Cognitive Dissonance: Affecting Party Orientation and Selective Recall of Political Information

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Cognitive dissonance theory posits that inconsistencies between attitudes and behaviors cause an uncomfortable arousal state, and people are motivated to reduce this discomfort by changing attitudes or behaviors to increase consistency. This principle applies to research on political affiliation. Due to dissonance processes, individuals focus less on political information that opposes their views and pay greater attention when it is congruent with their views. This study adds to this research by examining whether political orientation causes a similar pattern of selective attention bias during the recall stage. Participants (117) studied a political article on a social issue representing a viewpoint that was favorable to Democrats. Next, participants recalled as much information as possible by typing the information in a textbox. Using a sliding scale, they also rated how they felt about the article in terms of arousal and affect, and indicated whether the article was neutral, positive, or negative. Democrats were predicted to recall more positive information and more positive affect after reading the article than Republicans. Surprisingly, more Republicans, rather than Democrats, recalled more positive information about the article. Finally, those who scored more conservatively on the political slider also reported more positive affect toward the article. Although contrary to the study hypotheses, these results have implications for our current understanding of selective attention in a political context by showing the bias also occurs at the recall stage. It takes a special effort to be able to think outside the bubble. The purpose of this study is to find what it takes to pop the bubble and change the mindset of political engaged people.

Keywords: *cognitive dissonance, attentional bias, political orientation, selective recall*

Seeing what you want to see

Selective attention bias denotes the tendency of individuals to favor or become predisposed towards a certain stimulus or a set of stimuli. Individuals who display a selective attentional bias tend to select, read, or process information that is in harmony with their views in a biased manner (Knobloch-Westerwick and Meng 2009). In recent years, researchers have contributed to an ongoing debate in the literature regarding selective attentional bias in the field of communication with regard to political affiliations. It is hence important that this subject is studied because if individuals are only attentive to information that matches with their personal views, the result may be the proliferation of echo chambers (Jamieson and Cappella 2008). Echo chambers refer to the process whereby the opinion of an

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individual is amplified by media that they view or consume as well as by being around personal social networks that have views that are in agreement with their position and viewpoints. One can imagine that in a political context, not being fully informed and aware of how these biases shape behavior could have negative consequences. After the results of the 2016 presidential election, it is more important than ever to understand political polarization and the processes that contribute to it. Knowing that the difference between winners and losers is the mindset, the question is what it takes to think outside the bubble? Within the different spheres of mindset, what causes a change in mindset? The hypothesis is that a transformative experience is necessary.

Existence of such echo chambers in various communities could jeopardize opinion diversity as well as have damaging consequences for deliberative democracies; if people constantly surround themselves with information with which they already agree, there may be little room for growth, tolerance, creativity, and other group processes such as group cooperation and innovation. Some researchers have gone as far as to say that a preference for information consistent with one's views and an intolerance of information that is inconsistent with one's views goes against the very principles of democracy (Neuman et al. 2011). Although some research has explored how individuals tend to focus on information consistent with their existing opinions, not as much research has focused on the selective attentional bias in a political context. This includes, for example, how people assign their attention according to their political affiliation and the information presented to them, whether that is in the form of what news channel to watch, what clubs to join, or what books or newspapers to read. Given events in recent history, the present study seeks to bring these areas of literature together to propose a study that explores the role of selective attention on subsequent recall of political information.

Selective Attention

Selective attention is a very specific cognitive-perceptual process that has received a lot of research attention over the years. Original models proposed in the early to mid-1900s sought to try to explain why individuals seemed to be able to pay attention to some things, but not all things, and how this subsequently affected a person's memory (Broadbent 1957, Deutsch and Deutsch 1963, Treisman 1960). These kinds of models put forth the idea that people only have a limited capacity to pay attention to the vast amount of stimuli in their immediate environment, similar to the concept of "cognitive misers," which refers to individuals who take shortcuts when processing information due to the overwhelming amount of surrounding stimuli (Fiske and Taylor 1984). Individuals do, however, influence what information is attended to and kept in memory, using filters of incoming information. These models also were the first to imply that what is focused on or remembered depends on the information that is of interest or relevant to the person perceiving the information (Deutsch and Deutsch 1963). Since these beginnings, much research has explored how selective attention biases can arise in a number of

different contexts. There has also been much research done that seeks to pinpoint what the reasons or personal motivations are (if any) that underlie selective attention processes

Cognitive Dissonance Theory

Although many theoretical models could be particularly relevant to understand selective attention bias, perhaps the most helpful theory to apply is Festinger's (1957) cognitive dissonance theory, which states that people possess an inner drive to hold all their beliefs and attitudes in harmony and to avoid disharmony. According to the theory, people's attitudes may change owing to the inconsistency of these factors within an individual. The focus of this theory is hence the principle of "cognitive consistency" as Festinger (1957) called it. This theory emanates from the idea that people seek consistency in their attitudes and beliefs in all situations whenever the two are inconsistent. The theory also applies to when a thought or feeling is incompatible with a previous action, thought, or feeling. Festinger (1957) proposed that people tend to hold many perceptions regarding the world and themselves; therefore, when behaviors and attitudes clash, an inconsistency is created for the individual. This inconsistency stemming from incompatible cognitions causes arousal, or a tension state referred to as cognitive dissonance. Because experiencing dissonance is a state of aversive arousal and is uncomfortable, people are often motivated to find ways to diminish or eliminate it in a way that will regain consonance. Empirical findings on cognitive dissonance in Festinger's original research showed that to resolve this dissonance, participants changed their attitude toward the tasks in a direction that was more favorable and brought more consistency between their actions and feelings. Specifically, participants convinced themselves that they enjoyed a boring task they had just completed to justify their action of lying to the other participants and saying the task was enjoyable. Festinger's work was the first experimental study to demonstrate this drive and to show that individuals are motivated to achieve this consistent state of mind. Considering the fact that in the sixth century B.C. the fable "The Fox and the Grapes" attributed to Aesop describes the story of a fox that tries to eat grapes from a vine but cannot reach them. After attempting again and again, rather than accepting the defeat, she walked away saying that they were sour to eliminate the discomfort of the failure of not been able to reach the grapes. This seems to indicate that cognitive dissonance may be a constituent element of human nature.

Cognitive dissonance processes have clear value in explaining selective attention and can help apply this principle to attentional bias research. Research finds that selective attention stems from the feeling of dissonance (which Festinger originally proposed) that occurs due to reading or viewing information that is incongruent with one's views (an inconsistency that individuals are motivated to resolve) (e.g., Vraga 2015). Thus, this feeling of inconsistency and dissonance is resolved by focusing one's cognitive attention on information or stimuli that fit with one's beliefs, and also by avoiding information or stimuli that do not fit. In

fact, one of the originally proposed forms of cognitive dissonance was selective exposure to information (Festinger 1957), where individuals choose to seek out biased information to fit in line with a choice, they have already made in the past in order to avoid dissonance. If a past action or behavior is no longer consistent with a changed opinion or piece of information, the person must rationalize either the previous behavior or their current opinion somehow to reduce this inconsistency.

