Two sides to every story

Causes and consequences of selective exposure to balanced political information

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Causes and consequences of selective exposure to balanced political information

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Table of contents

List of Tables

List of Figures

Chapter 1

Introduction

Seventy years ago, during the era of broadcast media, scholars began studying the phenomenon of *selective exposure*, that is, the idea that media consumers purposefully chose pro-attitudinal information – that which reflects their predispositions – and avoid counter-attitudinal information. Despite initial evidence in support of selective exposure (Festinger, 1957; Lazarsfeld, Berelson & Gaudet, 1948), this notion that citizens intentionally crafted their information diet was dismissed since the 1970s (Sears & Freedman, 1967) and still by many today (e.g., Van Aelst et al., 2017). Even though the prevalence of selective exposure has been questioned during past decades, scholarly interest in the subject was reinvigorated as a result of substantial changes in the media landscape during the 21st century.

This contemporary information environment, known as the post-broadcast era, saw a rapid growth of cable news that provided vast and specialized information choices to match consumer preferences (Mullen, 2003). This included the emergence of 24-hour partisan news programming which contributed to a fragmentation of the media landscape, and further allowed citizens to live in a news world that reflected their ideological predispositions (Manjoo, 2008; Sunstein, 2009). Additionally, exposure to news about politics and public affairs became increasingly mediated by the Internet and social media, which lead to speculations that individuals would self-select into personalized *echo chambers* (e.g., Sunstein, 2009) – online information environments in which people are mostly exposed to pro-attitudinal information – and *filter bubbles* (e.g., Bakshy, Messing & Adamic, 2015) – in which information exposure is selected by algorithms to match an individual's prior selective exposure behavior.

Although the current information environment offers citizens an unprecedented opportunity to see mostly pro-attitudinal information, the debate about the prevalence of selective exposure is largely inconclusive, and some argue that selectivity in a high-choice media environment is not a widespread phenomenon (see Van Aelst et al., 2017). Furthermore, what we know about selective exposure originates from research that has focused mostly on selection of one-sided messages – those that present either pro- or counter-attitudinal information – and has not paid enough attention to balanced messages – those that present both pro-and counter-attitudinal arguments side by side within one message.

It is crucial to focus research on studying balanced exposure for two reasons. One, even if the current media environment has created a substantial supply of online partisan media (Van Aelst et al., 2017), the majority of media outlets continue to favor balanced reporting of competing perspectives, both in the U.S. and in other Western democracies (see

Hallin & Mancini, 2004; Prior, 2013; Umbricht & Esser, 2014; Van Aelst et al., 2017). Also, both observational and experimental research has shown that substantial numbers of media consumers purposely choose balanced political information about political issues (Feldman, Stroud, Bimber & Wojcieszak, 2013; Dilliplane, 2011; Garret, Carnahan & Lynch, 2013; Garret & Stroud, 2014; Levendusky, 2013; Metzger, Hartsell & Flanagin, 2015; Prior, 2013).

Within the traditional scholarly focus on selection of one-sided content, studies have produced mixed findings. Some research has shown that individuals disproportionally chose pro-attitudinal content (Iyengar & Hahn, 2008), but other evidence has suggested this preference is confined to small groups of partisan audiences (e.g., Prior, 2013). Furthermore, other studies have shown that *echo chamber* and *filter bubbles* do not warrant a strong concern as some have speculated (see Zuiderveen Borgesius et al., 2016), that individuals seek both pro- and counter-attitudinal news (Bakshy et al., 2015; DiMaggio & Sato, 2003; Stroud, 2011), that they do not avoid counter-attitudinal information (Garret, 2009), and that some people even take advantage of the current high-choice media environment to tune out of political news altogether (Arceneaux & Johnson, 2012; Prior, 2007).

To explain these inconsistencies, some scholars have argued that the prevalence of selective exposure depends on psychological characteristics that vary across individuals, such as motivations and attributes of issue attitudes (e.g., Arceneaux & Johnson, 2013; Garret, 2013; Hart et al., 2009; Knoblock-Westerwick & Meng, 2009), or certain characteristics of media messages, such as information utility or the evidence type for a message claim (e.g., Hart et al., 2009; Knobloch-Westerwick, Johnson, Silver & Westerwick, 2015), or on contextual conditions, such as the amount of pro-attitudinal information that individuals can select (Fischer, Schulz-Hardt & Frey, 2008). Whereas past studies have examined the drivers of one-sided information exposure, we do not yet understand the psychological and contextual factors leading to balanced information exposure.

Another dominant line of research has studied the consequences of selective exposure to one-sided content for information processing and political polarization. That work has shown that even if people are exposed to pro- and counter-attitudinal information, they will uncritically accept the former and refute the latter (e.g., Ditto & Lopez, 1992; Druckman & Bolsen, 2011; Taber & Lodge, 2006). This biased form of information processing has been a dominant explanation of why exposure to either pro- or counter-attitudinal information can lead to the polarization of attitudes among citizens (e.g., Garret & Stroud, 2014, Prior, 2013; Sunstein, 2012; Taber & Lodge, 2006).

In sum, available evidence suggests that selective exposure in a high-choice environment may be limited to certain individuals and contexts, whereas other work suggests that different types of information can fuel political polarization – mostly among certain groups of citizens (see Van Aelst et al., 2017). However, the extant scholarship has studied mostly the selection and effects of one-sided information, and has largely ignored balanced media messages. In this dissertation, I shift this dominant attention from one-sided information towards balanced exposure. Despite the availability and popularity of balanced information, scientific evidence on the factors that drive balanced exposure, in addition to its consequences for information processing and political polarization, is largely missing.

To address this important gap in the literature, this dissertation reports several experiments to study 1) whether the selection of balanced, in addition to pro- and counter-attitudinal information depends on whether an individual is personally invested and has strong opinions about a certain issue (issue public membership), and on the type of evidence for a message claim – numerical vs. narrative (chapter 2); 2) how psychological factors, such as individual motivation and attributes of issue attitudes, influence balanced information selection (chapter 3); and 3) how balanced exposure affects information processing and attitude polarization (chapter 4). Collectively, the experiments presented in the three chapters uncover the psychological underpinnings of balanced exposure and its attitudinal outcomes about contested and highly relevant socio-political issues, such as climate change, health care reform and refugees.

Advancing our understanding of selective exposure and polarization in the current fragmented and personalized media environment has important implications for democracy. Selective exposure threatens the democratic idea that citizens seek and objectively evaluate diverse issue perspectives before making political decisions (Iyengar, Hahn, Krosnick & Walker, 2008; Stroud, 2006). Additionally, selective exposure can also polarize individual attitudes (e.g., Stroud, 2010) – especially among citizens who already hold extreme political views (see Van Aelst et al., 2017) – perpetuate the support of falsehoods (Kull, Ramsay & Lewis, 2003), and influence the way partisan news consumers react to threats (Baum, 2011). If this is indeed the case, the prospects more democracy are dire. For one, having more extreme opinions causes individuals to be less tolerant and open to opposing political views (Mutz, 2002; Sunstein, 2009), and makes them less willing to compromise on contested political issues (Leeper, 2014). Also, polarization across partisan divides can influence citizens to develop different conceptions of reality and factual truth (Manjoo, 2008). Although some research has shown that polarization increases political participation among citizens (Abramowitz, 2010; Dilliplane, 2011), this

could actually pose a threat to democracy if polarization fuels extremist movements of civic engagement (Sunstein, 2009).

Given that selective exposure can lead to political polarization among certain citizens, some have hoped that exposure to counter-attitudinal information could reduce polarization (e.g., Matthes & Valenzuela, 2012). If citizens encounter alternative issue perspectives, they might better understand the motivations that drive opposing views, which in turn could foster political tolerance (Mutz, 2002; Price, Cappella & Nir, 2002). However, counter-attitudinal exposure could fail to act as an effective remedy for polarization, given that individuals refute this information (e.g., Taber & Lodge, 2006) and may even polarize in response to counter-attitudinal messages (e.g., Garret & Stroud, 2014; Wojcieszak, 2011). Although scientific evidence is inconsistent and limited, exposure to balanced messages could be more beneficial for democratic well-being, given that balanced exposure minimizes attitude polarization (Slater, 2007), encourages citizens to become more open-minded (see Lodge & Taber, 2000; Metzger et al., 2015) and helps bring different social groups closer to each other (Matthes & Valenzuela, 2012). Deriving from this normative debate, this dissertation extends our understanding on whether and how balanced content exposure may facilitate these democratic benefits.

Figure 1. Overview of the dissertation

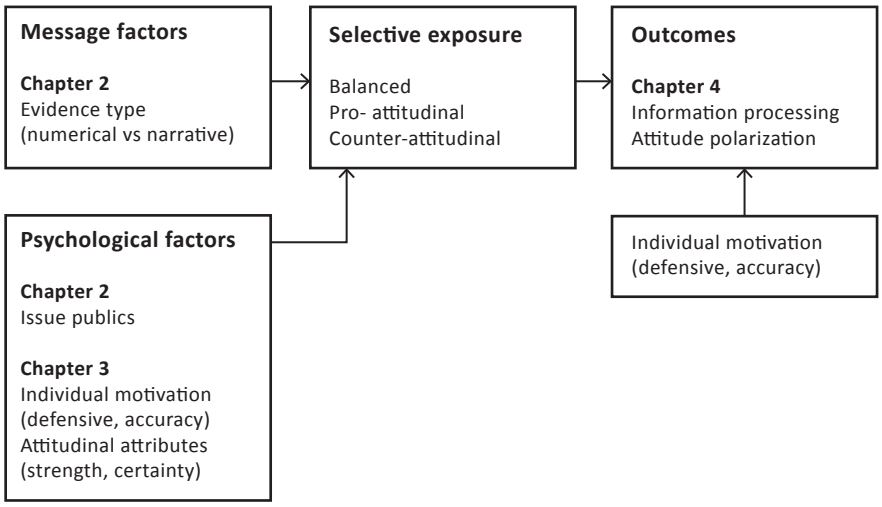

Figure 1 presents the overview of this dissertation. In this chapter, I detail each concept. First, I will review the literature on the prevalence of selective exposure. Second, I will elaborate on the psychological factors that impact selectivity – which are the focus of chapter 2 and 3. Third, I will elaborate on the influence of message characteristics on selective exposure, namely the type of evidence for a message claim – which are studied in chapter 2. Finally, I will explain the relationship between selective exposure, information processing and attitude polarization –the main focus of chapter 4.

The prevalence of selective exposure

Selective exposure is not a new phenomenon, and neither is the debate about its prevalence among citizens. The study of selective exposure goes back to the seminal work of Lazarsfeld, Belerson and Gaudet (1948) on voting behavior, and later on to Festinger's (1957) research on cognitive dissonance and selective exposure to newspapers. As the dominant explanation of selective exposure at the time, cognitive dissonance theory posited that individuals preferred pro-attitudinal information to reinforce their preferences, but avoided counter-attitudinal information to protect themselves from experiencing cognitive dissonance, which increased uncertainty and psychological discomfort. However, the notion that dissonance avoidance influences information selection was dismissed during the sixties and seventies (see Sears & Freedman, 1967), as numerous studies showed that individuals purposely seek – and do not avoid – counter-attitudinal information (Bartlett, Drew, Fahle & Watts, 1974; Feather, 1962, 1963; Freedman, 1965; Sears, 1965). Most recent evidence also suggests that individuals have little motivation to avoid counter-attitudinal information (e.g., Garret, 2009; Johnson et al., 2011).

Scholarly attention to selective exposure waned until the end of the century. However, the 21st century brought substantial changes to the media landscape, offering almost unlimited and personalized choices to consumers. With these changes came a renewed interest in the topic (e.g., Mutz & Martin, 2001; Sunstein, 2001). The literature in the past 15 years has produced an unprecedented amount of research on selective exposure, which has yielded inconsistent results.

For one, some individuals take advantage of the vast opportunities offered in the media environment to avoid political news altogether (Arceneaux & Johnson, 2012; Prior, 2007). Among citizens attracted to news about politics and public affairs, some consumers of television and online news, as well as political blogs, prefer pro-attitudinal information (Goldman & Mutz, 2011; Iyengar & Hahn, 2008; Johnson, Bichard & Zhang, 2009; Kohut, Doherty, Dimock & Keeter, 2012; Stroud, 2008), and may avoid counter-attitudinal news

sources – which are perceived as biased against their side (Iyengar & Hahn, 2009). This preference for pro-attitudinal information has also been supported by experimental research (e.g., Taber & Lodge. 2006) and a meta-analysis (Hart et al., 2009).

However, only a small group of partisan audiences have information diets that are disproportionally composed of pro-attitudinal information (Prior, 2013). Most individuals – even those who consume partisan news sources in television or access political websites – do not avoid counter-attitudinal news (Garret, 2009; Jang, 2014; Johnson, Zhang & Bichard, 2011), but instead actively seek both pro- and counter-attitudinal media (Dvir-Gvirsman, Tsfati & Menchen-Trevino, 2014; Garret, 2009; Garret et al., 2013; Gentzkow & Shapiro, 2011; Jang, 2014; Knobloch-Westerwick & Kleinman, 2012; Prior, 2013; Webster & Ksiazek, 2012). In addition, some individuals are also exposed to pro- and counter-attitudinal information as a result of web-browsing behavior (Flaxman, Goel & Rao, 2016), in personalized news (Beam & Kosicki, 2014), and in social media platforms such as Facebook (Bakshy et al., 2015). However, the extent to which individuals purposely consume opposing perspectives on Facebook may be limited by the content endorsed by their friends (Messing & Westwood, 2012; Winter, Metzger & Flanagin, 2016), and by the influence of news-feed ranking algorithms (Bakshy et al., 2015).

When summarizing the mixed findings, two important caveats should be noted that guide the focus of this dissertation. One caveat is the lack of consistent evidence to conclude that selective exposure is a *one size fits all* phenomenon. Instead, the available evidence suggests that different citizens engage in different patterns of information selection (see Garret, 2013; Prior, 2013). Therefore, it is likely that the extent to which individuals seek pro- or counter-attitudinal information depends on psychological characteristics that vary across individuals, such as motivations to select information and the attributes of issue attitudes (e.g., Arceneaux & Johnson, 2013; Garret, 2013; Hart et al., 2009; Knoblock-Westerwick & Meng, 2009).

A second caveat is that what we know about the prevalence of selective exposure originates from research that focused mostly on selection of one-sided information (i.e., pro- relative to counter-attitudinal). However, this dissertation argues that further research should account for the selection of balanced content, in addition to one-sided content. One reason to study balanced exposure is that the media environment continues to supply balanced news, both in the U.S. and in other Western democracies (see Hallin & Mancini, 2004; Prior, 2013; Umbricht & Esser, 2014). From the demand side, media consumers seek balanced news coverage provided by broadcast television (Johnson et al., 2010; Prior, 2013). This evidence has been supported by experimental research showing

that people select balanced content when given the opportunity (e.g., Feldman et al., 2013; Garrett & Stroud, 2014; Levendusky, 2013; Metzger et al., 2015).

Considering that psychological factors play an important role in selectivity, in addition to the importance of advancing our understanding of balanced exposure, this dissertation studies in chapters 2 and 3 whether preferences for balanced, pro- or counter-attitudinal information depend on whether an individual is personally invested and has strong opinions about a certain issue (issue public membership), the motivations driving information selection, and the influence of attributes of issue attitudes (e.g., Arceneaux & Johnson, 2013; Guess, 2016; Knoblock-Westerwick & Kleinman, 2012; Knoblock-Westerwick & Meng, 2009; Winter et al., 2016). In addition, chapter 2 examines whether information selection also depends on characteristics of media messages, such as the type of evidence for a message claim (e.g., Knobloch-Westerwick et al., 2015).

The psychological underpinnings of balanced information exposure

This dissertation argues that the selection and effects of balanced, pro- and counter-attitudinal information can be explained by psychological characteristics of individuals. One psychological factor central to the communication science literature is individual motivation to select and process political information (e.g., Druckman, 2012; Hart et al., 2009; Taber & Lodge, 2006; Winter et al. 2016). For this reason, I draw on motivated reasoning as the core theoretical framework to study, in chapters 2 and 3, the extent to which individual motivation explain differences in selection of balanced, pro- and counter-attitudinal information. Afterwards, chapter 4 examines how motivation moderates the impact of information exposure on processing and attitude polarization. Motivated reasoning theory posits that individual motivations influence the cognitive processes people use to select and process information (Kunda, 1990). Motivation is defined as "any wish, desire, or preference that concerns the outcome of a given reasoning task" (Kunda, 1990, p. 480). Although an individual may have multiple motivations, two main motivations affect information selection and processing: a defensive motivation and an accuracy motivation (Leeper & Slothuus, 2014; Kruglanski & Klar, 1987; Pyszczyinski & Greenberg, 1987).

Defensive motivated individuals select and process information in ways that validate and protect their existing attitudes, beliefs and behaviors (e.g., Hart et al., 2009; Kunda, 1990; Kruglanski, 1989; Pyszczyinski & Greenberg, 1987). These individuals are more likely to prefer pro-attitudinal over counter-attitudinal information (Hart et al., 2009; Lodge & Taber, 2005; Smith, Fabrigar, Powell & Estrada, 2007; Taber & Lodge, 2006). However, they do not necessarily avoid the latter (e.g., Knoblock-Westerwick & Kleinman, 2012),

and instead may seek counter-attitudinal information to learn what "the enemy" is thinking and how to better argue their position (Valentino, Banks, Hutchings & Davis, 2009). Additionally, these individuals are more likely to process information in a biased fashion, which means they will bolster pro-attitudinal information and refute counter-attitudinal information (Bolsen, Druckman, & Cook, 2014; Lodge & Taber, 2000; Taber & Lodge, 2006).

In contrast, accuracy motivated people use cognitive strategies that are optimal to reach a correct conclusion about a specific issue (Kunda, 1990). As a result, they select and process information in an objective and open-minded fashion, regardless of whether this information supports their prior opinions (e.g., Chaiken, Giner-Sorolla & Chen, 1996). An accuracy motivation reduces selective exposure to pro-attitudinal information (Fischer & Greitemeyer, 2010; Fischer, Jonas, Frey & Kastenmuller, 2008; Hart et al., 2009), and instead, it encourages individuals to seek both pro- and counter-attitudinal information because exposure to diverse perspectives should be more useful to make accurate judgments. This also means that, unlike defensive motivated individuals, those motivated by accuracy should process pro- and counter-attitudinal information in an unbiased and even-handed manner (Chaiken et al., 1996; Kunda, 1990).

Although some scholars have argued that a defensive motivation is the automatic and dominating motivation people use to reason about political issues (e.g., Taber & Lodge, 2006; Taber & Lodge, 2012), this dissertation draws on another perspective which posits that the strength of defensive and accuracy motivations will vary across different individuals and situations (see Leeper & Slothuus, 2014; Lodge & Taber, 2000; Nir, 2011). Motivated reasoning theory has been extensively used in the selective exposure literature to understand the motivations driving the selection of one-sided political content. However, given that some citizens are attracted to balanced messages, chapters 2 and 3 of this dissertation extend the literature by studying the motivations behind balanced information selection, and how this motivated selection relates to other psychological characteristics of individuals (i.e., attributes of issue attitudes).

Chapter 2 links motivated reasoning theory with the issue publics scholarship to study whether the selection of balanced, in addition to pro- and counter-attitudinal information, depends on whether an individual is an issue public member. The issue publics hypothesis argues that individuals are not cognitively capable nor interested in attending to an unlimited range of political issues. Instead, issue publics strive to be well-informed and knowledgeable about issues they care about, whereas they are less informed about issues that are unimportant (e.g., Converse, 1964; Hutchings, 2003; Iyengar, 1990; Krosnick &

Telhami, 1995). Although issue publics can be identified in several ways, such as having an opinion on a certain issue (see Krosnick & Telhami, 1995) or based on demographic membership (e.g., Page & Shapiro, 1992), chapter 2 uses a more direct and reliable approach which defines issue publics based on the importance of their issue attitudes (e.g., Krosnick & Berent, 1993; Kim 2009), and on their strength (e.g., Converse, 1964; Krosnick & Telhami, 1995; see Wojcieszak, 2014). The limited research on selective exposure among individuals who can be characterized as issue publics, those with important and strong attitudes, has shown that issue publics select both pro- and counter-attitudinal information about politics (Iyengar et al., 2008; Kim, 2007; Knoblock-Westerwick & Meng, 2009). Chapter 2 extends this literature by comparing balanced information selection between issue publics and average citizens – those who are less personally invested in certain political issues.

Chapter 3 further extends the literature on motivated reasoning and selective exposure by empirically studying how defensive and accuracy motivations impact the selection of balanced, pro- and counter-attitudinal information. In addition, this chapter examines whether motivated selection of balanced content is moderated by two issue attributes, namely, attitude strength and certainty. Research on selective exposure to one-sided content has shown that a defensive motivation is stronger among strongly opinionated individuals (e.g., Hart et al., 2009; Lodge & Taber, 2005; Taber & Lodge, 2006), and consequently, they are more likely to prefer pro-attitudinal information, compared to people with weaker opinions (e.g., Hart et. al, 2009; Holbrook, Berent, Krosnick, Visser & Boninger, 2005). Studies on the effects of attitude certainty on defensive-driven selection have yielded mixed findings (Albarracin & Mitchell, 2004; Hart et. al., 2009; Knoblock-Westerwick & Meng, 2009), whereas the influence of attitude strength and certainty on accuracy-driven selection has not been studied in prior research. Chapter 3 addresses this gap by comparing whether attitude strength and certainty have different moderating roles on defensive and accuracy driven selection of balanced and one-sided information.

Selective exposure and the type of evidence for a message claim

Although chapters 2 and 3 focus mostly on the psychological underpinnings of balanced information exposure, chapter 2 also examines whether differences in selection between issue and non-issue publics also depend on the type of evidence for a message claim. Specifically, this chapter draws on well-established research from health and persuasive communication, which has compared the relative effectiveness of numerical versus narrative evidence (e.g., Allen & Preiss, 1997; de Wit, Das & Vet, 2008). *Numerical evidence* presents quantitative information about populations (Allen & Preiss, 1997). *Narrative* evidence uses case stories or examples of individual experiences and conveyed by someone who is firsthand affected by an issue (see Kreuter et al., 2007).

Although political communication scholars have paid little attention to the role of evidence type in explaining selective exposure, I study this factor for two reasons. First, different types of evidence are likely present in news stories, and for example, the percentage of news with narrative evidence has increased in U.S. newspapers (Weldon, 2008). Second, persuasive communication research has documented the importance of evidence type in shaping message effectiveness (e.g., Allen & Preiss, 1997; Perloff, 2003), and in the political communication domain, research has shown that narrative evidence increases people's acceptance of counter-attitudinal views (Wojcieszak & Kim, 2016). Investigating whether numerical and narrative evidence play a role in determining selective exposure to political information is a fruitful next step in this line of research.

Only a few studies, mostly from health communication, have examined how evidence type impacts selective exposure. Two studies have shown that people prefer narrative evidence on personal issues, such as weight-loss and stress (Hastall & Knoblock-Westerwick, 2013; Knoblock-Westerwick & Sarge, 2015), whereas another study suggested that differences in preference of numerical or narrative evidence regarding hard issues depend on individual characteristics, such as empathy and numeracy (Knobloch-Westerwick et al., 2015). Chapter 2 extends the literature on evidence type and selective exposure by comparing the preference of numerical vs. narrative evidence between issue and non-issue publics, and in addition, whether issue publics prefer balanced content with numerical evidence, compared to balanced content with narrative evidence.

Consequences of selective exposure for information processing and polarization

Whereas chapters 2 and 3 study the factors driving balanced exposure, chapter 4 examines its impact on information processing and attitude polarization. Research has shown that pro-attitudinal exposure may lead to more extreme attitudes (Arceneaux & Johnson, 2013; Bennett & Iyengar, 2008; Garret et al., 2014; Levendusky, 2013; Stroud, 2011). Although some have hoped that counter-attitudinal exposure could be an antidote to attitude polarization (e.g., Matthes & Valenzuela, 2012), the available evidence suggests this might not be necessarily the case (e.g., Garret et al., 2013b). Some work has shown that counter-attitudinal exposure may contribute to moderate political opinions (Garret et al., 2014; Mutz; 2002; Parsons, 2010), yet other studies have suggested that counter-attitudinal messages do not weaken attitude polarization, but instead may fuel it (Arceneaux & Johnson, 2012; Arceneaux, Johnson & Cryderman, 2013; Wojcieszak, 2011).

People may polarize in response to pro- or counter-attitudinal messages in the media because they process information in a biased fashion. Citizens rely on two types of

cognitive biases to interpret pro- or counter-attitudinal information. First, an *attitude congruency bias*, such that pro-attitudinal messages are perceived as stronger than counter-attitudinal messages. Second, a *disconfirmation bias*, such that people are uncritical in response to pro-attitudinal messages, but spend cognitive effort refuting counter-attitudinal ones (see Ditto & Lopez, 1992; Druckman & Bolsen, 2011; Lord, Ross, & Lepper, 1979; Redlawsk, 2002; Taber, Cann, & Kucsova, 2009; Taber & Lodge, 2006).
The majority of scholarly work on the consequences of information exposure for biased processing and attitude polarization has focused on one-sided messages. Chapter 4 takes a different perspective and examines how processing and polarization are affected by balanced exposure. It is possible that people respond to balanced messages differently, compared to one-sided messages. Balanced exposure may encourage more unbiased processing (see Lodge & Taber, 2000; Metzger et al., 2015), and may constrain polarization, more so than one-sided messages (Levendusky, 2013). Yet, balanced information may also be processed in the same biased fashion as one-sided information (see Arceneaux & Johnson, 2015; Taber et al., 2009; Kahan et al., 2008), which could explain why balanced exposure may have similar polarizing effects (see Arceneaux & Johnson, 2015; Feldman, 2011; Taber et al., 2009).

To explain these mixed findings, it is possible that whether people interpret and react to balanced messages in the same manner as one-sided messages depends on the influence of individual motivations on information processing. As aforementioned, motivated reasoning theory posits that a defensive motivation facilitates biased information processing, whereas an accuracy motivation encourages open-minded reasoning (Kunda, 1990). Chapter 4 draws on this theory to test the extent to which processing outcomes of balanced information exposure, compared to one-sided information, depend on whether individuals are defensive or accuracy motivated. In addition, it also examines whether the impact of balanced information on attitude polarization is moderated by these individual motivations.

Research Design

This dissertation studies how psychological and message factors influence the selection of balanced political information, in addition to how balanced exposure affects information processing and attitude polarization. To answer these questions, I developed a series of online experiments which offer several advantages, such as inferring causal relationships, high internal validity, and control over participant's exposure to stimuli (Durrheim, 2007; Babbie, 2012). However, one tradeoff is their lower external validity, as participants are exposed to information from a limited set of stimuli, whereas they encounter a wider set of information sources in the real world.

To study information selection in chapters 2 and 3, the experimental designs employed self-selection protocols, in which participants select the stimuli from a limited set of choices. This common approach to study selective exposure (e.g., Feldman et al., 2013) simulates a natural media environment in which individuals are free to choose from diverse information sources (Arceneaux & Johsnon, 2012). The experiment in chapter 4 relies on randomized exposure to fixed treatment stimuli, which is an adequate strategy to isolate the causal effects of political information exposure on processing and attitudinal outcomes (see Arceneaux & Johnson, 2012).

Data in all experiments are collected from online, convenience samples of United States citizens. The United States is a suitable context for the study of selective exposure and polarization. For one, scholars, political observers and media pundits have worried that mass polarization has been on the rise in the U.S. (see Manjoo, 2008; Sunstein, 2009; but see e.g., Fiorina, Abrams & Pope, 2005). For example, Americans have become increasingly polarized across partisan divides (Jacobson, 2006), polarization sometimes attributed to the influence of selective exposure to political information in a fragmented media environment (e.g., Bennett & Manheim, 2006; Iyengar & Hahn, 2008; but see e.g., Arceneaux et al., 2013). Furthermore, the American media landscape has seen an increase in the supply of online partisan media – which can influence some of their audiences to become more polarized (see Van Aelst, 2017). Given these considerations, it can be argued that polarization across different issues is a cause for concern.

