

Social Influences on Political Information Search and Evaluation

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Abstract: In this paper, we consider whether simple social signals of affect influence the information search strategies and political judgments of subjects during a voting task. We randomly assigned participants to either a neutral information environment or one in which the items also indicated how many other people “liked” or “disliked” the information. We find that social cues do in fact condition the search behavior of participants; subjects in social environments engaged in different patterns of search and focused on different types of information than did subjects in the control group. However, these changes in search strategy had no effect on evaluation of the candidates or their policies.

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Markus Prior (2005) has used the term “viewer’s choice era” to succinctly describe the modern media environment—while the Internet, cable, and satellite television have created unprecedented levels of access to political news and information, the sheer amount of entertainment choices available dictates that the motivation to engage political topics becomes a key factor in determining an individual’s political knowledge. Prior argues that rather than diminishing the “knowledge gap” between various segment of the electorate, the modern media environment exacerbates disparities in political information, with important consequences for political participation based on the choices people make of which media streams to monitor.

This may be true for a wide range of topics, but when referring to political matters, the word “choice” can and should be qualified. While media consumers do have substantially more news options available than previously, certain factors limit the choice sets of citizens. Some of these strictures are of a “top down” nature, created by powerful actors. For example, the range of issues that enter the political debate is constrained by elite influence (Barach & Baratz 1962). Some policy options or considerations that the public may otherwise be interested in pursuing never see the light of day due to political machinations and maneuvering. Similarly, decisions by media elites about which stories to cover—and thus bring to the forefront of the public’s attention—shape public debate (McCombs & Shaw 1972). The amount of time and coverage media leaders devote to certain issues plays a key role in determining which political topics are part of the national discussion and which are ignored. In addition to these “top down” influences on choice, there exist “bottom up” constraints as well. For instance, herd behavior and information cascades can occur when a person’s decisions are based on conformity or when an individual ignores private information and bases his or her choices on the actions of others (Banarjee 1992; Anderson & Holt 1997). When discussing choice, a good rule of thumb is to

consider the context in which decisions are made and how various structural factors limit or incentivize certain outcomes.

The increasing truth that people get more and more of their political news via the Internet coupled with the evolution of the “Web 2.0” paradigm—which focuses on interactive content—opens up the intriguing possibility that the political information a person chooses to access is partly conditioned by the choices of others. Much of the content available on the Internet now encourages users to react to it; sites allow visitors to “like” or “up-vote” content, leave comments, and share news on social media. More and more sites, including such popular destinations as Twitter, *The New York Times* website and Yahoo! News, track stories based on the number of times they are shared with others and feature a list of the most popular stories and topics. Recent evidence of the potential power of these user-supplied social reactions has been reported by Muchnik, Aral, and Taylor (2013) who found that ratings given to posts by users of an unnamed social website were greatly influenced by prior ratings; a “liked” post is likely to gain even more likes in an apparent herding process. While that study was not specific to political information, we argue that the way in which much online political content is delivered creates a social influence, not just on rating of the information, but also on an individual’s information seeking behavior.

In order to investigate this hypothesis, we designed a study that allowed participants to attach social signals (simple indicators of “like”, “dislike”, and “share”) to information about three hypothetical candidates competing in a party primary election. The signals created by earlier study participants were available to subsequent participants, allowing us to gauge the effect of social cues on information search and political judgments. We find that the presence of social signals changed both the quantity and type of information subjects sought out during the

study. Yet, despite these changes in behavior, subjects exposed to social cues expressed evaluations of the candidates in their choice set that were similar to the judgments made by subjects in a control condition without any social cues.

Information Search and Political Preferences

Assessments of the importance of political information to voting decisions, attitudes, and judgments (e.g. Lau and Redlawsk 2006) typically assume the following sequence of events: first, individuals enter the information environment with some set of exogenous political interests or preferences; second, voters seek out information about politicians and policies in order to figure out which candidate best suits their political needs; last, after acquiring sufficient information, citizens ultimately render a decision based on the evidence at hand. A logical deduction from this model of information use is that the quality of one's political decision is a function of the type and quantity of the information a person can bring to bear. The realization, arrived at early in political science scholarship, that people seemed to care little about politics and know less than required by democratic theory generated a flurry of concern over the competence of voters (Converse 1964; Key 1966; Neuman 1986). Some researchers followed the lead of ground-breaking research on decision making by Kahneman and Tversky and cast the political judgments of low-information voters as fraught with errors and biases, arguing that if citizens were more informed they would vote differently and support different policies (Bartels 1996; Delli Carpini & Keeter 1996; Althaus 2003). The presumption of these works and other calls for a more informed electorate is that politically naïve citizens hold preferences they otherwise would not due to their lack of information about policies and candidates.

The notion that voters make their judgments after considering the evidence at hand is intuitively and normatively pleasing, but this view of the relationship between information and preferences has been challenged by a number of countervailing theories that downplay the importance of information to political evaluations. One line of thinking prevalent in the political science literature asserts that voters are able to take advantage of a variety of low-information heuristics that allow them to make decisions “as if” they were fully informed (Popkin 1991; Sniderman, Brody & Tetlock 1991; Lupia 1994; Lau & Redlawsk 2001). According to this school of thought, simple heuristics such as endorsements, likeability, and partisanship provide citizens with enough cues to make decisions on par with those of their more informed brethren. A second perspective, with strong roots in the social psychological literature, holds that many preferences result not from effortful cognitive processing but instead are based on unconscious, affective reactions to stimuli (Zajonc 1980). Under this view, people require very little information to make a judgment; to the extent that people do seek out information, it is done so in a motivated fashion, geared more towards confirming a previously held belief than to challenging it or updating it (Kunda 1990; Redlawsk 2002; Redlawsk, Civettini, and Lau 2007; Lodge & Taber 2013). The heuristic model and the motivated reasoning model of information and preferences call into question the supposition that the opinions and evaluations of low-information voters are somehow less than optimal.