There is empirical evidence to support the idea that people alter their opinions or seek out information in a biased manner, specifically for the sake of consistency. For example, priming participants with a cognitive consistency goal increased the rate that they distorted information to be in line with their views, and it also increased the frequency that they made biased choices that justified their previous actions (Chaxel et al. 2016). Thus, information was mentally altered to fit an existing view. A key conclusion from these findings is that selective exposure to information is a key human motivation and this kind of motivated reasoning is caused by a specific desired outcome: consistency between one's beliefs. According to this research, people are motivated to attain a consistent state between their beliefs and take part in goal-oriented behaviors to get to this state.

Dissonance in a Political Context

Several research studies also support the idea that individuals prefer information that is congruent with their views, and that they are motivated to avoid counter-attitudinal information, specifically within a political context (e.g., Beasley and Joslyn 2001). Individuals experience cognitive dissonance in a variety of political contexts. For instance, they may feel a commitment to supporting a certain candidate due to the past action of having voted for them, and they may then experience dissonance due to the inconsistency between attitude and behavior from having voted for a candidate that lost. Voters may compensate for such inconsistencies by changing their attitudes towards the winning or losing candidates, depending on for whom they voted. This branch of research also suggests that cognitive dissonance processes may be different and maybe even stronger when something such as one's political party affiliation or political identity is at stake, where individuals tend to have very strong attitudes. Confirmation bias takes place, where people prefer to seek out information congruent with their attitudes when looking at political information online and avoid information or articles that contradict their political attitudes (Knobloch-Westerwick and Kleinman 2012). However, this research also found that this confirmation bias effect is stronger or weaker depending on the political context. For example, for participants who felt their favored party was likely to win the election and who didn't consume news often, the biased seeking of confirming the information was strongest, however, for those who felt that there might be a chance of a government change and their preferred candidate might not win, these individuals did not show the confirmation bias (Knobloch-Westerwick and Kleinman 2012). It seems that the details of the political situation can alter just how strong the preference for congruent information is.

In addition to the influence of a specific historical and political context, this tendency for people to seek out congruent information consistent with their own political beliefs is also tied specifically to cognitive dissonance processes and motivations. Members of a political party experience dissonance when presented with counter-attitudinal information and they are motivated to reduce this dissonance by selectively seeking out information that is congruent with their views or the views of their political party (Vraga 2015). In this case, a traditional dissonance paradigm was used where participants were either in a high choice condition or a low choice condition, and then had to write a counter-attitudinal essay either about a political topic or a neutral, non-political topic. In the high choice condition, this meant that participants were told that they were being asked to volunteer to write an essay, while in the low choice condition participants were instead told that they had been randomly assigned a specific essay. When writing a political essay in the high choice condition, Republicans (but not Democrats) not only experienced more dissonance, but their political attitudes also became more polarized, and they showed stronger intentions to seek out congruent versus incongruent information (Vraga 2015). This provides evidence that cognitive dissonance processes can have a strong effect on political attitudes, and that this process of seeking out congruent information can even have a causal effect on group polarization as people strengthen their attitudes in the face of incongruent information.

Also related to the idea of selective attention in the political realm is a large body of research that finds that individuals tend to show decreased attentional effort toward political information that opposes their views, but pay greater attention to political information that is congruent with their views. One online study of selective exposure from a cognitive dissonance perspective found that individuals preferred to read articles congruent with their political views over articles that are against their views (Knobloch-Westerwick and Meng 2009). The authors designed a pretend website with several news articles about certain political issues. They made the articles either attitude-consistent or counter-attitudinal to the participants' reported political positions. They then told participants that they were allowed to spend time reading as many articles of their choice for as long as they liked on the fake website. The results showed that individuals spent about 58% of their time looking at articles that were consistent with their views, and 43% of their time looking at articles that were counter-attitudinal, regardless of the topic of the articles. Put another way, participants spent about 36% more time viewing information that was consistent with their pre-held political views. These researchers also found that this preference for congruent information was stronger for people who reported that they view news sources regularly and among individuals who had stronger or more certain political attitudes. The bias toward seeking attitudinal congruent information holds up regardless of the context or issue the content is related to and has been found to boost the self-concept by increasing accessibility of one's political self-concept (Knobloch-Westerwick and Meng 2011). In this way, avoiding information that goes against one's views and seeking information in line with it seems to provide a confirming, positive sense of self.

In another poignant example, a three-wave panel study was conducted that collected data before, during, and near the end of the Senate Watergate hearings of 1973, which documented both general knowledge and as well as differences in approach and avoidance of information related to the scandal among Nixon supporters, McGovern supporters, and undecided voters (Sweeney and Gruber 1984). Their research confirmed the same pattern of attentional bias; dissonance processes were the cause of differences in both the amount of knowledge the three groups had about the hearings, as well as differences in the amount of attention they paid to it (e.g., watching the news). This provides additional evidence that selective attention in political contexts takes place both through approach processes, or seeking out information that confirms beliefs, and avoidance processes, or the avoidance of disconfirming information in order to reduce cognitive dissonance.

There is also research on the functioning of the physiological system that is responsible for how individuals show selective attention effects when viewing political information or campaign ads (Wang et al. 2012). In a communications study, the authors used advanced physiological measures to capture the amount of attention that participants were paying to various political stimuli. Specifically, they manipulated whether participants saw a Barack Obama campaign ad or a John McCain campaign ad and used several measures of physiology that indicate the degree of arousal in the body to determine the amount of attention paid. The authors found that participants' physiological measures increased substantially (indicating that the participant was experiencing arousal) when they were viewing an ad of the candidate they felt favorably about, but not for a candidate they did not prefer. These results demonstrate, according to the authors, that it is a complicated cognitive and neurological system that is responsible for the selective attention effect, and that this is a process humanity may not be able to detect or report. It also has implications for the effectiveness of political ads and campaigns. These tools may be useful for people who already feel favorably about the candidate or party, but they may be at a disadvantage when trying to reach out to those on the other side. People simply are not motivated to hear out a campaign ad, commercial, speech, or any other form of political propaganda, unless it represents a viewpoint that the person already agrees with or finds favorable.

The present study takes the literature described above one step further by examining whether this pattern occurs at the recall stage. There is some reason to believe that the same bias toward information congruent with one's views would occur at the recall stage. Research in cognitive psychology supports the idea that a person's selective attention serves as a guide for the brain to not hold on to irrelevant information, but only retain self-relevant information in the mind (Downing 2000). If a person tends to focus only on certain information, then they should also be more likely to store that information into short-term or long-term memory and be able to later recall it. The effect also operates in the opposite direction. A person's memory also can guide them in how they perceive political information and may have a causal effect on their selective attention bias (Downing 2000). For this reason, we predicted that similar patterns to the research on selective attention to political information will happen with regard to the recall

of political information. Specifically, we hypothesized that participants would recall more information when it was congruent with their political views, either in the form of positive information about their party or their party's viewpoint on the issue, or negative information about the opposing party or its viewpoint on the issue. They should also feel more positively about the information that is congruent with their views, and more negatively about viewing information that is against their views.

