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TITLE: *Candidate vulnerability and exposure to counter-attitudinal information: Evidence from two U.S. Presidential elections*

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ABSTRACT:

Politically motivated selective exposure has traditionally been understood through the lens of long-standing attitudes and beliefs, but the role of the environment in shaping information exposure practices merits further consideration. Citizens might respond to the political environment in their information-seeking behavior for numerous reasons. Citizens who believe their position is politically vulnerable have specific cognitive and affective needs that may make them uniquely attuned to counter-attitudinal information. In the context of a presidential election, this means that as the defeat of a supported candidate appears more likely, attention to counter-attitudinal content will increase. Data collected in the 2008 and 2012 U.S. Presidential elections support this prediction, though this relationship was observed primarily among supporters of the Republican candidate in both elections.

KEYWORDS: selective exposure, anxiety, uncertainty, elections, deliberative democracy

Candidate vulnerability and exposure to counter-attitudinal information: Evidence from two U.S. Presidential elections

Political information-seeking behavior does not take place in a vacuum. While stable individual characteristics such as partisanship and ideological strength play an important role in dictating political information preferences, short-term factors also have the potential to make certain types of information-seeking behavior more or less likely. One such factor involves the broader political environment within which individuals exist. Citizens perceive shifts in the external environment (e.g., policies change, elections are decided), and these perceptions influence their psychological and emotional states, which in turn shape their engagement with political information. Indeed, multiple studies have shown convincingly that environmental factors have the power to bring about uncertainty (MacKuen, Wolak, Keele, & Marcus, 2010), anxiety (Valentino, Banks, Hutchings, & Davis, 2009) or threat (Magee & Wojdynski, 2012), thereby altering the types of information sources individuals seek out.

Here, we consider a real-world instantiation of the relationship between environmental factors and political information-seeking behaviors, focusing specifically on perceptions of vulnerability. Citizens feel more vulnerable the more they expect their preferred candidate to lose an election or their preferred position to be rejected in a policy debate. We argue that feelings of vulnerability will elicit psychological reactions with significant implications for how citizens consume political information, ultimately making counter-attitudinal information more valuable and attractive. Taken together, this suggests that vulnerability-inducing characteristics of the political environment can promote counter-attitudinal exposure. To test this claim, we observe the extent to which assessments of the two major party candidates' electoral chances in the presidential campaigns of 2008 and 2012 were associated with citizens' willingness to use counter-attitudinal sources.

Focusing on the extent to which political information-seeking, especially seeking counter-attitudinal sources, is dictated at least in part by citizens' reactions to the broader political environment is important for two key reasons. Relatively few studies ask how citizens' information preferences reflect considerations related to political context; instead, the literature on politically motivated selective exposure literature has tended to center on the prevalence of partisan fragmentation (e.g., Bennett & Iyengar, 2008; Nie et al. 2012; Sunstein, 2001, but see MacKuen, Wolak, Keele, & Marcus, 2010; Valentino et al., 2009; Knobloch-Westerwick & Kleinman, 2012). As a result, little attention has been paid to questions of when and under which circumstances partisan selectivity is at its highest (or lowest). Our approach allows for greater understanding how external factors might promote or attenuate selectivity.

From a more normative perspective, engagement with counter-attitudinal information is a cornerstone of deliberative democracy, playing a critical role in fostering tolerance of opposing views (Delli Carpini et al., 2004; Mendelberg, 2002; Mutz, 2006); as such, understanding the extent to which such engagement is taking place – as well as how certain factors might influence citizens' willingness to consume counter-attitudinal sources – is a worthwhile pursuit in itself. In addition, despite a number of recent studies suggesting that contact with counter-attitudinal information is not as rare as has been previously suggested (e.g., Bakshy, Messing & Adamic, 2015; Garrett, Carnahan & Lynch, 2013; Gentzkow & Shapiro, 2010; Webster & Ksiazek, 2012), little is known about which factors promote greater engagement with counter-attitudinal sources.

Using data collected from demographically diverse national surveys during both the 2008 and 2012 U.S. Presidential elections, this study investigates how perceptions of vulnerability – operationalized using respondents' subjective assessments of candidates' chances of losing the election – might affect voters' willingness to use counter-attitudinal information. Controlling for

more stable individual characteristics, we find that citizens exhibit different patterns of information-seeking behavior based on the extent to which their preferred candidate is perceived to be vulnerable to losing the election – a relationship largely observed amongst supporters of the more conservative candidate in each election cycle – offering additional evidence that selective engagement with the political information environment is a responsive process determined by more than just individual-level partisan congruence.

Responding to the Environment

While dissonance theory remains the preeminent explanation of selective exposure, early political communication research suggested that dissonance might not be the most important determinant of information-seeking behaviors. Sears (1965) and Freedman (1965) were vocal critics, arguing that some situations promote exposure to counter-attitudinal sources relative to pro-attitudinal sources. In the wake of these critiques, scholars began to examine how information-seeking behavior can be influenced by informational needs designed to serve utilitarian purposes (see Hastall, 2009 for a review). Specifically, Atkin (1973) argued that the need for information emerged from the seeker's desire to reduce uncertainty. In Atkin's approach, uncertainty reduction goals could be evaluative – reducing uncertainty in the formulation of an opinion – or decisional – reducing uncertainty in making the most appropriate decision. In either case, counter-attitudinal information might not be avoided – it might even be preferred – by the information consumer if it serves to reduce uncertainty.

Knobloch-Westerwick and colleagues (e.g, Knobloch-Westerwick 2008; Knobloch-Westerwick & Kleinman, 2012) extend Atkins (1973) work, focusing specifically on the role of threat in dictating utility. She argued that the influence of utilitarian aims in determining information-seeking behaviors varies according to four threat characteristics; *magnitude* (how

great are the costs or benefits of an event occurring), *likelihood* (how likely is the event to occur), *immediacy* (how close the events are to taking place), and *efficacy* (ability of the information seeker to influence the events in question). Her experimental work demonstrates that increases in each of these characteristics can make it more likely that the information seeker will be influenced by utilitarian objectives when seeking information.