Experimental work on information search and voter decisions has provided a number of valuable insights into the nature of preferences and information use although a clear cut answer as to the importance of political knowledge still remains elusive. Some of the empirical results generated by these studies support the view that voters respond in a rational rather than motivated way to new information. For instance, in one study by Redlawsk et al. (2010), voters

were introduced to candidates that initially held positions in line with the subject's own beliefs. As the study progressed, the policies of the candidates were manipulated so that they endorsed more policies contrary to the voter's preferences. The authors find that although voters initially continued to support politicians who held incongruent policy preferences, eventually subjects began to downgrade their evaluations of the candidates as they learned more information. However, another study on policy judgments and information by Taber and Lodge (2006) found that a person's pre-existing attitudes were not only strongly predictive of their attitudes at the end of the study, but that these pre-standing beliefs influenced information search and processing as well; participants sought out more information that agreed with their position and rated arguments that endorsed their views as more effective.

To date, some of the most in-depth studies of information search and preferences have been undertaken by Lau and Redlawsk (2001; 2006). Their data is multi-faceted and provides some comfort to both advocates of the need for a more informed citizenry and those who believe that the effect of information on preferences is overstated. For example, consider that in one detailed study of heuristic use, Lau and Redlawsk find that most of the subjects did in fact take advantage of simple cues such as partisanship and endorsements when making their decision; at the same time, their findings also indicate that heuristic use is most effective for those who are already politically well-informed (Lau & Redlawsk 2001). Additional studies of information search and vote choice carried out by Lau and Redlawsk suggest that subjects employing "fast and frugal" and "intuitive" information search strategies were more likely to vote correctly—defined as selecting the candidate whose policies best match the voter's previously stated political values and interests—than those who attempted a more systematic and extensive information gathering strategy. In fact, of the four information search strategies studied by the

authors, subjects using the rational approach—which entails seeking out as much information as possible about each of the alternatives—performed the worst in terms of correct voting during the simulated general election in the study (Lau & Redlawsk 2006, p. 224). And yet, it is also true that subjects in these studies often looked at a substantial amount of information. During a simulated primary campaign, participants examined around four pieces of information per minute and about 75 unique items overall, suggesting that even those subjects who used intuitive strategies still were exposed to a fair amount of considerations.

Although the work of Lau and Redlawsk resists simplistic summation, one fairly constant result does obtain. In a variety of studies, using both controlled experimental studies as well as survey data, Lau and Redlawsk find that upwards of 70% of voters do in fact support the candidate who is most aligned with their political predispositions. (Lau & Redlawsk 1997; Lau & Redlawsk 2001; Lau & Redlawsk 2006; Lau, Andersen, & Redlawsk 2008). Given the widespread political apathy among large swaths of the population, this finding should offer some reassurance that many low-information voters are making good decisions. At the same time, it must be noted that in studies using survey data from the National Election Studies, Lau and Redlawsk find that degree of political knowledge is a significant predictor of correct voting—at least for strong partisans.¹ Of course, whether the 70% figure reported by Lau and Redlawsk is good or bad requires a judgment from the reader, but it seems fair to say that taken as a whole, the data generated by Lau and Redlawsk suggest that many people are quite good at picking political candidates, even when they use shallow or intuitive information processing strategies.

¹ This result is somewhat at odds with the aforementioned experimental findings which show that fast and frugal strategies were just as effective, if not more so, than strategies based on seeking more information. A likely explanation for this disparity is that survey measures of stored political knowledge are likely tapping some measure of political interest, attention, and sophistication. In contrast, the information acquired during the experimental study is directly related to candidate qualities and policy positions. The two variables are probably measuring two different constructs.

While the literature on information and preferences is complex enough as it is, in this paper we seek to muddy the waters even more. Much of the work done thus far on information and preferences focuses on the final two steps of the process: information-gathering and decision-making. Less work has been done on the first part: the generation of political interests. As we alluded to earlier, the assumption is that individuals enter the political information environment with a set of exogenous preferences and choose information about candidates and policies in order to find the politician that best matches these needs. We wish to problematize this assumption. We contend that there are important social influences on information search behavior that have yet to be fully explored. Outside of the lab, people do not learn about candidates and policies in a vacuum; they are informed by friends, neighbors, and by trusted (and distrusted) media personalities. Online information in particular is oftentimes shared, commented on, and evaluated by many others before it comes to a person's attention and all of this social information may conceivably influence a person's political judgments.

Similarly, political preferences themselves have a social element. People may seek to conform with popular opinions or avoid disagreement with close friends and family by taking certain positions. When divergent opinions are expressed, people may experience pressures to explain, defend, and justify these views. It is apparent that a fuller understanding of political attitudes and evaluations should take into account such social realities. In this paper, we begin the process of expanding our current understanding of information search and preferences by considering how social signals and cues influence information search and evaluation. Specifically, we argue that social signals condition the kinds of information that people think are important to their judgments as well as the quantity of information they decide they need to make a political decision.

Social Aspects of Political Information Search and Preferences

Let us first consider how social factors may condition the nature of political information search. The key insight is that information is a shared resource; people have access to more information than what they carry around with them in their memory. More than fifty years ago, Downs (1957) noted that voters could reduce information costs by seeking out well-informed colleagues with compatible political views. Huckfeldt (2001) investigated this claim empirically, finding that in fact citizens were more likely to discuss politics with those they perceive as experts and that this perception of expertise was grounded in actual characteristics of the expert (i.e., higher objective levels of political interest and knowledge). The apparent proclivity for citizens to seek out experts for matters of political import led Huckfeldt to conclude that scholarship focusing “solely on isolated individuals ignores the collective potential of democratic politics...and...underestimates the capacity of citizens who are located in complex networks of political interdependence,” (2001, p. 407).