The samples were recruited from Amazon Mechanical Turk. *MTurk* is a crowdsourcing online marketplace, in which participants and researchers coordinate the use of human intelligence to perform tasks. The quality of *MTurk* samples has been examined extensively. Compared to other convenience samples, *MTurkers* are more demographically diverse, more representative of the general population, and equally or more attentive to experimental tasks (Berinsky, Huber, & Lenz, 2012; Hauser & Schwarz, 2015; Paolacci, Chandler, & Ipeirotis, 2010). Also, identical studies run on Mechanical Turk and nationally representative samples have generated the same results (Leeper & Mullinix, 2014; Mullinix, Leeper, Druckman & Freese, 2015). Attesting to the credibility of *MTurk* samples, research that relies on these participants has been published in psychology (e.g., Casler, Bickel & Hackett, 2013) and communication science (e.g., Messing & Westwood, 2012). Finally, *MTurk* samples may accurately represent the population of interest of this dissertation, i.e., Americans likely to read about political news online.

The stimuli of the three experiments consist of short articles that were drawn from existing news articles and issue-specific websites about three contested socio-political

issues in the U.S., namely, climate change, health care reform and refugees. The study of different issues is important to assess whether selective exposure and its effects are sensitive to particularities of socio-political issues (see Stroud, 2008). The stimulus materials were manipulated in ways that certain characteristics were kept constant across articles, whereas only the factors of interest were varied (e.g., balanced, pro-, or counter-attitudinal). Pretests were conducted with *MTurk* samples to assure that participants perceived the stimuli as intended.

Several methods have been used in the extant literature to operationalize selective exposure at the individual level (for overview see Clay, Barber & Shook, 2013). One method includes retrospective reports of prior behaviors, while another measures intentions to engage in selectivity. This dissertation uses a different method which unobtrusively observes selective exposure behavior in the experimental situation (e.g., Garrett, 2009; Kim, 2007; Knobloch-Westerwick & Meng, 2009). This technique tracks the amount and type of information that participants select from a limited set of information choices. Then, selective exposure is estimated as the congruence between participants' issue attitudes and the slant (balanced, pro-, or con-issue) of the information they selected. An alternative estimate is to rely on political ideology (e.g., Stroud, 2010), instead of issue attitudes. However, the use of issue attitudes is preferred in this dissertation because using ideology or issue attitudes yields almost the same estimates of selective exposure frequency (Feldman et al., 2013), and also because it allows estimating whether selective exposure varies across different issues (see Clay et al., 2013). In sum, compared to selective exposure operationalization techniques that rely on self-reported behavior, the method used in this dissertation does not assume that participants accurately report their past behavior, or that they accurately predict their future behavior. Instead, the technique used here observes selective exposure as it occurs (Clay et al., 2013).

Dissertation outline

This dissertation proceeds with three articles. Each article builds subsequently on the previous one to study the selection of balanced political information, and its effects on information processing and attitude polarization. Chapter 2 examines whether selection of balanced, in addition to pro- and counter-attitudinal information about climate change and health care reform, depends on whether an individual is an issue public member, and on whether a message presents numerical or narrative evidence. Chapter 3 studies how individual motivation influences information selection, and whether this selection is moderated by attitude strength and certainty. Two experiments are implemented, which prime either defensive or accuracy motivations and examine selection of information about health care reform and climate change. Chapter 4 studies how defensive and

accuracy motivations moderate the impact of balanced exposure, concerning climate change and Syrian refugees, on information processing and attitude polarization . Since the three empirical chapters were originally written in the form of articles, they can be read as standalone papers. As a consequence, there is some overlap in the theoretical introductions of the three articles. Finally, chapter 5 looks back at the previous chapters and its results, and draws conclusions about selective exposure to balanced, pro- and counter-attitudinal information, in addition to its processing and attitudinal outcomes. Also, this chapter discusses limitations of the dissertation and suggestions for future research.

Chapter 2

Selective Exposure to Balanced Content and Evidence Type: The Case of Issue and Non-Issue Publics about Climate Change and Health Care

Abstract

We examine three under-studied factors in selective exposure research. Linking issue publics and motivated reasoning literatures, we argue that selectivity patterns depend on 1) whether an individual is an issue public member, 2) on the availability of balanced, pro- and counter-attitudinal content, and 3) on the evidence for a message claim (numerical vs. narrative). Using an online experiment (N = 560), we track information selection about climate change and health care. Most notably, on both issues, issue publics selected more balanced content with numerical evidence, compared to non-issue publics. We discuss the implications of our findings for the selective exposure literature.

Keywords: Selective exposure, issue publics, motivated reasoning, evidence type

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Selective Exposure to Balanced Content and Evidence Type: The Case of Issue and Non-Issue Publics about Climate Change and Health Care

Scholars in communication and political science have increasingly focused on *selective exposure*, i.e., the tendency of media consumers to select information that is in line with their predispositions (e.g., Arceneaux & Johnson, 2013; Garret & Stroud, 2014; Knoblock-Westerwick & Kleinman, 2012; Levendusky, 2013; Stroud, 2008). Although extensive research, using a variety of methods, has aimed to capture the extent to which citizens choose like-minded political content, the debate about the prevalence of selective exposure is largely inconclusive. Whereas some studies have suggested that many citizens choose messages that resonate with their prior attitudes (e.g., Iyengar & Hahn, 2008), other research has shown this pattern is confined to small groups of strong partisans (e.g., Prior, 2013). Yet other studies have found that people pay attention to both pro- and counter-attitudinal information (DiMaggio & Sato, 2003; Stroud, 2011), and when given the chance, substantial numbers select balanced content that presents supporting and opposing arguments about an issue (Feldman et al., 2013; Garret & Stroud, 2014; Levendusky, 2013).

Most germane to our argument, some research has shown that selective exposure is not a "one size fits all" phenomenon, and instead different groups may engage in different selectivity patterns (e.g., Arceneaux & Johnson, 2013; Kim, 2007, 2009; Knoblock-Westerwick & Kleinman, 2012; Valentino et al., 2009). We aim to extend this work by addressing three under-studied factors. Specifically, we examine whether selectivity patterns depend on 1) whether an individual is a member of an issue public, 2) the availability of balanced content, in addition to pro- and counter-attitudinal content and 3) the evidence type for a message claim, whether numerical or narrative.

Our overarching framework draws on the literature on issue publics, which defines issue publics as groups of citizens who are well informed and knowledgeable about personally important matters (e.g., Converse, 1964; Hutchings, 2003; Iyengar, 1990; Krosnick, 1990; Krosnick & Telhami, 1995). Some studies have shown that issue publics disproportionally select information about issues that matter to them (e.g., Kim, 2009). We extend this research to the context of selectivity. We examine whether content selection among issue publics depends on the type of information, whether balanced, pro- or counter-attitudinal, as well as on evidence type for a message claim.

We first draw on motivated reasoning theory, according to which people can be driven by accuracy and defensive goals when selecting information (Kruglanski & Klar, 1987; Kunda, 1990). We link this theory with research on issue publics and selectivity to examine, first,

selection of *balanced content* among issue and non-issue publics. Few studies have offered participants the possibility to select balanced content (e.g., Feldman et al., 2013; Garrett & Stroud, 2014; Levendusky, 2013), and, to our knowledge, no study has assessed selection of balanced content among issue publics. Yet, in the U.S., substantial numbers consume mainstream media, and selection of partisan outlets is limited to a small subset of citizens (Arceneaux & Johnson, 2013; Prior, 2007, 2013; Stroud, 2008).

Second, we examine the extent to which selective exposure among issue and non-issue publics depends on evidence type. We draw on research on the relative appeal of numerical versus narrative evidence, largely pioneered in health communication (e.g., Allen & Preiss, 1997; Knoblock-Westerwick et al., 2015; Knoblock-Westerwick & Sarge, 2015; Reinhart, 2006; Taylor & Thompson, 1982). *Numerical evidence* describes quantitative data about large samples (Allen et al., 1997). In turn, *narrative evidence* is defined as a coherent story structured around individual experience, and conveyed by a person who is first-hand affected by an issue (see Kreuter et al., 2007). Lastly, we pull these scholarships together to test whether issue publics, likely motivated by both defensive and accuracy goals, choose more balanced content with numerical evidence, compared to balanced content with narrative evidence.

We rely on data from an online experiment with 560 U.S. participants. We measured issue attitudes, as well as attitude importance and attitude strength (in order to capture issue publics) about climate change and health care reform. Then, participants had a chance to select multiple articles, while we unobtrusively logged their selection behaviors. Each article contained either 1) balanced, pro- or counter-issue arguments, and 2) numerical or narrative evidence. Before reviewing the data and our findings, we integrate the issue publics literature with motivated reasoning theory to predict selection patterns of balanced, pro- or counter-attitudinal messages, among issue and non-issue publics. We then integrate this theoretical framework with evidence from health communication to predict selection of messages with numerical or narrative evidence.

Issue Publics

According to the issue publics literature, citizens are composed of issue publics, or groups that are well informed and knowledgeable about issues that are important to them, and less informed about issues that are unimportant (e.g., Converse, 1964; Hutchings, 2003; Iyengar, 1990; Krosnick & Telhami, 1995).[1] Only a handful of studies on issue publics have paid attention to partisan selectivity, i.e., the extent to which people choose congenial over uncongenial political information. Evidence has shown that left-wing issue publics (people who care about a particular issue) do not necessarily choose information that

is line with their partisan predispositions (Iyengar et al., 2008). Furthermore, studies have shown that individuals with important and strong attitudes, those that typically characterize issue publics, select both pro- and counter-attitudinal information (Kim, 2007; Knoblock-Westerwick & Meng, 2009).

However, these studies did not attend to selection of balanced content, which incorporates both pro- as well as counter-attitudinal information about an issue. This lack of attention is important as evidence has shown that people prefer pro-attitudinal over counter-attitudinal information when only these options are available. But, given the alternative to select balanced content, people select it (Feldman et al., 2013; Garret & Stroud, 2014). Furthermore, previous research has not examined whether partisan selectivity among issue publics also depends on the type of evidence used to support a message claim. This is important as evidence from health communication has suggested that the type of evidence may influence message selectivity (Hastall & Knoblock-Westerwick, 2013; Knobloch-Westerwick & Sarge, 2015). In the current study, we draw on motivated reasoning theory to examine both gaps in the literature.

Motivations for Information Selection

Motivated reasoning theory argues that individual motivations influence the cognitive processes people use to arrive at their desired conclusions, where *motivation* is defined as "any wish, desire, or preference that concerns the outcome of a given reasoning task" (Kunda, 1990, p. 480). According to this theory, two major motivations drive information selection: a defense motivation and an accuracy motivation (Kruglanski & Klar, 1987). People motivated by defensive goals aim to validate and protect their existing attitudes, beliefs, and behaviors. In turn, people driven by an accuracy motivation are likely to process information in an objective and open-minded manner, with the purpose of acquiring an in depth understanding of reality, and of reaching a correct conclusion about an issue (Chaiken, Liberman & Eagly, 1989; Hart et al., 2009; Kunda, 1990).

Previous work on motivated reasoning suggests that individual differences in information selection and processing may be explained by differences in both the type (i.e., defensive, accuracy) and the strength of motivation goals (Nir, 2011; Lodge & Taber, 2000). Extending this rationale to the domain of selectivity, we argue that issue and non-issue publics may differ on the strength of defensive and accuracy goals, which in turn, may lead to different patterns of content selection. Drawing on Lodge and Taber's (2000) typology of reasoning styles, we expect that content selection among issue publics may be driven by strong defensive and accuracy motivations, whereas selectivity among average citizens may be driven by a weak defensive motivation and a weak accuracy motivation. Below we

outline our expectations of how differences in reasoning style may affect the selection of balanced, pro- or counter-attitudinal content.

Motivated Selection among Non-Issue Publics

Because non-issue publics care less about a particular issue, they may be less interested in defending their opinions or in gaining a deep understanding of that issue. Drawing on Lodge and Taber (2000), we argue that information selection among non-issue publics may be driven by a low motivation to validate their existing viewpoint (defensive motivation), and a low motivation to reach an accurate conclusion about an issue (accuracy motivation). When exposed to political information, non-issue publics may wish to solely choose pro-attitudinal information because it matches their views on an issue, but not necessarily because they want to validate them. Also, as some scholars suggest (e.g., Taber & Lodge, 2006), a natural or "default" state of most people, regardless of the strength of their issue attitudes, issue interest or knowledge, is their preference for like-minded information.

Furthermore, there are reasons to suggest that non-issue publics may be less interested in exposing themselves to counter-attitudinal content. First, because non-issue publics have less issue knowledge, weaker opinions, and care less about a given issue than issue publics (see Converse, 1970; Kim, 2009; Zaller & Feldman, 1992), they may not be interested in learning new information from counter-attitudinal messages. Second, a factor that has been shown to motivate counter-attitudinal exposure is how confident people feel that they can defend their opinions when confronted with information that challenges their beliefs (Albarracín & Mitchell, 2004). Because of the aforementioned characteristics of non-issue publics, they should have lower defensive confidence. For these reasons, non-issue publics may be especially interested in pro-, rather than in counter-attitudinal information.

Motivated Selection among Issue Publics

In contrast, information selection among issue publics may be driven by both defensive as well as accuracy goals. On the one hand, people with important and strong attitudes, namely those that typically characterize issue publics, are motivated by defensive goals and – as a result - may select pro-attitudinal content (Holbrook et al., 2005; Lodge & Taber, 2005). Because personally important attitudes are often tied to people's beliefs that an issue has important consequences for their lives (Johnson & Eagly, 1989; Petty & Cacioppo, 1986), individuals who deeply care about an issue and have strong opinions may choose pro-attitudinal information to further validate their attitudes and seek psychological stability (Hart et al., 2009; Lodge & Taber, 2005; Taber et al., 2009; Westerwick, Kleinman & Knoblock-Westerwick, 2013).

Also, a defensive motivation may drive issue publics to seek counter-attitudinal information with the primary aim of refuting it, and in doing so, reinforce their priors. In fact, evidence outside the issue publics domain suggests that some citizens seek counter-attitudinal arguments for this purpose (see Garret & Stroud, 2014). After all, issue publics are more informed about a given issue, and thus likely have sufficient knowledge to refute counter-attitudinal arguments (Albarracín & Mitchell, 2004; Knoblock-Westerwick & Meng, 2009). Furthermore, some evidence suggests that people experience pleasure when they successfully refute information that challenges their attitudes (Westen, Blagov, Harenski, Hilts & 2006).

On the other hand, however, issue publics seek to become specialists about personally important issues (Converse, 1964). Hence, in addition to defensive motivation and in contrast with the general public, issue publics members also should be motivated by accuracy goals to select counter-attitudinal information. First, people select counter-attitudinal information when it has high information utility, a moderator that has been associated with accuracy motivation (Hart et al., 2009; Knobloch-Westerwick, & Kleinman, 2012; Valentino et al., 2009). Similarly, exposure to diverse perspectives may be useful for issue publics to reach a correct conclusion, and so issue publics should want to gather a wide range of information about a personally important issue, counter-attitudinal information included.

Given that issue publics may be driven by both defensive and accuracy motivations, they may experience tension between reinforcing their opinions and increasing the plausibility that their opinions are correct (Kunda, 1990, Pyszcynski & Greenberg, 1987). This tension may be especially salient when issue publics must choose between pro- or counter-attitudinal content. Balanced content, which offers pro- as well as counter-attitudinal arguments, can resolve this tension and - as such – may best meet both defensive and accuracy motivations. Because balanced content contains pro-attitudinal information, it is useful for issue publics to successfully reinforce their desired conclusions. Also, balanced content may help to pursue an accuracy goal, in that balanced information seeking is most likely when people wish to obtain accurate information and avoid holding incorrect views about an issue (Kastenmuller, Greitemeyer, Jonas, Fischer & Frey, 2010).

All in all, because both defensive and accuracy motivations may guide content selection among issues publics, we predict that.

Compared to non-issue publics, issue publics will select more balanced content than pro- or counter-attitudinal content. (Hypothesis 1).

Evidence for a Message Claim: Numerical versus Narrative

Another largely under-studied factor in research on selectivity is the type of evidence for a message claim, which may matter to selective exposure in general and to content selection among issue publics in particular. The well-established research on message effectiveness, largely coming from persuasive and health communication literature, has paid special attention to messages that advance numerical versus narrative evidence for their claims (e.g., Allen & Preiss, 1997; Hoeken, 2001; de Wit et al., 2008). Does evidence type affect selectivity? This question has not been researched apart from, to our knowledge, two studies from the health communication context. In that context, messages which contained narrative evidence were selected at a greater rate (Hastall & Knoblock-Westerwick, 2013) and resulted in longer exposure (Knobloch-Westerwick & Sarge, 2015) than messages with numerical evidence.

In the context of issue publics in the political domain, however, messages with numerical evidence should be most attractive. Messages that present facts in the form of numbers and statistics are generally seen as more credible (Kopfman, Smith, Ah Yun & Hodges, 1998), verifiable (Lindsey & Yun, 2003), and as better representing the reality (see Brosius & Bathelt, 1994) than narrative messages. For these reasons, numerical messages should be useful for issue publics pursuing defensive and accuracy goals. Issue publics, motivated by a defensive goal, may seek strong verifiable arguments in the form of numbers and statistics to successfully reinforce their prior views. Motivated by an accuracy goal, issue publics should also choose to expand their knowledge by seeking information that contains the credible numerical evidence.

Unlike issue publics, average citizens are not personally invested in reinforcing desired conclusions or in increasing their understanding about an issue. For this reason, they may be less interested in messages with numerical evidence, and instead be attracted to narrative messages, which are more vivid, attention-grabbing and entertaining (Zillmann & Brosius, 2000). All in all, based on these arguments, we expect that:

Compared to non-issue publics, issue publics will choose numerical evidence at higher rates than narrative evidence (Hypothesis 2).

Lastly, inasmuch as issue publics are driven by defensive and accuracy goals, wishing to see balanced political messages that rely on credible and verifiable evidence, it is also possible that issue publics will be especially driven to balanced content with numerical evidence. It is such a combination of diverse perspectives buttressed by numbers and statistics that should best match the motivations among those citizens who care about

and are invested in some political issues. We thus integrate our first two hypotheses to predict an interaction. Specifically, we expect that:

Compared to non-issue publics, issue publics will select more balanced content with numerical evidence (Hypothesis 3).

Method

Design

To test these hypotheses, we developed an online survey experiment with a 2 (narrative, numerical evidence) x 3 (pro-issue, counter-issue, balanced) x 2 (health care, climate change) within-subjects design. Participants selected multiple articles out of 12 texts about climate change and 12 texts about health care, while we unobtrusively logged their selection behaviors. We selected two issues that are not directly related to one another, and that differ on their perceived importance for the U.S. public: Healthcare is ranked as one of the most important issues for Americans, and climate change, in turn, is considered one of the least important (Gallup, 2014; Pew Research Center, 2014).

Participants

A total of 560 U.S. participants were recruited via *Amazon Mechanical Turk* in August 2014.[2] Because participants with neutral attitudes cannot be classified as selecting pro- or counter-attitudinal content, they were excluded from the analysis (see Feldman et al., 2013). The final sample consisted of 504 participants, among whom 54% were males and 46% females, with an average age of 35.6 years (*SD* = 11.20). Across education attainment, 9% had a high school degree or less, 22% some college but no degree, 11% had an Associate degree, 43% a Bachelor's degree, 12% a Master's degree, and 2% had a Doctorate and 1% a professional degree. As such, our final sample is better educated that the general U.S. population, an issue we address in the discussion section.[3]

Stimulus Material

Drawing on existing articles and issue-specific websites about climate change and health care, 24 articles were constructed and revised as stimulus material. For each issue, 12 texts were designed, differing only on the manipulated factors. Six texts offered narrative evidence and six texts offered numerical evidence. Within each set of six texts, two texts presented only supporting arguments about the issue (pro-issue texts), two texts presented only opposing arguments (con-issue texts), and two balanced texts included both supporting and opposing arguments (balanced texts). Each text included: A headline

and lead that were either numerical or narrative, plus either pro-, con-issue or balanced, 2) three or four paragraphs with arguments that supported the main idea in the headline and the lead with numerical or narrative evidence and 3) a concluding statement that summarized the arguments

We developed manipulations that were directly comparable in terms of length and the number of arguments present. Balanced, pro- and con-issue texts contained the same number of arguments and – to manipulate evidence type – each argument was written in both narrative and numerical form. This was to assure that any differences detected are due to the evidence type. Also, the narrative texts used gender-neutral names. In general, the articles varied between 217 and 250 words (See Appendix A for an example of each factor manipulated in the stimulus material).

In July 2014, we pretested the 24 articles on another sample of 711 U.S. participants via Mechanical Turk, to determine that participants perceived the stimulus material as intended (i.e., balanced, pro- or con-issue, numerical versus narrative), and also as equally interesting, understandable, convincing, believable and coherent. Participants were randomly assigned to rate one article. Each participant first rated the headline, and then read and rated the text. In general, the results of the pretest were as expected.[4]

Procedure

The 15 minute online study was implemented with Dynamic Process Tracing Environment (*DPTE*), a program designed to simulate decision making and used in prior studies to observe political heuristics among voters (see Redlawsk, Civettini & Emmerson, 2010). We first measured participants' attitudes towards climate change, health care and immigration as a filler issue, attitude importance and attitude strength about these three issues, demographics and an attention check question.[5] Participants then proceeded to a practice session that aimed to familiarize them with the simulation of article selection.[6]

After the practice session, participants were presented with 12 headlines about climate change and 12 headlines about health care on separate *DPTE* screens. The order of the screens was randomized, which means that participants were randomly presented with the climate change headlines first, followed by the health care headlines, or vice versa. On each screen, headlines scrolled down one by one in a random order to prevent that the order in which headlines were presented affected the probability of selection. Each headline was shown three times. Participants were told they had 2 minutes and 45 seconds per issue to select and read as many articles as they chose, by clicking on the headlines in the screen. The allotted time was selected based on previous work on

average readership time, which suggests people spend 102 seconds on average when they access a website via an online search (Mitchell, Jurkowitz, & Olmstead, 2014; see also Pew Research Center, 2015). Hence, the selected time would give all respondents sufficient time to read the material. When a headline was selected, a pop-up window showed the full article. Afterwards, participants closed the window and returned to the previous screen, where they could select additional articles. *DPTE* logged article selections in an unobtrusive manner.

Measures

Issue attitudes. *Health care*. We asked the participants to report, on a scale from 1 (*strongly oppose*) to 7 (*strongly favor*), how strongly they opposed or supported the National Health Care Reform Legislation (M = 4.34, SD = 1.95). ***Climate change attitudes*.** Participants reported how strongly, on a scale from 1 to 7, they agreed or disagreed with the statement that climate change is a serious threat for the United States (M = 5.21, SD = 1.78). They also indicated how strongly they favored or opposed (scale from 1 to 7) a U.S. governmental policy that mitigates climate change by limiting carbon emissions (M = 5.24, SD = 1.75). Because both items were strongly correlated (r = .80, p <.001), they were averaged into a single scale.

In order to measure selective exposure, we trichotomized the original 7-point measures of health care and climate change attitudes into oppose/neutral/favor. Values of 1 through 3 were recoded as oppose, 4 as neutral and 5 through 7 as favor. For climate change, 16.4% reported opposing attitudes, 10% neutral attitudes, and 73.6% favoring attitudes. The percentages for health care attitudes were 33.8% oppose, 13.4% neutral and 52.7% favor.[7]

Stimulus material exposure. *DPTE* automatically recorded information selection behavior when participants clicked on their selected headlines. Article selection was used as the measure of exposure.

Selective exposure. We operationalized selective exposure as the selection of a pro-attitudinal article, over a balanced or counter-attitudinal article. We estimated it as the congruence between participants' issue attitudes and the slant (balanced pro- or con-issue) of the articles they selected. For example, participants favoring (opposing) an issue were counted as selecting pro-attitudinal information when they chose an article favoring (opposing) the issue. In turn, we categorized counter-attitudinal exposure when participants selected an article incongruent with their pre-test issue opinion (when an opponent of the Affordable Care Act selected an article favoring the legislation, for example). Third, we categorized balanced exposure when participants chose a balanced

issue article, regardless of their initial position. Our final measure of pro-attitudinal exposure is the number of pro-attitudinal articles that each participant selected for each issue. Likewise, counter-attitudinal and balanced exposures are based on the number of counter-attitudinal and balanced articles selected.

Issue publics. Although there is no best way of capturing issue publics (see Wojcieszak, 2014 for a review), attitude importance is considered a reliable proxy (Kim, 2009). Accordingly, we operationalized issue publics based on their attitude importance (Kim, 2009; Krosnick, 1990). Also, issue publics are more likely to hold strong attitudes about issues they care about, compared to non-issue publics (e.g., Converse, 1964; Krosnick & Telhami, 1995). Hence, to increase the robustness of our findings, we also operationalized issue publics based on their attitude strength (e.g., Wojcieszak, 2014).

Attitude importance was measured for each issue, asking participants to report on a 7-point scale (1 = *not important at all,* 7 = *very important*) how important were the issues of climate change (M = 4.93, SD = 1.65) and health care (M = 5.69, SD = 1.28) to them personally (e.g., Krosnick, 1988). *Attitude strength* was assessed by asking participants how strong were their opinions about climate change (M = 5.27, SD = 1.53) and health care (M = 5.40, SD = 1.33). Values ranged from 1 (*not strong at all*) through 7 (*very strong*) (e.g., Krosnick, Boninger, Chuang, Berent & Carnot, 1993).

Attitude importance and attitude strength about climate change were correlated at .72 ($p < .001$), and at .60 ($p < .001$) for health care. Research on selective exposure has either combined attitude strength and importance into a single construct (e.g., Brannon, Tagler & Eagly, 2007) or has treated them as distinct attitudinal dimensions (e.g., Knoblock-Westerwick & Meng, 2009). We followed the latter approach because evidence has shown that attitude strength and importance have different causes and consequences, and therefore should be treated separately (see Visser, Bizer & Krosnick, 2006 for a review). Additionally, our reliance on the separate measures offers some assurance that the findings are not due to some specificities of any one measure used.

Data Analysis

To test our hypotheses, we conducted a series of random effects logit models for each issue, wherein we allowed the intercept to vary by participant, as we have multiple observations per participant. In a first model for the entire sample, we estimated to what extent article selection as a binary variable (i.e., non-selection over selection) is predicted by the type of information (i.e., balanced compared to pro-attitudinal and counter-attitudinal information as reference category) and evidence type (i.e., numerical over

narrative evidence as reference category). To directly test our hypotheses, we estimated interaction effects between issue publics (attitude importance and attitude strength), type of information and evidence.[8] Because we did not manipulate issue publics in our experiments, we included gender, age and education as controls in all the models.[9]

Results

Participants selected, on average, 5.20 (*SD* = 2.15) articles about climate change out of 12 options, and 5.20 (*SD* = 2.15) health care articles. The results of a first model across the entire sample (Table 1) show that, when selecting information about climate change, all the participants in general were equally likely to select pro- attitudinal compared to counter-attitudinal information (*b* = -.04, ns). Also, they were 73 percent more likely to select articles that featured balanced content over counter-attitudinal content (*b* = .99, *p* < .001).

Additionally, the general sample was more likely to select numerical (probability selection = .55, *b* = .18, *p* < .001), over narrative evidence (probability selection = .45). Furthermore, on average, attitude importance and attitude strength were not significant predictors of whether climate change articles were selected.

The pattern of results was similar for health care. Across the entire sample, participants selected balanced content (probability selection = .75 *b* = 1.10, *p* < .001), over pro-attitudinal (probability selection = .51) and counter-attitudinal (probability selection = .21). As was the case for climate change, participants were only slightly more likely to select numerical evidence (probability selection = .53, *b* = .12, *p* < .01), over narrative evidence (probability selection = .47). Again, neither attitude importance nor attitude strength significantly predicted whether health care articles were selected. All in all, these results indicate that people chose mostly balanced content, over pro-and counter-attitudinal, and numerical over narrative evidence.