Across a number of studies, the utilitarian approach has received significant support. Hart and colleagues' (2009) meta-analysis showed that selective exposure is powerfully influenced by utility, especially as it pertains to citizens' willingness to consume counter-attitudinal content; their analysis demonstrate that exposure to the other side (an uncongeniality bias, in their review) is at its highest when such information was perceived as valuable for accomplishing a current goal or objective. More recent experimental work has further affirmed this conclusion, having shown that various environmental factors such as expecting to defend one's views (Valentino et al., 2009), entering an uncertain or unfamiliar political context (MacKuen, Wolak, Keele, & Marcus, 2010) or experiencing threatening or anxiety-inducing circumstances (Magee & Wojdynski, 2012) have the potential to make information seekers attribute greater value to – and thus more likely to seek out – counter-attitudinal information. In short, information consumption is not solely dictated by assessments of whether a source is consistent or inconsistent with one's existing views; it is responsive to short-term needs and goals.

This study extends existing literature in two important ways. First, it suggests that the effect of the environment on information-seeking behavior is evident beyond the laboratory. Few studies have examined whether these experimentally observed processes shape citizens' engagement with political information environment in the real-world. Even among the most well executed experimental studies, conclusions are based on participants' actions during a

constrained information search task, thus limiting our ability to determine whether these processes play out in a similar way in citizens' everyday information-seeking behaviors. This is an important open question given the value of exposure to alternative perspectives in promoting high-quality democratic citizenship (see Mutz 2006).

Second, in contrast to utility-focused studies that rely on manipulations unrelated to the information-seeking behavior being observed (i.e. utilizing a mortality salience treatment prior to an information search; Magee & Wojdynski, 2012), this study employs a more naturalistic approach by directly observing how citizens' perceptions of the political environment are associated with their political information-seeking behavior. In doing so, this approach yields insight into how the political environment itself might shape information-seeking behavior.

Vulnerability in Elections

Presidential campaigns in the United States offer a unique opportunity to examine the relationship between environmental considerations and information-seeking strategies in the real world. Citizens are uniquely driven by utility considerations in the months and weeks leading up to Election Day. Races for the Presidency in the United States offer the possibility of large-scale changes to the distribution of power and political direction of government (high magnitude) and capture the public's collective attention with their often-dramatic plot twists as the campaign sprints toward its conclusion (high immediacy). Furthermore, the outcome is not decided on some external playing field but is instead dictated by the voice of the electorate (high efficacy). These three characteristics heighten the importance of utility in shaping individual's information seeking behaviors (Knobloch-Westerwick 2008).

Importantly, perceptions of the likelihood of a vulnerability-inducing event—Knobloch-Westerwick's (2008) fourth characteristic promoting the influence of utility—exhibit high

variability across the citizenry during an election cycle. Presidential campaigns in the United States garner immense media coverage, which includes near-constant speculation and regular disagreement as to which candidate is better positioned to win (e.g., Silver, 2012). While perceptions of candidate performance are influenced by factors independent of the electoral context (e.g., partisanship), studies have demonstrated that voters are indeed responsive to cues provided during the campaign such as polling data when assessing the likely outcome of an election (e.g., Ansolabehere & Iyengar, 1994). As a result, voters ascribe widely differing probabilities to their preferred candidate losing an election, which we refer to as *preferred candidate vulnerability*. We argue that these perceptions of the electoral race shape political information-seeking behavior. Specifically, we assert that preferred candidate vulnerability should promote a greater willingness in citizens to use counter-attitudinal information sources.

We arrive at this expectation for two distinct reasons. The first involves the value of such information in reducing uncertainty. According to Atkin (1973), reducing uncertainty is a primary objective of information seekers, whether to improve upon decision making or judgment formation. We extend the logic of uncertainty reduction to account for unfamiliarity, arguing that information seekers might also aim to reduce uncertainty in terms of being able to better understand a novel political circumstance. As addressed above, presidential elections have ramifications for the nature and direction of governance, and campaigns are centered precisely on what each candidate would do once they assume office. For voters who expect their preferred candidate to win the election, cross-cutting information has little value. What motivation is there to learn about an out-party candidate with little chance of winning? However, if the opposed candidate is expected to win the election, counter-attitudinal information is far more valuable. It may afford the voter a sense of control, offer insights into the opponent's candidacy (perhaps to

critique it in discussions with others), provide a look into what the future administration might look like, etc. The more vulnerable the preferred candidate is to electoral defeat, the more important this type of information may be, and the more likely the citizen will be to seek out counter-attitudinal sources.

There is some evidence for this mechanism in experimental research. Knobloch-Westerwick and Kleinman (2012) found that Republicans were more likely than Democrats to seek out counter-attitudinal information sources during the 2008 presidential election. The authors attribute this pattern to the political environment and information utility, arguing that messages coming from the party anticipated to win will have more value because they offer greater insight into the incoming governing regime; however, the authors base their conclusion on assumptions about people's understanding of the political environment. That is, they presume that party differences in participants' news selection was driven by a widely anticipated Obama victory; they did not assess participants' perceptions directly. We strongly agree with the logic of Knobloch-Westerwick and Kleinman interpretation, and seek to further validate it here. Our approach offers a complementary test by directly accounting for respondents' subjective perceptions of their preferred candidate's electoral prospects.

A second reason that perceived candidate vulnerability is expected to influence citizens' use of counter-attitudinal information is its close association with anxiety, an emotional state known to influence political information searches. Unfavorable political outcomes result in both psychological and physiological responses indicative of heightened states of anxiety. A study conducted in 2008 found that supporters of John McCain, the Republican nominee for president, had higher levels of cortisol – a hormone associated with stress and anxiety – in the days following Democrat Barack Obama's election than they did in the days preceding Election Day

(Stanton et al., 2010). Although that study focused on post-outcome anxiety levels, we suspect that anxiety will increase as an unfavorable election outcome draws near. Almost two-thirds of U.S. citizens (62 - 65 percent) of even modest partisans expressed anxiety toward opposed candidates in the American National Election Study between 1980 and 2004 (Ladd & Lenz, 2008). Faced with the prospect that one of these candidates might assume a position of power, we would expect that citizens would see their anxiety increase.