The current study explored whether political orientation influences selective recall of political information. Specifically, we expected that participants would recall more positive information when it is in line with their party's views, and more negative information when in line with an opposing party's views (Houston et al. 1999). The key independent variable of interest was political orientation. The two dependent variables were the amount of positive versus negative information recalled, as well as affective rating response to the article. For this study, since the article was about raising the minimum wage, which is an issue that is more favorable to Democrats (Bloch 1980), we predicted that Democrats would recall more positive information and feel more positive affect after reading the article. We predicted that Republicans, on the other hand, would recall less positive information and more negative affect. The formal study hypotheses were as follows:

> *H1:* Democrats will recall more positive information from the article than Republicans.
> *H2:* Democrats will report more positive affect than Republicans after reading the article.

Experimental Method

Participants

A sample of 117 individuals ranging from various political backgrounds, states, and ages participated in the study. Participants were recruited using non-random, snowball/convenience sampling methods. A total of 247 participants began the survey, however, only 117 (64 males and 57 females) provided complete data and were used in the study. Participants were originally from different locations within the United States. Only 33 percent of participants were from California. The average age of the sample was around 30 years old ($M =$ 29.78, $SD = 12.48$). Just over 31% of the sample had obtained a bachelor's degree, and all participants had at least a high school degree or GED.

The recruitment process consisted of participants who were reached via social media networks, such as Twitter, Facebook, Instagram, and the like. Faculty members, students, and university club leaders used their personal network to reach a larger population outside of the university. They shared the link with other individuals, creating a snowball sample comprising of a wide range of participants.
Measures

The study used Qualtrics online survey software, and the data were analyzed using SPSS and LIWC language processing software.

Political Article

The article that all participants were required to read, discussed a social issue that is believed to be a political issue: the minimum wage system in the United States. The article described basic information about different minimum wages, different policies, and individuals who are involved in supporting or opposing raising the minimum wage. The article was selected from a database of articles on opposing viewpoints, and although the article does have information from both viewpoints on the issue, it was deemed to be somewhat more favorable for Democrats, for instance, because it discussed recent gains in the movement to increase the minimum wage (Bloch 1980). The article was only a few paragraphs long to be sure participants had enough time to view and study the article.

Free Recall Task

The first task was a recall measure assessing how many pieces of information participants could recall from the article. This task was a free recall task, where participants could write down as many pieces of information as they liked into a text box. Two aspects of the recalled information were assessed: the amount of information recalled and whether the participant viewed the information as positive or negative. The nature of information recalled was assessed using Linguistic Inquiry and Word Count (LIWC2015) software developed by Pennebaker and colleagues (Pennebaker et al. 2015). LIWC is a demonstrably efficient way to analyze the structural and emotional components of language in written text. Amounts of positive and negative information were established by the language analysis provided by LIWC. The open-ended information recalled by each participant was entered into the software and analyzed for the number of words written, and each entry was also given a score for the amount of positive emotional content and negative emotional content. Since the amount of positive and negative emotional content was pulled from the information participants recalled about the article, this was deemed to be an appropriate measure of positive or negative information. These were the measures used to indicate the amount of information, positive information, and negative information. For instance, the following quote was given a "positive emotion" score of 5.56 by the LIWC program: "This article is very good. I like the suggestion that minimum wage should be left to the state and should be increased slowly not jumping from seven dollars to $15 because the only one who are minimum wage are young people who don't have skills or some immigrants who don't speak English very well." As another example, the following quote was given a "negative emotion" score of 5.88: "So many people in the United States have low income job. The majority of the people. Most of those people are young and work for low income jobs, for example, a fast food chain. Economy is bad. Panera bread are thinking of using robots to serve people instead of real people."

Affect

Affect was measured using the affective slider scale (Betella and Verschure 2016). The affective slider is an online self-reporting tool that uses two sliding scales from negative to positive, one to measure arousal and one to measure pleasure or affect. On the arousal slider, the anchors were a face showing very low arousal and a face showing very high arousal. Likewise, on the affect or pleasure slider, the anchors were a very sad face and a very happy face. Participants were able to slide the tool up and down on each slider and select the position that best indicated how they felt. Each point on the slider produced a numerical value between 0 and 100 indicating the person's level of affect or arousal on the measure. This brief measure was chosen over longer scales that measure affect to avoid overburdening the participants after a challenging cognitive task. The affective slider has also been widely used and empirically validated by prior research (Betella and Verschure 2016).

Article Neutrality

Participants were asked one multiple-choice item to assess whether they thought the article that they read was "positive", "negative", or "neutral." This measure served as an alternative method of assessing positive feelings vs. negative feelings toward the article.

Demographic Characteristics

We collected several demographic characteristics from the participants, including self-reported age, gender, highest level of education attained, current state of residence, and their primary source of news. The demographic questionnaire also included items regarding political orientation: specifically, whether participants are Republican, Independent, or Democrat. This item was a simple multiple-choice question, with the three political orientation choices and an "other" category.

During the course of the study, based on a preliminary view of the data, another political orientation measure was added. Participants after this point also answered a slider measure similar to the affective slider to assess their political leaning, ranging from liberal to conservative. This item was added in response to a large portion of participants selecting "Independent" so that the researcher would be able to consider participants who may not feel confined to one of the four categorical responses provided. It also was added to help measure the strength of political attitude, or how politically invested participants were.

Procedure

At first, participants read that they were taking part in a study about information processing. They then were prompted to read the political article. The researcher instructed them to read the article carefully and closely since they would be asked to recall information later. A timer feature on the Qualtrics survey platform was used to require participants to spend a certain amount of time reviewing the article before they could continue to the next page of the study, and

this was included in the instructions that participants read about studying the article carefully. Initially, the timer required participants to remain on the page with the article for at least five minutes before being able to move on to the recall stage. However, this was changed to two minutes during the course of the study based on feedback from participants that the five minutes was for too long to spend on the article. After viewing the article, participants wrote as many pieces of information that they could remember about the article. Next, they indicated how the article made them feel using the affective slider measure (Betella and Verschure 2016) where participants reported whether they felt the article was positive, negative, or neutral. Finally, participants answered all of the demographic questions (age, gender, state of residence, highest level of education completed, political orientation, etc.). After reading the article and completing all of the study questions, participants were debriefed and thanked for their participation.

Political orientation was fairly evenly represented in the sample; 38 identified as Democrat, 28 identified as Republican, 32 identified as Independent, and 20 selected the "other" category. Several participants were residents of California (33.6%). Participants seemed to be fairly politically informed, as many reported consuming one or more sources of news. They most commonly listed the Internet and TV as their source of news, while also listing many different news channels and websites, such as Fox News, BBC, as well as social media sources such as Facebook and Twitter.