Table 1. *Repeated Logit Model of Article Selection by Type of Information and Evidence Type*

	Climate Change			Health Care		
	(*N* = 502)	B	Exp(*β*)	(*N* = 483)	β	Exp(*β*)
Intercept		**-1.36(.15)*** **	.26		**-1.49(.14)*** **	.23
Gender		-.05(.05)	.95		-.04(.05)	.96
Age		**-.01(.0)*** **	.99		.0(.0)	1.0
Education		**.07(.02)** **	1.07		**.07(.02)** **	1.07
Pro-Attitudinal		-.04(.04)	1.04		**.22(.05)*** **	1.24
Balanced		**.99(.05)*** **	2.70		**1.10(.05)*** **	2.99
Numerical		**.18(.04)*** **	1.20		**.12(.05)** **	1.13
Attitude Importance		-.02(.02)	.98		-.05(.07)	.96
Attitude Strength		.02(.02)	1.02		-.04(.07)	.96

Note. *** p< .001, ** p< .01, * p< .05. Note: Entries on the left column are unstandardized logistic regression coefficients with the standard errors in parentheses. The odds ratios are shown on the right column. The dependent variable is a dummy variable coded "0" if article about the issue is non-selected, or "1" if article selected. The reference category for type of information is counter-attitudinal content, and the reference category for evidence type is narrative.

Selective Exposure among Issue Publics

Next, we examined the selectivity pattern among issue publics specifically. Motivated by the need to gather divergent and accurate information on personally relevant issues, we expected issue publics (as defined by high attitude importance and high attitude strength) to select more balanced content than pro- or counter-attitudinal content, compared to non-issue publics (namely those with low attitude importance and low attitude strength) (*Hypothesis 1*).

Contrary to our expectations the selection pattern among issue and non-issue publics was similar. For issue publics, balanced articles about climate change were more appealing than both pro- and counter-attitudinal information. This was the case when issue publics were categorized based on how important (Table 2, probability balanced selection = .74, $b = 1.06$, $p < .001$; probability pro-attitudinal = .52; probability counter-attitudinal = .16) and how strong were their issue attitudes (Table 3, probability balanced selection = .74, $b = 1.05$, $p < .001$; probability pro-attitudinal = .52; probability counter-attitudinal = .19).

This selection pattern was equally pronounced for non-issue publics, who also chose balanced content over pro- as well as counter-attitudinal content. Again, this was the case when selection was predicted by both attitude importance (Table 2, probability balanced

selection = .72, *b* = .94, *p* < .001; probability pro-attitudinal = .50; probability counter-attitudinal = .24) and attitude strength (Table 3, probability balanced selection = .72, *b* = .93 *p* < .001; probability pro-attitudinal = .49; probability counter-attitudinal = .22).

Table 2. *Repeated Logit Model of Article Selection by Type of Information and Evidence Type among Issue Publics (Attitude Importance)*

		Climate Change			Health Care	
Low Attitude Importance	**(*N* = 271)**	***β***	**Exp(*β*)**	**(*N* = 181)**	***β***	**Exp(*β*)**
Intercept		**-1.13(.16)*** **	.32		**-1.40(.25)*** **	.25
Gender		-.08(.07)	.92		-.12(.09)	.89
Age		**-.01(.0)***	.99		.0(.0)	1.0
Education		.05(.03)	1.05		.05(.04)	1.06
Pro-Attitudinal		-.003(.06)	1.00		**.18(.08)***	1.20
Balanced		**.94(.07)*** **	2.55		**1.16(.09)*** **	3.20
Numerical		**.16(.06)****	1.18		**.25(.08)****	1.28
High Attitude Importance	**(*N* = 231)**			**(*N* = 302)**		
Intercept		**-1.67(.18)*** **	.19		**-1.57(.17)*** **	.21
Gender		-.01(.08)	.99		.01(.07)	1.01
Age		-.01(.0)	1.0		**-.01(.0)***	.99
Education		**.10(.03)*** **	1.11		**.08(.03)****	1.08
Pro-Attitudinal		.08(.06)	1.09		**.24(.06)*** **	1.27
Balanced		**1.06(.08)*** **	2.88		**1.06(.07)*** **	2.88
Numerical		**.20(.06)****	1.22		.04(.05)	1.04

Note. *** p< .001, ** p< .01, * p< .05. Note: Entries on the left column are unstandardized logistic regression coefficients with the standard errors in parentheses. The odds ratios are shown on the right column. The dependent variable is a dummy variable coded "0" if article about the issue is non-selected, or "1" if article selected. The reference category for type of information is counter-attitudinal content, and the reference category for evidence type is narrative. In this model, attitude importance was divided using a median split.

Similar results emerged for messages about health care. Issue publics selected balanced content over pro- and counter-attitudinal articles, and this choice held for both attitude importance (Table 2, probability balanced selection = .74, *b* = 1.06, *p* < .001; probability pro-attitudinal = .56; probability counter-attitudinal = .17) and attitude strength (Table 3, probability balanced selection = .74, *b* = 1.04, *p* < .001; probability pro-attitudinal = .56; probability counter-attitudinal = .16). However, non-issue publics also selected balanced

content over pro- and counter-attitudinal content, both when non-issue publics were measured by attitude importance (Table 2, probability balanced selection = .77, *b* = 1.16, *p* < .001; probability pro-attitudinal = .55; probability counter-attitudinal = .20) and attitude strength (Table 3, probability balanced selection = .76, *b* = 1.14, *p* < .001; probability pro-attitudinal = .54; probability counter-attitudinal = .21). All in all, this pattern of results does not support our first hypothesis.

Table 3. *Repeated Logit Model of Article Selection by Type of Information and Evidence Type among Issue Publics (Attitude Strength)*

		Climate Change			Health Care	
Low Attitude Strength	**(*N* = 236)**	***β***	**Exp(*β*)**	**(*N* = 201)**	***β***	**Exp(*β*)**
Intercept		**-1.26(.16)*** **	.28		**-1.33(.23)*** **	.27
Gender		-.07.(.07)	.94		-.14(.09)	.87
Age		**-.01(.0)*** **	.99		-.01(.0)	.99
Education		**.09(.03)** **	1.09		.03(.04)	1.04
Pro-Attitudinal		-.03(0.6)	.97		.17(.07)*	1.18
Balanced		**.93(.08)*** **	2.52		**1.14(.09)*** **	3.13
Numerical		**.13(.06)***	1.13		**.16(.07)***	1.17
High Attitude Strength	**(*N* = 267)**			**(*N* = 282)**		
Intercept		**-1.49(.18)*** **	.23		**-1.65(.18)*** **	.19
Gender		-.05(.07)	.96		.03(.07)	1.03
Age		.0(.0)	1.0		**-.01(.0)***	.99
Education		**.06(.03)***	1.06		**.09(.03)** **	1.09
Pro-Attitudinal		.10(.06)	1.10		**.25(.06)*** **	1.29
Balanced		**1.05(.07)*** **	2.85		**1.04(.07)*** **	2.90
Numerical		**.24(.06)*** **	1.27		.10(.06)	1.10

Note. *** p< .001, ** p< .01, * p< .05. Note: Entries on the left column are unstandardized logistic regression coefficients with the standard errors in parentheses. The odds ratios are shown on the right column. The dependent variable is a dummy variable coded "0" if article about the issue is non-selected, or "1" if article selected. The reference category for type of information is counter-attitudinal content, and the reference category for evidence type is narrative. In this model, attitude strength was divided using a median split.

Issue Publics' Selection of Evidence Type

Beyond the type of information, we expected that evidence type for the message claim should also matter for content selection. We predicted that, compared to non-issue publics, issue publics would choose political messages presenting numerical evidence over parallel messages with narrative evidence (*Hypothesis 2*).

The results did not support this expectation. Also in this case, both issue and non-issue publics were more driven to numerical evidence than narrative evidence. For climate change, issue publics selected more messages containing numerical evidence than messages with narrative evidence (Table 2, attitude importance: probability numerical selection = .55, b = .20, p < .01; probability narrative selection = .45; Table 3, attitude strength: probability numerical selection = .56, b = .24, p < .001; probability narrative selection = .44). However, participants low on attitude importance (Table 2, probability numerical selection = .54, b = .16, p < .01; probability narrative selection = .46) and attitude strength (Table 3, probability numerical selection = .53, b = .13, p < .01; probability narrative selection = .47) also chose numerical over narrative evidence.

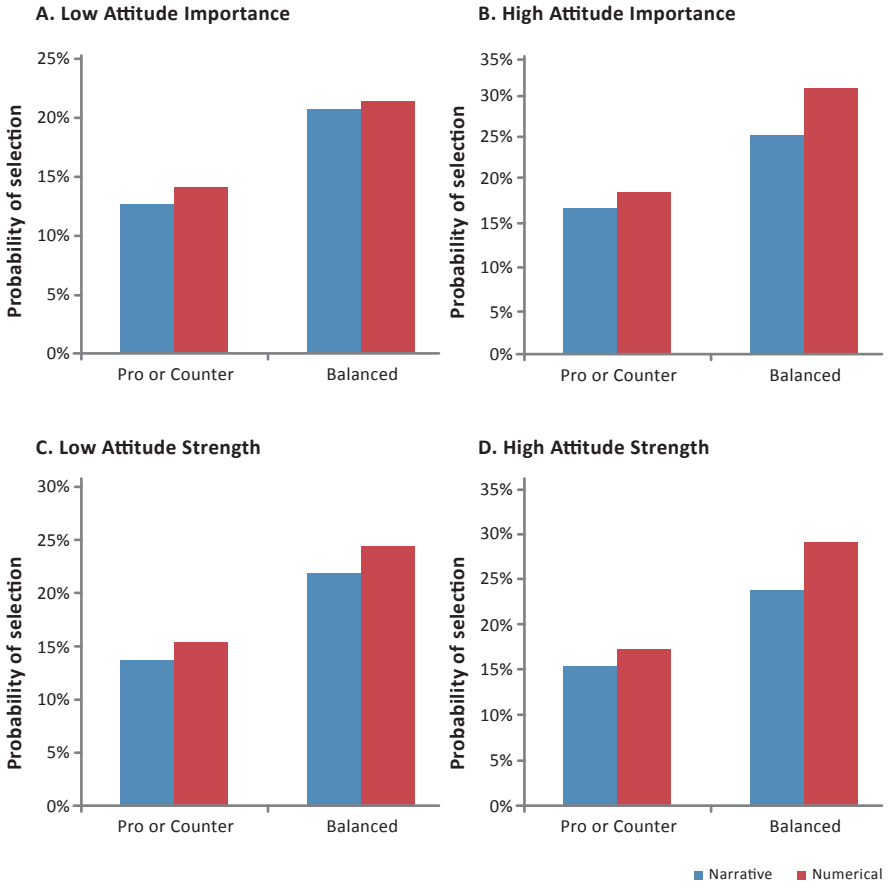
Contrary to expectations, the appeal of numerical evidence among issue publics actually *diminished* for articles about health care, as there were no differences in the selection of numerical over narrative evidence among those with highly important and strong attitudes. To our surprise, it was the non-issue publics who sought more numerical evidence about health care compared to narrative. Results were consistent across attitude importance (Table 2, probability numerical selection = .56, b = .25, p < .01; probability narrative selection = .44) and attitude strength (Table 3, probability numerical selection = .54, b = .16, p < .05; probability narrative selection = .46). These results do not support our second hypothesis.

Selection of Diverse Viewpoints with Numerical Evidence

Next we examined our last theoretical expectation, namely that, compared to non-issue publics, issue publics will select more balanced information, especially when accompanied by numerical evidence *(Hypothesis 3).* We estimated three-way interaction effects between issue publics (attitude importance and attitude strength), type of information (balanced, pro- and counter-attitudinal as reference category) and evidence type (numerical and narrative) and predicted the probabilities of selecting an article about climate change and health care.[10] Results supported hypothesis 3, but only for climate change. We plotted the significant three-way interactions for the ease of interpretation. In Figures 1.a. through d, the bars indicate the probability that a participant would select an article about climate change (please see Tables 4 and 5 in Appendix B for full results for both issues). Climate

change issue publics selected articles featuring balanced content with numerical evidence at higher rates than did non-issue publics.

Figures 1.a, 1.b. The impact of balanced content, evidence type and attitude importance on selection of climate change articles. *Notes.* Entries are logistic probabilities of regressing a dummy for article selection on balanced content, evidence type, attitude importance, the two-way interactions between balanced, evidence and attitude importance (balanced x numerical, balanced x importance, numerical x importance) and the three-way interaction between balanced x numerical x importance, controlling for gender, age and education (not shown here). The probabilities of pro- and counter-attitudinal were placed in a single category because we found no differences in the interaction effects for each category separately. *Figures 1.c and 2.d*. show the logistic probabilities replacing attitude importance with attitude strength.



Specifically, among participants with high attitude importance (Figure 1.b), balanced articles with numerical evidence were 5% more likely to be selected, compared to balanced articles with narrative evidence. In turn, among participants with low attitude importance, there was no significant effect of article type and evidence type on the probability of selection. These selection patterns differed significantly between issue publics and non-issue publics, as indicated by the interaction term between balanced content, numerical evidence, and high attitude importance ($b = .31$, $p < .05$).

Similar findings emerged when we captured issue publics by attitude strength. Among participants with low attitude strength (Figure 1.c), there was no significant effect of article type and evidence type on the probability of selection. In turn, among participants with stronger attitudes (Figure 1.d), balanced articles with numerical evidence were 6% more likely to be selected compared to balanced articles with narrative evidence. Furthermore, these patterns differed significantly between the two groups, as shown by the significant three-way interaction term ($b = .32$ $p < .05$).

All in all, these results support our third hypothesis, indicating that issue publics select more balanced content that contains numerical evidence, compared to non-issue publics. For health care, the results did not support our expectations, given that the three-way interactions were non-significant.

Robustness Check

These results were the same in direction, magnitude and significance when combining attitude strength and importance into a single index. Furthermore, parallel results also emerged when different cut-off points were used to compute the high and low categories of attitude strength and importance. Finally, compared to split models, testing hypotheses 1 and 2 using interaction terms between information type, evidence type, and issue publics lead to the same conclusions.[11]

Discussion

In this paper we extended the research on selective exposure by examining three-understudied factors. First, we compared selection of balanced, pro-and counter-attitudinal information between issue and non-issue publics. Second, we compared selection of messages with numerical and narrative evidence. Third, we examined whether issue publics were more likely to select balanced messages with numerical evidence, compared to non-issue publics.

Our first notable finding showed that both issue and non-issue publics selected balanced content about climate change and health care at greater rates than pro- and counter-attitudinal content. This result is in line with some recent evidence suggesting that, when given the option, citizens do select balanced content (Garret & Stroud, 2014; Feldman, et al., 2013; Levendusky, 2013). Thus, both those who care about an issue as well as the general public may be interested in diverse perspectives on socio-political issues.

It is possible that both groups, driven by defensive motivation, sought balanced content to refute counter-attitudinal views and reinforce their desired conclusions (see Garret & Stroud, 2014). In addition, issue publics may have chosen balanced content also to better resist potential persuasion from counter-attitudinal arguments (see Tormala & Petty, 2004), and – driven by strong accuracy goals – to reach correct conclusions about a personally important issue. Ultimately, for somewhat different reasons, both groups of citizens may express interest in political content that features divergent views on an issue. Another explanation, drawing on the hostile media effects literature (e.g., Gunther & Schmitt, 2004) suggests that perhaps issues publics selected balanced content to check whether it was biased toward their point of view. Our pretest data showed that participants rated balanced texts as neutral. However, we did not gather this information specifically for issue publics. Hence, future research should test how issue publics perceive balanced content, and the extent to which their perceptions can influence balanced selection.

Our second notable finding showed that both issue publics and non-issue publics chose numerical evidence over narrative evidence on climate change. Surprisingly, non-issue publics also chose more numerical evidence about health care, whereas this pattern was not observed among issue publics. At this time we cannot offer the reasons for why these issue differences emerged in this case.

The fact that, overall, both groups selected numerical over narrative evidence can be due to the characteristics of the issues studied. Research in health communication has found that people prefer narrative evidence on such issues as weight-loss and stress, issues that are relatively personal (Hastall & Knoblock-Westerwick, 2013; Knobloch-Westerwick & Sarge, 2015). Perhaps it is for such personal issues that narrative messages are preferred. In contrast, climate change is typically perceived as an abstract and distant threat (Leiserowitz (2005), and both climate change and health care reform may be seen as complex sociopolitical issues. As a result, messages with numerical evidence may offer more useful information and be selected at higher rates than narrative evidence. Messages which present quantitative data about populations may be most useful when people seek information about hard issues, such as climate change and health care

(Carmines & Stimson, 1980, 1986), whereas narrative evidence may be more useful for "easy" or personal issues that people experience more directly. However, it is possible that a preference for numerical or narrative messages regarding hard issues also depends on individual traits, such as numeracy and empathy (see Knoblock-Westerwick et al., 2015). Examining information selection patterns for different issues and among different groups of citizens is an important challenge for future research.

Our third and most important finding showed that that individuals for whom climate change was personally important and who held strong attitudes on this issue chose balanced content that contained numerical evidence at higher rates than non-issue publics. However, these findings were not observed in the context of health care. This noteworthy finding points to a crucial distinct selection behavior among issue publics. Although everybody in our study selected messages that were balanced and that contained numerical data, it was especially those who cared about climate change who wanted articles in which diverse perspectives were backed up by numerical evidence. As aforementioned, although both issue publics and the general public may be driven by defensive motivations, issue publics may also be driven by an accuracy motivation. As such, the combination of diverse perspectives and reliable numerical evidence may best fit with the interest of issue publics in becoming specialists about the issues they care about.

Limitations

Our study has some limitations. Most importantly, we argued that the differences between selection patterns among issue and non-issue publics are due to different motivations for content selection. However, we did not measure defensive and accuracy motivation. Future research should closely attend to this issue by measuring participants' motivations (see e.g., Nienhuis, Mastead & Spears, 2001; Prior, Sood & Khanna, 2013; Taber Cann & Kuksova, 2009) and then testing their selection of balanced, pro- or counter-attitudinal content, in a narrative versus numerical format.

Second, our design did not fully reproduce the selection environment that people have daily at their disposal. However, after concluding the selection task, we asked the participants, on a scale from 1 through 7, how likely they were to select the same information in the media environment. Results showed that for both issues, participants were likely to choose the same information, i.e., balanced over pro- and counter-attitudinal, and numerical over narrative evidence.[12] These findings suggests that our stimuli may to some extent represent the information people encounter in their daily life. Still, to approximate the full context of media choice, future studies can include entertainment choices, among other filler issues (see Arceneaux and Johnson, 2013).

Third, we did not control for how different message features within numerical and narrative evidence may affect selection. For example, research on equivalency framing has suggested that message effects vary depending on whether messages are presented in terms of gains or losses (Kahneman & Tversky, 1984). Within narrative evidence, message features, such as the protagonist, the context, the emotional language, the vividness, among other factors, may generate different effects. It is an important challenge for future research to isolate the various message features that may encourage the selection of certain content.

Lastly, our participants were better educated than the general U.S. population. On the one hand, it is plausible that people who seek information about various sociopolitical issues online are typically better educated (see Prior, 2007). As such, although our sample over represents the highly educated, it may actually accurately represent our population of interest, i.e., those likely to read about healthcare or climate change online. On the other hand, the high levels of education could have affected the results, in that the better educated participants could be drawn to balanced content and numerical evidence, thereby obscuring the differences between issue and non-issue publics. We conducted additional analyses that showed no significant differences between participants with high and low education when it comes to their attitude strength and importance, the selection of balanced, pro- and counter-attitudinal content, as well as the selection of numerical and narrative evidence. These results provide some indication that our findings are not solely due to the educational level of our sample.

Implications

What implications do our findings have for research on selective exposure among issue publics? These initial findings suggest that exposure to divergent viewpoints and to numerical evidence matters for the average citizen. It is, however, the unique group of issue publics, those who care and feel strongly about a given issue, who are especially driven to political information with divergent viewpoints backed up by numerical evidence. Methodologically, our results strengthen the argument that in order to more accurately reflect content selection as it occurs in the real world, future studies should include balanced content in their designs.

Furthermore, although we observed only small effects of evidence type on article selection, our findings suggest that the study of selective exposure should consider not only the match between people's partisan or ideological predispositions, and the type of slant present in a message. In addition, the type of evidence may matter to individual selection of political information, exacerbating or overcoming selectivity. Lastly, our study

raises interesting theoretical questions about the motivations driving content exposure. We argued that members of issue publics select balanced content and numerical evidence because they wish to reinforce their desired opinions and gather accurate information. Future research should clarify the extent to which these motivations indeed drive the selectivity patterns that we observed in the present study.

Conclusion

The findings of our study should concern citizens and journalists in a democratic system. Selective exposure has been seen as a threat to effective democracy, as it discourages citizens from critically gathering diverse information, and from forming well-informed opinions on public matters (e.g., Iyengar, et al, 2008). Although some citizens primarily tune to like-minded political information, our findings suggest there are audiences who seek diverse viewpoints with reliable evidence. This is relevant for journalists, as these audiences may be attracted to news that meets the core principles of journalism, such as truth, accuracy, fairness and impartiality.

Footnotes

[1] According to the issue publics literature (as well as to the vast research on pseudo-attitudes), both issue and non-issue publics have attitudes on a particular issue. The difference between both groups is that non-issue publics are less personally interested in, less knowledgeable about and hold weaker attitudes on that issue than issue publics (see Converse, 1970; Kim, 2009; Zaller & Feldman, 1992).

[2] Extensive work has examined the quality of *MTurk* participants. Compared to other convenience samples, *MTurk* samples are more demographically diverse, more representative of the general population, and equally or more attentive to experimental tasks (Berinsky et al., 2012; Hauser & Schwarz, 2015; Paolacci et al., 2010). Also, the results of identical studies run on Mechanical Turk and nationally representative samples were substantively the same (Leeper & Mullinix, 2014; Mullinix et al., 2015). Attesting to the credibility of the online panel, research that relies on MTurk participants has been published in psychology (e.g., Casler et al., 2013) and communication science (e.g., Messing & Westwood, 2014).

[3] Comparing the sample data with that of the U.S. Census Bureau (2010a), our sample slightly deviates from the general population in terms of gender (males = 49%, females = 51%). The median age of our sample was 35.6 years, whereas that of the U.S. population was 37.2. Third, our sample has a higher educational attainment compared to the general population (U.S Census Bureau, 2010b). Specifically, the U.S. census reported 43% of people with high school or less, 17% some college but no degree, 9% had Associate degree, 20% a Bachelor's degree, 8% a Master's degree, and 3% a Doctorate or professional degree.

[4] Narrative headlines and texts were rated as significantly more personal compared to numerical headlines and texts (all $p < .001$). Furthermore, numerical messages were rated more as containing numbers and statistics than narrative messages (all $p < .001$). Second, pro-issue messages were rated more as having supporting arguments, compared to balanced and counter-issue messages (all $p < .001$). Similarly, counter-issue messages were perceived more as having opposing arguments, and balanced messages were perceived more as containing both pro- and counter-issue arguments (all $p < .001$). Third, the texts were perceived similarly understandable, convincing, coherent, interesting and believable (all $p > .2$). The detailed results for the pretest can be viewed upon request.

[5] Participants were asked which are the colors of the American Flag. Response categories included the correct answer and three incorrect answers. The totality of participants answered the question correctly.

[6] We included a practice session so participants learned how the selection task functioned on DPTE. In the session of 1 minute and 30 seconds, participants were presented with 12 headlines about immigration as a filler issue. They learned how to select headlines, view content and then return to headline selection again. We followed the recommended and common practice when using DPTE software (see Kleinberg & Lau, 2016), namely that respondents become familiar with the software before using it in the main study.

[7] We also tested whether recoding the attitude measures in different ways would affect the results of the hypotheses testing. In the first transformation, we recoded values 1 through 3 of the measure as oppose, 4 as moderate, and values 5 through 7 as support. In the second transformation, we recoded values 1 and 2 as oppose, values 3 through 5 as moderates, and values 6 and 7 as support. In the third data transformation, we recoded the value of 1 as oppose, values 3 through 6 as moderates, and the value of 7 as support. The results of the hypotheses testing did not differ substantially across recoding approaches.

[8] For the two-way interaction evidence type X information type, results showed the coefficients for numerical X pro and numerical X balanced. All other combinations served as reference categories. For the two-way interaction evidence type X attitude importance/strength, results showed the coefficient for numerical X high importance/strength. All other combinations were the reference categories. For the two-interaction information type X attitude importance/strength, results showed the coefficient for pro-attitudinal X high importance/strength and balanced X high importance/strength. All other combinations were the reference categories. Attitude importance and strength variables were divided by using a median split.

[9] Some research has operationalized issue publics according to individual's demographics (e.g., Iyengar et al., 2008). However, because a demographic operationalization of issue publics may overestimate the size of issue publics membership, others research has considered attitude strength and importance as better estimates of issue publics (Kim, 2009). Still, we added demographics as controls to increase the robustness of our findings.

[10] For the three-way interactions evidence type X information type X attitude importance/strength, results showed the coefficients for narrative X balanced X low importance/strength, narrative X counter-attitudinal X high importance/strength, and numerical X balanced X high importance/strength. All other combinations served as reference categories.

[11] We also tested hypotheses 1 and 2 using interaction variables. The results of hypothesis 1 for climate change and health care showed the interaction effect between balanced selection and attitude importance (Table 1), and the interaction effect between balanced selection and attitude strength (Table 2) were non-significant. Thus, hypothesis 1 was not supported. Regarding hypothesis 2, the interaction between numerical evidence and attitude importance was only significant for health care. Non-issue publics were more likely to select numerical content about health care, compared to issue publics (Table 1). The interaction between numerical evidence and attitude strength was non-significant for both issues (Table 2). Thus, hypothesis 2 was not supported.

[12] The mean likelihood of choosing pro-attitudinal content in the everyday media environment was 4.78 (*SD* = 1.39) for climate change and 4.92 (*SD* = 1.29) for health care. The likelihood of balanced selection was 5.08 (*SD* = 1.49) for climate change and 5.13 (*SD* = 1.41) for health care, and the likelihood of counter-attitudinal exposure was 3.96 (*SD* = 1.39) for climate change and 3.94 (*SD* = 1.42) for health care. Participants reported a higher likelihood of selecting numerical evidence about climate change 3.91 (*SD* = 1.45) and health care 4.56 (*SD* = 1.39), compared to narrative evidence about climate change 2.98 (*SD* = 1.49) and health care. 4.06 (*SD* = 1.52).

Chapter 3

3

Desired vs. Correct Conclusions: The Motivated Selection of Balanced Content

Abstract

Past studies have examined the psychological underpinning of selective exposure to pro- and counter-attitudinal political information, despite the fact that the media environment primarily offers balanced information. We expand the literature on motivated reasoning and selective exposure by studying 1) how individual motivation impacts the selection of balanced, pro- and counter-attitudinal content, and 2) whether motivated selection differs across attitude strength and certainty. Using two online experiments, we prime either accuracy or defensive motivation and examine the selection of information about health care reform (N = 155) and climate change (N = 274). As expected, having a defensive motivation and strong and certain attitudes, were the strongest predictors of pro-attitudinal selection, whereas accuracy motivation was the strongest predictor of balanced selection.

Keywords: Selective exposure, motivated reasoning, defensive goal, accuracy goal, balanced content

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Brenes Peralta, C., Wojcieszak, M.., Lelkes, Y., & de Vreese, C. Desired vs. Correct Conclusions: The Motivated Selection of Balanced Content.

Desired vs. Correct Conclusions: The Motivated Selection of Balanced Content

The current media environment offers citizens opportunities to select diverse media content. One concern is that this media environment facilitates it for citizens to choose information that confirms their beliefs, which may decrease mutual understanding between different social groups and lead to political polarization (e.g., Sunstein, 2001). These potential consequences have reinvigorated scholarly focus on *selective exposure*, i.e., the purported tendency of media consumers to select information in line with their political predispositions (e.g., Arceneaux & Johnson, 2013; Garret & Stroud, 2014; Knoblock-Westerwick & Kleinman, 2012; Levendusky, 2013; Stroud, 2008).

