="2">639</td></tr>
</table>

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more likely to win, << is somewhat more likely to win, < is slightly more likely to win, = is equally likely to win.

Table AL6. Regressions predicting the perceived likelihood of Trump victory when there is expert commentary on polls with inconsistent results

<table>
<tr><th></th><th colspan="2">Simple Model</th><th colspan="2">Education Interaction</th></tr>
<tr><th></th><th>Coef.</th><th>se</th><th>Coef.</th><th>se</th></tr>
<tr><td>Education</td><td>-.53 *</td><td>(.22)</td><td>-1.01</td><td>(.63)</td></tr>
<tr><td>Democratic Voter</td><td>-2.78 ***</td><td>(.32)</td><td>-2.87 ***</td><td>(.73)</td></tr>
<tr><td>Expert on Inconsistent</td><td>.36</td><td>(.26)</td><td>-.32</td><td>(.58)</td></tr>
<tr><td>Democratic Voter X Expert on Inconsistent</td><td>-.86 *</td><td>(.42)</td><td>-.45</td><td>(.95)</td></tr>
<tr><td>Democratic Voter X Education</td><td></td><td></td><td>.12</td><td>(1.00)</td></tr>
<tr><td>Expert on Inconsistent X Education</td><td></td><td></td><td>1.09</td><td>(.82)</td></tr>
<tr><td>Democratic Voter X Expert on Inconsistent X Education</td><td></td><td></td><td>-.68</td><td>(1.32)</td></tr>
<tr><td>Clinton >>> Trump | Clinton >> Trump</td><td>-3.66 ***</td><td>(.29)</td><td>-3.98 ***</td><td>(.48)</td></tr>
<tr><td>Clinton >> Trump | Clinton > Trump</td><td>-2.75 ***</td><td>(.27)</td><td>-3.08 ***</td><td>(.48)</td></tr>
<tr><td>Clinton > Trump | Clinton = Trump</td><td>-1.97 ***</td><td>(.26)</td><td>-2.29 ***</td><td>(.47)</td></tr>
<tr><td>Clinton = Trump | Clinton < Trump</td><td>-.79 **</td><td>(.25)</td><td>-1.11 *</td><td>(.46)</td></tr>
<tr><td>Clinton < Trump | Clinton << Trump</td><td>.42 †</td><td>(.25)</td><td>.11</td><td>(.46)</td></tr>
<tr><td>Clinton << Trump | Clinton <<< Trump</td><td>1.19 ***</td><td>(.27)</td><td>.88 †</td><td>(.47)</td></tr>
<tr><td>Residual Deviance</td><td colspan="2">2164</td><td colspan="2">2160</td></tr>
<tr><td>AIC</td><td colspan="2">2184</td><td colspan="2">2186</td></tr>
<tr><td>N</td><td colspan="2">635</td><td colspan="2">635</td></tr>
</table>

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more likely to win, << is somewhat more likely to win, < is slightly more likely to win, = is equally likely to win.

Table AL7. Regressions predicting the perceived likelihood of Trump victory when there is overall debunking commentary on polls with inconsistent results

	Simple Model		Education Interaction	
	Coef.	**se**	**Coef.**	**se**
Education	-.44 †	(.26)	-1.26 *	(.63)
Democratic Voter	-3.59 ***	(.34)	-4.30 ***	(.73)
Overall Debunkiong	-.46	(.32)	-.93	(.72)
Democratic Voter X Overall Debunking	.19	(.52)	.26	(1.18)
Democratic Voter X Education			1.09	(.98)
Overall Debunkiong X Education			.75	(1.04)
Democratic Voter X Overall Debunking X Education			-.13	(1.66)
Clinton >>> Trump | Clinton >> Trump	-3.90 ***	(.31)	-4.43 ***	(.49)
Clinton >> Trump | Clinton > Trump	-3.08 ***	(.29)	-3.61 ***	(.48)
Clinton > Trump | Clinton = Trump	-2.37 ***	(.28)	-2.90 ***	(.47)
Clinton = Trump | Clinton < Trump	-1.23 ***	(.26)	-1.76 ***	(.46)
Clinton < Trump | Clinton << Trump	-.13	(.26)	-.65	(.45)
Clinton << Trump | Clinton <<< Trump	.57 *	(.27)	.05	(.46)
Residual Deviance	1541		1538	
AIC	1561		1564	
N	459		459	

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more likely to win, << is somewhat more likely to win, < is slightly more likely to win, = is equally likely to win.

Table AL8. Regressions predicting the perceived likelihood of Trump victory when there is partisan commentary on polls with inconsistent results

	Simple Model		Education Interaction	
	Coef.	**se**	**Coef.**	**se**
Education	-.72 **	(.22)	-1.26 *	(.63)
Democratic Voter	-3.60 ***	(.33)	-4.30 ***	(.72)
Partisan Commentary	-.20	(.26)	-.45	(.62)
Democratic Voter X Partisan Commentary	.49	(.43)	1.08	(.98)
Democratic Voter X Education			1.08	(.98)
Partisan Commentary X Education			.38	(.85)
Democratic Voter X Partisan Commentary X Education			-.90	(1.34)
Clinton >>> Trump | Clinton >> Trump	-4.15 ***	(.29)	-4.50 ***	(.48)
Clinton >> Trump | Clinton > Trump	-3.21 ***	(.27)	-3.56 ***	(.47)
Clinton > Trump | Clinton = Trump	-2.49 ***	(.26)	-2.84 ***	(.46)
Clinton = Trump | Clinton < Trump	-1.44 ***	(.24)	-1.79 ***	(.45)
Clinton < Trump | Clinton << Trump	-.31	(.24)	-.66	(.45)
Clinton << Trump | Clinton <<< Trump	.39	(.25)	.05	(.45)
Residual Deviance	2065		2064	
AIC	2085		2090	
N	602		602	

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. Six cutoff points of the seven-point DV are shown. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed. <<< is much more likely to win, << is somewhat more likely to win, < is slightly more likely to win, = is equally likely to win.