Studies of political knowledge centered on the individual, using indicators such as the amount of information a person has stored in his or her memory or the number of questions about the political world a person can answer correctly, ignore the potential power of *knowledge networks*. Research by organizational psychologists on socially shared cognition (Thompson & Fine 1999), the group mind (Wegner 1987), and distributed knowledge systems (Rulke & Galaskiewicz 2000) suggests that people can and do rely on others' expertise in order to reduce information costs. This literature demonstrates that participants in a network, whether a dyad, small group, or large organization, oftentimes “specialize” in different types of knowledge. So for example, in a romantic relationship, one member might know more about good dining options while the other might be an expert on entertainment choices (Wegner, Erber & Raymond

1991). In an academic department, one administrator might be relied on for information about undergraduate grades while another is the preeminent resource when it comes to questions of outside funding. To take advantage of these knowledge stores, one need only know which member of the group has the relevant information (Borgatti & Cross 2003).

In the political science literature, Taber (2003) has made a parallel argument, contending that “compositional aggregation,” in which knowledge is distributed among various participants in a social network, provides a potential solution to the problem of low average information levels among the populace and citizen competence. Repeated studies have shown that most individuals know very few things about politics and have a hard time recalling more than a handful of facts about candidates and policies (Delli Carpini & Keeter 1996). However, it need not be the case that the political opinions and judgments of such individuals are deficient if we allow for the possibility that citizens rely on the information, evaluations, and judgments of their peers when forming political beliefs.

One mechanism by which people can use knowledge networks to facilitate political belief formation has already been suggested by Huckfeldt—people may overtly seek out political experts in order to acquire information and discuss candidates and policies. In doing so, they may arrive at informed opinions even while they appear politically unsophisticated because the informational bases of such attitudes may not be stored in their memory (Lodge, McGraw & Stroh 1989). Here, though, we suggest an even simpler way in which knowledge networks can mitigate the need for political information—instead of learning or even being exposed to a particular piece of information about a candidate or policy (as would presumably happen during discussion) a person can use affective cues from others in order to generate an evaluation. That is, merely knowing that a certain policy or politician is favored or rejected by a group of people

may be a rational basis for support or opposition, even in the absence of specific rationales or details about the policy or candidate in question.

The proposition that a voter's political preferences may be based on little more than observations of social approval or opprobrium may be anathema to some political knowledge scholars. And yet, it is clear that political beliefs have an important social component as well. People travel in social circles composed of others with similar beliefs and values (McPherson, Smith-Lovin, Cook 2001) and shared opinions about how the world works fosters group cohesion. While some scholars have deigned to term low-information beliefs as erroneous or biased, social psychologist Leon Festinger noted many years ago that there is another standard for judging the "correctness" of a belief or attitude: "an opinion, a belief, an attitude is 'correct,' 'valid,' and 'proper' to the extent that it is anchored in a group of people with similar beliefs, opinions, and attitudes," (Festinger 1950). Festinger draws a useful distinction between physical reality and social reality; beliefs about objective phenomenon are more easily tested against reality and rejected and modified as a function of information. Beliefs about social reality, though, are resistant to change when reinforced by social consensus.

Political beliefs appear to have more in common with social reality than physical. In his foundational exposition of ideology, Converse advanced the notion that political beliefs are rarely characterized by any sort of logical or psychological constraint (1964). Rather, ideologies are products of social constraint. Elites package together certain policy positions and infuse these bundles with rationales of "abstract and quasi-logical reasons developed from a coherent world view," (p. 211). These ideologies are not in any sense logically correct or consistent but instead packaged and marketed as such. Many political issues ultimately resolve themselves to questions of values, making it difficult to change people's opinions by mere evidence alone (Haidt 2012).

And while holding incorrect beliefs about physical reality can be dangerous, there is a decided lack of “costly consequences” associated with holding certain political opinions (Lupia and McCubbins 1998). To the extent that such costs exist, they are mostly of a social nature; conformity in beliefs in attitudes provides a number of benefits to an individual, including affiliation and validation, making dissent socially disadvantageous (Turner 1991).

As this brief review indicates, it is theoretically likely that social influences play an important part in structuring information and preferences. However, to our knowledge, not much empirical work has been done to catalogue the impact of social cues on information search and political preferences in a controlled environment. We do so here, using a design that allows us to investigate social influences on information search and voter preferences. We find that social cues do in fact change the nature of information that people felt relevant to their decision as well as the quantity of information they sought. Ultimately, however, the different patterns of search had little effect on the final evaluations and vote choices of the participants in this study, a result that is both unexpected and worthy of further investigation.

Data and Methods

For this study, we recruited 302 subjects from Amazon’s Mechanical Turk service (Berinsky, Huber, and Lenz 2012; Buhrmester, Kwang & Gosling 2011). Of these, a subsample of 137 was randomly assigned to either a “social cues” condition or to a control group, while the remaining 165 were assigned to other treatments not relevant to this study and not reported here. The subsample of 137 subjects used here has an average age of 32.4 and is 44% female. The modal respondent attended some college and reported a 2012 household income between \$50,000 and \$75,000. Almost three-quarters (74.5%) of the sample is white and 65% identify as

a Democrat, though the subsample identifies as ideologically moderate (mean score of 3.12 on a 0 – 6 scale of conservatism) and is fairly politically engaged—80% of the subjects voted in 2012 and the sample has mean score of 2.67 on a four-point scale of political interest and 2.98 on a five-point scale of frequency of political discussion (lower values indicate more interest and more discussion). During recruitment, subjects were told they would take part in a study on information and voting decisions and would be paid a nominal fee (\$2.00) for their time (on average about 30 minutes).

Subjects participated in a simulated political primary using dynamic process tracing software (Lau & Redlawsk 2006) which presents participants with an ever-changing array of information; subjects must actively scan the information and choose what they wish to learn about the candidates.² After completing a number of demographic and political behavior questions and a short practice session, participants were asked to “register” for either the Republican or Democratic primary based on their political affiliation. Those who did not identify with either of the two major parties were asked to participate in the primary of the party they felt closest to. Once registered for a primary, subjects were instructed to learn as much or as little about three candidates competing for their votes. The candidates were designed to embody liberal, moderate, and conservative positions within their respective parties and there were 33 unique pieces of information about each candidate available during the study (for a total of 99 unique pieces of information during the experiment); however, the primary stage only lasted 12 minutes.³ Thus, subjects were not able nor expected to learn everything possible about each of the candidates.