However, the debate about the prevalence of selective exposure has been inconclusive. Whereas some research has suggested that citizens select mostly pro-attitudinal media content (e.g., Iyengar & Hahn, 2008), other studies have shown that people choose both pro- and counter-attitudinal information (Bakshy et al., 2015; DiMaggio & Sato, 2003; Stroud, 2011), and that they do not actively avoid counter-attitudinal news (Garret, 2009). One possible explanation for these inconsistencies is that preferences for like-minded information are influenced by psychological factors that vary among individuals (e.g., Arceneaux & Johnson, 2013; Guess, 2016; Knoblock-Westerwick & Kleinman, 2012; Knoblock-Westerwick & Meng, 2009; Winter et al., 2016).

However, whereas this research has primarily focused on the selection of pro- or counter-attitudinal information, the majority of information in the media is balanced (Prior, 2013), and – when given the opportunity – people select balanced content (e.g., Feldman et al., 2013; Garrett & Stroud, 2014; Levendusky, 2013). Whereas past studies have examined the psychological underpinnings of selective exposure, we do not yet understand the motivations leading to balanced news selection.

We focus on two psychological factors central to the communication science literature, namely motivations for information selection (e.g., Druckman, 2012; Hart et al., 2009; Winter et al., 2016) and attributes of issue attitudes, i.e., attitude strength and certainty (e.g., Hart et al., 2009; Knoblock-Westerwick & Meng, 2009; Lodge & Taber, 2005; Taber & Lodge, 2006). First, motivated reasoning theory posits that a defensive motivation drives people to reinforce their priors with like-minded information, and an accuracy motivation leads individuals to seek diverse and unbiased information (Kunda, 1990; Kruglanski & Klar, 1987; Pyszczynski & Greenberg, 1987). Second, the strength (e.g., Lodge & Taber, 2005; Taber & Lodge, 2006) and certainty (e.g., Hart et al., 2009) of issue attitudes increase a defensive motivation, and consequently, pro-attitudinal selection (e.g., Hart

et al., 2009; Holbrook et al., 2005). Because attributes of issue attitudes can differently influence content selection, we compare whether attitude strength and certainty play different moderating roles on defensive and accuracy driven selection.[1]

We used data from two online experiments on convenience samples of U.S. adults. In both studies, participants were randomly assigned to three conditions: control, defensive goal prime, or accuracy goal prime. Then, we unobtrusively observed whether participants selected balanced, or pro-, or counter-attitudinal information about two salient political issues, healthcare reform or climate change. Before reviewing the data and findings, we outline the motivated reasoning theory to predict information selection among people motivated by defensive and accuracy goals. Then, we examine whether and how individual differences in attitude strength and certainty affect motivated selection of political information.

Motivated Reasoning and Selective Exposure

Motivated reasoning theory argues that individual motivations, which can be defined "as any wish, desire, or preference to achieve desired outcomes" (Kunda, 1990, p.480), influence the cognitive strategies people use to select and process information.[2] Two main motivations are said to affect information selection: a defensive motivation and an accuracy motivation (Leeper & Slothuus, 2014; Kruglanski & Klar, 1987; Pyszczyinski & Greenberg, 1987).

A defensive motivation drives people to select and process information in ways that validate and protect their existing attitudes, beliefs, and behaviors (e.g., Hart et al., 2009; Kunda, 1990; Kruglanski, 1989; Pyszczyinski & Greenberg, 1987). Given a choice between pro- and counter-attitudinal information, defensive motivated people prefer the former (Hart et al., 2009; Lodge & Taber, 2005; Smith et al., 2007; Taber & Lodge, 2006), although not necessarily avoid the latter (e.g., Knoblock-Westerwick & Kleinman, 2012).

In contrast, people driven by accuracy motivation seek to reach correct conclusions (Kunda, 1990). As a result, they choose and process information in an objective and open-minded manner, regardless of whether or not this information is consistent with their prior views (e.g., Chaiken et al., 1996). Accuracy goals encourage people to select information in an unbiased way, and reduce the extent to which individuals seek pro-attitudinal political messages (Fischer & Greitemeyer, 2010; Fischer et al., 2008; Hart et al., 2009). This perspective suggest that, when confronted with pro- and counter-attitudinal information, accuracy motivated individuals should attend to both types of information, as exposure to diverse perspectives may be useful to arriving at a more thorough understanding of

complex sociopolitical issues. Another perspective suggests that accuracy motivated people select pro-attitudinal information because they find it more credible (Metzger et al., 2015).

We extend the literature on motivated reasoning and selective by examining the motivations underlying the selection of balanced content, one that presents information and arguments for and against a certain political issue. Attention to balanced content, above and beyond the pro- or counter-attitudinal information, is crucial as people select more pro-attitudinal than counter-attitudinal information when only these two options are available. But, once presented with a balanced alternative, people select balanced content (Feldman et al., 2013; Garret & Stroud, 2014).

We argue that defensive and accuracy motivated individuals will consider different types of information (i.e. balanced, pro- or counter-attitudinal) as most useful to meeting their goals. Because people motivated by defensive goals seek evidence to reinforce their desired conclusions, they should be less interested in counter-attitudinal or balanced messages, which – by definition – include evidence that challenges people's priors. Instead, we draw on the extensive research mentioned above, to advance our first baseline hypothesis:

People motivated by a defensive goal are more likely to select pro-attitudinal content, compared to balanced and counter-attitudinal (Hypothesis 1).

In contrast, there are various reasons why *accuracy* motivated people should be especially likely to select balanced messages. First, because these individuals seek information that is not biased toward a single perspective (see Kruglanski, 1989), they may be drawn to balanced messages that contrast arguments for and against an issue. Second, exposure to diverse perspectives provides a more thorough and comprehensive understanding of various issue complexities, which should be of value to those individuals who aim to reach correct and complete understanding. Third, it is more time efficient and easier to weigh evidence about various issue perspectives when this information is embedded in balanced messages than to seek supportive and oppositional arguments separately. Because of these arguments, we predict that:

People motivated by an accuracy goal are more likely to select balanced content, compared to counter- and pro attitudinal (Hypothesis 2a).

However, an alternative expectation is that accuracy motivated people will select pro-attitudinal content because their prior attitudes color their perception of what is credible. People evaluate pro-attitudinal information as more credible than counter-attitudinal (Ditto & Lopez, 1992, Lord et al., 1979; Metzger, et al., 2015), and if accuracy motivated people associate credibility with accuracy, they may prefer pro-attitudinal information. Hence, we advance our alternative hypothesis:

People motivated by an accuracy goal are more likely to select pro-attitudinal content, compared to counter-attitudinal and balanced (Hypothesis 2b).

We also pull these hypotheses together to compare the content selection among defensive and accuracy motivated people, predicting that:

People motivated by a defensive goal will select more pro-attitudinal information than accuracy-motivated people (Hypothesis 3a).

People motivated by accuracy will select more balanced content than defensively- motivated people (Hypothesis 3b).

In addition to the role of motivation in shaping selection, attitude strength and certainty increase a defensive motivation (e.g., Hart et al, 2009; Lodge & Taber, 2005; Taber & Lodge, 2006) and selective exposure (e.g., Holbrook et al., 2005; Knoblock-Westerwick & Meng, 2009). However, the literature has not accounted for whether accuracy driven selection is also moderated by these attributes of issue attitudes.

Motivated Selection and the Attributes of Issue Attitudes

We focus on two attributes that may interact with motivated selection, namely attitude strength and certainty. Regarding attitude strength, individuals with strong attitudes are more likely to choose information that reinforces a desired conclusion (e.g., Hart et al, 2009; Lodge & Taber, 2005; Taber & Lodge, 2006) and select pro-attitudinal content at a greater rate than people with weaker opinions (e.g., Hart et. al, 2009; Holbrook et al., 2005). Therefore, when those with strong attitudes are primed to be defensively motivated, we expect an even greater preference for pro-attitudinal information than for those with weaker opinions.

Among people motivated by a defensive goal, those with stronger attitudes will select more pro-attitudinal content than people with weak attitudes (Hypothesis 4).

The evidence regarding attitude certainty has been less consistent. On the one hand, people who are highly certain of their opinions are more likely to select pro-attitudinal content (Hart et al., 2009), whereas uncertain people select less counter-attitudinal information (Albarracin & Mitchell, 2004). On the other hand, opposite findings have shown that uncertain individuals seek counter-attitudinal arguments, perhaps to improve the certainty of their opinions (Knoblock-Westerwick & Meng, 2009). In light of the mixed evidence, we examine the following research question.

How does attitude certainty affect information selection among defensive motivated people? (Research Question 1).

Lastly, to our knowledge no studies have examined whether and how attitude strength and certainty affect content selection among accuracy driven people. Because these individuals are motivated to choose information that helps them reach a correct conclusion, regardless of whether this information is consistent with their priors, (e.g., Chaiken et al., 1996), we expect that the strength and certainty of their opinions will not matter for information selection. Still, given the lack of available evidence, we pose the following research question.

How do attitude strength and certainty affect information selection among those who are driven by accuracy motivations? (Research Question 2).

Method

Design Studies 1 and 2

To test these hypotheses and research questions, we conducted two independent online experiments with a 2 between-subjects (control, defensive goal, accuracy goal) x 3 within-subjects (pro-issue, counter-issue, balanced) design that unobtrusively logged participants' information selection. To guard against the possibility that our results are attributable to peculiarities of some sociopolitical issues alone, we selected two issues that differ on their perceived importance for the U.S. public: Health care reform is ranked as one of the most important issues for Americans, and climate change is considered one of the least important (Gallup, 2014; Pew Research Center, 2014). Study 1 examined the selection of information about health care reform — namely hypotheses 1 thru 3. Study 2 examined the selection about climate change — namely hypotheses 1 thru 4, and research questions 1 and 2.

Manipulations of Motivated Selection

Before we present our studies, it is important to introduce some considerations about experimentally manipulating motivations for information selection. In general, prior research does not offer clear-cut suggestions, nor strong evidence, on which manipulations should be used in this context. To prime accuracy goals, studies typically have used two approaches combined: (1) explicit manipulation embedded in the instructions and containing words like "*accuracy*" (e.g., Prior et al., 2013) or "*objectivity*" (e.g., Taber et al., 2009), or asking participants to consider alternative perspectives (Druckman, 2012; Lord, Lepper & Preston, 1984), and (2) *accountability* manipulation, in which participants are told they will explain or justify their information choices to others (Druckman, 2012; Kim, 2007; Taber & Lodge, 2006b). Unfortunately, most experiments have not prime a defensive motivation, making it necessary for researchers to develop and pilot them. This is needed also because motivations are primed mostly in studies on information processing (e.g., Cronly, Mantel & Kardes, 2010; Taber, et al., 2009) or content selection (e.g., Kim, 2007), but only in two studies on selective exposure (Taber & Lodge, 2006; Winter, et al., 2016), the context we study.

Also, most experiments on motivated exposure have not used manipulation checks. Among the few that have, some were partially effective (e.g., Lundgren & Prisling, 1998) or failed (e.g., Pelham & Neter, 1995). A few studies have used time spent on a task to determine whether an accuracy manipulation was effective (e.g., Kim, 2007: Prior et al., 2013). However, time spent on task can also indicate increased defensive motivated reasoning (see Peterson, Skov, Serritzlew & Ramsoy, 2013). Moreover, these studies have not included a control group, which makes it difficult to detect whether primed motivations were different from the motivational baseline that participants pursued in the experimental situation (i.e., to address the contention that people are naturally driven by defensive goals, see Taber & Lodge, 2006). Furthermore, because most experiments have tested explicit and accountability manipulations *together* (e.g., Winter et al., 2016), it is difficult to discern how each works. In sum, we developed and piloted three different manipulations of accuracy and defensive goals in the context of information selection.

Pilot results. In our pilot study, we relied on a sample from the *Amazon Mechanical Turk* recruited in June, 2015 (N = 324). We randomly assigned participants to one of three conditions: a control, a defensive goal, and an accuracy goal. Participants in the control group received the following text: "*You will participate in a task. You will be shown three headlines. Please read the three headlines, then select just one to read the complete article,"* without any additional instruction. To prime defensive and accuracy goals, we tested *separately* one explicit manipulation and two variations of the accountability

manipulations, and used three different samples to do so. First, in the explicit manipulation, participants in the defensive condition read the following text: "*We advise you to select the article that you think offers the strongest information in support of your opinion about health care reform."* Those in the accuracy condition read "*We advise you to select the article that you think offers the most accurate and objective information about the health care reform."*

Second, to implement the accountability manipulation, we designed a debate condition to manipulate a defensive goal (i.e., "*you will participate in a two minute debate about the issue you read with another participant. We will evaluate your performance in the debate, and decide on a winner based on who has the strongest argument"*), and a judge condition to manipulate an accuracy goal (i.e., "*you will participate as a judge in a two-minute debate, in which two other participants will debate on the issue you read. We will evaluate your performance on whether your decision about the winner was objective").*

Third, we tested a variation of the debate manipulation with another sample, drawing on previous research which used monetary incentives to encourage accurate responses about political knowledge questions (Prior, et al., 2015). We offered monetary incentives to increase a defensive or accuracy goal in the debate conditions (i.e., we offered $0.50 to participate in the debate and an additional 1$ for positive performance).

We tested these manipulations using a series of multinomial logistic regressions. We estimated the extent to which motivation (i.e., defensive goal, compared to accuracy goal, and control as the reference category) predicted the type of information people selected about health care reform (i.e., balanced, pro-, or counter-attitudinal as reference category). To facilitate the interpretation of regression models with a categorical predictor and dependent variable, we calculated the predicted probabilities of selecting the type of information.

Our results showed the accountability manipulation *without* an incentive had different effects on information selection, compared to the other two manipulation types, and that the effects of explicit and accountability manipulations with a monetary incentive were similar (see Appendix C). Specifically, among defensively motivated pilot participants, selection of pro-attitudinal information was similar in the explicit manipulation condition (probability selection = .52, C.I. 90% = .38 - .66) and in the accountability with incentive manipulation condition (probability selection = .40, C.I. 90% = .26 - .54). Likewise, these two conditions showed similar selection of balanced information (probability selection explicit = 44, C.I. 90% = .30 - .57; accountability = 53, C.I. 90% = .39 - .68), and

counter-attitudinal information (probability selection explicit = 04, C.I. 90% = .01 - .09; accountability = 07, C.I. 90% = .0 - .14).

Also, among accuracy motivated participations, our results showed similar selection patterns of pro-attitudinal information (probability selection explicit = 19, C.I. 90% = .08 - .31; accountability = 19, C.I. 90% = .08 - .30), balanced information (probability selection explicit = 78, C.I. 90% = .66 - .90; accountability = 70, C.I. 90% = 57 - .83), and counter-attitudinal information (probability selection explicit = 02, C.I. 90% = .02 - .06; accountability = 10, C.I. 90% = .02 - .19). In sum, these results show that explicit and accountability manipulations with a monetary incentive affect information selection similarly, which suggests that both manipulations are suitable primes of defensive and accuracy goals in selective exposure experiments. However, we chose the explicit manipulations for our final studies because they do not incur an additional financial cost, unlike the accountability manipulations.

To further assure that our explicit manipulations activate motivations for information selection, we conducted a second pilot study using another *MTurk* sample recruited in July, 2015 (*N* = 138). This pilot tested the effects of the explicit manipulations on selection of pro- versus counter-attitudinal information. In line with evidence from extant literature (e.g. Hart et al., 2009), our results showed that defensive motivated participants chose more pro-attitudinal information (probability selection = 83, C.I. 90% = .73 - .94) than accuracy motivated participants (probability selection = 59, C.I. 90% = .45 - .72), who in turn selected more counter-attitudinal content (probability selection = 41, C.I. 90% = .28 - .55) than defensive motivated participants (probability selection = 17, C.I. 90% = .06 - .27). This suggests that the influence of explicit manipulations on information selection results from the activation of defensive and accuracy goals and not from an experimental artifact.

In conclusion, we used the explicit manipulations to prime defensive and accuracy goals in our final study 1 and 2 because of two reasons. First, explicit manipulation affect information selection in a similar same way as accountability manipulations with an incentive, and additionally, they do not represent an additional financial cost. Second, explicit manipulations reproduce the same patterns of selection observed in the extant literature on motivated reasoning and selective exposure.

Manipulations Motivated Selection in Study 1 and 2.

We used the data of the explicit manipulations from the first pilot study for study 1. We recruited an additional Mechanical Turk sample for study 2, in which we used the same explicit manipulations and control text from study 1.

Manipulation Checks Study 1 and 2

Unlike most experiments on motivated exposure, we used two different manipulation checks in the two studies. First, we measured reading time of selected texts (Kim, 2007), which failed in both studies. However, as aforementioned, it is unclear what the timing measure means as a manipulation check. Second, we used two questions as another manipulation check of goal-driven selection (see Lundgren, & Prislin, 1998), and which have been also used in a similar study as ours (Winter et al., 2016). To check defensive motivation, we asked participants how motivated they were to select information that most strongly supported their opinion about health care reform (study 1) and climate change (study 2). ANOVA results showed the manipulation was effective in both studies. Compared to participants in the control and accuracy conditions, those in the defensive condition reported a significantly greater motivation to select supportive information in study 1, $F_{(2, 152)} = 10.31$, $p < .001.1$ and study 2, $F_{(2, 271)} = 14.87$, $p < .001$.

Another question tested the accuracy motivation in both studies. Participants were asked how motivated they were to select the most accurate information about the issue. Accuracy motivated participants scored slightly higher than the defensive motivated in study 1 ($F_{(2, 152)} = 2.66$, $p = .06$), and were significantly more motivated to select accurate information in study 2, $F_{(2, 271)} = 4.02$, $p < .05$. In both studies, the average reported motivation scores did not differ significantly between the accuracy and the control conditions, an issue we address in the "Discussion" section.

Study 1

Participants

We used data from a Mechanical Turk sample composed of 170 U.S participants. Because participants with neutral attitudes on climate change or health care do not have a readily identifiable selective exposure pattern, they were excluded from the data analysis (see Feldman et al., 2013). The final sample consisted of 140 participants. Studies have shown that, compared to other convenience samples, Mechanical Turk samples are more demographically diverse, more representative of the general population, and are equally or more attentive to experimental tasks (Berinsky et al., 2012; Hauser & Schwarz, 2015; Paolacci et al., 2010). Also, the results of identical studies run on Mechanical Turk and nationally representative samples were substantively the same (Leeper & Mullinix, 2014).

Stimulus Material

We drew on existing news articles and issue-specific websites to write 24 texts about health care reform and climate change. We pretested all texts on a sample of 711 U.S. participants via Mechanical Turk, to determine that participants perceived the stimulus material as intended (i.e., balanced, pro- or con-issue), and also as equally interesting, understandable, convincing, believable and coherent. In general, the results of the pretest were as expected (see Appendix D for a summary of the pretest results). For studies 1 and 2, we chose three texts per issue that pretest results showed were comparable.[3]

For each issue, one text presented only arguments supporting the issue (pro-issue text), one text presented only arguments opposing the issue (con-issue text), and one text presented both supporting and opposing arguments (balanced text). Each text included a headline, three or four paragraphs of text and a concluding statement. The balanced, pro- and con-issue texts had the same number of arguments. The texts varied between 217 and 250 words (see Appendix A for an example of the stimulus material).

Procedure

First, participants answered a questionnaire, which measured their attitudes about health care reform and immigration as a filler issue, and a question that measured whether participants paid attention to instructions. Those who failed this question were excluded from the experiment. Then, participants were randomly assigned to one of three motivated selection conditions: control, defensive goal or accuracy goal. They were then presented with three headlines in a random order, and instructed to select and read one article, by clicking on the headline in the screen. *Qualtrics* logged article selection in an unobtrusive manner. Finally, three questions assessed participants' defensive and accuracy motivations regarding the article they selected.[4]

Measures

Health care reform attitudes. Participants reported how strongly they opposed or supported the National Health Care Reform Legislation (M = 4.28, SD = 1.90) on a 7-point scale (1 = *strongly oppose,* 7 = *strongly favor*). Health care reform attitudes did not differ significantly across the three conditions, $F_{(2, 152)} = .63$, $p = .54$. To measure selective exposure, we trichotomized the original measure into oppose/support. Values of 1 thru 3 were recoded as oppose and 5 thru 7 as support. The percentages for health care reform attitudes were 35% oppose, 10% neutral and 55% support.[5]

News article exposure. *Qualitrics* automatically recorded article selection behavior when participants clicked on a headline.

Selective exposure. We operationalized selective exposure as the congruence between participants' issue attitudes and the stance (balanced pro- or con-issue) of the articles they selected. For example, participants supporting (opposing) an issue who chose an article supporting (opposing) the issue were categorized as engaging in pro-attitudinal selection. In turn, selection was counted as counter-attitudinal when participants chose an article incongruent with their pre-test issue opinion (e.g., when an opponent of health care reform chose an article favoring the reform, for instance). Third, selection of a balanced article was counted as balanced, regardless of participants' initial position.[6]

Data Analysis

To test hypotheses 1 through 3, we used the same analytical strategy as in the pilot studies.

Results

Effects of Motivation on Selective Exposure about Health Care Reform

Results did not support our expectation that defensive motivated people would select more pro-, over counter-attitudinal and balanced information *(Hypothesis 1).* These individuals were *no more likely* to select pro-attitudinal (probability selection = .52, C.I. 90% = .38 - .66) than balanced content (probability selection = .44, C.I. 90% = .30 - .57). Selection of counter-attitudinal content was almost zero (probability selection = .04, C.I. 90% = .01 - .09 (see Table 1).

Our results about selection among people motivated by accuracy goals supported *hypothesis 2a* and rejected *hypothesis 2b*. These participants chose balanced content at a greater rate (probability selection = .78, C.I. 90% = .66 - .90), compared to pro-attitudinal (probability selection = .19, C.I. 90% = .08 - .31). Again, counter-attitudinal selection was low (probability selection = .02, C.I. 90% = .02 - .06) (see Table 1). Finally, we found support for *hypotheses 3a and 3b*. A contrast of selection probabilities between conditions showed that defensive motivated people chose more pro-attitudinal information than those motivated by accuracy, $X^2(1) = 12.50$, $p < .01$, whereas the latter chose more balanced information, $X^2(1) = 13.61$, $p < .01$.

Table 1. *Predicted probabilities of selecting information type about health care by defensive and accuracy motivations (Study 1)* (*N* = 140)

	Pro-Attitudinal			Balanced			Counter-Attitudinal		
	Margin	z	90% C.I.	Margin	z	90% C.I.	Margin	z	90% C.I.
Control	.27(.07)***	6.00	.14 - .40	.61(.07)***	8.36	.44 - .66	.11(.05)*	2.38	.02 - .21
Defensive goal	.52(.07)***	7.36	.38 - .66	.44(.07)***	6.27	.30 - .57	.04(.03)	1.44	.01 - .09
Accuracy goal	.19(.06)***	3.35	.08 - .31	.78(.06)***	12.9	.66 - .90	.02(.02)	1.01	.02 - .06

Note. *** p< .001, ** p< .01, * p< .05. Entries on the left column are predicted probabilities of selecting an information type, with the standard errors in parenthesis. P values indicate whether predicted probabilities are significantly different from zero.

Study 2

Design

Study 2 differed from Study 1 in two ways. First, we examined the selection of information about climate change to ensure that the results from Study 1 were not driven by issue choice. Second, to test hypothesis 4 and research questions 1 and 2, we measured issue attitudes, attitude strength and attitude certainty about climate change.

Participants

A total of 291 participants were recruited via *Mechanical Turk* in August 2015.[7] The final sample had 258 participants, after excluding those with neutral attitudes.

Manipulations Motivated Selection

As in study 1, we used the same manipulations of defensive and accuracy goals, and the same text for the control condition.

Measures

Climate change attitudes. Participants reported how strongly they opposed or supported a U.S. governmental policy that mitigates climate change by limiting carbon emissions (*M* = 5.33, *SD* = 1.78) on a 7-point scale (1 = *strongly oppose*, 7 = *strongly favor*). Climate change attitudes did not differ significantly between the three conditions, $F_{(2, 271)} = .05$, $p = .95$. As in study 1, the measure was trichotomized into oppose (17%), neutral (6%) and support (77%).

Attitude strength. We asked participants how strong were their opinions about climate change (M = 5.27, SD = 1.53). Values ranged from 1 (*not strong at all*) through 7 (*very strong*) (e.g., Krosnick et al., 1993). Attitude strength did not differ significantly between conditions, $F_{(2, 271)} = .40$, $p = .67$.[8]

Attitude certainty. We asked participants how certain they were that their opinions about climate change were right (M = 5.54, SD = 1.31). Values ranged from 1 (*not strong at all*) through 7 (*very strong*) (e.g., Krosnick & Schuman, 1988). Attitude certainty did not differ significantly across the three conditions, $F_{(2, 271)} = 1.24$, $p = .29$.
Selective exposure was operationalized as in study 1.

Data Analysis

We repeated the analytical strategy to test hypotheses 1 thru 3. To test hypothesis 4 and research questions 1 and 2, we tested the selection of information type about climate change (i.e., balanced, pro-attitudinal, or counter-attitudinal as the reference category) by a two-way interaction between motivation conditions and attitude strength, and another interaction between motivations and attitude certainty. Then, we calculated the predicted probabilities of information selection for each subgroup.[9]

Results

Effects of Motivation on Selective Exposure about Climate Change

As in study 1, results did not support *Hypothesis 1.* Participants motivated by a defensive goal chose pro-attitudinal (probability selection = .46, C.I. 90% = .35 - .56) and balanced content (probability selection = .40, C.I. 90% = .30 - .50) at similar rates. Counter-attitudinal selection was low (probability selection = .02, C.I. 90% = .01 - .06) (see Table 2).

Replicating the findings of study 1, the results supported *Hypothesis 2a* and rejected *Hypothesis 2b.* Accuracy motivated participants chose balanced content at a greater rate (probability selection = .67, C.I. 90% = .57 - .77) than pro- (probability selection = .14, C.I. 90% = .06 - .21). Counter-attitudinal selection was almost zero (probability selection = .06, C.I. 90% = -.01 - .14) (see Table 2). The results replicated those of study 1 regarding *hypotheses 3a and 3b*. Defensive motivated people chose more pro-attitudinal information than accuracy motivated individuals, $X^2(1) = 24.36$, $p < .01$. The latter group chose more balanced information, $X^2(1) = 14.21$, $p < .01$.

Issue Attributes and Motivated Selection

The second goal of our study was to test whether and how attitude strength and certainty moderated motivated selection. The results supported *hypothesis 4* (see Figure 1). Among people motivated by a defensive goal, those with stronger attitudes chose more pro-attitudinal information about climate change (probability selection = .56, C.I. 90% = .42 - .68), than people with weak attitudes (probability selection = .30, C.I. 90% = .16 - .45). Furthermore, strongly and weakly opinionated participants in the defensive condition selected the same amount of balanced information and of counter-attitudinal information, respectively.

Next, we examined how attitude certainty moderates information selection among defensive motivated people *(Research Question 1).* Participants with certain attitudes towards climate change selected more pro-attitudinal content (probability selection = .76, C.I. 90% = .59 - .93), compared to those with uncertain attitudes (probability selection = .33, C.I. 90% = .22 - .45). Furthermore, selection of balanced content was greater among uncertain (probability selection = .48, C.I. 90% = .35 - .60) than among certain participants (probability selection = .20, C.I. 90% = .04 - .35) (see Figure 2).

Finally, results of our second research question showed that neither strength nor certainty significantly moderated information selection among accuracy motivated participants. Individuals with weak and strong attitudes made similar choices of pro-attitudinal content (probability selection low strength = .13, C.I. 90% = .03 - .23), (probability selection high strength = .14, C.I. 90% = .03 - .24), balanced content (probability selection low strength = .67, C.I. 90% = .53 - .80), (probability selection high strength = .67, C.I. 90% = .53 - .81), and counter-attitudinal information (probability selection low strength =.20, C.I. 90% = .08 - .32), (probability selection high strength =.19, C.I. 90% =.07 - .30)(see Figure 1).