There are numerous reasons to expect anxiety to shape the search for political information. In their influential theory of affective intelligence, Marcus and MacKuen (1993) argued that anxiety promotes surveillance in citizens' engagement with the political environment, making them more active, open-minded information seekers in the process. Furthermore, Valentino et al. (2009) found that anxiety facilitates a greater willingness to use counter-attitudinal sources, attributing this relationship to the idea that exposure to the other side might serve as a mechanism to deal with the state of anxiety. Perhaps simpler than either of these explanations is that individuals who are faced with the prospect of a president who causes them a great deal of anxiety might be particularly motivated to advocate against his election, thereby using counter-attitudinal information as a sort of opposition research. Regardless of which of these mechanisms is in play, the expectation is the same: higher levels of anxiety should promote the use of counter-attitudinal information sources.

> *H: The more vulnerable to electoral defeat citizens perceive their preferred candidate to be, the more likely they are to seek out counter-attitudinal information.*

Methods

We test this prediction using a pair of large surveys: the 2008 National Annenberg Election Survey (NAES) from the Annenberg Public Policy Center and an original election year

panel study in 2012 conducted by GfK (detailed sample statistics for both surveys are available in the supporting information; http://onlinelibrary.wiley.con/doi/10.1111/hcre.????). These two data sources allow for an investigation of counter-attitudinal information use in two very different electoral contexts, helping to establish the generalizability of our findings. Furthermore, these studies use markedly different approaches to measuring political media exposure (described below). While these measurement differences make direct comparison across elections difficult, evidence of a consistent relationship across election cycles despite differing operationalizations should inspire confidence that the observed association reflects variation in the underlying concept, counter-attitudinal exposure, and not a specific measurement strategy.

In its telephone version, the NAES utilized a rolling cross-sectional survey that was in the field from December 2007 until Election Day 2008. However, given the ever-evolving nature of the questionnaire, data availability limited our analyses to focus on respondents who identified as either conservative or liberal and completed the survey during the general election campaign time period from June until the end of August 2008 (N=3,078). This time period remains of particular interest in that it marked the conclusion of the Democratic nominating process and the emergence of the two major-party candidates into national awareness. In terms of demographics, the 2008 NAES sample during this time period achieved diversity across a range of variables such as age (Median age = 54), gender (57.4% female), education (94.4% high school graduates; 41.2% bachelor's degree or higher), and race (85.6% white or white Hispanic, 7.8% black). When compared to census data via the 2008 American Community Survey (ACS), the sample appears older (2008 ACS data indicate that 11.1% of the population is aged 55-64, while 23.3% of the NAES sample were in this age group), more educated (2008 ACS: 85.0% high school graduate or higher) and overrepresents both females (2008 ACS: 51.3.7% females) and whites

(2008 ACS: 75.0% white).[1]

The NAES did not administer an election year survey in 2012, but the 2012 GfK Knowledge Panel is an appropriate complementary test given the similar sample construction to the 2008 NAES. The 2012 GfK made use of a sample of U.S. adults drawn from a panel of respondents designed to be representative of the U.S. population and recruited through random-digit dial and address-based sampling frames. Panelists were invited via email to participate in the study, and data were collected at a similar point in the campaign cycle as in the 2008 NAES (July/August). Consistent with the NAES data, analyses were restricted to respondents who identified as either conservative or liberal (*n*=531). The 2012 sample was also very diverse, but with similar differences from the general population as the 2008 NAES: somewhat older (25.6% of the 2012 panel sample was aged 55-64, versus 12.3% in the 2012 ACS), more educated (92.4% high school graduate or above; 86.4% in the 2012 ACS), and predominantly white (78.2% white; 73.9% white in the 2012 ACS). Thus, while the differences between each of these sample and the general population should not be ignored, their comparability offer additional confidence in their appropriateness as comparison groups across both election cycles.

Outcome Variable: Counter-attitudinal News Use

Both the 2008 NAES and 2012 GfK surveys included a number of questions about respondents' political information-seeking behavior in the months prior to Election Day. While various measures of news use were included across multiple formats (e.g., television news, newspapers, political talk radio, etc.), the outcome variables for this study were created from items on Internet news use in light of several recent publications on selective exposure that claim selectivity to be at its highest online (e.g., Iyengar & Hahn, 2009; Nie et al. 2010). Furthermore, the number of individuals who use the Internet for news has risen dramatically over the past

several years; according to the Pew Research Center for the People and the Press (2012), nearly half of all citizens in the United States (47%) reported using the Internet as a main campaign news source, up from 21 percent in 2004. The combination of widespread use along with the ability of Internet users to dictate with greater control the type of news they receive makes online news arguably the most interesting medium to observe when investigating source preferences.

In the 2008 NAES, a measure of counter-attitudinal site use was created based on respondents' answers to two separate questions asking them to identify each of the political news sites they could recall using in the previous week (complete wording of all items used in this study is available in the supporting information, http://onlinelibrary.wiley.con/doi/10.1111/hcre.????). Responses to these items were recorded verbatim; when possible, these open-ended responses were coded according to classification procedures employed by other scholars in prior selective exposure studies (see Adamic & Glance, 2005; Gentzkow & Shapiro, 2010; Hargittai et al., 2008; Lawrence et al., 2010; Stroud, 2008).[2]

If the online source had not previously been classified as liberal, conservative, or neutral, two coders reviewed the site for explicit indications of an ideological slant and coded the source appropriately. Coders checked the "about us" sections to see whether the website explicitly described their partisan or ideological label. Some websites, like ESPN.com, are clearly non-political. These were coded as "other" and were excluded from all analyses. While the coding technique employed led to obvious conclusions regarding the ideological tenor of most sources, others required a more nuanced approach. For example, references to the NPR webpage were coded primarily as neutral unless more specific references were made to programs or personalities that has been identified by previous scholars as liberal, such as *The Diane Rehm Show* (a more extensive list of examples is provided in the supporting information,

http://onlinelibrary.wiley.con/doi/10.1111/hcre.????). Intercoder reliability was acceptable: estimates of Krippendorf's Alpha on the 1284 cases yielded a reliability estimate of .852 (see Hayes & Krippendorf, 2007).