² The DPTE system can be accessed at <http://www.processtracing.org>.

³ In the Republican primary, the liberal candidate took a number of positions more accurately identified with the current libertarian ethos.

After registering, subjects were randomly assigned to either the treatment or control condition. Random assignment was successful, with the Hansen and Bowers omnibus test (Hansen & Bowers 2008) indicating that both groups are balanced on eight different observable pre-treatment variables ($\chi^2 = 4.82$, 8 df, $p < .776$).⁴ In the control condition ($n = 49$), subjects were presented with six pieces of information about the candidates at a time. The information appeared on the screen for 10 seconds and consisted of text boxes, each with a headline; the headline indicated the type of information available (e.g., “Smith’s Position on Drone Strikes.” See Figure 1). Clicking on the text box with the mouse makes the information available to the viewer. Every 10 seconds, the information on the screen was randomly refreshed, giving the subject an opportunity to learn new information or perhaps revisit previously accessed information. Subjects in the social cues condition ($n = 88$) were presented with the information in the same format as in the control condition, but the headlines contained additional cues. Below each headline, subjects saw information that indicated how previous study participants had reacted to the news in the text box. This information was expressed as a count of how many prior participants in the study “liked” the information and how many “disliked” it, as well as how many “shared” it (Figure 2).

[Insert Figures 1 and 2 about here]

In fact, the experimental software did indeed keep track of how the participants reacted to news about each candidate (subjects in the treatment condition were instructed about this feature during the practice stage); however, in order to ensure that all subjects in the treatment condition saw social markers, we also “seeded” the information environment with a set of cues. We

⁴ The variables used were age, education, income, gender, political interest, political discussion, liberalism, and whether the subject voted in 2012.

randomly selected one of the three candidates to be a “high activity” candidate; for this politician, 22 of the 33 available items were marked with a random count of between 10-30 likes and dislikes. For the other two politicians, just 11 of the 33 available pieces of information contained 1 – 9 likes and dislikes. Thus, at the beginning of the experiment, members of the social cues condition saw that at least 44% of the information available had some sort of social marker attached to it. Additionally, about half of our treatment subjects ($n = 37$) were randomly assigned to a “negative” condition in which seeded information had about three times more “dislikes” than “likes”; the remainder of the treatment group saw the reverse at the start of the experiment, with about a 3:1 ratio of “likes” to “dislikes”. After the 12 minute primary stage was over, subjects were asked to evaluate the candidates along a number of dimensions and cast their final vote. Additionally, subjects were asked to list as much information as they could remember about the candidates and then the study ended.

Results

Social Influences on Types of Information Access

We are interested in testing how social signals condition the types of information people choose to seek out when making a decision. To begin, we consider whether the distribution of information gathered about each candidate varied between treatment and control groups. If social cues were immaterial to search patterns, we would expect the distribution of item views by candidate to be similar in both the control and treatment conditions. Figure 3 shows the average item views by candidate (liberal, moderate, and conservative) and group (control and social cues) and provides a snapshot of how subjects in each of the groups focused their search. As visual inspection of the graphs indicates, the presence of social signals fundamentally changed the

distribution of item views for each of the three candidates. In the control group, information about each candidate was attended to in a rather symmetrical fashion (skewness .259, .077, and .291 for the liberal, moderate, and conservative candidate respectively), indicating a fairly balanced approach to information search: a few items were attended to infrequently, a few items were attended to frequently, and a few items were opened a moderate amount of times. However, the introduction of social cues resulted in a much more skewed approach to the information by candidate (skewness .310, 2.50, and .431 for liberal, moderate, and conservative candidates respectively). What this change in distribution means in plain English is that in the social group, *more* of the items about each candidate were viewed *less* frequently than they were in the control group. For example, in the control group, only two items (or 6% of all available information) related to the liberal candidate were opened ten or fewer times; in the treatment group 9 items (or about 27%) were. Similarly, 6 items (18%) about the conservative candidate were viewed ten or fewer times, but in the social cues condition, fully half (51%) of the available information was accessed ten or fewer times. Thus, the social cues are apparently changing the attention subjects direct to information about the candidates in a statistically significant way. Mann-Whitney U tests confirm that the distribution of item views is significantly different by group for each candidate (p values of .000, .002, and .002).

[Insert Figure 3 about Here]

In order to further investigate the impact of social cues on directing and diverting attention to certain pieces information, we regressed the average number of item views on the various social cues associated with each item. The results for all candidates confirms our intuitive notion that positive cues (“likes”) result in more item views (Table 1, Column 1); however, we do not see a parallel effect for negative cues. Although we expected “disliked”

items to be viewed less frequently, the regression results do not support this claim.⁵ These aggregate results become clearer when we examine the relationships between likes, dislikes, and item views for each candidate separately (Table 1, Columns 2 - 4). We see here that positive cues are significantly correlated with item views for the liberal and moderate candidates, but not so for the conservative candidate. Similarly, negative cues depress item views for the liberal candidate (and for the moderate one as well, but not significantly so) but *increase* views for the conservative politician. What is happening here?

[Insert Table 1 about Here]

We suspect that the effect of social cues on information search is conditional on whether the candidate is liked. The liberal candidate won 58% of the vote among subjects in the social cues condition and had an average feeling thermometer rating of 69.7. For this candidate, positive information was more likely to generate views, but negative items were avoided. Conversely, the conservative candidate received only 18% of the vote and had an average feeling thermometer rating of 34.7. It appears that subjects in the social cues condition were focusing their time on information tagged as negative, while ignoring news that might cast the candidate in a more positive light. These results are supportive of the proposition that social cues facilitate an individual's tendency towards confirmation bias (Nickerson 1998).