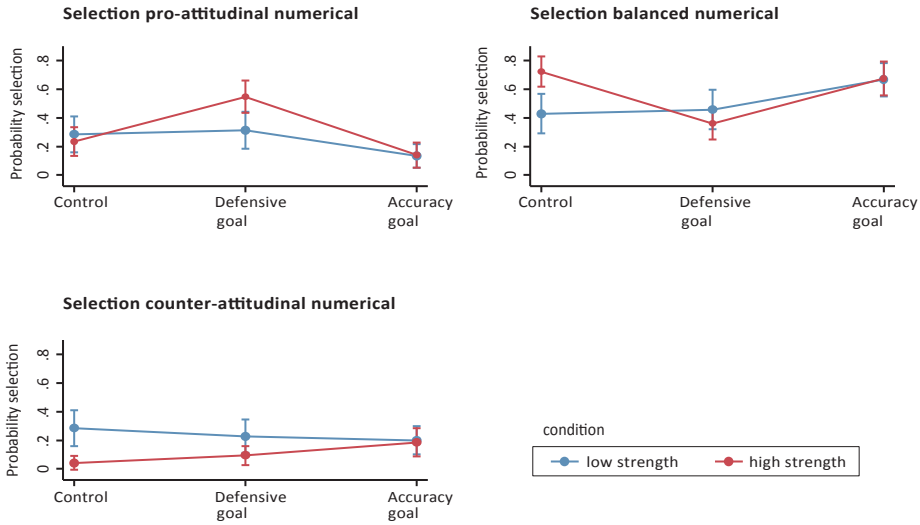
The results were the same when attitude certainty was examined as a moderator. Participants with uncertain and certain attitudes made similar choices about pro-attitudinal content (probability selection low certainty = .16, C.I. 90% = .07 - .25), (probability selection high certainty = .08, C.I. 90% = -.02 - .19), balanced content (probability selection low certainty = .67, C.I. 90% = .55 - .78), (probability selection high certainty = .68, C.I. 90% = .50 - .86), and counter-attitudinal information (probability selection low certainty = .17, C.I. 90% = .08 - .27), (probability selection high certainty = .24, C.I. 90% = .07 - .41) (see Figure 2).

Table 2. *Predicted probabilities of selecting information type about climate change by defensive and accuracy motivations (Study 2)* (*N* = 258)

	Pro-Attitudinal			Balanced			Counter-Attitudinal		
	Margin	Z	90% C.I.	Margin	z	90% C.I.	Margin	z	90% C.I.
Control	.26(.05)***	5.31	.16 - .35	.60(.05)***	11.03	.49 - .70	.23(.06)***	2.38	.10 - .35
Defensive goal	.46(.05)***	8.56	.35 - .56	.40(.05)***	7.62	.30 - .50	.02(.02)	1.01	.01 - .06
Accuracy goal	.14(.04)**	3.73	.06 - .21	.67(.05)***	13.38	.57 - .77	.06(.04)	1.79	. 01 - .14

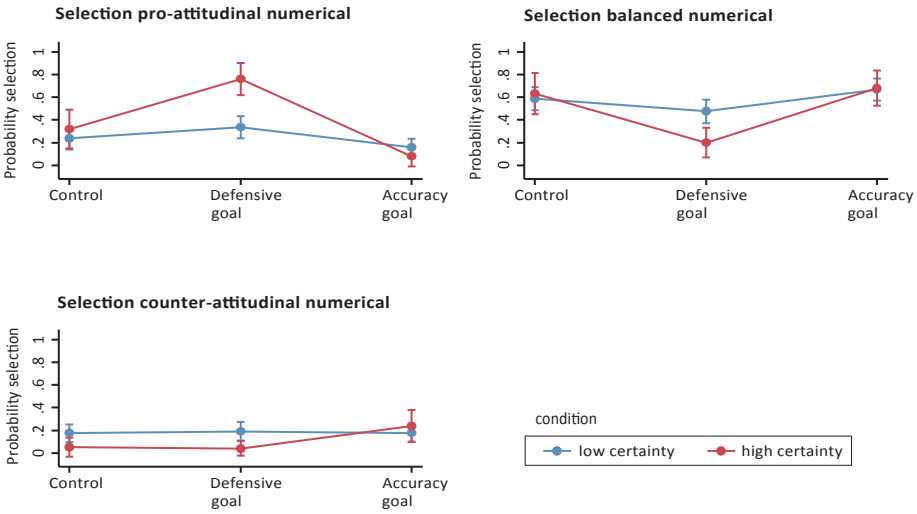
Note. *** p< .001, ** p< .01, * p< .05. Entries on the left column are predicted probabilities of selecting an information type, with the standard errors in parenthesis. P values indicate whether predicted probabilities are significantly different from zero.

Figure 1. Predicted probabilities of selecting information type by motivation and attitude strength (Study 2) (*N* = 258)



Note. The three graphs show predicted probabilities of selecting pro-attitudinal, balanced and counter-attitudinal numerical content by motivated reasoning manipulations and attitude strength. Confidence intervals set at 90%.

Figure 2. Predicted probabilities of selecting information type by motivation and attitude certainty (Study 2) (*N* = 258)



Note. The three graphs show predicted probabilities of selecting pro-attitudinal, balanced and counter-attitudinal numerical content by motivated reasoning manipulations and attitude certainty. Confidence intervals set at 90%.

Discussion

We used two experiments to examine how individual motivation, i.e., defensive and accuracy goals, and the attributes of issue attitudes, i.e., attitude strength and certainty, impact political information selection, in a selection environment that offers balanced content, in addition to pro- and counter-attitudinal information. In general, our findings were consistent in both studies, which examined motivated selection about healthcare reform and climate change.

Our first notable finding concerns selection among people motivated by defensive goals. As we expected, and consistent with prior research, a need to reinforce desired conclusions drives people to actively seek pro-attitudinal content. However, and in our view very importantly, we also found that an equal number of people preferred balanced information. These individuals may be drawn to balanced messages for two reasons. First, they experience pleasure from refuting and improving their resistance to persuasion

from counter-attitudinal arguments (see Taber et al., 2009; Taber & Lodge, 2006; Tormala & Petty, 2004). Second, unlike counter-attitudinal information, balanced information gives them also pro-attitudinal arguments to bolster their desired conclusions.

Our second notable finding involves information selection among individuals motivated to reach accurate conclusions. Our results showed that accuracy driven people chose more balanced information than pro- and counter-attitudinal. This finding is in line with previous research showing these individuals engage less in selective exposure (Fischer & Greitemeyer, 2010; Fischer et al., 2008; Hart et al., 2009). In contrast, it does not support a perspective that accuracy motivated people may prefer pro-attitudinal information because they perceive it more credible (e.g., Metzge et al., 2015). Most importantly, our finding suggests that accuracy motivated people seek exposure to both like-minded and cross-cutting perspectives, in order to reach a more thorough understanding of complex sociopolitical issues. Our third notable findings also showed that different goals lead to distinct preferences for political information. A defensive goal is the strongest driver of selective exposure, whereas an accuracy goal drives a preference for diverse perspectives.

However, our findings regarding selection patterns among accuracy motivated people should be interpreted with caution because, in both studies, accuracy motivated and control participants made similar information choices. This similarity can be explained in several ways. First, although some have theorized that defensive goals are the automatic and dominating motivation people use to reason about politics (e.g., Taber & Lodge, 2006; Taber & Lodge, 2012), other research has suggested that accuracy goals could be stronger for certain individuals and in different situations (see Leeper & Slothuus, 2014). This may have been the case in our study, as our sample may have been more sensitive to demand effects to appear unbiased (see Mullinix et al., 2015).

Second, another explanation is that our accuracy goal manipulation was not completely effective, as has occurred in prior research (Pelham & Neter, 1995). After all, in both studies, the control and accuracy goal groups did not differ significantly on their self-reported motivation to be accurate. However, this lack of significant difference may or may not be problematic for several reasons. First, we found clear differences in the manipulation checks between defensive and accuracy motivated participants. The latter group and the control participants might not have differed because at baseline these participants were already motivated to be accurate (see Leeper & Slothuus, 2014). Second, not only did we test the same manipulations and manipulations checks as other studies, but because of the aforementioned limitations of these studies, there is insufficient evidence to rule out the effectiveness of our own manipulations. Future

research should focus on developing new manipulations that include factors which have been shown to activate accuracy goals, such as information utility, novelty and reflection on the reasoning process (e.g., Druckman, 2012; Fischer et al., 2008; Hart et al., 2009). Designing and testing manipulations and manipulations checks that are specifically focused on these factors can provide more precise estimates about the effectiveness of activating accuracy goals in experiments.

As a third explanation, our finding could be due to the type of issues we studied – i.e. climate change and health care reform. Because both issues are relatively complex and can be categorized as hard issues (see Carmines & Stimson, 1986), our participants may have wished to form accurate opinions to greater extent than would be the case for easy issues (e.g., abortion, same-sex marriage). In fact, a recent study on selective exposure to science information found that for two of the four topics, participants were more likely to select counter-attitudinal messages than pro-attitudinal ones (Jang, 2014). And, although in another study people favored attitude-consistent science messages, they also spent considerable amount of time on science messages that challenged individual issue attitudes (Knobloch-Westerwick et al., 2015). Even though the health care reform tested in our study is not a science-related issue, it is similarly complex. Examining the influence of motivation on information selection about different issues is an important challenge for future research.

Our last noteworthy results regard the moderating role of attitude strength and certainty on motivated selection. Being motivated to reinforce desired conclusions, together with possessing strong and certain attitudes about socio-political issues, are the strongest drivers of pro-attitudinal selection. Whereas our findings about the moderating role of attitude strength confirm prior evidence (e.g., Holbrook, et al., 2005; Lodge & Taber, 2005; Taber & Lodge, 2006), the results for attitude certainty contradict other studies, which suggested that more certain people select less like-minded information (e.g., Hart et al., 2009). We speculate that, at least in the context of our study, certain people may have been convinced of their desired conclusions about an issue and, as such, were mostly interested in reinforcing what they previously believed. The relatively inconsistent findings in selective exposure literature underscore the need for future research, to closely examine attitude strength and certainty as separate issue-attributes that may differently influence motivated selection.

Lastly, attitude strength and certainty did not moderate selection among people motivated by accuracy goals. This finding suggests that having strong and certain attitudes is not necessary for citizens to want information that provides accurate and correct views about

an issue. However, as aforementioned, this finding could be limited to selection about hard issues. Perhaps strongly opinionated and certain individuals may be less interested in reaching correct conclusions when exposed to information about easy issues, because typically for these issues, people care more about reinforcing their prior point of view (see Carmines & Stimson, 1986). Examining motivated selection patterns between hard and easy issues is an important challenge for future research.

Our study has some limitations that should be considered when drawing conclusions about our findings. First, we argued that content selection patterns are primarily due to the activation of defensive and accuracy goals. However, other contextual factors may also affect selectivity – and perhaps even more strongly – than individual motivations. For example, selective exposure increases when people feel tired from a previous experimental task (Fischer, Greitemeyer & Frey, 2008), when they are cognitively distracted (Fischer, Fischer, Weisweiler & Frey, 2010) or threatened (Fischer, Kastenmuller et al., 2011) during a selection task. Furthermore, balanced selection increases when information is useful for anxious individuals to cope with a problem (Valentino et al., 2009). Further research is necessary to understand the extent to which activating defensive and accuracy goals in different contexts may strengthen or diminish their effects on content selection.

Second, participants in our design were given the opportunity to select a single article from three options, a selection task that is not often encountered in the "real world" of media choice. Had we had more options for participants to choose from, the results may have been different. For example, selective exposure to pro-attitudinal information increases when the number of articles available for selection is higher (Fischer et al., 2008). Therefore, future research should test the amount of available choices as a moderator of motivated selection.

Third, even though multi-item measures may have better psychometric properties than single-item measures, we used the latter because our focus was on individual issue attitudes and their attributes, as it has been done in previous research (e.g., Knoblock-Westerwick, et al., 2015; Knoblock-Westerwick & Meng, 2009). Fourth, it is possible that observed selection patterns were partially due to specificities of our sample. Mechanical Turk workers are disproportionally liberal (see Berinsky et al., 2012), and prior evidence has shown they are less avoidant of counter-attitudinal content than conservatives (Garret & Stroud, 2009). However, the prior study also showed that neither partisan group is more likely to prefer pro-attitudinal over balanced information. Still, our study should be replicated to test whether a more diverse sample may behave differently.

Despite these limitations, our findings have theoretical and methodological implications. First, our results support the argument that selective exposure to political information is most prevalent among citizens who are motivated to reinforce desired conclusions and who hold strong and certain issue attitudes. Second, when people are motivated to reach a correct conclusion, they engage less in selective exposure and, instead, seek a direct contrast of diverse perspectives, most readily available in balanced content. Interestingly, whether people have strong and certain opinions does not matter when they are motivated by an accuracy goal.

Third, we demonstrate that both accuracy and defensive motivated individuals could select the same type of information, but for different reasons. On the one hand, some defensive motivated people may seek balanced content to refute counter-attitudinal views and bolster their desired conclusions. On the other hand, a balanced information environment can make it easier for accuracy motivated individuals to arrive at a correct conclusion (see Leeper & Slothuus, 2014). Drawing on motivated reasoning theory, future research should examine whether the processing of balanced messages differs between defensive and accuracy motivated people. Fourth, our results strengthen the methodological argument that future studies should include balanced content in their designs, to reproduce how people choose information in the real world of media exposure.

To conclude, both defensive and accuracy motivations are valuable in a democratic system. On the one hand, defensive motivated selection may be necessary for citizens to hold stable and coherent opinions (see Kruglanski & Boyatzi, 2012), which are needed for active participation in the political system. On the other hand, accuracy driven selection may help citizens correct their own partisan distortions (Prior et al., 2013), desirable if people are expected to be competent, reflective, and open-minded (see Druckman, 2012). Because, in our study, both defensive and accuracy motivated participants chose balanced content, news media may contribute to bringing out the best of motivations by offering balanced news coverage. In turn, this may encourage people to become ideal citizens (see Mill, 1860), namely, those who form stable preferences by seeking diverse perspectives to correct their own opinions.

Footnotes

[1] Although attitude strength and certainty have been associated with other issue attributes as an overall dimension of involvement (e.g., Petty & Krosnick, 1995), evidence has shown they are distinct psychological constructs with different causes and consequences. Therefore, they should be studied separately (see Visser, Bizer & Krosnick, 2006 for a review).

[2] We adopt the definition that motivated reasoning does not imply biased reasoning. Instead, it can assume many forms, depending on the particular goals people pursue, and how these goals influence people's reasoning strategies (see Kunda, 1990). Furthermore, we consider *goal* and *motivation* as conceptual synonyms (see Leeper & Slothuus, 2014).

[3] Our stimulus material contained statistical information. We replicated both studies using a different set of texts with narrative information. The results were the same.

[4] Although our experimental design may raise ecological validity issues, our approach is a standard way of addressing selective exposure (e.g., Feldman et al., 2013; Garret, 2009; Garret & Stroud, 2014; Levendusky, 2013).

[5] The results of the hypotheses testing in both studies did not differ substantially when we recoded issue attitudes in different ways.

[6] We measured reading time of selected texts as another operationalization of selective exposure. The differences between conditions were non-significant in both studies.

[7] Our sample in experiment 2 consisted of 48% males and 52% females, with an average age of 34.3 years (*SD* = 9.90). Across education attainment, 16% had a high school degree or less, 26% some college but no degree, 12% had an Associate degree, 37% a Bachelor's degree, 8% a Master's degree, and 1% had a Doctorate or professional degree. Compared to the U.S. population, our sample was similar in terms of gender (see U.S. Census Bureau, 2010b), but younger and more educated (see U.S Census Bureau, 2010b). Even though we did not collect demographic data in study 1, the distribution of the demographics of study 2 was similar to the data of other Mechanical Turk samples (e.g., Goodman, Cryder & Cheema, 2013; Paolacci et al., 2010). Furthermore, study 1 and study 2 were carried out in a difference of two months. Therefore, we do not expect a substantive variation in the composition of samples between studies.

[8] The 7-point measure of issue attitudes was used to operationalize selective exposure. Therefore, we could not use it to assess attitude extremity as an additional moderator.

[9] We combined attitude strength and certainty. The results of study 2 were the same in direction and similar in magnitude, but the differences between groups were non- significant, compared to the results using separate moderators (see full results in Appendix E).

Chapter 4

I Stick to My Guns: Motivated Reasoning and Biased Processing of Balanced Political Information

Abstract

Many citizens seek balanced political messages. The media also primarily offer content that presents two sides of a political issue. Despite that, most work on information processing tests exposure to one-sided content, i.e., either pro- or counter-attitudinal. We advance research on information processing by studying (1) how balanced and one-sided messages affect information processing; (2) whether processing of balanced content is moderated by individual motivations; and (3) the impact of balanced exposure on attitude polarization. Using an online experiment, we primed either an accuracy or defensive motivation and examined information processing about climate change and Syrian refugees *(N* = 677*).* On both issues, participants engaged in *less* biased processing in response to balanced content, compared to pro- and counter-attitudinal content. Also, balanced content was processed in a similar manner by both the defensive and the accuracy motivated individuals. Furthermore, only pro-attitudinal content, not balanced content, polarized individual attitudes, and this effect was not moderated by motivation.

Keywords: information processing, attitude congruency bias, disconfirmation bias, motivated reasoning, balanced information, attitude polarization

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I Stick to My Guns: Motivated Reasoning and Biased Processing of Balanced Political Information

The current media environment offers citizens unprecedented freedom to choose content about politics and public affairs. Studying individual choices and their effects on information processing and various attitudinal outcomes, political communication scholars have mostly focused on one-sided political content, pro- or counter-attitudinal (e.g., Arceneaux & Johnson, 2013; Garret & Stroud, 2014). That work has shown that people prefer pro- over counter-attitudinal content (e.g., Iyengar & Hahn, 2008), that they uncritically accept pro-attitudinal information and refute counter-attitudinal arguments (e.g., Ditto & Lopez, 1992; Druckman & Bolsen, 2011; Taber & Lodge, 2006), and that this biased information processing is the main reason why people's attitudes become more extreme after exposure to either pro- or counter-attitudinal content (e.g., Garret & Stroud, 2014, Prior, 2013; Sunstein, 2012; Taber & Lodge, 2006).

In this paper, we shift this dominant focus away from pro- and counter-attitudinal messages and toward exposure to balanced media messages, those that present both pro- and counter-attitudinal arguments side by side within one message. This shift in focus is crucial because, after all, the majority of information in the current media environment continues to be balanced, both in the U.S. and in other Western democracies (see Hallin & Mancini, 2004; Prior, 2013; Umbricht & Esser, 2014). Also, when given choice, people do select balanced news (Feldman et al., 2013; Garret & Stroud, 2014; Levendusky, 2013), and may even prefer it over one-sided content (Brenes Peralta, Wojcieszak, Lelkes, & de Vreese, 2016; Kohut, Doherty, Dimock, & Keeter, 2010).

Despite its popularity, evidence on how people interpret and are affected by balanced media content is limited and inconsistent. Compared to one-sided information, some work has suggested that people respond to balanced information more open-mindedly (see Lodge & Taber, 2000; Metzger et al., 2015), which could reduce attitude polarization (Slater, 2007; Sunstein, 2009) and bring different social factions closer to each other (Matthes & Valenzuela, 2012). However, other studies have indicated that individuals interpret balanced content in the same biased fashion as one-sided messages, which could exacerbate attitude polarization (see Arceneaux & Johnson, 2015; Taber et al., 2009; Kahan et al., 2008).

One possible explanation for these inconsistencies is that these effects are contingent on individual motivations to process political content. Motivated reasoning theory posits that defensive motivated people process information in biased ways to reinforce their priors, and accuracy motivated individuals are more objective because they seek a correct

conclusion (Kunda, 1990; Kruglanski & Klar, 1987; Pyszczynski & Greenberg, 1987). We integrate and extend this work by studying whether defensive and accuracy motivations shape individual processing of balanced political information, and in addition, whether the relationship between balanced exposure and attitude polarization is moderated by defensive and accuracy motivations.

We use data from an online experiment on a Mechanical Turk sample of Americans. First, we randomly assigned participants to three motivation conditions: control, defensive goal, or accuracy goal prime. Subsequently, we assigned them to three message exposure conditions: pro- attitudinal, counter-attitudinal or balanced. Then, we collected data on how participants processed messages about two political issues, refugees and climate change, and – lastly – measured attitude polarization. Before presenting the data and the findings, we review research on political information processing to predict how people process balanced information, compared to one-sided messages. Then, we outline the motivated reasoning theory to examine whether information processing is moderated by individual motivations. Finally, we test whether and how information exposure and motivation affect attitude polarization.

Biased processing of political arguments

Numerous studies have consistently demonstrated that people process one-sided political messages (i.e., pro- or counter-attitudinal) in a biased manner. Specifically, individuals exhibit two types of cognitive biases: an *attitude congruency bias*, such that pro-attitudinal messages are evaluated as stronger than counter-attitudinal messages, and a *disconfirmation bias*, such that people spend cognitive resources bolstering pro-attitudinal messages and denigrating counter-attitudinal ones (see Ditto & Lopez, 1992; Druckman & Bolsen, 2011; Lord et al., 1979; Redlawsk, 2002; Taber et al., 2009; Taber & Lodge, 2006). However, it is not clear whether these well-established processing patterns also emerge when people process balanced messages.

Available evidence on the subject is limited and inconsistent. One perspective has suggested that people do not perceive balanced messages as neutral, but instead treat them as either supporting or opposing their prior views (e.g., Druckman & Bolsen, 2011; Kahan et al., 2008; Lord et al., 1979). As a result, balanced content is processed in the same biased manner as one-sided messages (Arceneaux & Johnson, 2015; Glaeser & Sunstein, 2013), with people perceiving pro-attitudinal arguments in balanced messages as stronger than counter-attitudinal arguments and uncritically accepting the former while dismissing the later (Taber et al., 2009). This perspective, for instance, is reflected in the well-documented hostile media effect (e.g., Hansen & Kim, 2011).

However, an alternative perspective has indicated that attitude congruency and disconfirmation biases should be weaker in response to balanced compared to one-sided messages. For instance, research on attitude congruency bias has shown that individuals grant little credibility to counter-attitudinal messages, but they perceive balanced information as more credible than pro-attitudinal messages (Metzger et al., 2015). This finding would suggest then that people use their prior opinions as a benchmark against which to evaluate the strength of one-sided messages. But, because balanced media content offers diverse perspectives, people may see a balanced message as objective and useful.

Additional research has argued that a disconfirmation bias should also be weaker in response to balanced exposure. Although people generally accept pro-attitudinal arguments, this tendency is stronger if information is one-sided, but weaker if a message also contains a competing perspective – as is typical in balanced messages (Lodge & Taber, 2000; Zaller, 1996). Also, individuals are less likely to refute counter-attitudinal views in balanced, compared to one-sided messages. This may be because individuals must generate their own counter-arguments in response to counter-attitudinal messages, but not to balanced messages, as the latter already include arguments that refute the opposing side (see Lodge & Taber, 2000). Overall people should be less likely to have supporting thoughts about pro-attitudinal arguments and to dismiss counter-attitudinal arguments, when both views are embedded in a balanced message.

Given the mixed evidence in the literature, we offer two competing hypotheses:

Biased processing (attitude congruency and disconfirmation biases) of pro- and counter-attitudinal arguments will be similar when these arguments are presented in balanced messages, compared to one-sided messages (Hypothesis 1a).

Biased processing (attitude congruency and disconfirmation biases)of pro- and counter-attitudinal arguments will be weaker when these arguments are presented in balanced messages, compared to one-sided messages (Hypothesis 1b).

In addition to our competing expectations, it is possible that some individuals are more biased in response to balanced information, while others are more open-minded. We thus argue that different motivations shape whether people process balanced messages in a similar or less biased fashion than one-sided messages.

Motivated reasoning and balanced information processing

Motivated reasoning theory posits that motivations determine the cognitive strategies people use to process information (Chaiken et al., 1996; Kunda, 1990). Motivation is defined as "as any wish, desire, or preference to achieve desired outcomes" (Kunda, 1990, p.480), and human reasoning is said to rely on two major motivations that guide information processing: a defensive motivation and an accuracy motivation (Kruglanski & Klar, 1987; Levendusky, 2013; Pyszczyinski & Greenberg, 1987).[1]

A defensive motivation drives people to use cognitive strategies that help them reinforce and protect their existing beliefs, attitudes, and behaviors (Kunda, 1990; Kruglanski, 1989; Pyszczyinski & Greenberg, 1987). Extensive research has shown that attitude congruency and disconfirmation biases are the prevailing strategies used by defensive motivated people to process one-sided information about politics (Bolsen et al., 2014; Lodge & Taber, 2000; Taber & Lodge, 2006).

In contrast, an accuracy motivation leads people to use cognitive strategies that are optimal to reach a correct conclusion about a certain issue (Kunda, 1990). Motivated reasoning theory suggests that accuracy motivated individuals are less likely to rely on attitude congruency and disconfirmation biases to process political messages (Bolsen et al., 2014; Druckman, 2012). Instead, they process information in a more open-minded and unbiased fashion, regardless of whether or not this information is pro-attitudinal (Chaiken et al., 1996; Kunda, 1990). However, other research suggests that, despite an individual's best intention to be accurate, in reality people are constantly biased in response to political messages (Taber et al., 2009; Taber & Lodge, 2006).

To the best of our knowledge, no extant work has shown how defensive and accuracy motivated individuals respond to the same balanced messages. Nevertheless, previous research provides some insights. Among defensive motivated people, their desire to reinforce their priors should strongly color their evaluations of balanced messages, and as such, these messages should be processed in the same biased fashion as one-sided information. We propose then that a defensive motivation will drive people to judge balanced and counter-attitudinal messages as weaker, compared to pro-attitudinal messages. Moreover, defensive motivated people will bolster attitude-reinforcing opinions and denigrate counter-attitudinal arguments when exposed to both one-sided and balanced messages. Therefore we expect that:

Defensive motivated people will evaluate balanced and counter-attitudinal messages as weaker than pro-attitudinal messages (Hypothesis 2a).

Defensive motivated individuals will be equally likely to bolster pro-attitudinal arguments and denigrate counter-attitudinal arguments in a one-sided message, as in balanced messages (Hypothesis 2b).

On the contrary, and despite some evidence suggesting that accuracy motivated individuals are not capable of being unbiased, we largely expect these individuals to evaluate the strength of a message based on whether it offers an opportunity to reach a correct conclusion about a certain issue. As such, the accuracy motivated people should judge balanced messages as stronger, relative to one-sided messages. Moreover, we expect these individuals to be more open-minded and objective when they must weigh evidence in support and against a certain issue, compared to when the evidence is one-sided. We thus predict that:

Accuracy motivated people will evaluate balanced messages as stronger than one-sided messages (Hypothesis 3a).

Accuracy motivated individuals will be less likely to bolster pro-attitudinal arguments and to denigrate counter-attitudinal arguments in balanced messages, compared to one-sided messages (Hypothesis 3b).

Balanced exposure and Polarization

Our last goal in this study is to show that the interaction between balanced messages and individual motivations influences not only how people process these messages, but also how they react to them. We focus on attitude polarization as a socially consequential outcome of information exposure. When it comes to one-sided political content, there is consensus that exposure to pro-attitudinal messages can polarize citizens (Garret et al., 2014; Levendusky, 2013; Stroud, 2011), whereas evidence on the effects of counter-attitudinal exposure is less consistent. Some studies have suggested that people refute counter-attitudinal messages to reinforce prior views, which ultimately results in more extreme attitudes (Arceneaux & Johnson, 2010; Wojcieszak, 2012). Yet other work has shown that counter-attitudinal exposure weakens polarization, and instead promotes more moderate views (Garret et al., 2014; Mutz, 2002; Parsons, 2010).

Although exposure to balanced content is often seen as an effective remedy to polarization, in that it could correct misinformed opinions and promote mutual understanding between citizens on divisive issues (Slater, 2007; Sunstein, 2009), evidence on its polarizing effects is inconsistent. Some studies have posited that exposure to political messages can polarize attitudes, regardless of whether people are exposed to one-sided or balanced

messages (Arceneaux & Johnson, 2015; Feldman, 2011; Taber et al., 2009); other research has suggested that balanced exposure may actually constrain polarization, more so than one-sided messages (Levendusky, 2013).

We argue that the extent to which information exposure leads to polarization depends on the interaction between message slant and motivated reasoning, in that people's reactions to balanced messages are influenced by their motivations. On the one hand, we expect that defensive motivated people will polarize in response to balanced exposure because these individuals will process these messages in biased fashion.