After coding the sources, a measure of counter-attitudinal site use was created by matching individuals' self-identified ideological placement (liberal or conservative) with the number of sources that represented the opposite ideological perspective. For example, a conservative who visited the *Daily Kos* (a liberal blog) to view information about the 2008 campaign was given a "1" for counter-attitudinal site use. Since the majority of respondents who used counter-attitudinal sites only named one of these sites, a dummy variable was constructed to measure counter-attitudinal site use.[3]

The 2012 GfK survey took a complementary approach toward measuring respondents' online news-seeking habits during the 2012 campaign. Although still focusing on the sources used to obtain information about the campaign, questions on the 2012 survey asked respondents how frequently they visited various categories of news sources on a five-point scale (ranging from "never" to "every day or almost every day"). The survey included questions about their use of both mainstream and alternative online-only (e.g., blogs) news sources, representing three different ideological perspective (conservative, liberal or neutral). In each case, examples were provided to respondents so that they would be able to more easily identify the type of source for which the question was designed to measure. As with the 2008 NAES, responses to these items were merged with respondents' self-reported ideological leanings, creating an indicator of counter-attitudinal site use by observing respondents' frequency in using sources inconsistent with their ideological predispositions. Similar to the 2008 NAES, this item was dichotomized due to the observation that a large number of respondents reported never using counter-

attitudinal news sites across any of the waves of data collection.

Predictor Variable: Preferred Candidate Vulnerability

To assess the relationship between preferred candidate vulnerability and use of counter-attitudinal information, we used a series of items in both the 2008 NAES and 2012 GfK studies that asked respondents to provide the candidate for whom they intended to vote in the presidential race along with their perceived probability that each of the two major party candidates would win the election on a scale from 0-100. To create the preferred candidate vulnerability scale, we subtracted the perceived probability for the respondent's preferred candidate – as indicated by the vote intention measure – from 100. The result is a measure that taps into how likely respondents perceived their preferred candidate to lose the election, also ranging from 0 to 100. Thus, if respondents perceived their preferred candidate to have a 65 percent chance of winning the election, their value on the vulnerability scale would be 35 (2008: M = 33.61, SD = 19.11; 2012: M = 32.17, SD = 16.89). Not surprisingly, supporters of John McCain, the Republican nominee for U.S. President in 2008, felt that their candidate was more vulnerable to electoral defeat than supporters of the eventual winner, Democratic nominee Barack Obama (McCain supporters: M = 39.05, SD = 18.84; Obama supporters: M = 28.27, SD = 20.12). The 2012 U.S. presidential election was characterized by similar, though substantively smaller differences, as supporters of Republican nominee Mitt Romney felt that he was more vulnerable than supporters of Obama, who ultimately won re-election (Romney supporters: M = 35.30, SD = 16.46; Obama supporters: M = 30.29, SD = 16.94).

Control Variables

A number of other individual-level factors—some that have been firmly established in earlier empirical work and others that have long been considered important to understanding the

preference towards pro-attitudinal information—must also be accounted for within our models. Despite varied explanations as to why, *pro-attitudinal site use* has been shown to be highly correlated with counter-attitudinal site use (e.g., Chaffee et al., 2001; Garrett et al., 2013; Gentzkow & Shapiro, 2010) and is controlled by including a measure of pro-attitudinal site use by following the same procedures used to create measures of counter-attitudinal exposure described above (2008: $M = 0.34$, $SD = 0.63$; 2012: $M = 1.84$, $SD = 1.05$).[4] Candidate preference was controlled for through use of a dummy variable indicating *support for Obama* in both presidential races (0 indicating support for McCain/Romney, 1 indicating support for Obama), allowing us to account for whether supporters of one candidate or the other were more likely to use counter-attitudinal sources (2008: $M = 0.51$, $SD = 0.50$; 2012: $M = 0.53$, $SD = 0.50$). *Ideological strength*, thought to have a negative relationship with use of counter-attitudinal sources studies (see Brannon, Tagler & Eagly, 2007; Frey, 1986; Knobloch-Westerwick & Meng, 2009; Stroud, 2008) is controlled for with the use of a dichotomous measure indicating strong or weak ideological attachment (2008: $M = 0.34$, $SD = 0.48$; 2012: $M = 0.16$, $SD = 0.37$). Furthermore, higher levels of political sophistication have long been thought to facilitate a willingness to engage with opposing viewpoints for a variety of reasons, such as the ability and of political sophisticates to defend their positions in light of alternative perspectives (Albarracin & Mitchell, 2004; Festinger, 1964) or an understanding common amongst the politically sophisticated of the value of political tolerance and "good citizenship" (Chaffee et al., 2001; Kinder, 1998). As a result, items that tap into this general concept of political sophistication—*political knowledge* (2008: $M = 2.94$, $SD = 1.08$; 2012: $M = 2.64$, $SD = 1.29$), *education* (2008: $M = 6.43$, $SD = 2.06$; 2012: $M = 10.68$, $SD = 1.97$) and *political interest* (2008: $M = 3.43$, $SD = 0.70$; 2012: $M = 3.04$, $SD = 0.83$)—should have a positive association with use of counter-

attitudinal information.