Our data provide initial support for the hypothesis that social cues affect the distribution of candidate information sought out by subjects. Next, we examine if our treatment changed the distribution of issues subjects thought important to their decision-making process. We looked at the top twenty pieces of information by average item views in both the control and social

⁵ Oddly, the number of shares was associated (at $p < .074$) with a decrease in item views, but we have no good theoretical explanation for this as yet.

condition. Our results indicate that social cues have the clear ability to set the agenda when it comes to determining the types of policies that our subjects sought out when evaluating candidates. As Table 2 indicates, subjects' focus on particular issues and candidates varied between the social and control groups, which would not be expected unless social cues were playing some role. Some topics, such as abortion, marriage equality, the teaching of evolution, and immigration, were among the top ten most popular (based on average views) in both groups. However, other issues waxed and waned in importance by treatment condition. For example, campaign finance reform was the third ranked issue in the control group, but failed to break into the top twenty in the social cues condition. Health care was the sixth most viewed issue among subjects exposed to social cues, but only the 20th most viewed topic in the absence of such cues. Examining the relative importance of issues by candidate further intensifies the disparities among treatment groups. Consider, for instance, that the moderate candidate's stance on immigration was the 7th most viewed item in the control group, but only the 30th most frequently accessed piece of information in the social group. Or note that the moderate candidate's position on climate change was the 18th most popular item among participants in the social group, but dropped all the way to 55th in the control group. Spearman's rho, a statistic used to determine the correlation between ordinal rankings, indicates that the relative popularity of an item in the top twenty issues of the control group is not correlated with its placement in the social group ($\rho = .265, p < .246$). We thus conclude that, at least for the top twenty most viewed items, social cues significantly altered the types of information subjects choose to access.

[Insert Table 2 about Here]

In summary, our analysis of the effect of social cues on the type of information study participants accessed reveals three key trends. First, the distribution of item views by candidate

varies by experimental condition. Social cues results in more of the items being viewed less frequently for each candidate. Second, it appears that the presence of social cues encourages confirmatory patterns of information search. For the most popular candidate, a higher number of likes attached to an item was associated with significantly more views; conversely, for the least popular candidate, more dislikes correlated with more information access. Lastly, social cues affected which of each candidate's positions received the most attention from subjects. Analysis of the top twenty most viewed items shows significant differences in the issues viewed most frequently among control and treatment groups. .

Social Influences on Quantity of Information Search

Next we explore the effect of social cues on the quantity of information subjects accessed. We expect that social cues, even as simple as a “like” or “dislike” indication, can substitute for more complete information. There may be little need to learn about Jones' policy on guns if you already know that many people in your network disagree with it.⁶ In order to test this hypothesis, we examine first the total unique pieces of information accessed by subjects during the experiment (Table 3). Members of the control group sought out more information overall ($M = 52.65$, $SD = 13.29$) than did subjects in the social cues condition ($M = 46.29$, $SD = 13.62$; $p < .009$). This drop in information search is of moderate size (Cohen's $d = .47$), representing about half of a standard deviation difference in search. Much of the change in information search was attributable to the behavior of the subjects who saw more negative cues than positive ones. Among this group of subjects ($n = 37$), the average unique information

⁶ We did not do anything to create a sense of social connectedness between our subjects, so we can only speculate on this point. But given that all subjects knew the study was deployed on Amazon Mechanical Turk, and given the existence of a strong “backchannel” environment in MTurk, where workers communicate with each other to assess requesters and projects, we suspect there is a sense of social identity among MTurk workers which might well lead to a shared sense of something in common as often exists in other social networks.

accessed has a mean of 43.78 and a standard deviation of 13.38. This value is significantly different from the amount of information accessed in the control group (at $p < .003$) and of a larger magnitude (Cohen's $d = .66$). For the remaining subjects ($n = 51$), those who were exposed to more positive cues than negative ones, the difference in mean items accessed was smaller and only marginally significant ($M = 48.11$, $SD = 13.64$; $p < .094$).

[Insert Table 3 about Here]

Our previous analysis revealed that negative social cues depressed information search about the most popular candidate in the study. At the individual level, we observe that the difference in information access is mostly accounted for in a decrease in search related to the subject's preferred candidate. For this analysis, we determined the subject's preferred candidate based on his or her final vote choice; to simplify the presentation of results, we compared information search about the preferred candidate to the average number of unique items accessed about the remaining two candidates (Table 4). We find that search about the non-preferred candidates was relatively unaffected by our treatment. Control group subjects looked at 15.74 items ($SD = 5.06$) compared to 14.09 ($SD = 4.97$) items in the social cues condition ($p < .066$; Cohen's $d = .32$). Search related to the preferred candidate, however, decreased significantly in the social cues condition ($M = 18.11$, $SD = 5.68$) compared to that in control group ($M = 21.16$, $SD = 5.39$; $p < .003$; Cohen's $d = .55$).

[Insert Table 4 about Here]

We again find that much of the difference in search behavior is generated by subjects in the negative cues condition. The subjects in the negative cues condition viewed 13.63 items (SD

= 5.22) about the non-preferred candidates, significantly less so than the average in the control group ($p < .056$). However, the discrepancy in information search regarding the favored politician is much larger; these subjects viewed 16.51 items about their preferred politician (SD = 5.23), which is a difference of almost one full standard deviation from the mean in the control group.