Appendix AM: Results Controlling for Political Interest

Table AM1. Regressions predicting the perceived credibility of the second poll when there is expert commentary on polls with consistent results

	Coef.		**se**	**Coef.**		**se**
Intercept	.44	***	(.03)	.37	***	(.05)
Interest	.05	†	(.03)	.05	†	(.03)
Education	.16	***	(.03)	.11		(.08)
Disagreement	-.04		(.04)	.27	***	(.07)
Expert on Consistent	-.01		(.03)	.07		(.06)
Disagreement X Expert on Consistent	.07		(.05)	-.12		(.11)
Disagreement X Education				-.25	*	(.11)
Expert on Consistent X Education				-.13		(.09)
Disagreement X Expert on Consistent X Education				.31	*	(.16)
N	611			611		
R-square	.07			.08		
F-change				F(3)=1.85		

Notes. Higher scores in the outcome variable represent second poll being perceived as more accurate compared to the first poll. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AM2. Regressions predicting the perceived credibility of the second poll when there is expert commentary on polls with inconsistent results

	Coef.		**se**	**Coef.**		**se**
Intercept	.51	***	(.03)	.53	***	(.05)
Interest	.05	†	(.03)	.05	†	(.03)
Education	.11	***	(.03)	.08		(.08)
Disagreement	-.07	*	(.04)	-.06		(.08)
Expert on Inconsistent	.04		(.03)	.02		(.07)
Disagreement X Expert on Inconsistent	-.09	†	(.05)	-.17		(.12)
Disagreement X Education				-.02		(.12)
Expert on Inconsitent X Education				.02		(.10)
Disagreement X Expert on Inconsistent X Education				.12		(.17)
N	607			607		
R-square	.07			.08		
F-change				F(3)=1.00		

Notes. Higher scores in the outcome variable represent second poll being perceived as more accurate compared to the first poll. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AM3. Regressions predicting the perceived credibility of the second poll when there is overall debunking commentary on polls with inconsistent results

	Coef.		**se**	**Coef.**		**se**
Intercept	.61	***	(.03)	.70	***	(.04)
Interest	-.01		(.03)	-.01		(.03)
Education	-.02		(.03)	-.16	**	(.06)
Democratic Respondent (Democrat)	-.17	***	(.03)	-.31	***	(.07)
Overall Debunking	-.07	*	(.03)	-.24	***	(.07)
Democrat X Overall Debunking	.07		(.05)	.32	**	(.11)
Democrat X Education				.22	*	(.09)
Overall Debunking X Education				.27	**	(.10)
Democrat X Overall Debunking X Education				-.40	*	(.16)
N	434			434		
R-square	.09			.11		
F-change				F(3)=2.95*		

Notes. Higher scores in the outcome variable represent second poll being perceived as more accurate compared to the first poll. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AM4. Regressions predicting the perceived credibility of the second poll when there is partisan commentary on polls with inconsistent results

	Coef.		**se**	**Coef.**		**se**
Intercept	.59	***	(.03)	.69	***	(.04)
Interest	.00		(.02)	.00		(.02)
Education	.01		(.02)	-.17	**	(.06)
Disagreement	-.17	***	(.03)	-.31	***	(.07)
Partisan Commentary	-.08	**	(.03)	-.22	***	(.06)
Disagreement X Partisan Commentary	.05		(.04)	.16		(.10)
Disagreement X Education				.22	*	(.10)
Partisan Commentary X Education				.21	*	(.09)
Disagreement X Partisan Commentary X Education				-.17		(.14)
N	568			568		
R-square	.09			.11		
F-change				F(3)=4.00**		

Notes. Higher scores in the outcome variable represent second poll being perceived as more accurate compared to the first poll. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AM5. Regressions predicting the perceived likelihood of Trump victory when there is expert commentary on polls with consistent results

	Coef.		se	Coef.		se
Intercept	.76	***	(.04)	.79	***	(.06)
Interest	-.02		(.03)	-.02		(.03)
Education	-.08	*	(.03)	-.13		(.08)
Democratic Respondent (Democrat)	-.52	***	(.04)	-.56	***	(.09)
Expert on Consistent	-.02		(.04)	-.01		(.08)
Democrat X Expert on Consistent	.06		(.06)	.00		(.13)
Democrat X Education				.05		(.13)
Expert on Consistent X Education				-.01		(.12)
Democrat X Expert on Consistent X Education				.09		(.19)
N	623			623		
R-square	.31			.31		
F-change				F(3)=.54		

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AM6. Regressions predicting the perceived likelihood of Trump victory when there is expert commentary on polls with inconsistent results