Defensive motivated people will be equally likely to polarize in reaction to balanced messages, compared to one-sided messages (Hypothesis 4a).

On the other hand, if individuals succeed in prioritizing accuracy over the validation of their prior opinions, they are more likely to consider diverse perspectives in an objective and open-minded manner, and therefore, polarization could be constrained.

Accuracy motivated people will be less likely to polarize in reaction to balanced or counter-attitudinal messages, compared to pro-attitudinal messages (Hypothesis 4b).

Method

Study Design

To test our hypotheses, we conducted an online experiment with a 3 between-subjects (control, defensive goal, accuracy goal) x 3 between-subjects (pro-attitudinal, counter-attitudinal, or balanced messages) x 2 within-subjects (climate change, Syrian refugees) design that examined participants' information processing and attitude polarization. To guard against the possibility that our results are due to some idiosyncrasies of a single socio-political topic, we chose two distinct issues: climate change, a scientific and complex issue, and admitting Syrian refugees to the U.S., an issue that is more affective and can be interpreted at the "gut" level.

Manipulations motivated reasoning

To manipulate accuracy motivation, we developed a priming text based on prior experiments (e.g., Druckman, 2012; Prior et al., 2013; Taber, et al., 2009). In turn, to prime defensive motivation, we designed our own text given that this motivation is rarely manipulated in extant studies. Furthermore, unlike most prior work, we included a

control group in which neither defensive nor accuracy motivations were primed. This was necessary to discern whether primed motivations were different from the motivational baseline that control participants pursued in the experimental situation (i.e., to address the contention that people are naturally driven by defensive goals, see Taber & Lodge, 2006).

Participants in the control condition read only the following text: *"In this section, we will ask you to read a set of arguments about (Syrian refugees coming to the U.S. or climate change) and you will tell us how WEAK or STRONG you believe each argument is."* In addition to the control text, participants in defensive goal condition were told: *"Imagine you will be participating in a debate that will decide whether or not to approve a policy about admitting Syrian refugees into the country / climate change. When rating each argument, consider how useful this argument would be to defend your own position on the issue. As a reminder, you said you (supported/opposed the issue in the pre-questionnaire). Think that you would like to win the debate and the arguments should help you make the best case for your own position."* Those in the accuracy condition read the following text: *"Imagine you will be participating in a debate as an unbiased judge that will decide whether or not to approve a policy about (admitting Syrian refugees or climate change). When rating each argument, consider how useful it would be to come to an objective decision. It is important that the decision carefully considers all sides in a neutral way. Think that you would like to thoroughly understand the policy and the arguments should help you come to an evenhanded decision."*

Manipulation Checks

In general, most studies on motivated reasoning do not have or do not report manipulation checks. Among the few that do, some are partially effective (Lundgren & Prislin, 1998) and others fail (e.g., Pelham & Neter, 1995). A few experiments use time spent on a task as a manipulation check (e.g., Prior et al., 2013). However, it is unclear whether this measure indicates increased defensive motivated reasoning (see Petersen, Skov, Serritzlew, & Ramsoy, 2013), or instead, processing depth without a specific reasoning style (Leeper & Slothuus, 2014).

We developed four self-report items as manipulation checks of accuracy motivation for information processing on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree)*, which were presented in a random order: *"When I was rating these arguments, I was able to set aside my own prior beliefs"*, *"I was able to be objective"*, *"I was able to be evenhanded"* and *"I was thinking about my own opinion"* (reverse coded). Higher scores on each item indicated a stronger accuracy motivation. A factor analysis with a maximum likelihood extraction loaded the four items in a single factor. The resulting accuracy motivation index had

good reliability (Cronbach's Alpha = .84). ANOVA models showed that our manipulations were effective. Participants in the accuracy condition scored significantly higher than the control (ΔM = .34, $p < .01$) and defensive conditions (ΔM = .56, $p < .001$). Moreover, control participants scored higher than the defensive motivated (ΔM = .22, $p < .05$), $F_{(2, 676)} = 22.57$, $p < .001$).

Participants

In May 2016, we recruited a sample of 677 participants via *Amazon Mechanical Turk.*[2] Only *MTurkers* who expressed attitudes in support or against toward the two issues participated in the experiment (i.e., by design we excluded those who did not hold a directional attitude on these issues). Our sample was 55% female and 45% male, with an average age of 36.5 years (*SD* = 11.84). Across education attainment, 9% had a high school degree or less, 24% some college but no degree, 14% an Associate degree, 37% a Bachelor's degree, 12% a Master's degree, and 4% a Doctorate or professional degree.[2]

Stimulus material

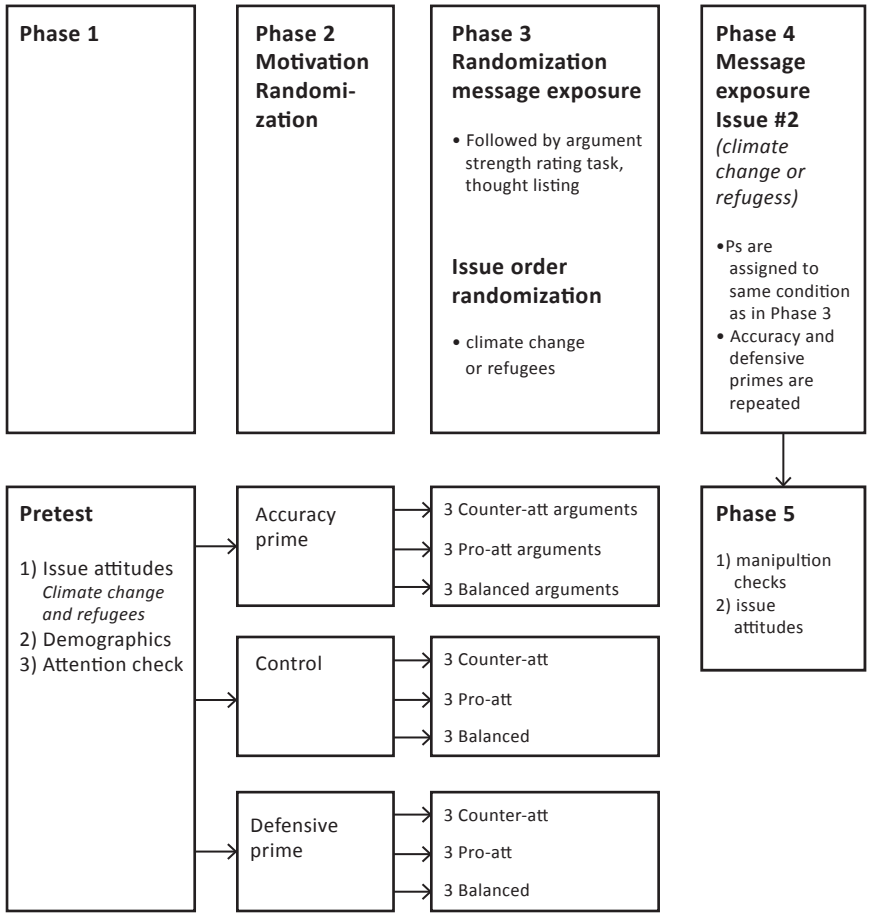
Relying on existing articles, we developed 18 short messages about climate change and Syrian refugees coming to the U.S. The messages varied between 75 and 86 words. We pretested the climate change messages on an independent sample of U.S participants via *MTurk,* to ensure the messages were perceived as intended (i.e., balanced, pro- or con-issue).[3] We developed the messages about Syrian refugees mirroring the structure of the climate change messages. For each issue, some messages supported the issue (pro-issue messages), some opposed the issue (con-issue messages), and some presented both pro- and con-issue arguments in an even-handed manner (balanced message; see Appendix F for an example of each message).

Procedure

First, participants answered a questionnaire that measured their attitudes about climate change mitigation policy and Syrian refugees coming to the U.S.; demographics; and an attention check question. Those who failed this question were excluded from participating in the rest of the experiment – and therefore are not part of the final sample of 677 participants. Then, participants were randomly assigned to one of three motivated reasoning conditions: control, defensive goal, or accuracy goal. Then, within each motivation condition, participants were randomly assigned to one of three message exposure conditions: 1) three pro-attitudinal, 2) three counter-attitudinal or 3) three balanced. We chose three message per conditions to obtain more precise measurements. If participants were exposed to either pro- or counter-attitudinal messages, the message they read depended on their previously reported issues attitudes (whether pro- or anti-

issue; for instance, a pro-refugee participant in the pro-attitudinal message condition read a message supportive of refugees). Within each message condition, participants read three messages about climate change and three about refugees (six messages in total; either balanced, pro- or counter-attitudinal). We randomized the order of issue exposure, which means that participants were randomly exposed to climate change messages, followed by refugee messages, or vice versa. Immediately after reading each message, participants rated the strength of its argument and listed their thoughts. Finally, participants answered the manipulation check items, and again reported their attitudes about both issues (see visualization of experimental design in Figure 1).

Figure 1. Experimental design (*N* = 677)



Measures

Climate change attitudes. Participants reported how strongly they opposed or supported a U.S. governmental policy that mitigates climate change by reducing carbon emissions on a 7-point scale (1 = *strongly oppose*, 7 = *strongly support; M* = 5.63, *SD* = 1.6). Climate change attitudes did not differ significantly between motivation conditions, $F(_{2, 677}) = 1.03$, $p = .36$.

Refugees attitudes. Participants reported how strongly they opposed or supported that Syrian refugees came to the U.S., on a 7-point scale (1 = *strongly oppose*, 7 = *strongly support; M* = 4.39, *SD* = 2.06). Mean scores did not significantly differ between motivation conditions, $F(_{2, 677}) = 2.8$, $p = .06$.

Biased processing. We operationalized biased information processing in the same way as prior research (see Taber, et al.; 2009; Taber & Lodge, 2006). First, we used an *argument rating task* to test an *attitude congruency bias*. After reading a message, participants reported how strong they believed the argument was on a 7-point scale (1 = *not at all strong* 7 = *very strong).* Mean scores for climate change messages were 4.47 (*SD* = 1.45) and 4.52 (*SD* = 1.60) for refugee messages. Second, we used a *thought listing task* to test *disconfirmation bias*. Participants listed up to five thoughts *strictly* about each message they read – up to 15 thoughts for a set of three messages. On average, participants reported 7.16 thoughts (*SD* = 4.35) about climate change and 7.8 about refugees (*SD* = 4.39).[4] The content of all listed thoughts was coded by three trained coders.[5] For pro- and counter-attitudinal messages, each thought was coded for whether it opposed the argument in the message (e.g., *I do not want refugees here;* in a pro-refugee message) or supported the argument (e.g., *I agree they pose a threat to the country*; in a con-refugee message). Because balanced messages contained pro- *and* con-issue arguments, we coded each thought as 1) supports pro-issue argument, 2) supports con-issue argument, 3) opposes pro-issue argument, or 4) opposes con-issue argument. Finally, we used the coded data for balanced, pro- and counter-attitudinal messages, to compute two indexes of a disconfirmation bias for the entire sample: bolstering thoughts about pro-attitudinal arguments and denigrating thoughts about counter-attitudinal arguments.

Polarization. Participants reported again their issue attitudes about climate change (*M* = 5.42, *SD* = 1.7) and refugees (*M* = 4.26, *SD* = 2.04) at the end of the experiment. We operationalized polarization as the difference in issue attitudes between pre-and posttest measurements. This difference measure was computed as follows: First, we determined the closest endpoint on the 7-point attitude scale. Second, we calculated the difference between pre- and post-test attitudes. Third, we estimated the direction and degree of polarization by looking at attitudinal change away or towards the closest scale endpoint.

Finally, this results in an index in which a positive difference between pre- and post-test attitudes indicates polarization, a negative difference depolarization and zero for no attitude change (see Taber et al., 2009).

Data Analysis

We conducted a series of factorial ANOVAS to test hypotheses 1 through 4. First, we tested the effects of message type (i.e., pro-, counter-attitudinal or balanced) on each of the information processing variables (i.e., argument strength, bolstering thoughts about pro-attitudinal arguments, denigrating thoughts about counter-attitudinal arguments) (Hypothesis 1a, 1b). Second, we estimated the interaction effects of message type and motivation conditions (i.e., defensive, accuracy goal or control) on information processing (Hypotheses 2 through 3). Finally, we examined the extent to which message type and motivation predicted polarization (Hypotheses 4a, 4b).

Results

Effects of message type on information processing

We start by testing two competing hypotheses that compared biased processing of pro- and counter-attitudinal arguments in balanced messages, relative to one-sided messages. Results of the effects of message exposure on attitude congruence bias suggest that messages with pro-attitudinal arguments were rated as stronger than balanced messages about both issues: climate change ($\Delta M = 1.11$, $p < .001$), $F_{(3, 677)} = 148.05$, $p < .001$, and refugees ($\Delta M = 1.36$, $p < .001$), $F_{(3, 677)} = 178.38$, $p < .001$. In contrast, one-sided counter-attitudinal messages were perceived as weaker than balanced messages (climate change $\Delta M = -.84$, $p < .001$; refugees $\Delta M = -.92$, $p < .001$). This pattern supports *Hypothesis 1a* for both issues, suggesting that an attitude congruency bias is similar when people process pro- and counter-attitudinal arguments in balanced messages, compared to one-sided messages.

However, a disconfirmation bias was *weaker* in response to balanced messages compared to both pro-attitudinal and counter-attitudinal messages. Participants generated fewer supportive thoughts about pro-attitudinal arguments when these arguments were presented in balanced messages, compared to one-sided pro-attitudinal messages about climate change ($\Delta M = -4.0$, $p < .001$), $F_{(3, 677)} = 326.39$, $p < .001$, and refugees ($\Delta M = -3.9$, $p < .001$), $F_{(3, 677)} = 401.84$, $p < .001$. Also, relative to one-sided counter-attitudinal messages, participants were less likely to refute counter-attitudinal arguments when these were presented in balanced messages about climate change ($\Delta M = -5.0$, $p < .001$), $F_{(3, 677)} =$

340.47 $p < .001$, and refugees (ΔM = -5.36, $p < .001$), $F(_{3, 677}) = 354.72$, $p < .001$. This pattern offers strong support for *Hypothesis 1b*, namely that a disconfirmation bias is weaker when people process balanced messages, compared to one-sided messages.

The effect of motivation on information processing

The second goal of our study was to test whether different motivations lead people to process balanced information in similar or less biased ways, compared to one-sided messages. The interaction effect of motivation and argument type on attitude congruency bias was non-significant for both political issues (refugees $F(_{4, 677}) = 1.73$, $p = .14$; climate change $F(_{4, 677}) = 1.91$, $p = .11$). This was also the case for the interaction effect on bolstering thoughts about pro-attitudinal arguments (refugees $F(_{4, 677}) = .90$, $p = .47$; climate change $F(_{4, 677}) = 1.28$, $p = .28$). In contrast, we find an interaction effect of motivation and argument type on denigrating counter-attitudinal arguments about climate change ($F(_{4, 677}) = 4.60$, $p < .01$), but not for refugees ($F(_{4, 677}) = .1.22$, $p = .30$).

Although the interaction effects tell us that participants with different motivations process information in similar ways, we next looked at the simple effects analyses to directly test our hypotheses 2 and 3 within defensive and accuracy motivation groups. Among the participants motivated by a defensive goal, the results supported our expectation that balanced and counter-attitudinal messages would be evaluated as weaker than pro-attitudinal messages (*Hypothesis 2a)* Specifically, pro-attitudinal messages about climate change (see Figure 2) were judged as stronger than balanced (ΔM = 1.25, $p < .001$) and counter-attitudinal messages (ΔM = 2.02, $p < .001$). Similarly, participants rated pro-attitudinal messages about refugees (see Figure 3) as stronger than balanced (ΔM = 1.33, $p < .001$) and counter-attitudinal (ΔM = 2.56, $p < .001$).

However, we did not find support for *Hypothesis 2b,* which predicted that defensive motivated people would exhibit a similar disconfirmation bias in response to balanced messages, compared to one-sided messages. Defensive motivated participants were more likely to bolster pro-attitudinal arguments in pro-attitudinal messages about climate change (see Figure 4) and refugees (see Figure 5), than when exposed to balanced messages (climate change ΔM = 4.7, $p < .001$; refugees ΔM = 4.04, $p < .001$). Moreover, these participants were less likely to refute counter-attitudinal arguments about climate change (see Figure 6) and refugees (see Figure 7) when these arguments were embedded in balanced messages, compared to one-sided messages (climate change ΔM = -5.82, $p < .001$; refugees ΔM = -5.84, $p < .001$).

In the case of the accuracy motivated participants, perceptions about the strength of a message were biased in favor of pro-attitudinal messages about climate change (see Figure 2) and refugees (see Figure 3), compared to balanced (climate change ΔM = 1.31, $p < .001$; refugees ΔM = 1.42, $p < .001$) and counter-attitudinal messages (climate change ΔM = 1.85, $p < .001$; refugees ΔM = 1.93, $p < .001$). These results rejected *hypothesis 3a*, which predicted that accuracy motivated individuals would perceive balanced messages as stronger than one-sided messages.

Figure 2. Interaction effects of message type and motivation on strength of climate change arguments ($N = 677$)

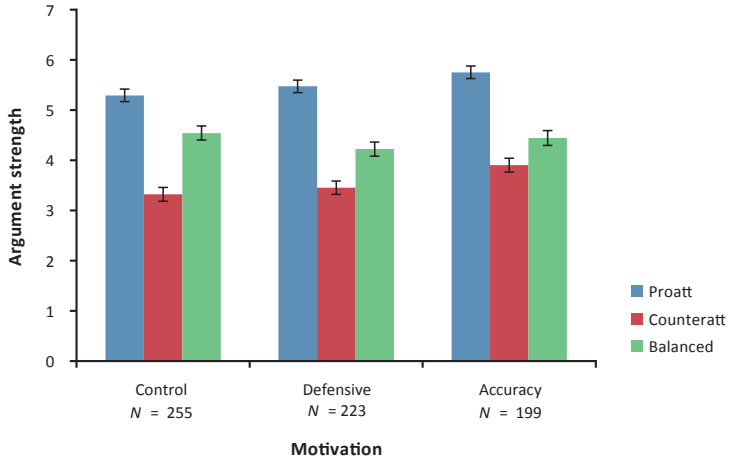


Figure 3. Interaction effects of message type and motivation on strength of refugee arguments ($N = 677$)

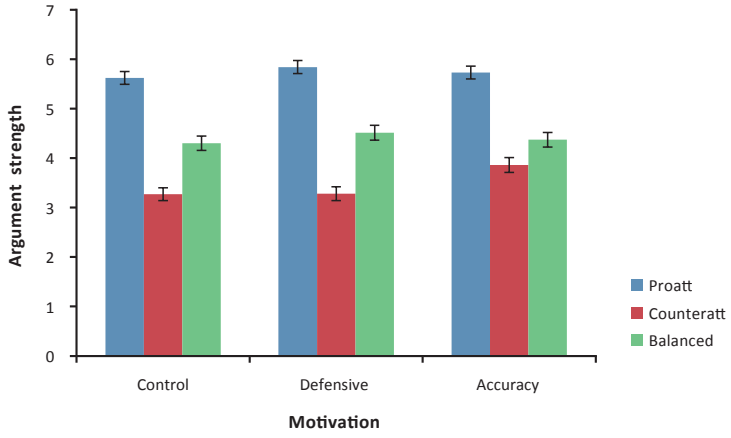


Figure 4. Interaction effects of message type and motivation on bolstering thoughts of climate change pro-attituidnal arguments (*N* = 677)

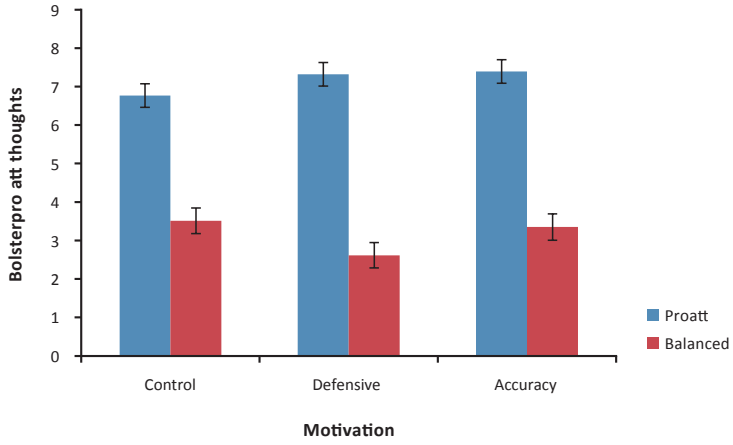
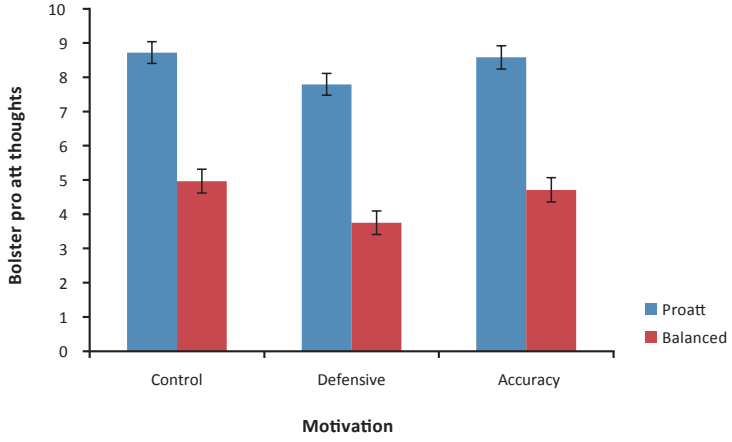


Figure 5. Interaction effects of message type and motivation on bolstering thoughts of refugee pro-attituidnal arguments (*N* = 677)



We also find that compared to one-sided messages, accuracy motivated participants generated fewer bolstering thoughts about pro-attitudinal arguments when confronted with balanced messages about climate change (see Figure 4, $\Delta M = -4.04$, $p < .001$) and refugees (see Figure 5, $\Delta M = -3.87$, $p < .001$). Also, these participants were less critical of counter-attitudinal arguments presented in balanced messages, compared to one-

sided messages about climate change (see Figure 6, ΔM = -3.57, $p < .001$) and refugees (see Figure 7, ΔM = -4.54, $p < .001$). This pattern supported *hypothesis 3b*, suggesting that accuracy motivated individuals exhibit a weaker disconfirmation bias in response to balanced messages, compared to one-sided messages.

Figure 6. Interaction effects of message type and motivation on denigrating thoughts of climate change counter-attituidnal arguments ($N = 677$)

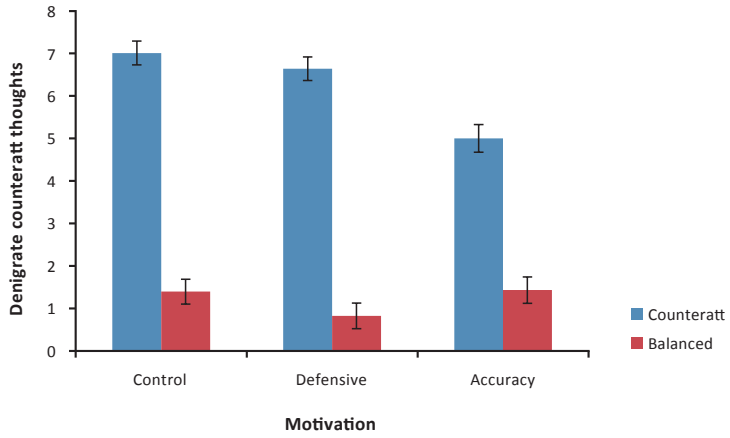
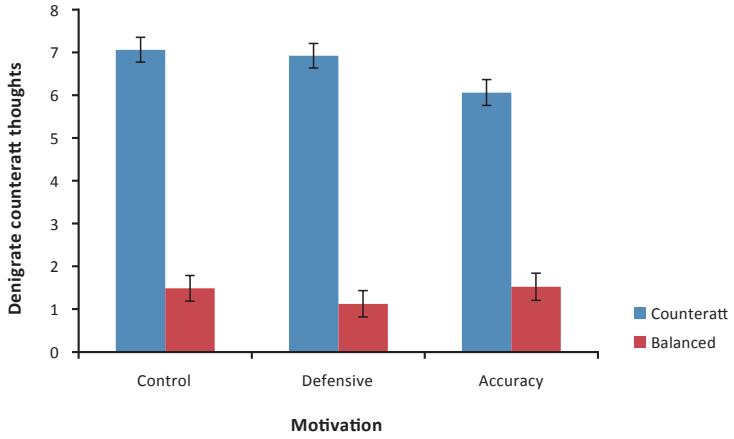


Figure 7. Interaction effects of message type and motivation on denigrating thoughts of refugee counter-attituidnal arguments ($N = 677$)



Effects of message exposure on polarization

Finally, we examined how exposure to balanced versus one-sided messages affected polarization and whether these effects were moderated by individual motivations. Results show a significant effect of message type on polarization for climate change, $F(_{2, 677}) = 3.34$, $p < .05$, and a marginally significant effect for refugees, $F(_{2, 677}) = 2.59$, $p = .07$. Simple effects analyses showed that participants polarized less on climate change in response to balanced, compared to pro-attitudinal exposure (ΔM = -.31, $p < .05$). However, the results for the refugees issue differ. Counter-attitudinal, not balanced, exposure lead to less polarization relative to pro-attitudinal exposure (ΔM = -.28, $p < .05$).

Next, we tested whether motivation moderated the effects of message type on polarization. Results supported *hypothesis 4a,* predicting that defensive motivated individuals were equally likely to polarize in reaction to balanced messages, compared to pro- and counter-attitudinal messages about climate change (see Figure 8). However, results did not support our expectation for the refugees issue (see Figure 9). Polarization on refugees was stronger when these participants were exposed to pro-attitudinal, compared to balanced (ΔM = .61, $p < .001$) and counter-attitudinal information (ΔM = .53, $p < .05$). Next, we did not find support for *hypothesis 4b* across both political issues. Among the accuracy motivated participants, exposure to pro-attitudinal, counter-attitudinal or balanced information did not lead to significant differences in polarization.

We also tested whether biased processing predicted attitude polarization. Regression results showed little evidence in support of this notion. First, an attitude congruency bias had a small and positive effect on polarization, but only for climate change (b = .10, p < .05). Second, results on both issues showed that bolstering thoughts about pro-attitudinal arguments and denigrating thoughts about counter-attitudinal arguments had null effects on polarization. Third, motivation did not moderate the relationship between biased processing and polarization.

Because extant research suggests that individual motivations and biased information processing should predict attitude polarization, we tested our predictions across several different models to guard against the possibility that these null results are due to the way we operationalized polarization. Around 25% of our sample reported extreme attitudes in the pretest, i.e., at the very end of the attitude scales. It is difficult to detect polarization among these extreme cases because attitude change is constricted by the upper and lower bounds of the scale and regression to the mean (see Taber & Lodge, 2006). Therefore, we retested all the models without the extreme cases.[6] Furthermore, we also tested our predictions using the less nuanced, but more powerful, binary polarization index, which

assigns a value of 1 to those who – at the posttest – reported an attitude that was more extreme than their pretest attitude as well as to those at the extremes of the scales, and value 0 to those who did not change their attitudes or depolarized (see Wojcieszak, 2011). We also tested a trinary polarization index, which assigns value -1 to those who depolarized, value 0 to those who did not move their attitudes, including those at the extreme ends of the scales, and value 1 to those who moved toward their initial attitude.