The comparatively fewer pieces of information sought out by subjects in the negative social environment is attributable to the increased time they spent processing items. Much research supports the contention that people respond differently to negative stimuli (Lau 1985; Marcus, Neuman, & MacKuen, 2000; Redlawsk 2002; 2006; Geer 2008). In our data, it appears that negative social cues led subjects to spend more time examining items than did subjects in the control condition. The mean time spent per item in the negative group was 10.04 seconds (SD = 4.50), more than two seconds more than the time per item by subjects in the control group ($M = 7.96$, $SD = 3.33$; $p < .013$). However, it is important to note that *no* significant differences exist in the time spent per item when subjects were examining information about their favored candidate—mean time for the negative group was 9.52 seconds compared to 8.38 seconds in the control group ($p < .179$). Thus, the increased processing time results from subjects' greater attention to information about the non-preferred candidates.

To summarize the major results reported here, we find that the presence of social cues leads subjects to access fewer pieces of information about the candidates and this disparity is greatest for subjects in the more negative environment. Furthermore, the decrease in information search occurs primarily for the preferred candidate. The discrepancies in information search apparently result from the increased time subjects in the treatment condition spent analyzing items about the politicians they ultimately rejected. These differences in information search

patterns naturally lead us to question whether or not the evaluations of the politicians differed by group. It is to this question that we now turn.

Social Influences on Political Judgment

Based on our analysis so far, we have evidence for the following propositions: first, subjects in the social cues condition engaged in different patterns of search; and second, subjects in the social cues condition accessed fewer unique pieces of information. If political judgments are a function of the type and quantity of information a person possesses, then we might expect the evaluations of subjects in our control and experimental conditions to vary. After the information search stage ended, we asked our participants to vote for one of the candidates as well as to evaluate the politicians along several dimensions. These measures included; a 100 point feeling thermometer rating of how warm the subject felt towards the candidate; seven-point scales of how competent the candidate appeared, how similar the subject perceived the candidate's policy positions to be to his or her own, and how likely the subject thought the candidate would be to win a primary election given the policies he espoused; lastly, subjects were asked to rate on a five point scale how extreme they thought the candidate's policies were relative to the average Democrat or Republican.

The liberal candidate was the clear favorite among study participants: subjects gave him a score of 70.33 (SD = 23.4) on the feeling thermometer and a 5.5 (SD = 1.37) on competence. Subjects also believed that his policies were mostly similar to theirs (M = 5.0, SD = 1.96) and that his policies were within the mainstream (M = 3.0, SD .970). Ultimately, the liberal candidate took 57% of the vote, with subjects indicating some degree of confidence that a politician with the features of the liberal candidate could win a primary election (M = 4.56, SD = 1.53). On the

other hand, the conservative candidate was clearly disliked by the sample. His feeling thermometer rating was a dismal 33.86 (SD = 29.34) and his competency rating was 3.65 (SD = 1.78). Subjects also did not feel the conservative candidate's policies were similar to theirs (M = 2.86, SD = 2.18) and perceived his positions as more extreme (M = 4.04, SD = 1.09). Participants did not believe a politician with the conservative candidate's policy stances would likely win an election (M = 3.67, SD = 1.66) and accordingly, the candidate only received 17% of the vote. Perceptions of the moderate candidate generally fell somewhere between these two extremes.

Somewhat to our surprise, these ratings did not differ significantly by treatment. Across all of these measures we find only one significant difference in candidate evaluations based on treatment: subjects in the control condition rated the policies of the conservative candidate as significantly more extreme than did members of the social cues condition. However, given the lack of any other relevant differences in evaluations, we conclude that this apparent effect is likely no more than a Type I error. At this early stage of our research, we are not quite sure how to interpret the lack of social influence on evaluations. It could be the case that social cues helped subjects reach the same conclusions as their more informed counterparts in the control condition. It could also be possible that political judgments are more resistant to social pressures and therefore were not swayed by the presence of cues. Or it could be that the cues failed to influence judgment because the experiment was too short or because the participants did not know the source of the cues. We simply do not have the data at this juncture to begin to answer this question.

Discussion

The data presented here allow us to sketch out how social cues might influence information search and political judgment. It appears that social influence manifests itself in two primary ways. First, the presence of cues apparently changes perceptions of what issues are relevant to a decision. We find that more of the available items in the social cues conditions were disregarded or infrequently accessed than was the case in the control condition. Additionally, we see that certain issues became more relevant to participants in the presence of social signals than they would be otherwise. Second, social cues appear to effectively decrease the total amount of information people sought during the decision-making task. This decrease results in part from the increased processing time associated with viewing items about the rejected candidates. We suspect that adding even minimal social context to information about a candidate leads people to think a little differently about the item.

Based on the trends in the data, our hunch is that social cues facilitate patterns of confirmatory search. Social signals presumably allow subjects to find positively rated items about the candidate they prefer and avoid opening ones with high numbers of negative indicators which likely reflect poorly on their candidate of choice. On the other hand, negative signals increase subjects' attention towards items about the other candidates. We suspect that by focusing their time on negatively rated information about rejected candidates, subjects further strengthen their conviction that they made the right choice.

While social cues did affect both the amount of information study participants accessed as well as the type, they had no effect on candidate evaluations. The fact that members of the social cues condition looked at fewer pieces of information and focused their attention on

different policies did not result in any substantive changes in voting behavior or political judgments. This finding seems to strike a blow against the common assumption that the quality of one's political decisions is a function of the type and quantity of information one has access to. Significant differences in information search did not lead to significant differences in evaluations for participants in our study.

Conclusion

The powers of social conformity and consensus are formidable. While people often perceive their actions as the result of an autonomous “free will”, they frequently fail to grasp how their social environment subtly directs and influences their behaviors. We find here that such influences can change the way people approach political information: social forces can shape both the quantity and nature of information people “choose” to examine when making a political judgment. Although we found little effect of social influences on final judgments, our short study is most likely unable to capture the continual pressures exerted on individual choice by friends, family, colleagues, and peers. Our data serve as an important reminder that seemingly individualistic notions of choice and decision can often be re-cast into revealing cases of social influence.