	Coef.		se	Coef.		se
Intercept	.68	***	(.04)	.71	***	(.07)
Interest	.00		(.03)	-.01		(.03)
Education	-.08	*	(.03)	-.13		(.09)
Democratic Respondent (Democrat)	-.38	***	(.04)	-.35	***	(.10)
Expert on Consistent	.08	*	(.04)	-.05		(.09)
Democrat\ X Expert on Inconsistent	-.16	**	(.06)	-.07		(.14)
Democrat X Education				-.05		(.14)
Expert on Inconsistent X Education				.20	†	(.12)
Democrat X Expert on Inconsistent X Education				-.14		(.19)
N	634			634		
R-square	.28			.29		
F-change				F(3)=1.99		

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AM7. Regressions predicting the perceived likelihood of Trump victory when there is overall debunking commentary on polls with inconsistent results

	Coef.		se	Coef.		se
Intercept	.79	***	(.04)	.87	***	(.06)
Interest	.01		(.04)	.01		(.04)
Education	-.10	*	(.04)	-.23	*	(.09)
Democratic Respondent (Democrat)	-.55	***	(.04)	-.66	***	(.10)
Overall Debunking	-.09	†	(.05)	-.21	*	(.10)
Democrat X Overall Debunking	.05		(.08)	.13		(.17)
Democrat X Education				.17		(.14)
Overall Debunking X Education				.21		(.15)
Democrat X Overall Debunking X Education				-.15		(.24)
N	441			441		
R-square	.35			.36		
F-change				F(3)=1.30		

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AM8. Regressions predicting the perceived likelihood of Trump victory when there is partisan commentary on polls with inconsistent results

	Coef.		se	Coef.		se
Intercept	.82	***	(.04)	.88	***	(.07)
Interest	-.02		(.03)	-.01		(.04)
Education	-.13	***	(.03)	-.22	*	(.09)
Democratic Respondent (Democrat)	-.55	***	(.05)	-.66	***	(.10)
Partisan Commentary	-.05		(.04)	-.13		(.09)
Democrat X Partisan Commentary	.09		(.06)	.22		(.14)
Democrat X Education				.16		(.15)
Partisan Commentary X Education				.13		(.13)
Democrat X Partisan Commentary X Education				-.20		(.20)
N	579			579		
R-square	.32			.32		
F-change				F(3)=.46		

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Appendix AN: Split Analysis Based on Party

Outcome Variable: Perceived Accuracy of the Second Poll

A: Split Analysis Based on Party Leads in Consistent Polls (Consistently Democratic or Republican Lead)

Table AN1. Regressions predicting the perceived credibility of the second poll when there is expert commentary on polls that show consistently a Clinton lead.

	Simple Model		Education Model	
	Coef.	se	Coef.	se
Intercept	.41 ***	(.04)	.28 ***	(.06)
Education	.19 ***	(.04)	.41 ***	(.09)
Disagreement	.03	(.05)	.31 **	(.11)
Expert Comment	-.01	(.04)	.11	(.09)
Disagreement X Expert Comment	.08	(.08)	-.19	(.16)
Disagreement X Education			-.48 **	(.17)
Expert Comment X Education			-.21	(.13)
Disagreement X Expert Comment X Education			.46 *	(.23)
Conditions Included	2, 6		2, 6	
N	308		308	
R-square	.08		.11	
F-change	-		F(3)=2.86*	

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AN2. Regressions predicting the perceived credibility of the second poll when there is expert commentary on polls that show consistently a Trump lead.

	Simple Model		Education Model	
	Coef.	se	Coef.	se
Intercept	.52 ***	(.04)	.51 ***	(.06)
Education	.16 ***	(.04)	.17 †	(.09)
Disagreement	-.12 *	(.05)	-.09	(.10)
Expert View	-.02	(.04)	.02	(.09)
Disagreement X Expert Comment	.06	(.07)	-.05	(.14)
Disagreement X Education			-.05	(.14)
Expert Comment X Education			-.07	(.12)
Disagreement X Expert Comment X Education			.18	(.20)
Conditions Included	3, 7		3, 7	
N	320		320	
R-square	.08		.09	
F-change	-		F(3)=.36	

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

B: Split Analysis Based on Campaign Representative Type (Democrat or Republican Commentator)

Table AN3. Regressions predicting the perceived credibility of the second poll when there is a Trump campaign representative attacking the Clinton-leading poll

	Simple Model		Education Model	
	Coef.	**se**	**Coef.**	**se**
Intercept	.58 ***	(.03)	.68 ***	(.04)
Education	.01	(.03)	-.14 *	(.06)
Disagreement	-.18 ***	(.03)	-.30 ***	(.07)
Trump Representative	-.09 **	(.03)	-.31 ***	(.08)
Disagreement X Trump Representative	.07	(.05)	.29 *	(.12)
Disagreement X Education			.19 †	(.10)
Trump Representative X Education			.35 ***	(.10)
Disagreement X Trump Representative X Education			-.34 *	(.17)
Conditions Included	1, 11		1, 11	
N	452		452	
R-square	.09		.12	
F-change	-		F(3)=4.76	

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AN4. Regressions predicting the perceived credibility of the second poll when there is a Clinton campaign representative attacking the Trump-leading poll

	Simple Model		Education Model	
	Coef.	**se**	**Coef.**	**se**
Intercept	.60 ***	(.02)	.68 ***	(.04)
Education	-.02	(.03)	-.14 *	(.06)
Disagreement	-.18 ***	(.03)	-.30 ***	(.07)
Clinton Representative	-.08 *	(.03)	-.09	(.07)
Disagreement X Clinton Representative	.04	(.05)	.00	(.12)
Disagreement X Education			.19 *	(.10)
Clinton Representative X Education			.01	(.11)
Disagreement X Clinton Representative X Education			.08	(.16)
Conditions Included	1, 10		1, 10	
N	439		439	
R-square	.11		.13	
F-change	-		F(3)=3.14*	

Notes. Higher scores in the outcome variable represent second poll being more accurate compared to the first poll. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Outcome Variable: Electoral Predictions (of Trump Win)
A: Split Analysis Based on Party Leads in Consistent Polls (Consistently Democratic or Republican Lead)

Table AN5. Regressions predicting the perceived chances of Trump victory when there is expert commentary on polls that show consistently a Clinton lead.