Figure 8. Interaction effects of message type and motivation on polarization about climate change (*N* = 677)

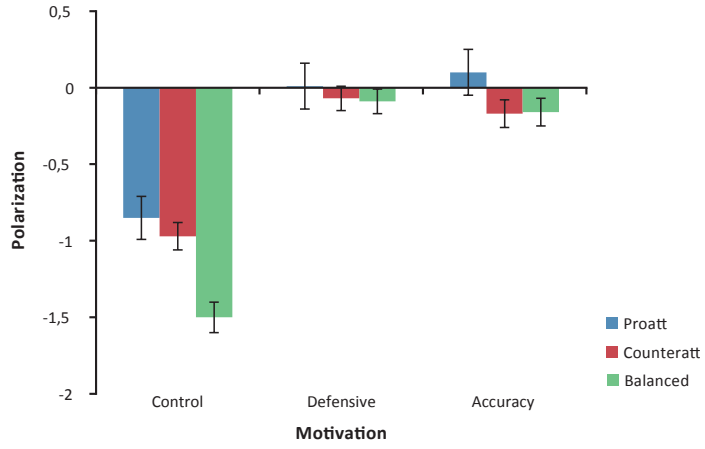
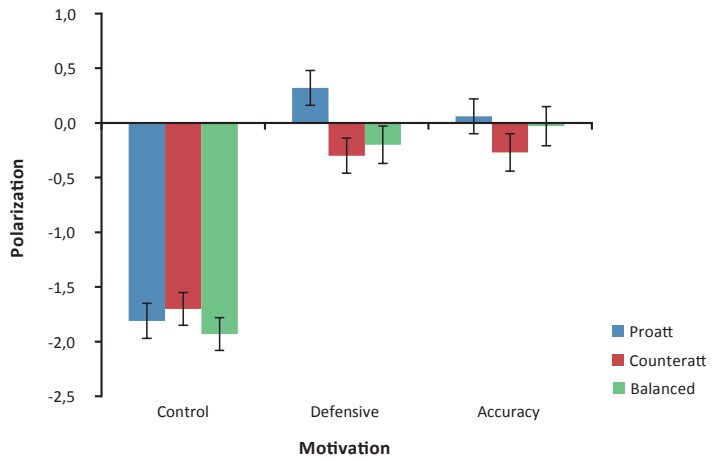


Figure 9. Interaction effects of message type and motivation on polarization about refugees (*N* = 677)



In all these cases, we find consistently no effects of biased processing and motivation on polarization, which suggests that the impact of message exposure on attitude polarization is not explained by these mechanisms. Testing our predictions across these different models and operationalizations assures that the way we measured polarization is not responsible for these effects. We discuss this finding in the discussion section.

Discussion

In this article, we used an experiment to compare the processing of balanced and one-sided messages about two contested-sociopolitical issues in the U.S., climate change and Syrian refugees. In addition, we tested whether information processing patterns were moderated by defensive and accuracy motivations. Finally, we examined the effects of information exposure on attitude polarization, and whether this relationship was moderated by motivations.

Our first notable finding concerns the processing of balanced messages, relative to one-sided messages. Consistent with most prior research (e.g., Hansen & Kim, 2011), we show that people perceive pro-attitudinal messages as stronger than balanced and counter-attitudinal messages. But in contrast, we also find that exposure to balanced political content, one that presents both pro- and counter-issue arguments, can reduce the extent to which people bolstered pro-attitudinal views and denigrated counter-attitudinal arguments.

These findings suggest that the extent to which individuals rely on attitude congruency and disconfirmation biases to process information depends on the type of information they encounter. The results on attitude congruency bias indicate that people perceive messages that only contain pro-attitudinal arguments as stronger than those which also present counter-attitudinal information. But, our findings on disconfirmation bias show that balanced exposure forces people to think about conflicting political perspectives in a more even-handed way.

Our second notable finding regards how individual motivations affect the processing of balanced and one-sided messages. In line with motivated reasoning theory (Kunda, 1990), we find that people motivated to reach a desired conclusion process one-sided messages in a biased manner. In contrast, those in search of accuracy denigrate counter-attitudinal messages less, even more so than control participants. Most notably, we show that participants who were motivated by accuracy or defensive goals, as well as those in the control condition, process balanced information in the same way.

To explain these similar processing patterns we can draw on motivated reasoning theory, and speculate that exposure to balanced messages imposes *reality constrains* that limit the influence of defensive and accuracy motivations on information processing (see Chaiken et al., 1996; Pyszczyinski & Greenberg, 1987; Kruglanski, 1980). Defensive motivated individuals rely typically on biased processing to justify their desired conclusions. But, the extent to which these individuals are capable of being biased is limited by their need to also appear objective, a limit which could be triggered upon exposure to balanced information. In contrast, accuracy motivated individuals desire to reach correct conclusions, but they may fall short of this goal if pro-attitudinal views in balanced messages reminds them of their prior opinions, which in turn color their perceptions of what is to be unbiased.

Our third set of notable findings regards attitude polarization. Consistent with most prior work, we find that people exposed to pro-attitudinal messages polarized more, than those presented with balanced information about climate change or counter-attitudinal content about refugees. Mostly importantly, our findings reinforce prior research indicating that exposure to balanced political content prevents people's attitudes from becoming more extreme (e.g., Levendusky, 2013). However, we do not find a depolarizing effect of balanced messages, which contradicts the argument of some scholars that exposure to counter-attitudinal arguments, be it in one-sided (Garret et al., 2014) or balanced messages (Matthes & Valenzuela, 2012), moderates political opinions.

Our results also show that motivation did not moderate the effects of balanced exposure on attitude polarization. This may be because we looked for evidence on a wrong outcome variable. Some work suggests that message exposure among motivated reasoners does not lead to attitude change, but instead to increased certainty in prior opinions (see Leeper, 2014), and so – had we tested attitude certainty or importance as an outcome of message exposure and information processing – we would have detected some differences between the conditions. Alternatively, our manipulations of motivated reasoning may have made participants aware of their initial attitudes, and as a result, the participants may have become concerned with holding stable views and resisting persuasion from different messages. Perhaps, had we used an implicit measure of issue attitudes, or had we used a stronger measurement consisting of multiple items, we would have observed more attitude change. In contrast, the attitudes of control participants were more susceptible to message exposure, and these participants depolarized in reaction to different messages, a pattern which did not hold across our different models testing attitude polarization.

Last but not least, we did not find evidence to support the notion that biased processing and motivation explain the effects of content exposure on attitude polarization. This consistent

pattern of null effects emerged across different models (e.g., with and without extreme attitude cases) and using several different ways of computing attitude polarization, for example, whether a difference score or a binary or trinary index. These null effects were also parallel for the two very distinct sociopolitical issues tested, indicating that it is not the case that biased processing and one's motivation fail to polarize attitudes on some issues (e.g., the more complex scientific ones like the climate change) but lead to strong polarizing effects on others (e.g., more value laden and hot-button issues, such as the refugees). It may be the case that information processing does not lead to polarization, and instead, future research should systematically test other mechanisms that can better explain the relationship between exposure and polarization. However, before accepting such an overarching and arguably controversial conclusion, other studies should replicate our findings with different convenience or representative samples, on different issues, and with different polarization measures (see Taber & Lodge, 2006; Wojcieszak, 2011).

Relatedly, another limitation of our study is that our reliance on the Mechanical Turk sample restricts the generalizability of our findings. That said, in comparison with other convenience samples, *MTurk* samples are more representative of the general population, have more demographic diversity, and pay more attention to experimental tasks (Berinsky et al., 2012; Hauser & Schawrz, 2015; Paolacci et al., 2010). Furthermore, compared to nationally representative samples, the same results on identical studies have been found with *MTurk* samples (Mullinix et al., 2015).

Aside from these limitations, our findings suggest several fruitful avenues for future research. For example, the stimulus material we designed presented numbers and statistical evidence to argue a certain position. However, most news stories also contain other forms of evidence, such as personal stories. Research finds that exposure to such personal stories makes people more receptive to and less likely to argue against counter-attitudinal arguments (Stitt & Nabi, 2005; Wojcieszak & Kim, 2015). It is thus possible that the observed processing patterns in our study are not generalizable to other types of messages available in the media. Future studies should test whether different characteristics of news content, such as types of evidence or visuals moderate the processing and effects of balanced exposure.

In addition, future research can test whether the effects would be different with news stories that additionally contained some partisanship cues. In our study, we focused on the perspective through which a news story described the two political issues, whether supportive or oppositional. This approach aligns with some prior work (e.g., Knobloch-Westerwick & Meng, 2009; 2011) and is also more suitable for multi-party systems, in which

certain issues are not "owned" by one specific party, or for media systems, in which certain media outlets are automatically categorized as being from the left or the right. However, in the U.S. context, which we studied, including mentions of specific political parties or accompanying our messages with logos of some partisan media might have strengthened motivated reasoning (see Druckman, 2012) and affected processing patterns, for example, by increasing the likelihood that defensive motivated people would be more biased in response to balanced information.

As another suggestion for future research, we focused on defensive and accuracy goals, two often studied goals, finding that they did not shape the processing of balanced messages. However, we did not study the influence of other motivations, such as impression motivation, which can be particularly important given that online news contain diverse social cues that can be used by audiences to inform or endorse their own interpretations about a message (see Winter et al., 2016). Because our messages did not contain any social cues, this motivation was less relevant for our purposes. Yet future research should design social experiments that test how impression motivation interacts with balanced exposure in general, and especially in the context of news exposure on social media.

What implications do our findings have for research on political information processing, motivate reasoning and attitude polarization? First, our results support the argument that people are biased reasoners when it comes to interpreting political information. But we also offer an important caveat to this argument, showing that reasoning is also shaped by the information environment, and that balanced messages have the potential to promote some form of unbiased processing. Second, we show that individuals with different motivations respond to balanced messages in the same way, regardless of whether they are motivated to reinforce desired opinions, or to reach accurate conclusions about a political issue. Third, although our results do not support the expectation that exposure to diverse and balanced political views promotes understanding across various partisan divides, we demonstrate that this type of exposure can mitigate attitude polarization among different groups of citizens. Fourth, our findings reinforce the argument that political communication research should expand their traditional focus on studying exposure to pro- and counter-attitudinal messages, and instead devote more attention to balanced exposure.

To conclude, our study demonstrates the value of balanced information exposure in democratic systems, as it encourages citizens to be more open-minded about different issues, even among individuals motivated to protect their prior opinions. Because of this, balanced news coverage can help citizens develop well-informed opinions, which is ultimately indispensable for the proper functioning of any democracy.

Footnotes

[1] We adopt a classical definition of motivated reasoning, which assumes that defensive and accuracy goals influence different reasoning styles (see Kunda, 1990). Furthermore, human reasoning is guided by both goals, and the applicability and strength of each will vary across individuals and situations (see Leeper & Slothuus, 2014).

[2] Compared with the data of the U.S. Census Bureau (2010a), our sample is substantially similar in terms of gender (females= 51%, males = 49%) and age (M = 37.2). But, our samples was more educated than the general population (U.S. Census Bureau, 2010b). The U.S. census reported 43% of people with high school or less, 17% with incomplete college, 9% had an Associate degree, 20% a Bachelor's degree, 8% a Master's degree, and 3% a Doctorate or professional degree. We have addressed this issue in the "Discussion Section."

[3] On a scale from 1 to 5, participants rated messages about the extent they contained con-issue arguments (values of 1 and 2), balanced arguments (value of 3), or pro-issue arguments (values of 4 and 5). The ANOVA results were significant, $F_{(6, 704)} = 2114.40$, $p < .001$. Pro-issue messages were rated more as having supporting arguments, compared to balanced and con-issue messages (all $p < .001$). Similarly, con-issue messages were perceived more as having opposing arguments (all $p < .001$), and balanced messages were perceived more as containing both pro- and con-issue arguments (all $p < .001$).

[4] Number of thoughts about climate change differed significantly between argument type conditions, $F_{(3, 898)} = 5.76$, $p < .001$. Participants exposed to only balanced arguments generated less thoughts than those exposed to only pro or counter-attitudinal arguments (all $p < .001$). Regarding refugees, exposure to only pro-attitudinal arguments resulted in more thoughts than the other two conditions, $F_{(3, 898)} = 9.73$, $p < .001$, (all $p < .001$). Across motivation conditions, number of thoughts differed significantly regarding climate change, $F_{(3, 898)} = 4.29$, $p < .01$, and refugees, $F_{(3, 898)} = 5.93$, $p < .001$. On both issues, control participants generated more thoughts than defensive motivated participants (all $p < .01$), but not compared to those accuracy motivated.

[5] Approximately 15% of all thoughts were initially coded by all three coders. Overall, the average inter-coder reliability for all thought variables was .75 (Krippendorff's Alpha). Afterwards, the rest of the thought-listing data was divided randomly into three subsamples, and each subsample was coded by one coder.

[6] The effects of message exposure on climate change polarization were the same in direction and magnitude when we excluded extreme cases from the analysis. However for the refugees issue, balanced content, not counter-attitudinal exposure, lead to less polarization compared to pro-attitudinal exposure ($\Delta M = -.29$, $p < .01$). The results of hypotheses 4a and 4b were the same without extreme cases. Finally, attitude polarization was not predicted by information processing or by its interaction with motivation.

Chapter 5

Conclusion

Scholars, political observers, and media pundits have worried that citizens prefer mostly pro-attitudinal information about politics and public affairs (e.g., Iyengar & Hahn, 2008), which in turn may influence the public to make uninformed decisions (Kull, Ramsay & Lewis, 2003), develop extreme political opinions (e.g., Stroud, 2010), and be less tolerant towards opposing perspectives (e.g., Sunstein, 2009). The majority of the selective exposure scholarship has focused on studying the selection and effects of one-sided political content (i.e., pro- or counter-attitudinal), and has paid little attention to balanced content, even though it is available in the media environment (e.g., Prior, 2013) and consumed by citizens (e.g., Metzger et al., 2015).

The findings of this dissertation contribute significantly to the selective exposure literature by identifying the factors driving balanced exposure, in addition to its consequences for information processing and attitude polarization. In a nut-shell, this dissertation shows that balanced exposure matters in several ways, namely, 1) diverse groups of citizens prefer balanced political messages that contrast both pro- and counter-attitudinal perspectives; 2) balanced messages play a crucial role in determining how citizens with different motivations interpret political information; and 3) the availability, selection and processing of balanced information is not a sufficient antidote to correct political polarization. This chapter summarizes the findings of this dissertation, draws broad conclusions about the role of balanced information in shaping selective exposure and its cognitive and attitudinal outcomes, and finally, addresses limitations and suggestions for future research.

Summary of findings

Most of the extant scholarship on the causes and consequences of selective exposure has studied exposure to pro- or counter-attitudinal information. This dissertations explored a different approach and examines the factors that explain balanced information exposure, in addition to studying its consequences for information processing and attitude polarization. The experiment in chapter 2 examined whether selection of balanced, pro- and counter-attitudinal information depends on whether an individual is an issue public member, in addition to whether a message presents numerical or narrative evidence. The findings showed that individuals who care and have strong opinions about climate change and health care reform, as well as those who are less personally invested, preferred balanced messages over those that contain only pro- or counter-attitudinal information. Additional findings showed that the type of evidence for a message claim also influences the selection of balanced content. We learn that issue publics preferred balanced information that used numbers and statistics to support claims, compared to balanced information with personal stories.

The experiment in chapter 3 studied the psychological underpinnings of balanced selection on issues such as climate change and refugees. These results further showed that individuals with different motivations also select balanced content. Specifically, those motivated to reinforce desired opinions and who hold strong and certain opinions were equally likely to select pro-attitudinal and balanced messages. Moreover, balanced selection was the preferred information choice for people motivated to reach accurate conclusions, regardless of the strength and certainty of their issue attitudes.

The experiment in chapter 4 studied the impact of balanced exposure on information processing and attitude polarization. The findings showed that both defensive and accuracy motivated individuals processed balanced messages about climate change and refugees in a more unbiased fashion, compared to one-sided messages. Finally, individuals with different motivations polarized in response to pro-attitudinal content, but not if exposed to balanced content.

All these findings together extend our understanding of selective exposure and its cognitive and attitudinal effects. I discuss each conclusion in the next sections.

1. The prevalence of selective exposure is overestimated

Some research has suggested that individuals only expose themselves to pro-attitudinal information in the media (e.g., Iyengar & Hahn, 2008), while other scholars have argued that most people prefer pro-attitudinal messages but also attend to counter-attitudinal ones (e.g., Bakshy et al., 2015; Stroud, 2011). In line with several studies, the first conclusion of this dissertation is that selective exposure is not a prevalent phenomenon among citizens (e.g., Dvir-Gvirsman et al., 2014; Garret, 2013; Prior, 2013; Van Aelst et al., 2017). Most individuals do not want messages that only contain pro-attitudinal information, but instead, they prefer balanced messages that present arguments confirming their opinions, alongside arguments that run counter to their priors.

2. Most citizens prefer balanced political content over one-sided content

Related to this first conclusion, this dissertation extends prior research by showing that it is not only a handful of people who prefer balanced information diets on contested socio-political issues. Rather, exposure to balanced media content is the preferred choice for different groups of citizens. I argued in the introduction chapter that differences in information selection patterns reported in the extant literature depended on psychological characteristics that varied across individuals (e.g., Arceneaux & Johnson,

2013; Hart et.al, 2009). It is likely that different individuals make different choices of pro- and counter-attitudinal information when they are exposed to one-sided messages. But this dissertation shows that important drivers of self-selection (i.e., individual motivations and attributes of issue attitudes) do not matter much when people are given the choice of balanced information.

More specifically, results supported my expectations in chapter 2 that issue publics would prefer balanced messages as they provide useful information to acquire an in-depth understanding about issues they care about. Also as expected, accuracy motivated individuals in chapter 3 chose mostly balanced information as exposure to this content is ideal to reach an objective and accurate conclusion about a certain issue. Surprisingly, I also observed a substantial selection of balanced information among individuals that are not personally invested in certain political issues – as is the case of non-issue publics. The fact that both issue and non-issue publics are drawn towards balanced content suggests that having strong opinions or caring personally about an issue, are not requisites for citizens to seek diverse perspectives on politics and publics affairs.

Also surprisingly, I expected in chapter 3 that individuals motivated by a defensive goal and with strong opinions would prefer pro-attitudinal information to defend their prior opinions (see Hart et al., 2009), and might not be interested in counter-attitudinal information that could threaten their desired conclusions. But, these individuals are equally drawn towards pro-attitudinal and balanced exposure. The fact that both accuracy and defensive motivated individuals select balanced content suggests that individuals with different motivations may choose the same content but for different aspirations. Those motivated by accuracy seek balanced content to reach correct conclusions, whereas defensive motivated people find balanced information useful to learn what the "the enemy" is thinking and how to better argue their positions (see Valentino et al., 2009).

3. The type of evidence for a message claim also influences information selection

Although this dissertation studied mostly individual factors that drive balanced exposure, another conclusion is that the type of evidence for a message claim also shapes the type of political information that different citizens seek. In chapter 2, I present novel evidence showing that issue publics and average citizens prefer political messages which contain numerical over narrative evidence. Also I show that the preferred form of political information for issue publics is that which uses numbers and statistics to argue two sides of a story. The fact that evidence type influences information selection on political issues

is relevant for media producers. Although the effects found in my experiment are small, my findings suggests that both individuals that aspire to become issue specialists, as well as average citizens, want political media content that is backed up by reliable and credible evidence.

4. Balanced exposure reduces the influence of motivated reasoning on information processing

In addition to the fact that different individuals select balanced media content, a fourth conclusion is that exposure to such content plays a crucial role in shaping how people process political information. Chapter 4 teaches us that individual motivations matter less than the type of information read. Specifically, my findings support prior evidence that balanced exposure encourages more unbiased processing, relative to one-sided messages (e.g., Metzger et al., 2015). But I extend this evidence by showing that, whether individuals want to reinforce their opinions or reach accurate conclusions, they interpret balanced content in a similar manner.

Specifically, I show that defensive motivated citizens interpret one-sided content in biased terms (see also, e.g., Taber & Lodge, 2006). However, we learn that balanced exposure reduces the extent to which these citizens accept pro-attitudinal arguments uncritically and refute counter-attitudinal ones. A plausible explanation is that a contrast of pro- and counter-attitudinal arguments side-by-side triggers a need among those defensive motivated to appear objective, which limits their capacity to interpret information in a biased fashion.

I also show that accuracy motivated citizens are less critical towards counter-attitudinal arguments in one-sided messages – as shown in previous research (Druckman, 2012). Chapter 4 extends this finding by showing these individuals also treat counter-attitudinal information in an objective manner when this information is presented in a balanced message. Furthermore, they are less likely to bolster pro-attitudinal arguments in balanced messages, compared to in messages that contain only pro-attitudinal information.

These findings alter our understanding of motivated reasoning in the context of political information processing. Motivated reasoning theory posits that individual motivations influence the cognitive strategies people use to process information (Kunda, 1990). However, this theory also argues that reasoning goals are desired end states, and the extent to which individuals can achieve these outcomes is constricted by their information environment (see Leeper & Slothuus, 2014). Extending this argument to the context of political information processing, it is likely that motivation dominates the reasoning of

one-sided political information, but motivated reasoning is trumped to a certain extent if individuals are exposed to a balanced information environment.

5. Balanced exposure encourages unbiased thinking but does not reduce political polarization

Balanced messages are available in the media environment (e.g., Prior, 2013), and this dissertation has shown that different individuals select these messages and interpret them in an unbiased manner. However, the availability, selection and unbiased processing of balanced political information is not enough to promote moderate political views on contested socio-political issues. The findings from Chapter 4 refute the hope by some scholars that exposure to balanced (e.g., Matthes & Valenzuela. 2012) or counter-attitudinal information (Garret et al., 2014) can depolarize political opinions. On the bright side, my findings reinforce prior research showing that exposure to balanced political content reduces the risk that people's attitudes become more extreme (e.g., Levendusky, 2013). However, if citizens are already polarized across partisan divides, balanced exposure might not moderate individual political views, or help bring different social groups closer to each other.

Limitations and directions for future research

To what extent do the aforementioned conclusions accurately reflect what is happening in the real world? Additionally, are these conclusions generalizable to other samples and to other countries aside from the U.S. context? This section exposes some limitations in my dissertation and offers suggestions for future research.

As a first limitation, the experimental designs in chapters 2 and 3 did not fully reproduce the selection environments that people have at their daily disposal. Not only can individuals in the real world choose from a substantial and diverse number of media sources and political issues, but they can also tune out from political news altogether by preferring entertainment content (see Arceneaux & Johnson, 2013). Although it is not feasible for any experiment on selective exposure to account for the plethora of choices available in the media environment, future experimental research can study whether balanced exposure varies for individuals with different entertainment and political issue preferences. Additionally, developing studies that use web-tracking technology can address a number of shortcomings of experimental research. For example, they can observe selection behavior of balanced content as it occurs in real world information environments. Second, they can study the influence of the homogeneity level of media audiences and of online user-generated features (i.e., user comments and social plugins) on balanced information selection (see Dvir-Gvirsman, 2016).

A second limitation involves two issues about the types of balanced messages tested in this dissertation. One issue is that there are different ways in which political content can be balanced, but I used only one in my stimulus material. The balanced messages I developed had two characteristics. They presented pro- and counter-attitudinal arguments side-by-side, and they also were neutral – both sets of arguments were presented in an even-handed manner. However, another way in which content can be balanced is by presenting two sides of a story without treating both perspectives in a neutral manner. This second type of balanced content may be more common in American media reporting, in which major news outlets can be categorized as being liberal or conservative (Pew Research Center for the People and the Press, 2014). These outlets may report two sides of an issue, but depending on their partisan leaning, their reporting may favor one side more than the other. A second issue with the balanced stimuli used here is that they did not contain any partisanship cues that are common features in American news stories (i.e., mentions of specific political parties or logos of some partisan media). Future research can account for both issues, and test whether the findings reported here would be different with different types of balanced news stories, and with balanced stories accompanied by source cues.

A third limitation is that the results of the dissertation could be partially due characteristics of Mechanical Turk samples, and therefore, cannot be generalized to other populations. First, the *MTurk* samples recruited here were more educated than the general U.S. population. Second, *MTurkers* are disproportionally liberal (see Berinsky et al., 2012), and prior evidence has shown they avoid less counter-attitudinal content than conservatives (Garret & Stroud, 2009). Third, *MTurk* participants tend to exhibit a strong social desirability bias (Behrend, Sharek, Meade & Wiebe, 2011). These characteristics of *MTurk* participants could explain several of my findings. For example, why issue and non-issue publics preferred balanced messages in chapter 2, and both defensive and accuracy motivated participants sought these messages in chapter 3. Social desirability could explain in chapter 3 why control participants appeared to be motivated by an accuracy goal. Finally, these characteristics of *MTurkers* could explain why participants in chapter 4 were unbiased in response to balanced content, and why I found no evidence to support the notion that biased processing predicts attitude polarization. In sum, perhaps experiments that rely on representative sampling methods would arrive to different results, compared to those reported in this dissertation.

Despite this shortcoming, the findings here could accurately reflect how my population of interest – those likely to seek online news about contested political issues – select and respond to balanced media messages. Moreover, this limitation should not dissuade researchers in political communication from recruiting *MTurk* samples. After all, compared

with other convenience samples, *MTurk* samples are more representative of the general population, more geographically diverse, and more attentive to experimental tasks (Berinsky et al., 2012; Hauser & Schwarz, 2015; Paolacci et al., 2010). Also, compared to nationally representative samples, the same results on identical studies in political communication have been found with *MTurk* samples (Mullinix et al., 2015). Nonetheless, the research questions examined throughout this dissertation have not been studied in the extant literature with *MTurk* samples. Therefore, I do not have sufficient information to know whether the findings here can be generalized to other populations. To address this issue, future research should replicate these findings with other convenience and representative samples.

As a fourth limitation, this dissertation studied the drivers and effects of balanced information exposure in a U.S. context. But, it is uncertain whether the findings can be generalized to other Western democracies. Although this question must be answered empirically with replication studies, I speculate that the findings reported here could be similar in some European contexts. This dissertation showed that different groups of Americans preferred balanced content, which can be somewhat unexpected in a country that suffers from mass polarization (e.g., George, 2016; Jacobson, 2006), and has a political climate and media environment that facilitate selective exposure (Van Aelst, 2017). It is reasonable to expect that citizens in less polarized societies are also attracted to balanced political information, and process it in an unbiased fashion. Although the available evidence is scarce, some research has shown that Europeans are exposed to moderate views in the media environment (e.g., Trilling & Schoenbach, 2015), and select balanced information in experimental settings (Hameleers, Bos & de Vreese, 2017).

Taking all these shortcomings together, future research should examine whether the findings of this dissertation provide an accurate reflection of what is happening in the real world. I show that most citizens select balanced political content and they react to it in a more open-minded fashion, compared to one-sided information. However, what we learn in this dissertation is limited to controlled information environments with limited content choices, and to certain convenience samples within a single country. The fact is that media exposure in the real world occurs in a fragmented and personalized news landscape that offers citizens an unprecedented opportunity to consume information that matches their ideological predispositions, and on the contrary, may offer less incentives to attend balanced political content. This raises the question of whether citizens in such a media landscape would exhibit a similar preference for balanced information exposure as observed in this dissertation. To explore this question, future research agendas should combine experimental methods with behavioral-tracking, content analysis and survey

approaches, and study selective exposure to balanced information and its effects among diverse populations and across different information environments.

Implications

Despite shortcomings, this dissertation has important implications for political communication scholars, journalists and citizens. First, when it comes to information selection in the media, most citizens prefer balanced information about politics and public affairs. In addition, some citizens seek balanced content that is backed up by factual and truthful evidence. This in itself is a good reminder for media institutions and journalists advocating the notion that political media coverage should be balanced, objective and fair.

Second, this dissertation raises normative implications about the role of the media environment in shaping how citizens interpret contested political issues. Even though the media landscape offers unprecedented opportunities for exposure to pro-attitudinal information – via echo chambers, filter bubbles and partisan news sources – we know that some citizens seek both pro and counter-attitudinal content for different reasons. But, even if citizens consume counter-attitudinal messages, we cannot expect them to become more open-minded about contested issues because their motivations can color how they interpret political information. However, this dissertation suggests that the media environment can encourage more unbiased thinking by offering balanced and neutral reporting. If journalists cover political issues in a balanced manner, different citizens would attend these messages, which in turn could encourage them to interpret contested issues more open-mindedly.

As a third implication, this dissertation did not find evidence to support the aspiration that exposure to balanced information can reduce political polarization. However, balanced exposure could benefit democratic well-being in other ways that are beyond the scope of this dissertation. For example, it is plausible that exposure to balanced media information can protect democracies in several ways from the dangerous epidemic of *alternative facts* and *fake news*, which has become a pressing concern for some political elites, journalists and civil society actors. For one, if media consumers prefer political media coverage that is balanced and uses credible evidence to back up claims, journalists may be encouraged to defend standards that meet core principles of journalism, such as truth, fairness and impartiality. Moreover, exposure to a balanced political information could counter the spread of falsehoods among media audiences. Finally, the availability and consumption of balanced information could protect the public from elites that rely on misinformation to advocate political agendas.