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Figure 1: Information Board without Social Cues



Figure 2: Information Board with Social Cues

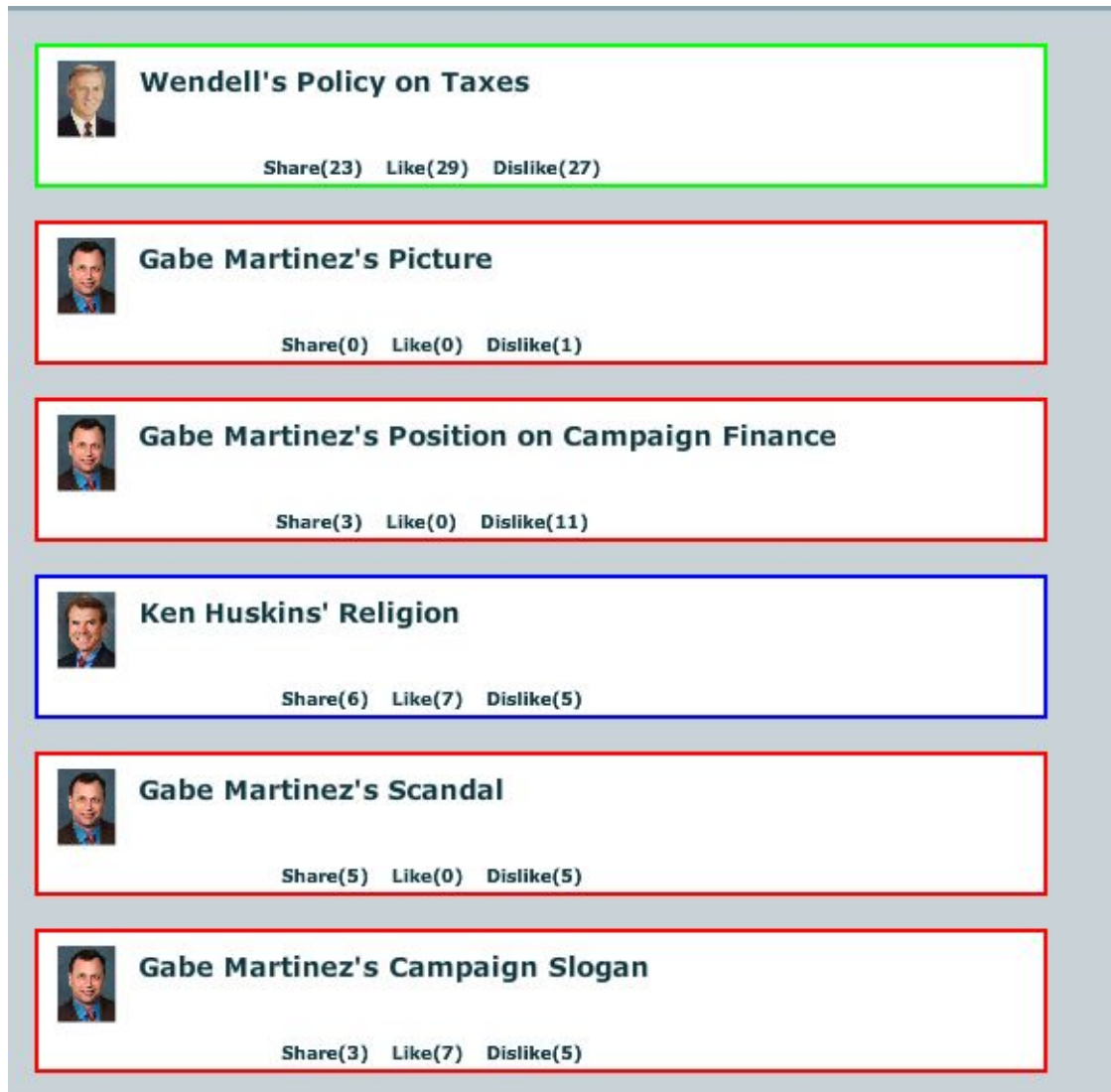


Figure 3: Candidate by Group Item Views

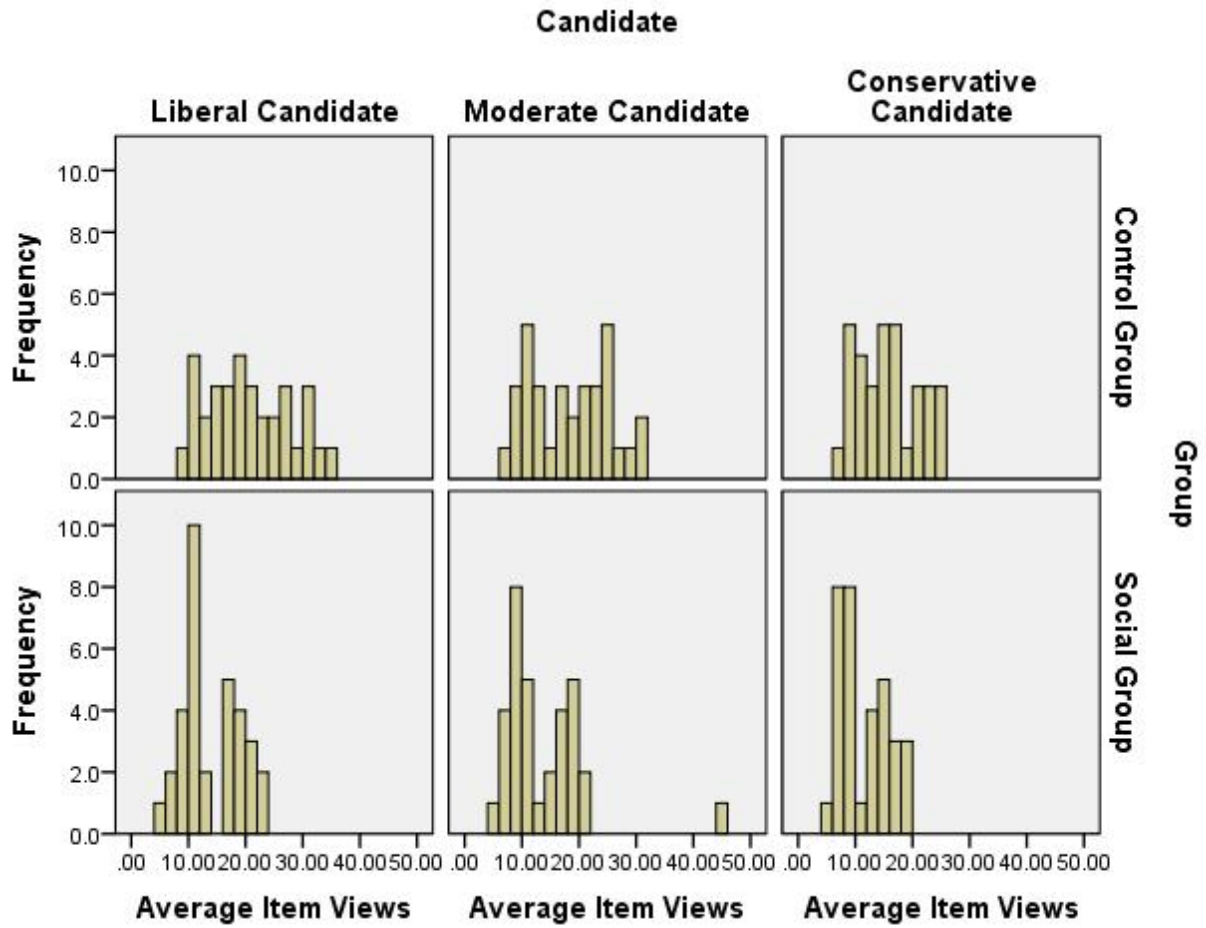


Table 1: Item Views predicted by Social Cues

	All Candidates	Liberal Candidate	Moderate Candidate	Conservative Candidate
Constant	7.702 (.810)	8.630 (1.195)	5.679 (2.038)	7.271 (.801)
Likes	.821* (.166)	.858* (.198)	1.261* (.420)	.334 (.230)
Dislikes	.158 (.154)	-.483^ (.253)	-.277 (.447)	.504* (.162)
Shares	-.554^ (.306)	-.174 (.396)	-.360 (.844)	.007 (.357)
N (items)	99	33	33	33
Adj. R ²	.395	.524	.372	.566

Note: Table entries are unstandardized OLS coefficients. Standard errors in parentheses.

DV: Average Item Views

* p < .05 ^ p < .10

Table 2: Relative Popularity of Items

Control Group		Social Group	
Rank/Issue/Candidate	Rank in Social Group	Rank/Issue/Candidate	Rank in Control Group
1. Abortion [LC]	2	1. Abortion [MC]	4
2. Marriage Equality [LC]	7	2. Abortion [LC]	1
3. Campaign Finance [LC]	29	3. Immigration [LC]	17
4. Abortion [MC]	1	4. Teaching Evolution [LC]	7
5. Teaching Evolution [LC]	4	5. Gun Control [MC]	14
6. Taxes [LC]	13	6. Health Care [LC]	26
7. Immigration [MC]	30	7. Marriage Equality [LC]	2
8. Teaching Evolution [MC]	10	8. Marriage Equality [MC]	10
9. Social Security Reform [LC]	11	9. Gun Control [CC]	24
10. Marriage Equality [MC]	8	10. Teaching Evolution [MC]	10
11. Contraception Access [LC]	23	11. Social Security Reform [LC]	9
12. Israel [LC]	26	12. Health Care [MC]	20
13. Budget [LC]	19	13. Taxes [LC]	6
14. Gun Control [MC]	5	14. Marriage Equality [CC]	18