	Simple Model		Education Model	
	Coef.	**se**	**Coef.**	**se**
Intercept	.72 ***	(.05)	.76 ***	(.08)
Education	-.05	(.05)	-.57 ***	(.13)
Democrat	-.51 ***	(.06)	-.12	(.12)
Expert Comment	-.01	(.05)	-.02	(.12)
Democrat X Expert Comment	.03	(.08)	.01	(.18)
Democrat X Education			.09	(.19)
Expert Comment X Education			.03	(.17)
Democrat X Expert Comment X Education			.03	(.27)
Conditions Included	2, 6		2, 6	
N	314		314	
R-square	.31		.32	
F-change	-		F(3)=.27	

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AN6. Regressions predicting the perceived chances of Trump victory when there is expert commentary on polls that show consistently a Trump lead.

	Simple Model		Education Model	
	Coef.	**se**	**Coef.**	**se**
Intercept	.78 ***	(.05)	.79 ***	(.08)
Education	-.10 *	(.05)	-.53 ***	(.13)
Democrat	-.51 ***	(.06)	-.12	(.12)
Expert Comment	-.04	(.05)	-.02	(.11)
Democrat X Expert Comment	.09	(.09)	.01	(.19)
Democrat X Education			.02	(.18)
Expert Comment X Education			-.04	(.16)
Democrat X Expert Comment X Education			.12	(.27)
Conditions Included	3, 7		3, 7	
N	327		327	
R-square	.28		.28	
F-change	-		F(3)=.22	

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

B: Split Analysis Based on Campaign Representative Type (Democrat or Republican Commentator)

Table AN7. Regressions predicting the perceived chances of Trump victory when there is a Trump campaign representative attacking the Clinton-leading poll

	Simple Model		Education Model	
	Coef.	**se**	**Coef.**	**se**
Intercept	.83 ***	(.04)	.85 ***	(.07)
Education	-.16 ***	(.04)	-.19 *	(.09)
Democrat	-.55 ***	(.05)	-.65 ***	(.11)
Trump representative	-.07	(.05)	-.10	(.11)
Democrat X Trump Representative	.17 *	(.08)	.45 *	(.19)
Democrat X Education			.15	(.15)
Trump representative X Education			.03	(.15)
Democrat X Trump Representative X Education			-.41	(.25)
Conditions Included	1, 11		1, 11	
N	463		463	
R-square	.30		.31	
F-change	-		F(3)=2.51†	

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AN8. Regressions predicting the perceived chances of Trump victory when there is a Clinton campaign representative attacking the Trump-leading poll

	Simple Model		Education Model	
	Coef.	**se**	**Coef.**	**se**
Interept	.77 ***	(.03)	.85 ***	(.06)
Education	-.06 †	(.04)	-.19 *	(.09)
Democrat	-.56 ***	(.04)	-.65 ***	(.10)
Clinton representative	-.01	(.05)	-.14	(.11)
Democrat X Clinton representative	.01	(.08)	.10	(.16)
Democrat X Education			.15	(.14)
Clinton representative XC Education			.21	(.15)
Democrat X Clinton representative X Education			-.14	(.23)
Conditions Included	1, 10		1, 10	
N	447		447	
R-square	.36		.36	
F-change	-		F(3)=1.46	

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Appendix AO: Additional Analysis on Expert Commentaries: Comparing Polls with Consistent and Inconsistent Results

Table AO1. Regression Results Comparing the Influence of Expert Commentary on Perceived Relative Accuracy of Polls with Consistent vs Inconsistent Results

	Simple Model			**Education Moderation**		
	Coef.		**se**	**Coef.**		**se**
Intercept	.45	***	(.03)	.46	***	(.04)
Education	.17	***	(.03)	.15	*	(.06)
Disagreement with Poll Result (Disagree)	.03		(.03)	-.01		(.07)
Expert on Inconsistent	.08	**	(.03)	.11	†	(.06)
Disagree X Expert on Inconsistent	-.20	***	(.05)	-.22	*	(.11)
Disagree X Education				.06		(.11)
Expert on Inconsistent X Education				-.04		(.09)
Disagree X Expert on Inconsistent X Education				.04		(.15)
Conditions Included	C6, C7, C8, C9			C6, C7, C8, C9		
N	638			638		
R-squared	.10			.10		
F-change	-			F(3)=.43		

Notes. Higher scores in the outcome variable represent second poll (the higher quality one) being perceived as more accurate compared to the first poll. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Figure AO1. Interaction Plots for the Additional Analysis: Comparing the Influence of Expert Commentary on Perceived Relative Accuracy of Polls with Consistent vs Inconsistent Results