In conclusion, although a fragmented and personalized media environment can facilitate selective exposure on pressing but divisive political issues, this dissertation shows that most citizens seek balanced media messages and react to these in an open-minded fashion. Even though we cannot hope that coming in contact with balanced information is a solution to correct attitude polarization, the availability and exposure to such an information environment may benefit democracy in other ways. To explore these possibilities, future scholarship on selective exposure should shift its traditional focus on studying mostly one-sided political messages, and instead, extend our understanding of the causes and consequences of balanced information exposure.

5

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Appendices

A

Appendix A

Example of Numerical and Narrative Texts by Types of Arguments

Numerical Texts	Narrative Texts
Pro-Text	***Pro-Text***
Headline: **Numbers Show Clear Benefits of the Affordable Care Act for Americans**	*Headline:* **Drew's Story: How I Personally Benefitted from the Affordable Care Act**
Lead: I support the Affordable Care Act (ACA), and a substantial body of statistical data shows the ACA is a good thing.	*Lead:* I support the Affordable Care Act (ACA), and my personal story shows the ACA is a good thing.
Example Paragraph: American businesses also benefit from the ACA. Because they are required to offer health insurance, they receive tax credits to help employees pay insurance premiums. In 2015, the tax credit will increase to 50%. To compensate, the top 2% of businesses and individuals pay some extra taxes, contributing more without being hurt.	*Example Paragraph:* And my boss offered me health insurance! His business got a tax credit from the ACA to help me pay for my premium. To compensate, the richer companies will pay more taxes. After all, they can give more without being hurt. I feel safe now, I can sleep. All thanks to the ACA!
Con-Text	***Con-Text***
Headline: **Statistics Reveal the Outrageous Costs of the Affordable Care Act for Americans**	*Headline:* **Quinn's Story: My Personal Losses from the Affordable Care Act**
Lead: I am against the Affordable Care Act (ACA), and a substantial body of statistical data shows the ACA is a hurtful policy.	*Lead:* I am against the Affordable Care Act (ACA), and my personal story shows the ACA is a hurtful policy.
Example Paragraph: Over 30.1 million Americans bought their own private health insurance before the ACA was implemented. Many have had their plans cancelled by insurance companies because the plan didn´t meet the 10 health requirements stipulated in the ACA. And replacement insurance is substantially more expensive because it provides services that many people don´t need.	*Example Paragraph:* I am a hard-working American. Throughout the years I always worked long hours to afford private insurance. Then the ACA came and my insurance was taken away because it didn't fit with ACA standards. This is not fair! Now I am really struggling to buy a more expensive insurance with services I don't even need!
Balanced Text	***Balanced Text***
Headline: **Statistics Unveil Pros and Cons of the Affordable Care Act for Americans**	*Headline:* **Pat's Story: My Personal Gains and Losses from the Affordable Care Act**
Lead: I am uncertain as to whether the Affordable Care Act (ACA) is beneficial or hurtful, and a substantial body of statistical data shows the ACA has both its pros and cons.	*Lead:* I am uncertain as to whether the Affordable Care Act (ACA) is beneficial or hurtful, and my personal story shows the ACA has both its pros and cons.
Example Paragraph: Uninsured workers also benefit from the ACA. Because businesses are required to offer health insurance, they receive tax credits to help employees pay premiums. In 2015, the tax credit will increase to 50%. However, the ACA also hurts uninsured Americans. Those who didn´t purchase insurance by the deadline of March 31, 2014 have to pay a tax of $95 in 2014. This means about 4 million people, or 1.2% of the population, end up paying the tax rather than purchasing health insurance.	*Example Paragraph:* Luckily, the ACA gave me a tax credit that makes it easier to get insurance. And my boss just offered me health insurance! His business got a tax credit from the ACA to help me pay for my premium. Finally, for once in my life health services become affordable! I thought all my worries would be solved… But sadly, my experience with the ACA hasn't been all that good. I couldn´t buy insurance before the deadline, so I´m forced to pay a high penalty. And I am still uninsured!

Appendix B

Tables showing results of hypothesis 3 testing

Table 4. Repeated Logit Model of Article Selection by Evidence Type, Selective Exposure among Issue Publics (Attitude Importance)

	Climate Change		Health Care	
	(*N* = 321)		(*N* = 220)	
	B	Exp(B)	B	Exp(B)
Intercept	**-1.50(.16)*** **	.22	**-2.28(.34)*** **	.10
Gender	-.09(.06)	.92	**-.20(.07)***	.86
Age	**-.01(.0)***	.99	.0(.0)	1.0
Education	**.05(.03)***	1.05	**.11(.03)*** **	1.12
Numerical	.15(.08)	1.16	.07(.10)	1.08
Pro-attitudinal	.03(.08)	1.03	.08(.10)	1.09
Balanced	**.68(.19)*** **	1.98	**.87(.18)*** **	2.38
High importance	.29(.16)	1.33	.17(.17)	1.19
Numerical X pro	-.06(.11)	.95	.17(.13)	1.18
Numerical X balanced	.24(.23)	1.27	.37(.23)	1.46
Numerical X high importance	-.14(.13)	.87	-.18(.12)	.84
Pro X high importance	-.001(.12)	.99	.04(.13)	1.04
Narrative X balanced X low importance	.15(.20)	1.16	.03(.19)	1.03
Narrative X counter X high importance	-.17(.17)	.84	-.05(.17)	.95
Numerical X balanced X high importance	**.31(.14)***	1.36	-.13(.14)	.88

Note. *** p< .001, ** p< .01, * p< .05. The reference categories for the main effects were: narrative evidence, counter-attitudinal information, low attitude importance. For the two-way interaction evidence type X information type, results show the coefficients for numerical X pro and numerical X balanced. All other combinations served as reference categories. For the two-way interaction evidence type X attitude importance, results show the coefficient for numerical X high importance. All other combinations were the reference categories. For the two-interaction information type X attitude importance, results show the coefficient for pro-attitudinal X high importance. All other combinations served as reference categories. Finally, for the three-way interactions evidence type X information type X attitude importance, results show the coefficients for narrative X balanced X low importance, narrative X counter-attitudinal X high importance, and numerical X balanced X high importance. All other combinations served as reference categories.

Table 5. Repeated Logit Model of Article Selection by Evidence Type, Selective Exposure among Issue Publics (Attitude Strength)

	Climate Change		**Health Care**	
	(*N* = 321)		**(*N* = 220)**	
	B	**Exp(B)**	**B**	**Exp(B)**
Intercept	**-1.43(.22)*** **	.24	**-2.01(.19)*** **	.13
Gender	-.08(.06)	.93	**-.15(.07)***	.86
Age	**-.01(.0)***	.99	.0(.0)	1.0
Education	.05(.03)	1.05	**.11(.03)*** **	1.12
Numerical	.16(.09)	1.17	.09(.10)	1.10
Pro-attitudinal	.05(.08)	1.06	.14(.10)	1.14
Balanced	**.90(.19)*** **	2.46	**1.03(.18)*** **	2.80
High strength	.08(.16)	1.08	.09(.16)	1.09
Numerical X pro	-.16(.12)	.85	.04(.14)	1.04
Numerical X balanced	-.01(.23)	.99	.06(.23)	1.06
Numerical X high strength	.08(.13)	1.08	-.019.12)	.99
Pro X high strength	.15(.12)	1.16	.18(.12)	1.19
Narrative X balanced X low strength	-.08(.20)	.92	-.06(.19)	.94
Narrative X counter X high strength	.05(.17)	1.05	.17(.17)	1.18
Numerical X balanced X high strength	**.32(.14)***	1.37	.13(.14)	1.13

Note. *** p< .001, ** p< .01, * p< .05

The reference categories for the main effects were: narrative evidence, counter-attitudinal information, low attitude strength. For the two-way interaction evidence type X information type, results show the coefficients for numerical X pro and numerical X balanced. All other combinations served as reference categories. For the two-way interaction evidence type X attitude strength, results show the coefficient for numerical X high strength. All other combinations were the reference categories. For the two-interaction information type X attitude strength, results show the coefficient for pro-attitudinal X high strength. All other combinations served as reference categories. Finally, for the three-way interactions evidence type X information type X attitude strength, results show the coefficients for narrative X balanced X low strength, narrative X counter-attitudinal X high strength, and numerical X balanced X high strength. All other combinations served as reference categories.

Appendix C

Results of information selection about health care across explicit and accountability manipulations.

Predicted probabilities of selecting information type about health care by accountability manipulations (*N* = 324)

	Pro-Attitudinal			Balanced			Counter-Attitudinal		
	Margin	**z**	**90% C.I.**	**Margin**	**z**	**90% C.I.**	**Margin**	**z**	**90% C.I.**
Control	.27(.07)***	6.00	.14 - .40	.61(.07)***	8.36	.47 - .76	.11(.05)*	2.38	.02 - .21
Defensive Explicit	.52(.07)***	7.36	.38 - .66	.44(.07)***	6.27	.30 - .57	.04(.03)	1.44	.01 - .09
Accuracy Explicit	.19(.06)***	3.35	.08 - .31	.78(.06)***	12.9	.66 - .90	.02(.02)	1.01	.02 - .06
Defensive incentive	.40(.07)***	5.48	.26 - .54	.53(.07)***	7.17	.39 - .68	.07(.04)	1.79	.0 - .14
Accuracy incentive	.19(.06)***	3.34	.08 - .30	.70(.07)***	10.53	.57 - .83	.10(.05)*	2.37	.02 - .19
Defensive no-incentive	.30(.07)***	4.49	.17 - .43	.63(.07)***	8.86	.49 - .76	.06(.04)	1.79	.0 - .14
Accuracy no-incentive	.34(.07)***	4.95	.21 - .48	.55(.07)***	7.40	.40 - .69	.11(.05)*	2.37	.02 - .20

Note. *** p< .001, ** p< .01, * p< .05. Entries on the left column are predicted probabilities of selecting an information type, with the standard errors in parenthesis. P values indicate whether predicted probabilities are significantly different from zero.

Appendix D

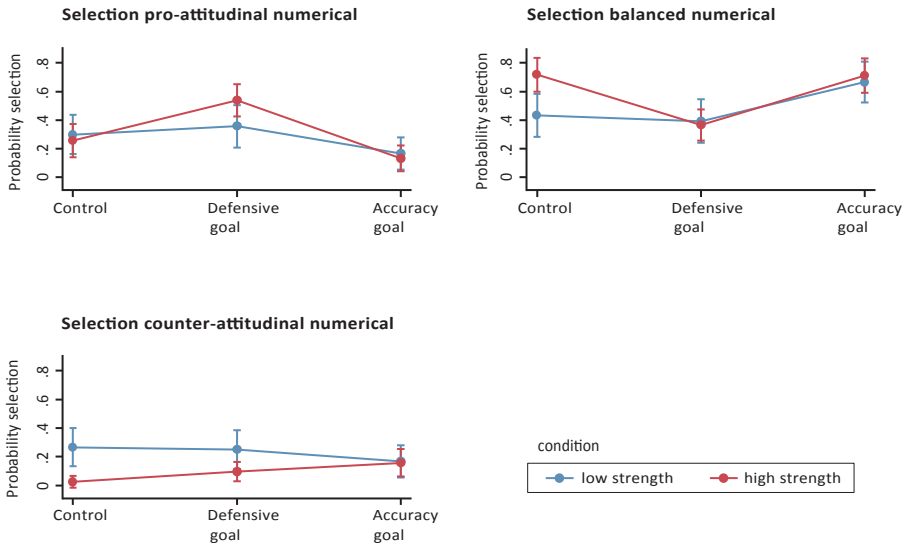
Pretest results of stimulus material

On a scale from 1 to 5, participants rated headlines and texts about the extent they contained counter-issue arguments (values of 1 and 2), balanced arguments (value of 3), or pro-issue arguments (values of 4 and 5). The ANOVA results were significant for climate change headlines, $F_{(6, 704)} = 1126.80$, $p < .001$ and texts, $F_{(6, 704)} = 2114.40$, $p < .001$. Pro-issue headlines and texts were rated more as having supporting arguments, compared to balanced and counter-issue messages (all $p < .001$). Similarly, counter-issue headlines and texts were perceived more as having opposing arguments, and balanced headlines (all $p < .001$), and texts were perceived more as containing both pro- and counter-issue arguments (all $p < .001$). Also, the ANOVA results were significant for health care headlines, $F_{(6, 704)} = 1586.45$, $p < .001$, and texts, $F_{(6, 704)} = 2111.45$, $p < .001$. Pro-issue headlines and texts were rated more as having supporting arguments, compared to balanced and counter-issue messages (all $p < .001$). Counter-issue headlines and texts were perceived more as having opposing arguments, and balanced headlines (all $p < .001$), and texts were perceived more as containing both pro- and counter-issue arguments (all $p < .001$). All texts were perceived equally understandable (all $p > .2$), convincing (all $p > .2$), coherent (all $p > .2$), interesting (all $p > .2$), and believable (all $p > .2$).

Appendix E

Results of hypothesis 4 and research questions 1 and 2 of motivated selection, using a single index of attitude strength (Study 2)

Figure 3. Predicted probabilities of selecting information type by motivation and attitude strength as a single index (Study 2) (*N* = 258)



Note. The three graphs show predicted probabilities of selecting pro-attitudinal, balanced and counter-attitudinal numerical content by motivated reasoning manipulations and attitude strength. Confidence intervals set at 90%.

A

Appendix F

Example of Messages by Types of Arguments

	Climate change	Refugees
Pro-issue	Climate change is a serious threat for American food security. Many scientists believe global average temperatures have increased by over 1.4°F over the last century. This is bound to have serious consequences for agriculture. These include decreases in stream flow in river basins, which would cost nearly $200 million annually because of lack of sufficient water for irrigation. Moreover, these impacts of climate change on agricultural regions may cause yield decreases of 30% by the end of the century.	Americans should not worry about giving asylum to Syrian refugees because the fear that terrorists could infiltrate is misguided. The 21-step screening process for Syrians takes up to 24 months, and is far more rigid than the immigration process is for other refugees. Since 1980, the U.S. has invited millions of refugees, and since 2011, over 2034 Syrian refugees have been admitted. Until now, zero of these refugees have been arrested or removed on terrorism charges.
Con-issue	The U.S. plan to mitigate carbon emissions will be costly for the American economy. For example, it will significantly affect the production of coal in the United States. With enough coal existing in the country to provide electricity for 500 years, coal is bound to be an important energy resource for Americans long into the future. However, the Plan´s war on coal threatens existing coal plants that generate 40% of America´s affordable, reliable energy.	America should not welcome Syrian refugees as they pose a serious threat to national security. About 77% of Syrian refugees are men of military age. With the U.S. government planning to accept up to 250 000 refugees coming from Syria, the federal government will not be able to conduct thorough background checks. This will make it easier for ISIS to infiltrate terrorists by coaching them how to pass the screening process.
Balanced	The U.S. plan to mitigate carbon emissions has pros and cons. On the pro side, promoting energy efficiency would save American households an average of $900 annually by 2030 in electricity costs, while businesses would save $126 billion annually. On the downside, in order to garner those savings, the nation will need to make up-front investments of up to 1.3% of the GDP from 2012 to 2030. This means that Americans will have to pay 20% more for electricity.	Some reject welcoming Syrian refugees into America, believing the threat of terrorism will increase. However, others disagree. Those against admitting refugees argue that 60% of terrorism experts believe that at least one terrorist will infiltrate as a refugee, and successfully carry out an attack on the country. However, refugee supporters claim that refugees coming to the U.S. are actually victims of terrorism, which include 50% children, and 30% above the age of 65.

A

English summary

ES

Scholars, political observers, and media pundits have worried that citizens prefer mostly pro-attitudinal information about politics and public affairs, which in turn may influence the public to make uninformed decisions, develop extreme political opinions, and be less tolerant towards opposing perspectives. Although the current information environment offers citizens an unprecedented opportunity to see mostly pro-attitudinal information, the debate about the prevalence and consequences of selective exposure in a high-choice media environment is largely inconclusive. Moreover, the majority of the scholarship has focused on studying the selection and effects of one-sided political content (i.e., pro- or counter-attitudinal), and has paid little attention to balanced content, even though it is available in the media environment and consumed by citizens.

This dissertation shifts this dominant attention from one-sided information towards balanced exposure, and contributes to the selective exposure literature by studying 1) whether the selection of balanced, in addition to pro- and counter-attitudinal information depends on whether an individual is personally invested and has strong opinions about a certain issue (issue public membership), and on the type of evidence for a message claim – numerical vs. narrative; 2) how psychological factors, such as individual motivation and attributes of issue attitudes, influence balanced information selection; and 3) how balanced exposure affects information processing and attitude polarization. These questions were answered using a series of online experiments. Information selection was studied using self-selection protocols, in which participants select the stimuli from a limited set of choices. The consequences of balanced exposure were studied using randomized exposure to fixed treatment stimuli. Collectively, the experiments presented in the dissertation uncover the psychological underpinnings of balanced exposure and its attitudinal outcomes about contested and highly relevant socio-political issues, such as climate change, health care reform and refugees.

Results of the dissertation show that:

1. The prevalence of selective exposure is overestimated

Selective exposure is not a prevalent phenomenon among citizens. Most individuals do not want messages that only contain pro-attitudinal information, but instead, they prefer balanced messages that present arguments confirming their opinions, alongside arguments that run counter to their priors.

2. Most citizens prefer balanced political content over one-sided content

Exposure to balanced media content is the preferred choice for different groups of citizens. This includes people who have strong opinions and care about climate change and health

care (issue publics), as well as those less invested in those issues. Also, balanced content is selected by individuals motivated to reach accurate conclusions (accuracy motivation), as well as those seeking to defend their prior opinions (defensive motivation).

3. The type of evidence for a message claim also influences information selection

Although this dissertation studied mostly individual factors that drive balanced exposure, another conclusion is that the type of evidence for a message claim also shapes the type of political information that different citizens seek. Specifically, issue publics and average citizens prefer political messages which contain numerical over narrative evidence. In addition, the preferred form of political information for issue publics is that which uses numbers and statistics to argue two sides of a story.

4. Balanced exposure reduces the influence of motivated reasoning on information processing

Exposure to balanced content plays a crucial role in shaping how people process political information. Balanced exposure encourages more unbiased processing, relative to one-sided messages. More importantly, we learn that whether individuals are motivated to reinforce their opinions or to reach accurate conclusions, they interpret balanced content in a similar unbiased manner. Specifically, when exposed to balanced messages, defensive and accuracy motivated citizens are less likely to accept pro-attitudinal arguments and to refute counter-attitudinal ones, compared to when they are confronted with one-sided messages.

5. Balanced exposure encourages unbiased thinking but does not reduce political polarization

The availability, selection and unbiased processing of balanced political information is not enough to promote moderate political views on contested socio-political issues. Results refute the hope by some that exposure to balanced or counter-attitudinal information can depolarize political opinions. On the bright side, exposure to balanced political content reduces the risk that people's attitudes become more extreme.

This dissertation has important implications for political communications scholars, journalists and citizens. First, most citizens prefer balanced information about politics and public affairs. In addition, some citizens seek balanced content that is backed up by factual and truthful evidence. This in itself is a good reminder for media institutions and journalists advocating the notion that political media coverage should be balanced, objective and fair. Second, this dissertation suggests that the media environment can encourage more

unbiased thinking by offering balanced and neutral reporting. If journalists cover political issues in a balanced manner, different citizens would attend these messages, which in turn could encourage them to interpret contested issues more open-mindedly. Third, even though we cannot hope that coming in contact with balanced information is a solution to correct attitude polarization, the availability and exposure to such an information environment may benefit democracy in other ways. To explore these possibilities, future scholarship on selective exposure should shift its traditional focus on studying mostly one-sided political messages, and instead, extend our understanding of the causes and consequences of balanced information exposure.

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Nederlandse samenvatting

NS

Academici, politieke waarnemers en media-experts zijn bezorgd dat burgers meestal een voorkeur hebben voor pro-attitudinale informatie over politieke en publieke zaken. Deze voorkeur kan het publiek beïnvloeden om niet-geïnformeerde beslissingen te nemen, om extreme politieke opvattingen te ontwikkelen, en om minder tolerant tegenover tegengestelde perspectieven te zijn. Alhoewel de huidige informatie-omgeving burgers een ongekende kans biedt om voornamelijk pro-attitudinale informatie te consumeren, is de discussie over de prevalentie en de gevolgen van selectieve blootstelling in een hoge-keuze mediaomgeving grotendeels inconsistent . Bovendien heeft de meerderheid van voorgaand onderzoek zich gericht op het bestuderen van de selectie en de gevolgen van eenzijdige politieke inhoud (dat wil zeggen pro- of contra-attitude), en is er weinig aandacht besteed aan een evenwichtige inhoud, ook al is dergelijke inhoud aanwezig in de media omgeving.

Dit proefschrift verschuift deze dominante aandacht voor eenzijdige informatie richting gebalanceerde blootstelling, en draagt hiermee bij aan de selectieve blootstellingliteratuur door het bestuderen van 1) of de selectie van een evenwichtige, in aanvulling op de pro- en contra-attitudinale informatie afhankelijk is van of een individu persoonlijk betrokken is en een uitgesproken mening heeft over een bepaald onderwerp (lid van een issue public) en het soort bewijs voor een bericht claim - numerieke vs. verhaal; 2) hoe psychologische factoren, zoals individuele motivatie en kenmerken van attitudes ten opzichte van een onderwerp evenwichtige selectie van informatie beïnvloeden; en 3) hoe evenwichtige blootstelling t informatieverwerking en attitude polarisatie beïnvloed. Deze vragen werden beantwoord met behulp van een serie online experimenten. Informatie selectie werd bestudeerd met behulp van zelfselectie protocollen, waarin de deelnemers stimuli selecteren uit een beperkt aantal keuzes. De gevolgen van evenwichtige blootstelling werden bestudeerd met behulp van gerandomiseerde blootstelling aan vaste stimuli. Tezamen, onderzoeken de experimenten in dit proefschrift de psychologische wortels van evenwichtige blootstelling en de uitkomsten hiervan ten opzichte van omstreden en zeer relevante politieke kwesties, zoals klimaatverandering, hervorming van de gezondheidszorg en vluchtelingen.

De resultaten van het proefschrift tonen aan dat:

1. De dominantie van selectieve blootstelling wordt overschat

Selectieve blootstelling is niet een gangbaar fenomeen onder burgers. De meeste mensen willen geen berichten die enkel n pro-attitudinale informatie bevatten, en zien in plaats daarvan liever evenwichtige berichten waarin argumenten die hun mening bevestigen worden gepresenteerd, naast de argumenten die tegen hun bestaande mening ingaan.

2. De meeste burgers geven de voorkeur aan evenwichtige politieke inhoud ten opzichte van eenzijdig inhoud

Blootstelling aan gebalanceerde media-inhoud heeft de voorkeur onder verschillende groepen burgers. Dit geldt ook voor mensen die een uitgesproken mening hebben over de klimaatverandering en de gezondheidszorg (*issue publics*), evenals voor mensen die minder betrokken zijn bij deze kwesties. Ook wordt een evenwichtige inhoud geselecteerd door individuen die gemotiveerd zijn om tot juiste conclusies te komen (nauwkeurigheid motivatie), evenals door diegenen die hun bestaande meningen willen verdedigen (defensieve motivatie).

3. Het soort bewijs voor een standpunt in een bericht beïnvloedt ook de informatieselectie

Hoewel dit proefschrift voornamelijk individuele factoren die aan de grondslag van uitgebalanceerde blootstelling liggen bestudeerde, kan er ook een andere conclusie getrokken worden: het soort bewijs dat gezocht wordt voor een standpunt, vormt ook het soort politieke informatie die verschillende burgers zoeken. Specifieker, *issue publics* en gewone burgers geven de voorkeur aan politieke boodschappen die numeriek in plaats van narratief bewijs bevatten. Daarnaast prefereren *issue publics* politieke informatie die getallen en statistieken gebruikt om twee kanten van een verhaal te belichten.

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4. Evenwichtige blootstelling vermindert de invloed van gemotiveerde beredenering op informatieverwerking

Blootstelling aan evenwichtige inhoud speelt een cruciale rol voor de manier waarop mensen politieke informatie te verwerken. Evenwichtige blootstelling moedigt onpartijdige verwerking aan, ten opzichte van eenzijdige berichten. Wat nog belangrijker is, het geeft ons inzichten in de vraag of als mensen gemotiveerd zijn om hun mening te versterken of om nauwkeurige conclusies te komen, ze dan ook evenwichtige inhoud in een onpartijdige manier te interpreteren. In het bijzonder, wanneer iemand wordt blootgesteld aan evenwichtige berichten, dan zijn defensief en nauwkeurigheid gemotiveerde burgers minder geneigd om pro-attitudinale argumenten te accepteren en tegenstelde argumenten te weerleggen , in vergelijking met wanneer ze worden geconfronteerd met eenzijdige berichten.

5. Evenwichtige blootstelling stimuleert onpartijdig denken, maar is niet in staat om politieke polarisatie verminderen

De beschikbaarheid, selectie en onpartijdige verwerking van evenwichtige politieke informatie is niet voldoende om gematigde politieke standpunten over omstreden sociaal-politieke kwesties te bevorderen. Deze resultaten weerleggen de hoop dat de

blootstelling aan gebalanceerde of contra-attitudinale informatie politieke opvattingen kan depolariseren. Aan de andere kant, de blootstelling aan evenwichtige politieke inhoud vermindert het risico dat de houding van mensen extremer wordt.

Dit proefschrift heeft belangrijke gevolgen voor politieke communicatie wetenschappers, journalisten en burgers. Ten eerste, de meeste burgers geven de voorkeur aan evenwichtige informatie over politiek en publieke zaken. Bovendien zoeken sommige burgers naar evenwichtige inhoud die wordt ondersteund door feitelijke en waarheidsgetrouw bewijs. Dit is op zich een goede uitkomst voor de media-instellingen en journalisten die pleiten voor het idee dat politieke berichtgeving in de media moet worden afgewogen, en objectief en eerlijk moet zijn. Ten tweede, dit proefschrift suggereert dat de media omgeving meer onpartijdig denken kan stimuleren door het aanbieden van een evenwichtige en neutrale rapportage. Als journalisten politieke kwesties op een evenwichtige manier verslaan, zouden verschillende burgers aandacht aan deze berichten schenken, wat hen zou kunnen aanmoedigen om omstreden kwesties meer onbevangen te interpreteren. Ten derde, hoewel we er niet vanuit kunnen gaan dat blootstelling aan evenwichtige informatie een oplossing is voor attitude polarisatie, de beschikbaarheid en de blootstelling aan dergelijke informatie-omgeving kunnen de democratie op andere manieren bevorderen. Om deze mogelijkheden te verkennen, moet toekomstig onderzoek over selectieve blootstelling zijn traditionele focus verleggen van het bestuderen van veelal eenzijdige politieke boodschappen naar het uitbreiden van inzichten over de oorzaken en gevolgen van evenwichtige informatie blootstelling.

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AA

Chapter 2: Selective Exposure to Balanced Content and Evidence Type: The Case of Issue and Non-Issue Publics about Climate Change and Health Care
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Chapter 3: Desired vs. Correct Conclusions: The Motivated Selection of Balanced Content
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Chapter 4: I Stick to My Guns: Motivated Reasoning and Biased Processing of Balanced Political Information
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A

"Little do you know your own blessedness; for to travel hopefully is a better thing than to arrive, and the true success is to labour." (Robert Louis Stevenson)

Before I began writing these words, I reflected on what it meant for me to complete my journey as a PhD candidate. But, as I was about to start writing, I experienced a flashback of seemingly infinite memories. A movie played in my mind that spanned not only the last three years creating my dissertation, but also took me way back to what I can remember as the beginning of my journey. After the movie ended, I thought to myself: what a journey it has been! Perhaps, if I ever become a good writer, I will write some sort of fiction book someday. Until then I will keep these memories to myself... dear memories that I share complicitly with the wonderful people I wish to acknowledge here.

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