15. Budget [MC]	22	15. Abortion [CC]	21
16. Climate Change [LC]	31	16. War on Terror [LC]	31
17. Immigration [LC]	3	17. Contraception Access [MC]	27
18. Marriage Equality [CC]	14	18. Climate Change [MC]	55
19. War on Terror [MC]	46	19. Budget [LC]	13
20. Health Care [MC]	12	20. Israel [MC]	42
Liberal Candidate Proportion	11/20		9/20
Moderate Candidate Proportion	8/20		7/20
Conservative Candidate Proportion	1/20		4/20

LC = Liberal Candidate; MC = Moderate Candidate; CC = Conservative Candidate

Table 3: Mean Unique Information Items Accessed by Group

Group	All Candidates			
	Control (n = 44)	Social Cues, Combined (n = 88)	Negative Cues (n = 37)	Positive Cues (n = 51)
Unique Items (Standard deviation)	52.65 (13.29)	46.29 (13.62)	43.78 (13.38)	48.11 (13.64)
Mean Difference From Control Group [95% CI]		6.35 [1.59 – 11.11]	8.86 [3.07 – 14.66]	4.53 [-.785 – 9.85]
P value of difference		.009	.003	.094
Effect Size (Cohen's d)		.47	.66	.34

Table 4: Mean Items Accessed By Group and Candidate

Group	Preferred Candidate				Rejected Candidate (Average)			
	Control (n = 44)	Social Cues, Combined (n = 88)	Negative Cues (n = 37)	Positive Cues (n = 51)	Control (n = 44)	Social Cues, Combined (n = 88)	Negative Cues (n = 37)	Positive Cues (n = 51)
Unique Items (Standard deviation)	21.16 (5.39)	18.11 (5.68)	16.51 (5.23)	19.27 (5.76)	15.74 (5.06)	14.09 (4.97)	13.63 (5.22)	14.42 (4.80)
Mean Difference From Control Group [95% CI]		3.04 [1.08 – 5.01]	4.64 [2.28 – 7.01]	1.88 [-.285 – 4.06]		1.65 [-.110 – 3.41]	2.10 [-.050 – 4.27]	1.32 [-.660 – 3.30]
P value of difference		.003	.000	.088		.066	.056	.189
Effect Size (Cohen's d)		.55	.87	.33		.33	.41	.26