Results and Discussion

Currently, the United States is split by a polarized political environment, social unrest, economic uncertainty, and deterioration of civil rights. This exploratory study attempts to give some insights on the root cause that may have contributed to this impasse and provided measures and hints to policymakers to inform the populace to make educated choices. News at times can be harbored by biased wording and supported by partisan sources. One needs to critically think and use an inquiry approach to analyze the information and check its facts.

The histogram in Figure 1 represents the distribution of the variable affect based on respondents' self-report. Using the tool affective slider, respondents could range from negative to positive in reference to the article content, with zero representing a negative response and 100 a positive.

Figure 1. *Affect Slider Selection Distribution*
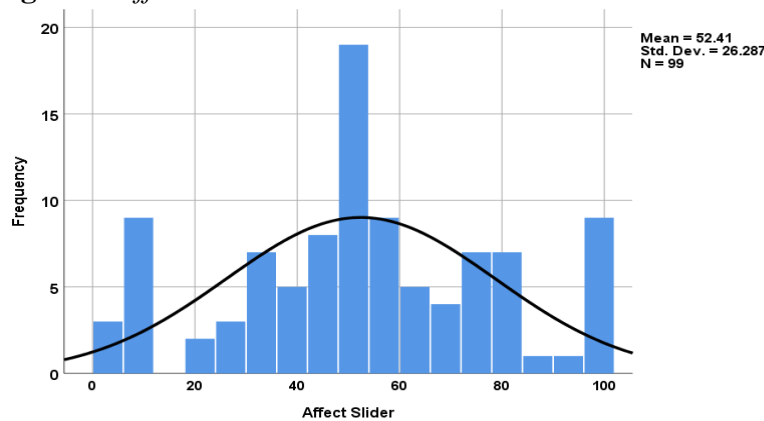
Table 1. *Test of Normality of the Affect Distribution*

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Affect Slider	0.090	99	0.044	0.965	99	0.010

a. Lilliefors Significance Correction.

The test of normality is shown in Table 1 with a significance value of 0.044 for the Kolmogorov-Smirnov test and 0.010 for Shapiro-Wilk, thus we reject the null hypothesis and conclude that the data for the affect variable is statistically different from a normal distribution. As we observe Figure 1, it seems that the distribution has high counts for low, medium, and high values of the variable. This outcome of extreme values for the counts may have contributed to the deviation from normality. The skewness is very close to zero (-0.65) indicating a symmetric behavior, but it may be based on a trimodal behavior, ranging from negative, neutral and positive responses, with neutral being the most frequent choice. In Figure 2, the Normal Q-Q (Quantile-Quantile) plot depicts a moderate nonlinearity. The Detrended Normal plot, which represents the magnitude and direction of deviation in the observed quantiles, indicates that we might have three main distinct groups in the way the article affected respondents based on their selection at the slider, namely negative, neutral and positive.

Figure 2. *Normal Q-Q Plot and Deviation from Normal Plot*
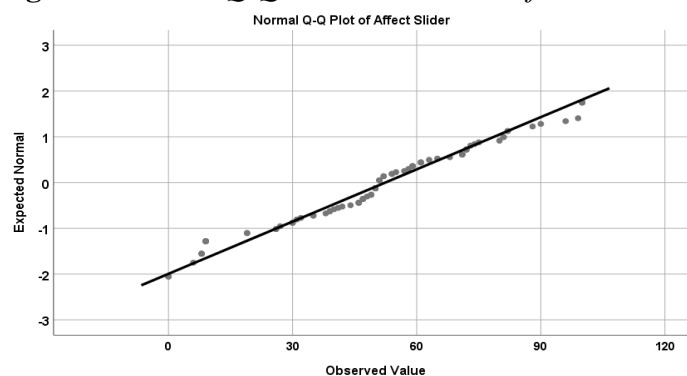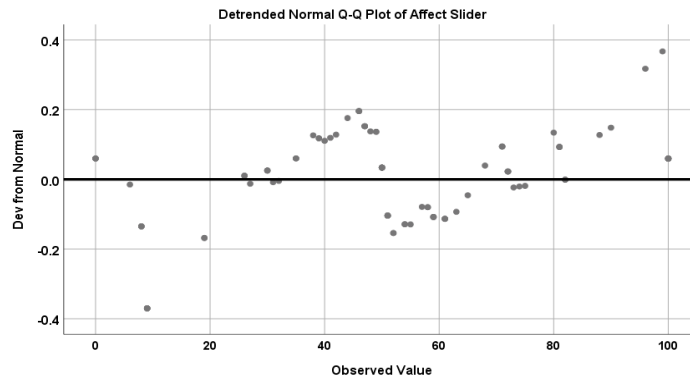
In Figure 3, a bar chart was created with the three denominated responses and we found that neutral selection constitutes 59%, while the positive and negative accounts for 26% and 15% respectively.

Figure 3. *Bar Chart Describing the Three Main Responses of Affect towards the Article*
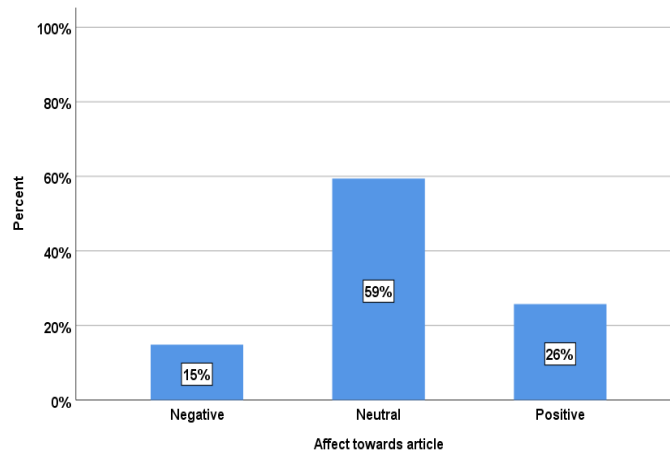
Figure 4. *Boxplot of Affect towards the Article for Different Political Orientation*
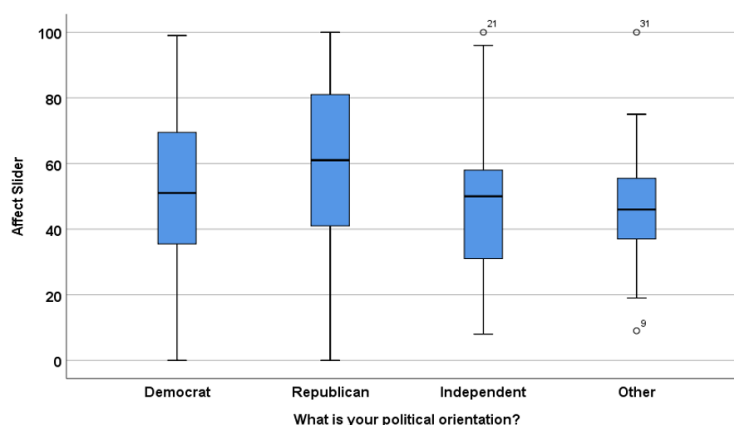
In Figure 4, the boxplot for different political orientations seems to indicate that the distribution is normal for each of the political orientations because the median is close to the middle of the boxplot. This can be confirmed by the tests of Normality for each political party shown in Table 2 with significance values above 0.05 for both Kolmogorov-Smirnov and Shapiro-Wilk. However, the boxplot for the republican party has a median and distribution higher than the other political parties. This result may indicate that republicans in general have a positive attitude towards the article.