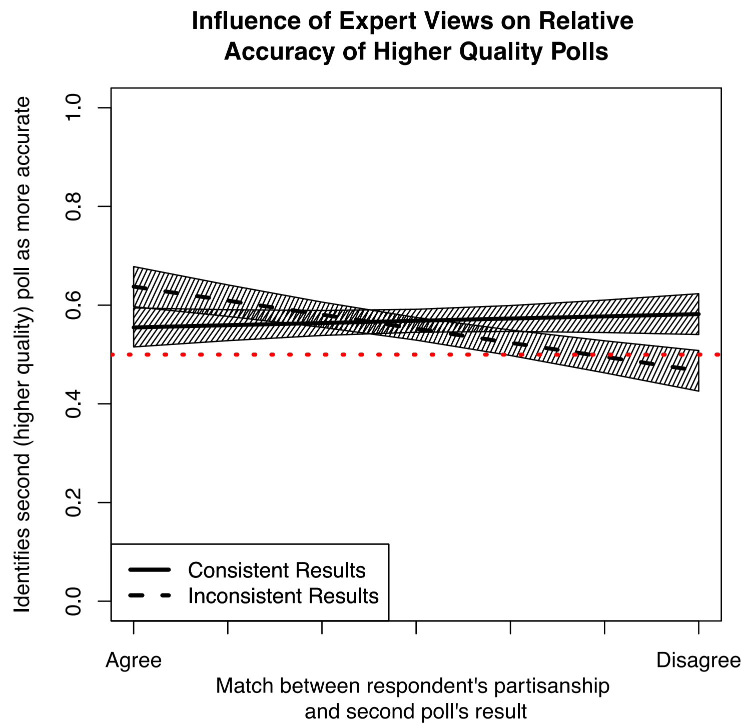
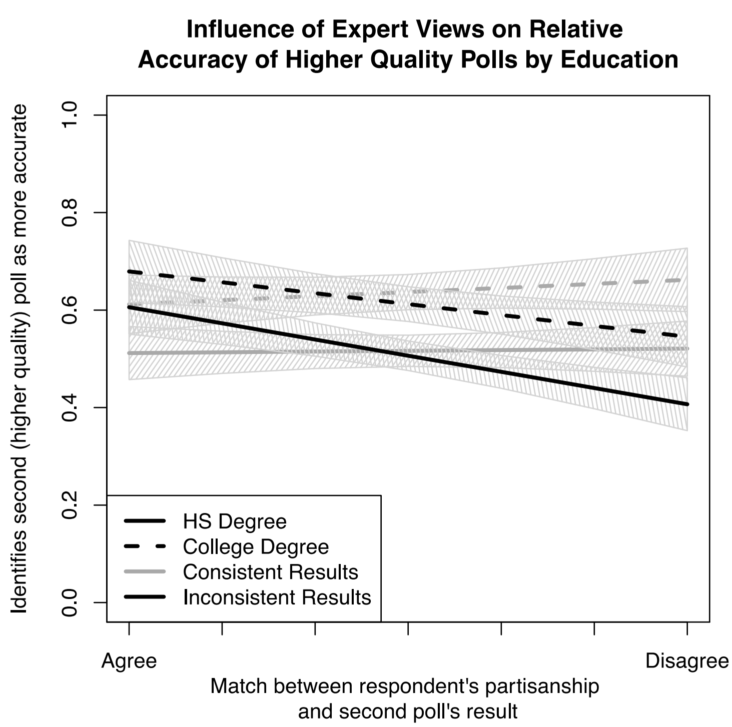


Figure AO2. Interaction Plots for the Additional Analysis: Comparing the Influence of Expert Commentary on Perceived Relative Accuracy of Polls with Consistent vs Inconsistent Results by Education



Appendix AP: Results for Electoral Expectations

Hypotheses. In the context of horserace coverage, electoral predictions are an important component of public opinion. Citizens' expectations of the likely victor of the election and its competitiveness should be influential in their decisions to turnout and voting preferences (see Moy and Rinke, 2012; Rothschild and Malhotra, 2014). Previous research found that motivational biases shape election predictions (e.g. Delavande & Manski, 2012). Hence, we expect to replicate the hypotheses above (H1 through H5) for individuals' election predictions as well (**H6**).

Variable. To assess respondents' expectations of election outcome, we measured the respondents' prediction as to who would win the election: "If the election were held tomorrow and it was between Hillary Clinton and Donald Trump, which candidate do you think would win and become the next President of the U.S.?" Seven response options ranged from **"**Clinton much more likely to win" to "Trump is much more likely to win". Both sets of responses were recoded to range from 0 to 1.

Results. In general, commentaries in poll reports had little influence on respondents' predictions regarding the election outcome when they encountered polls with inconsistent results. Controlling for partisanship, the presence of expert commentaries on polls with inconsistent results reinforced respondents' perceptions that their favored candidate would win the election, and this was true for both Democrats and Republicans (b= -15. se=.06, p=.01, Table H2). As seen in Figure 3, similar to the finding we observed for perceived poll credibility (although it was marginally significant), there might be a backfiring influence of expert commentaries as they increase respondents' biases in electoral predictions.[66] On the other hand, general debunking of polls, expert commentaries on polls with consistent results, and partisan commentaries did not have any influence on respondents' election predictions. Whereas there was a consistent main effect of education (lower educated respondents were more likely to believe in a Trump win), education did not have a moderating effect in any of these tests. These mixed findings do not provide support for H6. (table and figures below).