Results

Before proceeding to the influence of candidate vulnerability on exposure to counter-attitudinal information, we briefly review the character of individuals' online political information consumption habits. Not surprisingly, online political information-seekers, including ideologues, still rely heavily on sources that are non-ideological. Around 57 percent of political conservatives in the United States and 47 percent of political liberals reported using at least one neutral news source in the past week in 2008. Using a different measurement strategy in 2012, around 43 percent of political conservatives and 51 percent of political liberals reported using neutral sources with varying degrees of regularity. Shifting to ideologically slanted news sources, the data suggest that citizens are also making considerable use of pro-attitudinal news sources: 25 percent of conservatives and liberals reported using pro-attitudinal sources in 2008, while 47 percent reported using at least one pro-attitudinal source regularly in 2012. However, it is worth noting that many respondents also reported using counter-attitudinal sources, with 11 percent using at least one counter-attitudinal source in the past week in 2008 (SD = 0.31) and 31 percent reporting use of such source with varying regularity in 2012 (SD = 0.46). While dissimilarities in the measurement approaches used in 2008 and 2012 do not allow for direct comparisons regarding over-time shifts in political information-seeking habits, these observations suggest at minimum that counter-attitudinal sources continued to be used amongst a non-trivial segment of the population despite ample opportunity to do otherwise—offering further justification for this effort to better understand why and under what circumstances individuals consume counter-attitudinal content.

Our theoretical expectation that use of counter-attitudinal news sources is predicted by

preferred candidate vulnerability was tested through a series of logistic regression models presented in Table 1 for 2008 and Table 2 for 2012. Before examining the influence of preferred candidate vulnerability—our central theoretical concern—we briefly consider two control variables that influence respondents' use of counter-attitudinal news sites across both data sets. Consistent with prior work (e.g., Garrett, Carnahan & Lynch, 2013), pro-attitudinal site use was strongly and positively associated with counter-attitudinal site use. Odds ratios indicate that each additional pro-attitudinal source that respondents reported using corresponds with a 24 percent increase in the odds of using a counter-attitudinal source in 2008 (Table 1, Model 1). In 2012 (Table 2, Model 1), each unit increase in the frequency of pro-attitudinal source use was associated with an astounding 264 percent increase in the odds of using a counter-attitudinal source. Further, and perhaps not surprisingly, ideological strength also had a significant effect in both election cycles. Respondents who identified as strong ideologues (relative to weak ideologues) showed a 44 percent decrease in their odds of using counter-attitudinal sources in 2008 and a 51 percent decrease in their odds of using counter-attitudinal sources in 2012.

We turn now to our prediction that higher perceived vulnerability of one's preferred candidate should foster a greater willingness to use counter-attitudinal information. A positive and significant coefficient on preferred candidate vulnerability would be consistent with the prediction. Across the two studies, however, support, is mixed. Looking first at 2008 (Table 1, Model 1), the coefficient for preferred candidate vulnerability was positive but failed to achieve significance; vulnerability, at least in the aggregate, did not consistently predict citizens' use of counter-attitudinal information in 2008.

[Table 1 about here]

However, the results from 2012 (Table 2, Model 1) tell a different story. Consistent with

our prediction, perceived candidate vulnerability had a significant, positive association with use of counter-attitudinal news sources. A one point increase in preferred candidate vulnerability (measured on a 101-point scale) is associated with a change in log odds of 0.016, $p < .01$. Equivalently, the exponentiated coefficient indicates that the odds of reading counter-attitudinal sources increases by about 1.6 percent for each one-unit increase in preferred candidate vulnerability. Predicted probabilities provide another illustration of the magnitude of this effect. Romney supporters at average levels of vulnerability ($M = 32.17$) were estimated to have a 19 percent probability of using counter-attitudinal information sources, while Obama supporters were estimated to have a 14 percent probability of using such sources at the same level of vulnerability. When predicted probabilities were estimated using values on the vulnerability scale at one standard deviation above the mean ($M + 1SD = 49.06$), these likelihoods increased to 24 for Romney supporters and 17 percent for Obama supporters, respectively. Thus, at least in 2012, higher perceived candidate vulnerability increased the willingness of citizens to engage with information sources representing the other side.

[Table 2 about here]

The inconsistency of results in 2008 and 2012 merits further scrutiny. Why was the expected relationship only significant in the more recent election? One possible explanation is that individuals supporting the Democratic ticket and those supporting the Republican ticket may have responded differently to candidate vulnerability, and that these differences may have diluted the aggregate effect. Partisan differences in selective exposure have been documented before (e.g., Garrett & Stroud, 2014; Iyengar et al., 2008; Knobloch-Westerwick & Kleinman, 2012). Furthermore, there is a growing body of evidence suggesting that conservatives and liberals, at least in the United States, differ on key psychological characteristics. Importantly,

conservatives tend to exhibit a higher need to manage uncertainty and threat – both of which might be associated with vulnerability – than liberals (Jost & Amodio, 2012). We consider the possibility that partisans – or in this case, supporters of each of the two major-party candidates in the United States – might respond differently to perceived candidate vulnerability when seeking political information.

Descriptive data provide preliminary evidence of these partisan differences, suggesting that the association between perceived candidate vulnerability and use of counter-attitudinal sources was stronger for McCain and Romney supporters than for Obama supporters. For example, respondents who expected their candidate to win in 2012 (having a perceived vulnerability of 20 or below) exhibited only modest use of counter-attitudinal information, regardless of which candidate they supported: about 23 percent of both Romney (n=65) and Obama (n=76) supporters did so. When respondents perceived the election to be a toss-up (perceived vulnerability ranging from 40-60), however, there were substantial differences between Romney and Obama supporters. Only 29 percent of Obama supporters (n=65) reported using counter-attitudinal sources, while over 40 percent of Romney supporters (n=92) did so. This is consistent with the idea that supporters of McCain and Romney are responding to vulnerability differently than Obama supporters in their information-seeking behavior, and these differences are most apparent when perceived vulnerability is high.

Regression models provide a more rigorous test of this moderating relationship. Introducing an interaction term between perceived candidate vulnerability and the Obama supporter dummy variable to the model described above allows us to determine whether the association between vulnerability and counter-attitudinal news use differed depending on which candidate respondents supported. The results are presented in Model 2 in both Table 1 (2008)

and Table 2 (2012).