Table 2. *Test of Normality for Affect Response for Each Political Orientation*

Tests of Normality							
What is your political orientation?		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Affect Slider	Democrat	0.120	28	0.200[*]	0.966	28	0.481
	Republican	0.116	26	0.200[*]	0.934	26	0.095
	Independent	0.155	26	0.111	0.948	26	0.211
	Other	0.161	15	0.200[*]	0.963	15	0.751

* This is a lower bound of the true significance.
a. Lilliefors Significance Correction.

Figure 5. *Bar Chart of Affect towards the Article for Different Political Orientation*
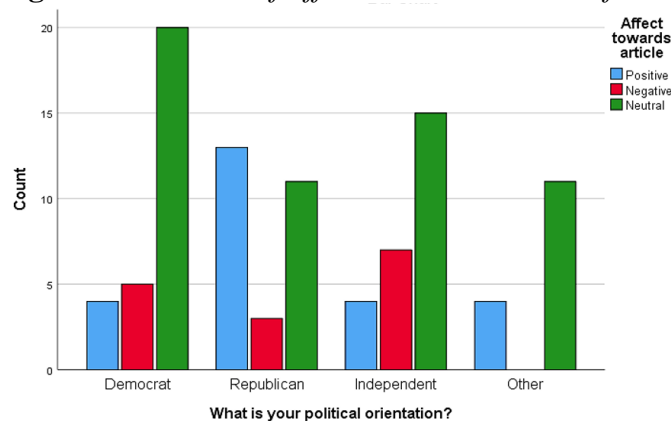
In Figure 5, the bar chart shows a pattern of a positive affect towards the article for the republican orientation which is confirmed with the highest residual value (3.1) found in Table 3. Democrats seem to have the highest value for the neutral selection, but this result is not supported by a low residual analysis (1.3). In addition, there is a trend for democrats, independents, and other political orientations on the affect towards the article where the neutral selection is much higher than the positive. This trend is not observed for the republicans. In fact, the Republicans have an opposite behavior with the positive count being about three times higher than the other political parties.

Table 3. *Cross-Tabulation including Political Orientation and Affect towards the Article Including Bonferroni Correction for 12 Comparisons*

What is your political orientation? - Selected Choice * Affect towards article Cross tabulation						
			Affect towards article			Total
			Positive	Negative	Neutral	
What is your political orientation?	Democrat	Count	4	5	20	29
		Expected Count	7.5	4.5	17	29
		% within What is your political orientation?	13.80%	17.20%	69.00%	100.00%
		Adjusted Residual	-1.8	0.3	1.3	
		Significance value of the adjusted residuals	**0.0781**	**0.7519**	**0.1825**	
	Republican	Count	13	3	11	27
		Expected Count	7	4.2	15.9	27
		% within What is your political orientation?	48.10%	11.10%	40.70%	100.00%
		Adjusted Residual	3.1	-0.7	-2.2	
		Significance value of the adjusted residuals	**0.0018**	**0.4615**	**0.0251**	
	Independent	Count	4	7	15	26
		Expected Count	6.7	4	15.3	26
		% within What is your political orientation?	15.40%	26.90%	57.70%	100.00%
		Adjusted Residual	-1.4	1.9	-0.1	
		Significance value of the adjusted residuals	**0.1569**	**0.0589**	**0.8969**	
	Other	Count	4	0	11	15
		Expected Count	3.9	2.3	8.8	15
		% within What is your political orientation?	26.70%	0.00%	73.30%	100.00%
		Adjusted Residual	0.1	-1.8	1.2	
		Significance value of the adjusted residuals	**0.9314**	**0.0716**	**0.2125**	
			alpha	New alpha		
			0.05	0.0042		

Table 4. *Chi-Square Test of Independence - Political Orientation and Affect towards the Article*

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.423[a]	6	0.017
Likelihood Ratio	16.927	6	0.010
Linear-by-Linear Association	0	1	0.992
N of Valid Cases	97		

a. 5 cells (41.7%) have expected count less than 5. The minimum expected count is 2.32.

A Chi-square test of independence was performed to examine the association between political orientations and affect toward the article. The relation between these variables was significant $X2$ (1, N=97) = 16.927, p= 0.010, as shown in Table 4. In this case, since 5 cells (41.7%) have expected count values less than 5, we used the likelihood ratio test instead of Pearson Chi-square. Because the p-

value is below our usual cut off point of 0.05, we reject the null hypothesis, therefore we must assume that there is a significant association between political orientation and affect towards the article. In Table 5, the value of Cramer's V is 0.282, with an approximate significance of 0.017 indicating a low to moderate association. However, in Table 3 the cross-tabulation shows that the highest adjusted residual is 3.1 with an observed count much higher than expected, indicating that republicans have a positive affect towards the article. This may suggest that republicans were more likely than other political orientations to be positively affected by this article. The residuals for other political orientations were negative, indicating that the actual count was less than the expected count. These results lead us to conclude that political orientation seems to interfere with the decoding of the information or news source.

Table 5. *Symmetric Measures the Strength of Association*

Symmetric Measures		Value	Approximate Significance
Nominal by Nominal	Phi	0.399	0.017
	Cramer's V	0.282	0.017
N of Valid Cases		97	

The Bonferroni correction was used because of the risk of a type I error when making multiple statistical tests simultaneously. With Bonferroni correction, the statistical significance was set at 0.0042 (Adjusted alpha - correction for 12 comparisons 0.05/12). In Table 3 we see that there were 13 republicans that responded positively, and the expected value was 7 with a significance value of the adjusted residual of 0.0018 that is less than the Bonferroni correction of 0.0042. This confirms the finding that republicans were positively affected by the article. The neutral position for republicans was another area that could be statistically significant. Since the observed count (11) was less than the expected value (15.9) the adjusted value is -2.2. The significance value of the adjusted value (0.02521) is greater than Bonferroni correction (0.0042) indicating that neutral position is not statistically significant. The democratic selection of positive affect with residual (-1.8) also seems to indicate a tendency to be statistically significant. However, the finding of 0.0781 for the significance value of the adjusted value is greater than 0.0042 with a count of 4 that is less than the expected count of 7.5. Thus, the democratic selection of positive affect in relation to the article is not significant.