[66] Further split analysis based on whether the better methodology poll was Clinton or Trump-leading indicated that this effect was primarily driven in cases where Trump leading poll was of better quality. When Trump-leading poll was better, an expert commentary increase Republicans' perceived chances of Trump win and pushed Democrats to believe in Clinton victory stronger.

Table AP1. *Predicting perceptions of Trump win when different polls with similar results have expert commentary* (**RQ3***)*

	Coef.	se	Coef.	se
Intercept	.75 ***	(.03)	.77 ***	(.06)
Education	-.08 *	(.03)	-.12	(.08)
Democratic Voter	-.52 ***	(.04)	-.55 ***	(.09)
Expert on Consistent	-.02	(.04)	-.02	(.08)
Democratic Voter X Expert on Consistent	.06	(.06)	.01	(.13)
Democratic Voter X Education			.06	(.13)
Expert on Consistent X Education			-.01	(.12)
Democratic Voter X Expert on Consistent X Education			.07	(.19)
N (c2, c3, c6, c7)	639		639	
R^2	.30		.30	
F-change	-		F(3)=.43	

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AP2. *Predicting perceptions of Trump win when polls with different results have expert commentary* ***(H5)***

	Coef.	se	Coef.	se
Intercept	.69 ***	(.03)	.71 ***	(.06)
Education	-.09 **	(.03)	-.13	(.09)
Democratic Voter	-.38 ***	(.04)	-.36 ***	(.10)
Expert on Inconsistent	.07 †	(.04)	-.04	(.08)
Democratic Voter X Expert on Inconsistent	-.15 *	(.06)	-.09	(.13)
Democratic Voter X Education			-.04	(.14)
Expert on Inconsistent X Education			.17	(.12)
Democratic Voter X Expert on Inconsistent X Education			-.11	(.19)
N (c4, c5, c8, c9)	635		635	
R^2	.29		.30	
F-change	-		F(3)=1.54	

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AP3. *Regressions predicting perceptions of Trump win when an expert debunks polls in general that have inconsistent results* ***(H7)***

	Coef.	se	Coef.	se
Intercept	.77 ***	(.04)	.85 ***	(.06)
Education	-.07 †	(.04)	-.19 *	(.09)
Democratic Voter	-.56 ***	(.04)	-.65 ***	(.10)
Overall Debunking	-.08 †	(.05)	-.18 †	(.10)
Democratic Voter X Overall Debunking	.04	(.07)	.10	(.17)
Democratic Voter X Education			.15	(.14)
Overall Debunking X Education			.16	(.15)
Democratic Voter X Overall Debunking X Education			-.09	(.24)
N (c1, c12)	459		459	
R^2	.35		.35	
F-change	-		F(3)=1.04	

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Table AP4. *Regressions predicting perceptions of Trump win when partisan commentary on polls is provided* ***(H6)***

	Coef.	se	Coef.	se
Intercept	.80 ***	(.03)	.85 ***	(.06)
Education	-.11 ***	(.03)	-.19 *	(.09)
Democratic Voter	-.56 ***	(.05)	-.65 ***	(.10)
Partisan Commentary	-.05	(.04)	-.10	(.09)
Democratic Voter X Partisan Commentary	.09	(.06)	.22	(.14)
Democratic Voter X Education			.15	(.14)
Partisan Commentary X Education			.09	(.13)
Democratic Voter X Partisan Commentary X Education			-.19	(.20)
N (c1, c10, c11)	602		602	
R^2	.31		.32	
F-change	-		F(3)=.42	

Notes. Higher scores in the outcome variable represent stronger belief in Trump victory. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