Looking first at 2008 – where we previously saw no effect for vulnerability – a different story emerges when McCain and Obama supporters are considered separately. Upon introducing an interaction term, the coefficient for preferred candidate vulnerability, which now represents the association between vulnerability and counter-attitudinal news use only for McCain supporters, was positive and significant. In other words, as perceived vulnerability increased, McCain supporters were more likely to have used counter-attitudinal sources. A one-point increase in preferred candidate vulnerability for McCain supporters was associated with a change in log odds of approximately .011; the exponentiated coefficient indicates that this is equivalent to a one percent increase in the odds of a McCain supporter reading a counter-attitudinal source. The interaction term itself also achieved significance, though *in a negative direction*. This means that Obama supporters were modestly *less* likely to use counter-attitudinal sources as the prospect of an electoral defeat for their preferred candidate grew. A one point increase in preferred candidate vulnerability for Obama supporters was associated with a (-.022 + .011) = -.011 change in log odds. The combination of a positive effect among McCain supporters and negative effect among Obama supporters also explains the absence of any significant coefficient for perceived candidate vulnerability in the aggregate model (Table 1, Model 1) as these contrasting effects in essence canceled each other, masking the quite different reactions that each candidate's supporters had in response to perceived candidate vulnerability.

In 2012, the story is similar with one important caveat. While perceived candidate vulnerability had a significant, positive coefficient for Romney supporters, $B = .032$, $p < .001$, the interaction term shows that vulnerability had little influence on Obama supporters: a one-unit increase was associated with a change in log odds of (-.032 + .032) = 0. Referring once again to

the exponentiated coefficients, a one unit increase in preferred candidate vulnerability for Romney supporters was associated with an increase in the odds of their using a counter-attitudinal source of about 3.3 percent.

To further illustrate these interactions, Figure 1 translates these effects into predicted probabilities of the likelihood of using counter-attitudinal sources across the entire range of values on the preferred candidate vulnerability scale. The plot on the left presents the results from 2008, showing the positive association between perceived candidate vulnerability on use of counter-attitudinal information among McCain supporters. This is a stark contrast to the small, negative relationship observed among Obama supporters—the line trends in a downward direction, suggesting that use of counter-attitudinal sources decreases as vulnerability increases. The two groups are not entirely different though. Regardless of who they supported, respondents who perceived their preferred candidate to have little chance of losing the election had very similar likelihoods of using counter-attitudinal sources. The differences emerge as values on the vulnerability scale increase; in fact, the difference between McCain supporters and Obama supporters only attained statistical significance at high levels of perceived candidate vulnerability (values greater than 80).

[Figure 1 about here]

The picture painted by 2012, the plot on the right, is even more telling. While Obama supporters were nearly indistinguishable in their predicted likelihood of using counter-attitudinal information across the entire range of values on the vulnerability scale, Romney supporters showed a dramatic increase in their likelihood of encountering the other side as vulnerability increases. In fact, Romney supporters who considered Romney to be highly vulnerable ($M + 1SD = 49.06$) were nearly twice as likely to report using counter-attitudinal sources than those who

considered Romney to be far less vulnerable ($M - 1SD = 15.18$). Similar to 2008, the differences between Romney supporters and Obama supporters became more pronounced at higher values on the candidate vulnerability scale; statistically, Romney and Obama supporters were only distinguishable when vulnerability was greater than around 57 on the 101-point scale.

Discussion

This study enhances our understanding of political information seeking by considering how citizens may be responding to environmental considerations when seeking out political information. Using data from both the 2008 and 2012 U.S. presidential elections, we find consistent evidence that some voters are responsive to their perceptions of the campaign, specifically in how vulnerable they perceive their preferred candidate to be in the race for the White House. This relationship was observed, however, only amongst those who opposed Obama in both elections. These citizens were more likely to use counter-attitudinal information sources the more vulnerable they perceive their preferred candidate to be on Election Day. Other studies have suggested that the perceived status of the candidates may be driving political information-seeking behavior (e.g., Knobloch-Westerwick & Kleinman 2012), but this study offers uniquely powerful evidence of the role of perceptions, demonstrating the effects across two elections and relying on a direct measure of perceived vulnerability.

The absence of an effect amongst Obama supporters raises the important question of why supporters of the Republican candidates were uniquely responsive to their candidates' electoral vulnerability in 2008 and 2012. Given the close association between vulnerability and anxiety – and as a consequence a clear set of expectations of what such a state should mean for political information-seeking behavior – this cross-partisan differences is somewhat surprising.

We cannot answer this question definitively with these data, but there are some plausible

explanations. Perhaps the difference can be attributed to the fact that supporters of McCain and Romney tended to express higher levels of perceived vulnerability for their preferred candidates, consistent with the polling data at the time. This would suggest that the potential influence of perceived candidate vulnerability relies on some threshold being crossed, such that vulnerability only promotes exposure to counter-attitudinal sources once the level of concern that one feels about their preferred candidate's electoral chances exceeds a certain point. However, descriptive data (as discussed above) suggest that likelihood of using counter-attitudinal sources increased gradually in response to perceived candidate vulnerability; there is no evidence of a threshold effect. Nevertheless, this possibility may merit more rigorous testing in future studies.

More likely, in our view, is the possibility that liberal and conservative voters experience vulnerability differently. Researchers have begun to examine how citizens who subscribe to differing political ideologies vary along dimensions such as neurological characteristics (Amodio et al., 2007), personality traits (Carney et al., 2008), and processing styles (Jost & Amodio, 2012). These differences suggest the possibility that those on opposing ends of the ideology continuum might respond differently to an anticipated loss for their preferred candidate, including differences in their information-seeking behavior.

Another related avenue of exploration involves investigating the interplay of ideology and affect. Leading proponents of affective intelligence have begun to investigate potential connections between emotional reactions and personality traits (MacKuen, Marcus, Neuman, & Miller, 2010). Perhaps liberal voters retreat to more familiar, reassuring sources when perceiving their candidate to be vulnerable, while conservative voters become more surveillance-oriented in their approach to political information. There is some precedent for observing partisan differences in information-seeking strategies (for example, see Garrett & Stroud, 2014), though

less work has investigated how partisans might respond differently in their searches for information when vulnerable, anxious or threatened. Thus, more research must be done to yield the mechanism behind these partisan differences in responding to vulnerability.