In Figure 6, the bar chart shows similar behavior for both male and female in relation to affect toward the article indicating that gender is not a factor. The Chi-square test was performed and confirmed that there is no significant difference due to gender with the asymptotic significance well above 0.05.

Figure 6. *Clustered Bar Chart of Effect towards the Article for Different Gender*
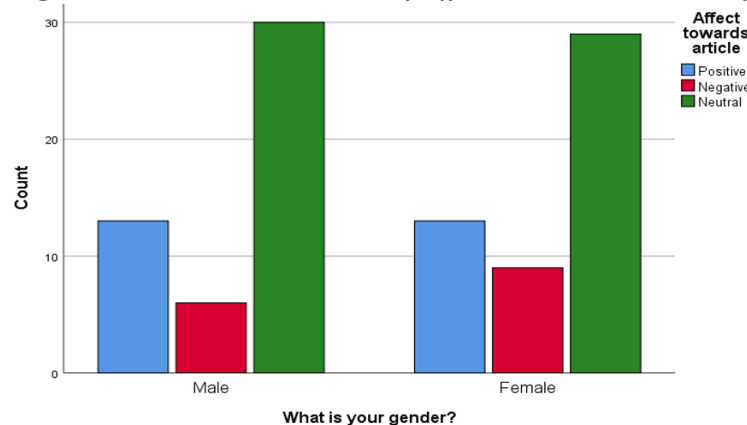
In Figure 7 the clustered bar chart seems to indicate that there might be a pattern of disproportional high counts for a neutral position for respondents with higher education in comparison to high school graduates, while there is an equivalent number of counts for both positive and neutral counts for respondents with only a high school education. This may imply that education is an important factor in political awareness and understanding of social and political events. This observation seems to be in agreement with the adjusted residual value of (-2.2) for the neutral selection. This high value of the residual, within fifteen comparisons as shown in Table 6 may indicate statistical significance where the count of 9 was much less than the expected count of 13.6.

However, the Chi-square test does not indicate any association between affect toward the article due to education level. Further analysis using Bonferroni correction was performed and the significance value of the adjusted value is 0.0272 for the adjusted residual of -2.2 failed to reject the null hypothesis since the Bonferroni correction cut off value is 0.0033.

Despite the apparent association, there is not enough evidence available to suggest the dependence between the education's level and affect towards the article. As this work was exploratory, we recommend further investigation with higher sampling and one-on-one interviews.

Figure 7. *Clustered Bar Chart of Affect towards the Article for Different Education Levels*
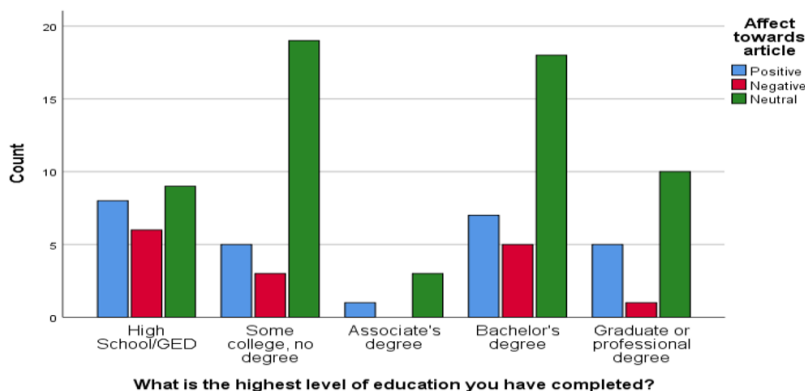
Table 6. *Cross-Tabulation including Education Level and Affect towards the Article*

What is the highest level of education you have completed? * Affect towards article						
			Affect towards article			Total
			Positive	Negative	Neutral	
What is the highest level of education you have completed?	High School/GED	Count	8	6	9	23
		Expected Count	6	3.5	13.6	23
		% within highest level of education	34.80%	26.10%	39.10%	100.00%
		Adjusted Residual	1.1	1.7	-2.2	
	Some college, no degree	Count	5	3	19	27
		Expected Count	7	4.1	15.9	27
		% within highest level of education	18.50%	11.10%	70.40%	100.00%
		Adjusted Residual	-1	-0.7	1.4	
	Associate's degree	Count	1	0	3	4
		Expected Count	1	0.6	2.4	4
		% within highest level of education	25.00%	0.00%	75.00%	100.00%
		Adjusted Residual	0	-0.9	0.7	
	Bachelor's degree	Count	7	5	18	30
		Expected Count	7.8	4.5	17.7	30
		% within highest level of education	23.30%	16.70%	60.00%	100.00%
		Adjusted Residual	-0.4	0.3	0.1	
	Graduate or professional degree	Count	5	1	10	16
		Expected Count	4.2	2.4	9.4	16
		% within highest level of education	31.30%	6.30%	62.50%	100.00%
		Adjusted Residual	0.5	-1.1	0.3	
Total		Count	26	15	59	100
		Expected Count	26	15	59	100
		% within highest level of education	26.00%	15.00%	59.00%	100.00%

Figure 8. *Relative Frequencies of Different Political Orientation*
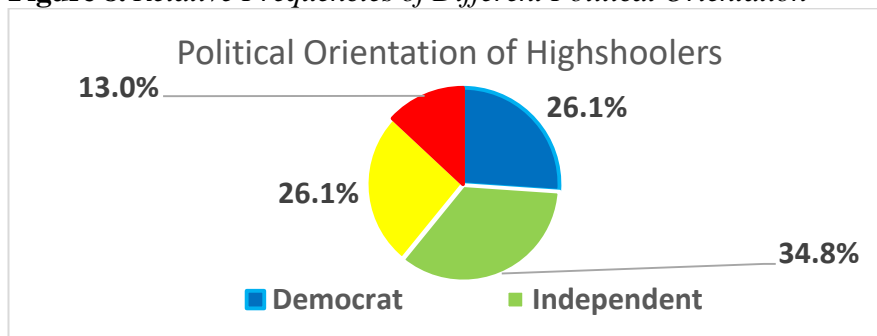
In Figure 8, a pie chart represents the relative frequencies of different political orientations. It shows that most republicans that participated in this survey have education beyond high school. Responders that only completed high school identified themselves as either independent (34.8%), Democrats (26.1%), others (26.1%) or Republicans (13%).