Figure AP1. Election Predictions

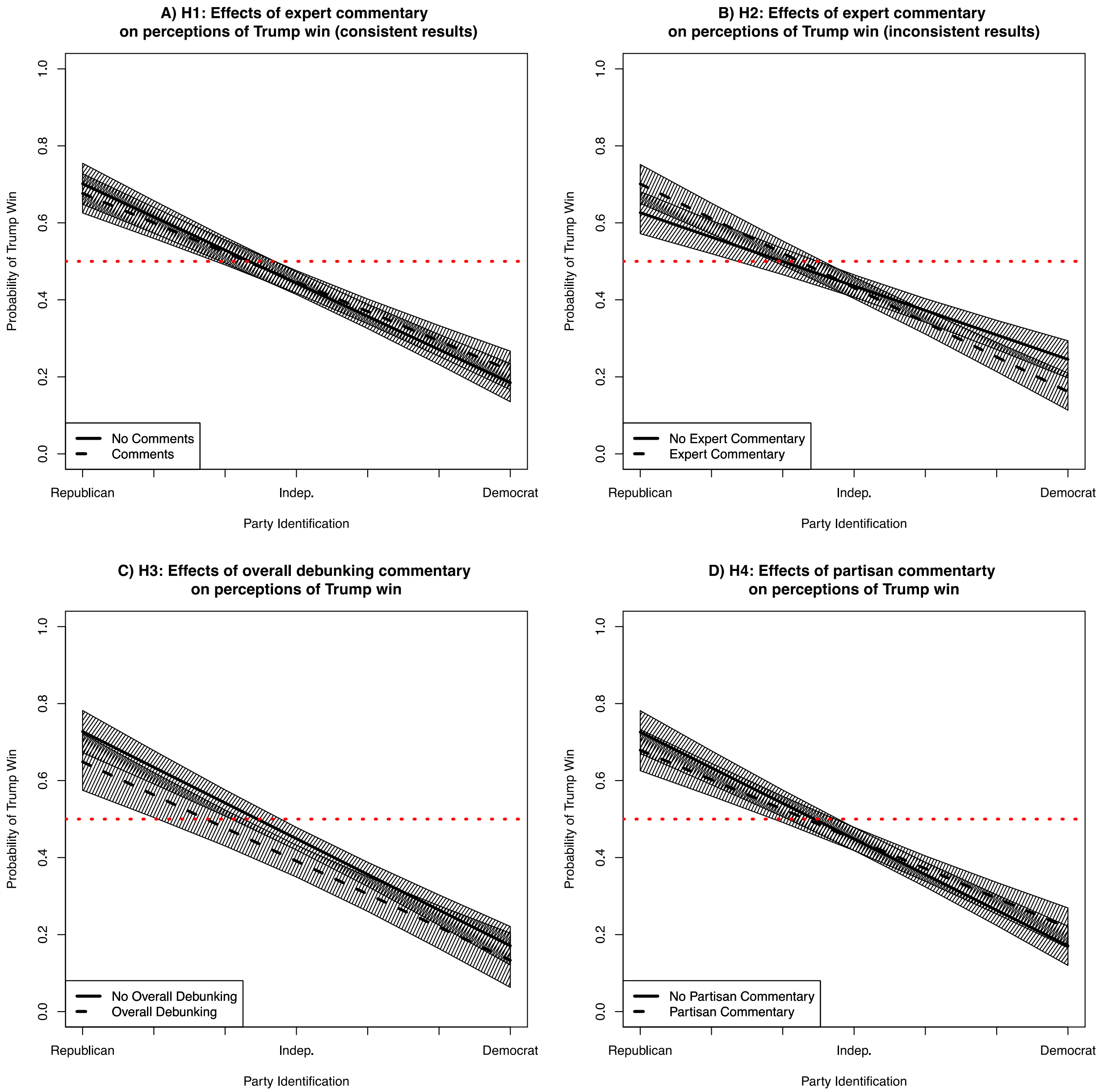
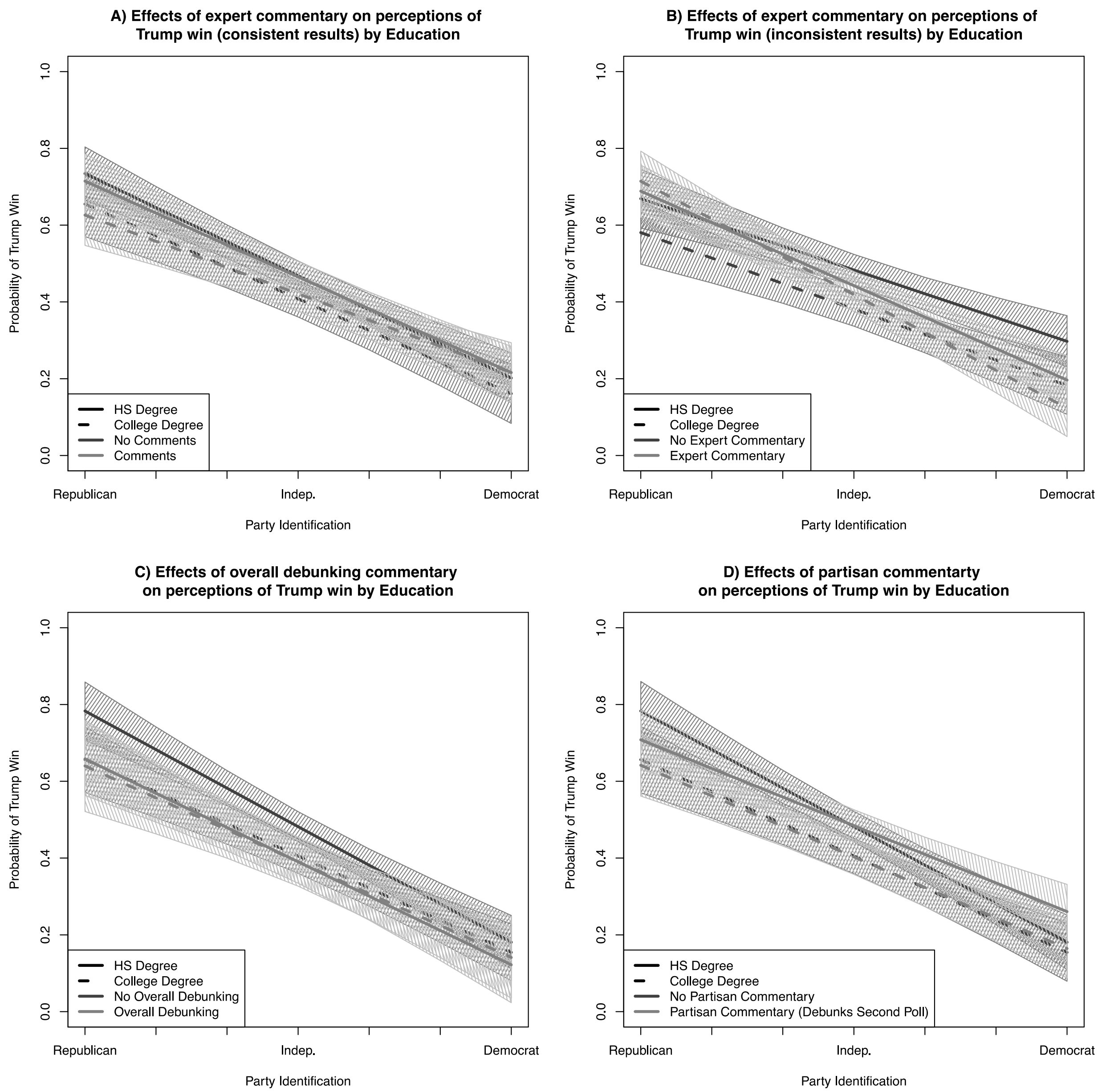