Despite the unexpected partisan group differences, the results of this study provide compelling evidence that information exposure decisions are shaped by the political environment. This has implications for selective exposure to political information, *and* for the consequences of that exposure. We have shown that facing an unfavorable election outcome can make counter-attitudinal information more appealing, and we argue that such exposure is useful for managing anxiety and reducing uncertainty. This is not to say, however, that individuals are pursuing the deliberative ideal: being politically informed and making the best possible decision is not necessarily their goal. In the quest to manage anxiety, counter-attitudinal information may instead be sought as a form of opposition research, intended to help the individual steadfastly defend his or her beliefs, either internally (e.g., the disconfirmation bias; Taber & Lodge, 2006) or in conversations with others. If this is the case, the ultimate consequence of counter-attitudinal exposures might be less favorable than previously thought.

These findings set the stage for more research that investigates environmental factors fostering counter-attitudinal exposure. Further, scholars should consider whether cross-cutting information-seeking behavior, when occurring as a response to certain environmental factors, influences the consequences of this seemingly desirable behavior. Revealing the varied processes that underlie exposure to counter-attitudinal information could have important implications for what effects these practices have on attitudes, tolerance, and political knowledge. A willingness to seek out the other side is an important first step, but a more deliberative citizenry requires that this information is used appropriately.

Another important open question concerns whether the relationships observed here are unique to the United States. There is considerable evidence that selective exposure operates in other countries (e.g., Hart et al., 2009; Kobayashi & Ikeda, 2009), but it is less clear whether factors related to the political environment will exert comparable influence across countries. We suspect that differences in media systems and political systems will prove influential. For example, research on political disagreement has suggested that the U.S.'s two-party system shapes the influence of encounters with other viewpoints (Smith, 2015). Understanding the extent to which these effects transcend political boundaries would be valuable.

Some limitations to this study deserve mention. Perhaps most notably, the survey approach, while enhancing generalizability, limits our ability to explicitly test the underlying psychological mechanisms posited here. Importantly, this means that we cannot be certain about the direction of causality. Perhaps exposure to counter-attitudinal information induces shifts in preferred candidate vulnerability. Theoretically, counter-attitudinal news exposure could lead voters to question their confidence in a preferred candidate. Ideologically slanted news outlets have shown a propensity to report on polls favoring the outlet's preferred candidates (Groeling, 2008), which could shape the way in which individuals perceive their preferred candidates' electoral chances. Further, there is evidence that coverage of electoral contests differs substantively across outlets, which could shape consumers' perceptions of the race. Thus, for example, conservatives who consume liberal sources might come away with the impression that the liberal candidate was faring better.

However, research investigating the effects of counter-attitudinal information exposure suggests that people employ psychological measures – consciously or not – to preserve existing worldviews. The hostile media phenomenon suggests that ideologues are likely to perceive

media coverage that is unfavorable to their preferred positions as biased regardless of reality (e.g., Vallone, Ross, & Lepper 1985). Relatedly, Taber and Lodge (2006) found evidence that news consumers' exhibit disconfirmation bias, actively counter-arguing information that challenges their existing views. Thus, consumers who encounter polling data favoring an opposing candidate or unsettling representations of the election in general on a counter-attitudinal site are unlikely to be fully swayed, and some may even have their expectations of success reinforced. Perhaps more importantly, prior experimental results focused on a similar question – such as those from Knobloch-Westerwick and Kleinman (2012) – have yielded evidence consistent with our proposed explanation.

Although we believe the arguments for the claims here are compelling, explicitly testing direction of the relationship between vulnerability and counter-attitudinal remains an important next step. Experimental designs that allow for control over temporal order seem particularly well-suited for this task. For example, future studies could manipulate vulnerability by exposing participants to stimuli that elicit varied perceptions of vulnerability about a preferred candidate's (or political party's) electoral prospects, such as unfavorable polling numbers. These studies could then observe information-seeking behavior by allowing participants to seek out additional information about the campaign. What these studies might lack in external validity, they would more than make up for in offering further clarity in the nature of the relationship between vulnerability and use of counter-attitudinal news sources.

This study is not immune from concerns pertaining to the measurement of media use via surveys, such as the inability of citizens to accurately recall their news consumption behaviors over a period of time and the potential tendency of some respondents to exaggerate how much political news they actually use (see Prior 2009; 2013). Furthermore, the current study uses data

sets that rely on very different measurement strategies. The 2008 NAES asked respondents to provide *individual sources* that they used for political news (for which ideological slant was objectively coded) while the 2012 GfK asked respondents to identify the frequency with which respondents used various *types of sources* (where what constitutes "liberal" or "conservative" news was defined by the respondent). The use of these different measures makes comparisons across each sample impossible, and we acknowledge this may explain observed differences in the role of vulnerability between 2008 and 2012. However, using two distinct approaches is also a potential strength. The 2008 data provide the more conservative estimate, focusing as they do on recall for specific outlets used. The 2012 data, in contrast, provide a more comprehensive measure of the types of media respondents consumed. This is an important complement to the first approach: we are, after all, primarily interested in sources types, not the specific outlets. Regardless of which measurement approach is better, the similarity in results across the two studies is striking, offering more confidence in the robustness of our findings than had we relied on a single measurement approach.

These findings advance our understanding of citizens' engagement with the contemporary information landscape, offering strong evidence that the political environment has significant ramifications for how citizens seek political information. In doing so, this study extends existing theoretical explanations of selective exposure, which have tended to focus on how individual characteristics shape media choice, either promoting homogeneity or fostering diversity. By identifying a role for environment in the information-seeking process, this study suggests that information preferences are not solely rooted in long-standing factors such as ideology or partisanship but are simultaneously influenced by how people perceive and respond to the environment around them. Moving forward, we hope that scholars will be more attentive

to the ways in which political information-seeking behavior might vary across contexts and explore how environmental considerations beyond (and also within) the campaign setting might shape political information preferences.