Figure 9. *Cluster Bar Chart of Different Political Orientation*
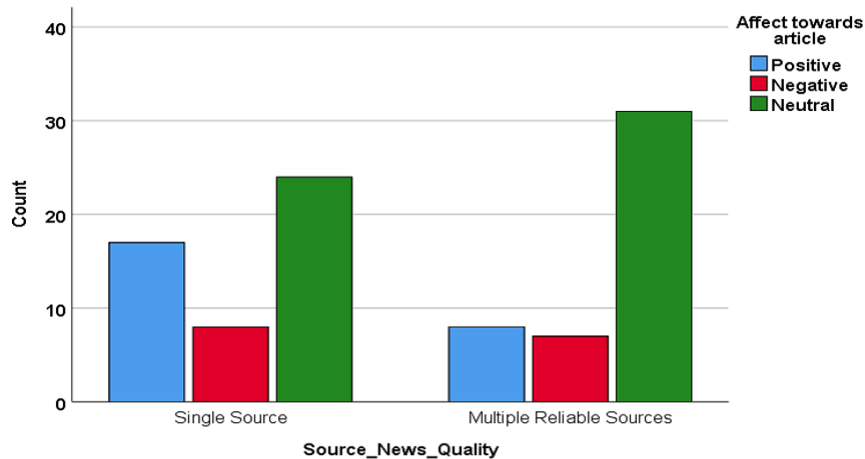
The clustered bar shown in Figure 9 represents affect responses towards the article for respondents that utilized a single source of news information or multiple sources to become aware of political activities. We see a telling pattern of high counts of neutral position towards the article for respondents that rely on multiple sources of information. However, respondents that review only a single source of information seem to have a higher count for a positive position towards the article.

This observation is reassured by the cross-tabulation in Table 7 where the value of the adjusted residual for the cell of single source and positive affect towards the article has the highest value of 1.9 due to a larger count observed (17) than the expected (12.9). The value of 1.9 for the adjusted residual with the significance value of 0.0556 seems to suggest a mild significance between respondents that utilize a single source of news may be affected positively towards the article. However, Bonferroni correction with the statistical significance set at 0.0083 (Adjusted alpha - correction for 6 comparisons 0.05/6) is less than the adjusted residual significance of 0.0556 so we do not reject the null hypothesis indicating that there is no association between a single source of news and a positive effect.

Table 7. *Cross-Tabulation including Source of News and Affect towards the Article*

*Source News Quality * Affect towards article Cross tabulation*						
			Affect towards article			Total
			Positive	Negative	Neutral	
Source News Quality	Single Source	Count	17	8	24	49
		Expected Count	12.9	7.7	28.4	49
		% within Source_News_Quality	34.7%	16.3%	49.0%	100.0%
		Adjusted Residual	1.9	0.1	-1.8	
		Significance value of the adjusted residuals	**0.0556**		**0.0693**	
	Multiple Reliable Sources	Count	8	7	31	46
		Expected Count	12.1	7.3	26.6	46
		% within Source_News_Quality	17.4%	15.2%	67.4%	100.0%
		Adjusted Residual	-1.9	-0.1	1.8	

		Significance value of the adjusted residuals	**0.0556**		**0.0693**	
	Total	Count	25	15	55	95
		Expected Count	25	15	55	95
		% within Source_News_Quality	26.3%	15.8%	57.9%	100.0%
			alpha	New alpha		
			0.05	0.0083		

What did the Respondents Remember after Reading the Article?

An analysis of the word choice and themes in the answers of the respondents reveal their thoughts, feelings, and motivations in relation to minimum wage. Three main categories were identified: people's status of poverty, job market change, and cost of living. Respondents who identify as democrats believe that the increase of minimum wage impacts society positively by helping reduce poverty. They also seem to understand that a minimum wage increase may reduce job opportunities due to the cost to the businesses and the subsequent implementation of automation. Lastly, the cost of living is hardly discussed by the democrats' respondents.

Republican respondents also display concerns about job opportunity reduction due to the increased financial toll on businesses. However, instead of linking the increase of minimum wages to the reduction of poverty, the republicans emphasize the ensuing increase in cost of living.

Transcripts from both republicans and democrats were processed for nouns by the Linguistic Inquiry and Word Count program (LIWC 2015) for cognitive process words as described in Table 8.

Table 8. *LWCI Dimension Data of Transcripts for Both Republicans and Democrats*

Traditional Liwc Dimension	Republicans	Democrats	% Difference
I-Words (I, Me, My)	0.6	0	-
Social Words	5.8	5.6	4%
Positive Emotions	1.2	1.4	15%
Negative Emotions	1.5	2	29%
Cognitive Processes	11.5	8.9	25%
Summary Variables			
Analytic	87	87.8	1%
Clout	54.6	57.1	4%
Authenticity	24.2	15.8	42%
Emotional Tone	20.5	17.1	18%

Cognitive processes were most pervasive for republicans than for democrats, averaging 11.5%, whereas words reflecting negative emotions (1.5%) were least prevalent. This may indicate that Republicans made more effort to process thinking. A major difference between republicans and democrats is authenticity,

with 42% difference where republicans had higher number associated with a more honest, personal and disclosing text. Similarly, republicans had a higher number for emotional tone reflecting a more positive, while a lower number as observed for the democrats, reveals anxiety, sadness or hostility. Still both were significantly lower than 50 indicating a lack emotionality or some level of ambivalence.

Findings suggest that democrats were more negative and less authentic with lack of emotional tone. It is important to note that this study was executed during the period of 2016 when the democrats lost the presidential election. This event could have caused the results observed in this study. It is expected that a social crisis will naturally evoke negative sentiment and the public mourns their loss and growing anxious about the future.

Recommendation

Nature's diversity is a fundamental pillar of our existence. Without diversity, there is no life. This diversity also holds through for our political affiliations. Unfortunately, we are very vulnerable to our implicit biases. We seem to accept news (real or fake) that favors and benefits our party or social group, while we reject information that goes against our political views. It is important to question our own ideological views by exposing ourselves to a greater number of viewpoints. We should try to gain an understanding and appreciation of our own cognitive biases and update some of our questionable beliefs to avoid the thinking that evidence is only in the domain of our own social group. In addition, the development of tolerance, empathy, and respect to others' point of view is crucial to prevent the creation of toxic environments that make critical thinking and persuasive activities difficult to materialize. If we allow ourselves to be unbiased, there are many possibilities that could be explored such as controversial theories suggested by economist Milton Friedman in favor of taxes on pollution.

This study suggests that education may play a role in the awareness of politics as well as the interpretation of sources of news and information. Thus, we need to ensure that social and political comprehension is emphasized in secondary education. With this improved political awareness, we can learn to listen carefully, reflect critically, and act accordingly to overcome news stories that are clearly designed to manipulate our intuitions and our emotions.

Discussion

This study sought to add to the literature on selective attention in a political context, by demonstrating that the same motivated processing of information as laid out in cognitive dissonance theory (Festinger 1957) drives people to selectively pay attention to, and therefore selectively recall, political information that is in line with their existing political attitudes. Overall, there was a somewhat surprising lack of support for the study hypotheses. Although not statistically significant, the trend in the average total amount of information recalled, as well as positive or

negative information recalled seemed to imply that Republicans recalled more of each kind of information than the other political groups. Stronger support was found for the hypothesis that political orientation would be a factor influencing participants' affect towards the article, however, the result was in the opposite direction than what was hypothesized. Those who self-reported as Republican or Conservative more frequently reported that the article was positive. Interestingly, the other political orientation categories (i.e., Democrat, Independent, Liberal, Other) more frequently reported that it was neutral, not necessarily negative. The same pattern was found for participants' reports of their affective state after reading the article.