Figure AP2. Election Predictions – Education Moderation



Effects of Perceived Accuracy on Electoral Expectations

We also expect that expert and partisan commentaries will also uniquely influence respondents' election predictions, that is, above and beyond the influence of partisanship (**H7**).

To see whether the perceived relative accuracy of polls uniquely predicts expectations about the election result, we ran a regression where we tested the interaction of party identification, experimental condition, and perceived relative accuracy of the second poll, while controlling for the other key variable, education.[67] The difference of this interaction model from the baseline model was significant ($F(11)=8.75$, $p<.001$). Specifically, the perceived relative accuracy of the second poll significantly interacted with the presence of expert commentary when two Clinton leading polls were of differing quality in predicting perceived chances of a Trump win ($b= -.52$, $se=.23$, $p=.03$). Second, the perceived relative accuracy of the second poll significantly interacted with the presence of a partisan commentary that attacks the Clinton-leading poll in predicting the Trump-win expectations ($b= -1.20$, $se=.22$, $p<.001$). In both cases, the increases in the credibility of the Clinton leading poll due to the commentaries were associated with decreases in the chances of a Trump-win. These results provide some support for H7. (table below).

[67] I examined this interaction for two reasons; first, the order of polls showing each candidate winning varied across conditions, second, some conditions had polls with consistent results. Hence, we could test the presence of unique effects only individually for each condition's comparison to the baseline condition C1.

Table AP5. Effects of Perceived Accuracy on Electoral Expectations as Manipulated by Experimental Conditions

	Baseline Model			Perceived Accuracy and Condition Interactions		
	Coef.		**se**	**Coef.**		**se**
Intercept	.77	***	(.03)	.56	***	(.06)
Education	-.10	***	(.02)	-.09	***	(.02)
Democratic Respondent (Democrat)	-.55	***	(.05)	-.50	***	(.05)
dD	-.04		(.05)	.09		(.09)
rR	-.02		(.05)	.13		(.09)
rD	-.07		(.05)	.36	***	(.09)
dR	-.13	*	(.05)	-.04		(.09)
dD-Ex-NP	-.06		(.05)	.18	†	(.09)
rR-Ex-NP	-.05		(.05)	.19	*	(.09)
dR-Ex-NP	-.03		(.05)	.06		(.10)
rD-Ex-NP	-.03		(.05)	.19	*	(.08)
DR-Pa-PN	.00		(.05)	.12		(.10)
RD-Pa-PN	-.08	†	(.05)	.42	***	(.08)
DR-Ex-NN	-.08	†	(.05)	.09		(.10)
Relative Accuracy of the Second Poll (Accuracy)	.05	†	(.03)	.39	***	(.09)
dD X Democrat	.04		(.08)	-.02		(.08)
rR X Democrat	.02		(.08)	-.03		(.08)
rD X Democrat	.11		(.08)	.07		(.08)
dR X Democrat	.22	**	(.08)	.18	*	(.08)
dD-Ex-NP X Democrat	.08		(.07)	.02		(.07)
rR-Ex-NP X Democrat	.13	†	(.08)	.07		(.08)
dR-Ex-NP X Democrat	-.03		(.08)	-.06		(.08)
rD-Ex-NP X Democrat	.07		(.08)	.02		(.08)
DR-Pa-PN X Democrat	-.01		(.08)	-.05		(.08)
RD-Pa-PN X Democrat	.18	*	(.08)	.21	**	(.08)
DR-Ex-NN X Democrat	.04		(.08)	-.01		(.08)
Democrat X Relative Accuracy						
dD X Accuracy				-.21	†	(.13)
rR X Accuracy				-.25	†	(.14)
rD X Accuracy				-.76	***	(.13)
dR X Accuracy				-.17		(.13)
dD-Ex-NP X Accuracy				-.39	**	(.13)
rR-Ex-NP X Accuracy				-.40	**	(.13)
dR-Ex-NP X Accuracy				-.15		(.14)
rD-Ex-NP X Accuracy				-.38	**	(.13)
DR-Pa-PN X Accuracy				-.17		(.15)
RD-Pa-PN X Accuracy				-1.10	***	(.14)
DR-Ex-NN X Accuracy				-.28	†	(.15)
N	1882			1882		
R-square	.32			.36		
F-change from the previous model	-			F(11)=8.75***		
F-change from the Baseline Model	-			-		

Notes. C1 (DR) is the baseline condition. For experimental conditions' abbreviations, see the Table 1 in the manuscript. † denotes p lower than .10, * lower than .05, ** lower than .01, *** denotes p lower than .001. All tests are two-tailed.

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