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Table 1. Determinants of use of online counter-attitudinal news sources, 2008 NAES.[a]

	Model 1		Model 2 (w/ interaction)	
	B	*Exp(B)*	*B*	*Exp(B)*
Preferred candidate vulnerability (PCV)	.003 (.00)	1.003	.011* (.01)	1.011
Obama supporter	-1.066** (.17)	0.344	-.350 (.34)	0.705
PCVxObama supporter	---	---	-.022* (.01)	0.978
Pro-attitudinal site use	.216* (.11)	1.241	.208* (.11)	1.231
Ideological Strength [b]	-.587** (.17)	0.556	-.577** (.17)	0.562
Political Knowledge	.020 (.08)	1.020	.018 (.08)	1.018
Education	.064 (.04)	1.066	.068# (.04)	1.070
Political Interest	.221# (.12)	1.248	.209# (.12)	1.232
Constant	-3.971** (.51)	0.019	-3.229** (.53)	0.040
N	1,976		1,976	
-2 Log Likelihood	1286.560		1280.479	

Note: Logistic regression. Cell contents are coefficient (SE). ** p<.01; * p<.05; # p<.10

a. Two alternative models were estimated, one including the PCV variable as an independent and the other including the PCV, Obama supporter and interaction variables. When the sole variable in the model, the coefficient for PCV was positive and coefficient. The coefficients for PCV and the interaction term achieved significance in the second model, with coefficient directions consistent with the more constrained model.

b. Weak ideologue is reference category

Table 2. Determinants of use of online counter-attitudinal news sources, 2012 GfK.[a]

	Model 1		Model 2 (w/ interaction)	
	B	*Exp(B)*	*B*	*Exp(B)*
Preferred candidate vulnerability (PCV)	.016* (.01)	1.016	.032** (.01)	1.033
Obama supporter	-.407# (.23)	0.666	.683 (.52)	1.980
PCVxObama supporter	---	---	-.032* (.01)	0.969
Pro-attitudinal site use	1.292** (.14)	3.640	1.314** (.14)	3.721
Ideological Strength [b]	-.724* (.33)	0.485	-.779* (.33)	0.459
Political Knowledge	-.057 (.11)	0.945	-.056 (.11)	0.946
Education	.079 (.07)	1.082	.076 (.068)	1.079
Political Interest	.020 (.18)	1.020	.034 (.18)	1.035
Constant	-4.341** (.81)	0.013	-4.963** (.86)	0.007
N	531		531	
-2 Log Likelihood	492.049		486.576	

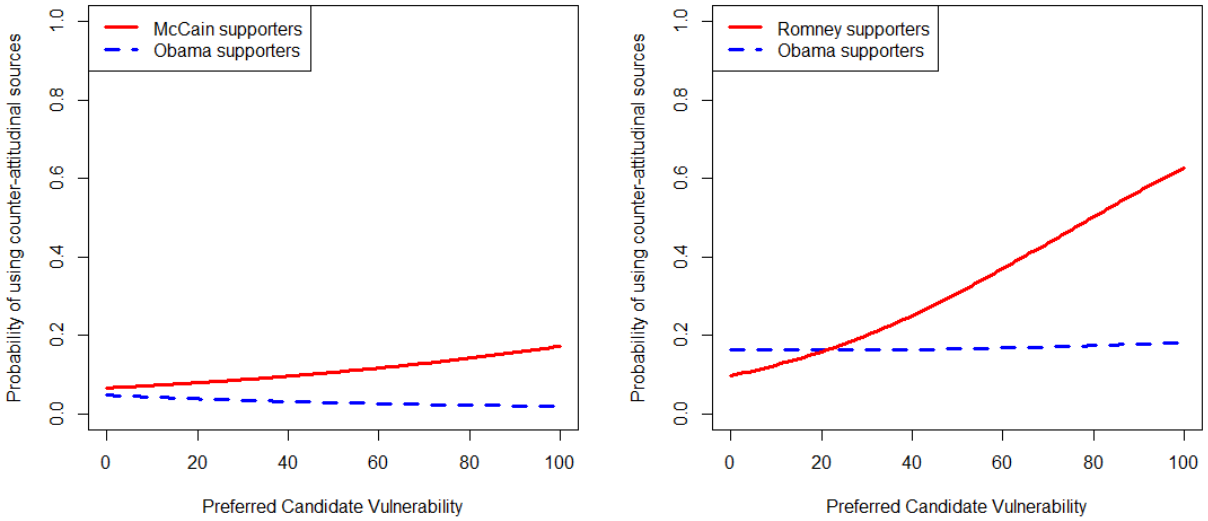
Note: Logistic regression. Cell contents are coefficient (SE). ** $p < .01$; * $p < .05$; # $p < .10$

a. Two alternative models were estimated, one including the PCV variable as an independent and the other including the PCV, Obama supporter and interaction variables. When the sole variable in the model, the coefficient for PCV was positive and coefficient. The coefficient for PCV achieved significance in the second model; however, the interaction term – while in the anticipated direction – fell short of significance ($p = .16$).

b. Weak ideologue is reference category

Figure 1. Perceived candidate vulnerability and likelihood of using counter-attitudinal sources, by candidate support (2008 and 2012)

2008 **2012**



Note: All other variables held at their mean.

Endnotes

[1] Including Hispanics as a subgroup of either black or white in the 2008 NAES question wording does not allow for an adequate comparison between this sample and the 2008 ACS. However, only 5.9 percent of the NAES sample identified as Hispanic, offering further evidence that whites were overrepresented in the sample.

[2] Following Stroud's (2008) coding scheme, the websites of CNN and MSNBC are coded as liberal, FOX as conservative, and the broadcast networks (ABC, CBS, and NBC) as neutral.

[3] For both 2008 and 2012, we also estimated the models reported here using several alternative operationalizations of the outcome variable, including: (1) a continuous variable representing the frequency of counter-attitudinal site use, and; (2) a ratio of counter-attitudinal sources to total online sources. In all cases, the results are comparable to what we report here.

[4] While all reported models for 2008 control for pro-attitudinal site use via a count variable, use of a dichotomous measure for pro-attitudinal site use yielded similar results. Further, we tested for potential non-linearity by squaring pro-attitudinal site use, but the coefficient was non-significant.