There are many possible mechanisms that were operating during the study that could have influenced these results. First, it is possible that there were some issues of internal validity and that historical and contextual factors relating to the recent 2016 election may have affected participants' responses. Indeed, research shows that people's tendency to prefer congruent information can be swayed by how confident they are in their preferred party, such as in their party's ability to win an election (Knobloch-Westerwick and Kleinman 2012). Those who have a strong belief in the ability of their preferred party tend to show the *strongest* preference for confirming information, whereas those who feel less secure or confident in a win for their party do not show the confirmation bias. Although the election has passed at the point of writing this paper, it is possible that Republicans and Conservatives feel emboldened and empowered by the Republican party's presidential win, as well as their control of the House and the Senate. This political context may have been what was driving Republicans and Conservatives in this sample to feel confident and, therefore, to exhibit the bias of only focusing on things they found positive about the article. Other political orientation groups would not have been operating under the confirmation bias and may have simply focused equally on both the confirming and disconfirming parts of the article, which would explain their responses showing that the article was neutral.

There is also the possibility that when perceived information matches the reader's own opinions or outlooks, they may find the material neutral rather than positive. Work on the confirmation bias and the expectation of seeing certain information indicates that if someone reads an article that is already in line with their views, they may not be motivated to process the article very highly (Nickerson 1998). Since this article seemed to be somewhat favorable towards Liberals or Democrats (since it described recent gains in the movement for raising the minimum wage), these participants may not have been triggered to have an emotional reaction to the article, viewing it as unsurprising. Since we did not ask participants what positive or negative meant to them, it is difficult to address this possibility. Still, this could be one possible explanation of Republicans' and Conservatives' greater recall of more positively themed information and more information overall.

Another possible reason for these findings lies in the cognitive differences in processing and behavior between conservative individuals and liberal individuals. For instance, liberals and conservatives react to others in need very differently for a number of different reasons, for example, depending on whether they have

violated societal conventions or whether shared resources are scarce (Skitka and Tetlock 1993). In fact, Skitka and Tetlock (1993) found that while liberals seemed to help others out of a motivation to avoid awkward or socially unacceptable outcomes, conservatives were more likely to withhold assistance out a motive to punish individuals they viewed as responsible for their own negative situation, ostensibly in order to punish them for "riding on the coattails" of others. It is possible that the article used for this study triggered this kind of feeling towards individuals who would benefit from a raising of the minimum wage. Indeed, several respondents recalled information that described this population, using phrases such as "single parent, immigrant, working two jobs, choosing between paying bills or putting food on the table" etc. It is possible, then, that for liberals/ Democrats, this same information – that lower-income people are struggling – was perhaps met with empathy and even evaluation of both sides of the article. However, for Republicans or Conservatives – who might read the description of these low-income communities and react in a "that's what they get" sort of sense – might actually respond positively to this content. For example, those higher in the need to believe in a just world (Lerner and Simmons 1966, Hafer and Bègue 2005) have the tendency to blame others who are disadvantaged and believe that they somehow caused their own predicament and therefore deserve it. These individuals are also less likely to have compassion towards or provide assistance to such "deservingly disadvantaged" targets, and through the belief that their situation is just, people boost their own self-esteem and worldview. This explanation is beyond the scope of this paper, however, it is possible that the rationalization of low-income people's situation led to a positive state of mind for Republicans/ Conservatives, since they are more likely to believe in a just world (Hafer and Bègue 2005).

There were several limitations to the present study. There was a large number of surveys that were started but not completed, leading to a lot of missing data. A possible reason to why this may have occurred is that since 2017, 58% of Americans, including Democrats (52%), independents (59%) and Republicans (77%), agree that they have political opinions they are afraid to share (Ekins 2020). A larger sample size may have helped detect any effects that are truly in the population with regard to processing political information. Future studies should try to address this research question with a larger, more representative sample. A larger sample size would be more conclusive as it would be composed of a bigger population consisting of political groups.

The results could have also been affected by several aspects of the study design. First, the article may have been too long, too difficult, or unengaging for participants, and they may not have made the effort to try to remember as much information about it, as they were instructed. There was some evidence of this, as some participants admitted they did not read the article. Since these participants' data could not be used, this may have also limited the power of the study to detect effects. If the article had been more engaging for participants, perhaps the study would have better-detected differences in recall between political orientation groups. Related to this limitation is the fact that the researcher adjusted the length of time participants had to spend reading the article before they could advance and

continue the study. At the start of data collection, the timer was set to 5 minutes, but after receiving some feedback that this may be too long, this time was reduced to 2 minutes. Although unlikely, it is possible that the difference in time limits influenced the results of the study, and results should be interpreted with caution. Similarly, the addition of the political slider measure after the initiation of the study meant that those who participated before this change took place did not complete this second measure of political leaning.

Another limitation lies in the nature of the method of analysis. The dependent variables of positive and negative information were operationalized for this study as the amount of positive and negative emotional content of the information participants recalled about the article. Despite the potential pitfalls of off the-shelf text analysis software, there is a growing popularity of computerized text analysis, it is important that reductive, word-count programs such as LIWC are used with caution. However, we used LIWC in conjunction with other qualitative analysis strategies and it has become clear from the experiments presented that results were consistent.

It is also possible that LIWC did not take into account the number of independent pieces of information when calculating word counts and other analyses. It is possible that Republican/Conservative participants were simply more verbose, but not necessarily writing about more distinct pieces of information from the article. Future studies could use more intensive, word-by-word coding techniques to see if the results might be different with a different type of language analysis.

Conclusion

Overall, this paper provides an exploration of selective attention processes in a political context. It was found that when tasked with recalling as much information as they could from an ostensibly neutral political article, it appeared the Republicans/Conservatives, not Democrats/Liberals, recalled more positive information, said the article was positive vs. neutral, and themselves felt more positive affect and arousal after reading the article. Although in the opposite of what was expected, this finding does indicate that something is going on involving the information processing of information by these different political groups. Further research should work to unpack what this mechanism is, perhaps by assessing other social-personality and cognitive variables that are known to accompany different political orientations. For instance, right-wing authoritarianism, the need for cognitive closure, openness to change, system-justification, and social dominance orientation are all individual difference variables that have been tied to how people approach political situations and social issues (Jost et al. 2003). One's tendency to respond by helping others compared to maintaining the status quo could have certainly affected how participants responded in this study. In addition, it is suggested that future studies should include a political knowledge assessment in order to better estimate the validity of the results. Overall, the present paper provides an interesting starting point to

pinpoint the effects of political orientation on selective attention, and the subsequent selective recall of political information. In the Internet age, we are saddled with an educational system for the industrial age, modeled on mass production and designed for efficiency, not for high standards.

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