Reaction to Conflict:

How Emotional and Physiological Responses to Political Conflict Predict News Consumption

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This paper begins with the simple question of why some people choose to follow political news while others prefer to avoid it. While there has been a great deal of research connecting political interest to important democratic outcomes, we still know very little about what creates an interest in following politics. We do know that interest in politics is affected by environmental factors such as family (Jennings et al. 2009) and socio-economic status (Ansolabehere 2003; Hillygus 2005; Solt 2008), that it is fairly stable through adulthood (Glenn and Grimes 1968; Prior 2010), and genetic factors may influence levels of political interest (Klemmensen et al. 2012). Other research has shown that individuals who tend to avoid conflict have lower levels of political engagement (Ulbig and Funk 1999; Mutz 2002), but recent work by Testa, Hibbing and Ritchie (2014) demonstrates conflict’s role in encouraging political engagement. These contradictory findings suggest some individuals avoid political discussions because they involve disagreements and conflict, while others engage in such discussions for the very same reasons.

This paper takes this theory and applies it to interest in news about public and world affairs. We know some individuals are news seekers while others are entertainment seekers (Johnson and Arceneaux 2013; Prior 2007). News frequently features conflict, and it appears some citizens handle the display of conflict better than others. Does response to conflict, both positive and negative, affect whether someone is a news seeker or an entertainment seeker? We begin to answer this question with a test of how people’s emotional and physiological reactions to conflict-laden news
predicts their choice of articles to read. To accomplish this, we pair self-reported emotional responses to conflictual political news articles with a measure of electrodermal activity (EDA) collected while subjects read the same article. We then use these measures to determine whether they predict subjects’ selections in a task where they select either threatening news- or non-threatening entertainment news articles for reading.

The study yields two interesting results. First, we find a quadratic relationship between self-reported emotional reactions and physiological reactions to reading conflictual political news. EDA is largely a measure of arousal, so it responds similarly to stress as it does excitement. Therefore, those who reported positive emotions while reading conflictual political news have similarly high EDA responses as those who reported negative emotions. Those who reported middling levels of pleasure, however, had significantly lower EDA responses. This measure provides evidence of variance in how individuals react to political conflict in the media. Some have a stressful reaction to conflict, some seem to be hardly affected, and others are excited by the conflict. Second, subjects who reported high levels of pleasure and had high levels of EDA while reading a conflictual political article were more likely to choose to news than entertainment in the article selection task. Those who had either low self-reported pleasure or low EDA (or both), were less likely to choose news over the entertainment options. While this paper will not be able to fully explain conflict’s role in political interest, these results provide evidence that news seekers have a different emotional and physiological response to conflictual political news than those who avoid news.

**Previous research**

Having an active interest in political affairs is generally a good predictor a host of variables considered positive for democracy. Scholars have linked political interest to attitude formation (Druckman and Lupia 2000), political participation (Krosnick and Milburn 1990; Verba, Schlozman
and Brady 1995; Zaller 1992), political sophistication (Delli Carpini and Keeter 1996), and political efficacy (Craig, Niemi, and Silver 1990). Many of these studies focus on a self-reported interest in politics or public affairs. Other research, however, has measured interest in politics through the consumption of news media (Prior 2007; Arceneaux and Johnson 2013). This research notes that some citizens actively seek out media about news and politics, while others eschew news in favor of entertainment options. This difference between news seekers and entertainment seekers has become increasingly important as consumers have gained more media options and more control over programming. Consumers have always had control over how much media they consume, but cable, streaming services, and the internet allow for nearly complete control over the type of media they consume (Prior 2005). Research in this area shows that there are distinct differences between those who choose news and those who choose entertainment (Arceneaux and Johnson 2013; Prior 2005).

What is not fully understood is why some individuals are news seekers while others are entertainment seekers. Previous research focuses on environmental factors, such as parents’ behaviors (K. Jennings et al. 2009), education (Hillygus 2005), or income (Ansolabehere 2003; Solt 2008). While we do not deny the importance of these factors, we also believe they are incomplete and do not fully explain the differences we see in people’s interest in political news.

Previous research in political science notes important differences in emotional reactions to politics (Marcus 2003; Brader 2005; Gruszczynski et al. 2013; Albertson and Gadarian 2015) and how some individuals respond to conflict about politics (Ulbig and Funk 1999; Mutz 2002; Testa, Hibbing, and Ritchie 2014). While previous research has not explicitly focused on emotions and conflict in relation to news-seeking behavior, related research creates some expectations for the relationship. Ulbig and Funk (1999) find that those who find political discussions unpleasant tend not to participate in politics. Those who have cross-cutting social networks, meaning they are
exposed to heterogeneous political views, are less likely to be engaged in politics if they are conflict adverse (Mutz 2002). Additionally, Mutz and Reeves (2005) find that those who are conflict adverse respond negatively to uncivil political arguments on the news, while Johnson and Arceneaux (2010) find that those with high levels of conflict aversion are less likely to view cable news shows.

All of this research has focused on the avoidance of conflict but Testa, Hibbing, and Ritchie (2014) find evidence that some people are attracted to conflictual political discussions, and that these people are also more likely to be knowledgeable about (and participate in) politics. By applying the findings of this research with the research on news seekers and entertainment seekers, we hypothesize that news seekers respond positively to conflict while entertainment seekers respond negatively. If politics causes an individual to experience negative emotions, we would expect that individual to choose entertainment over news options. Conversely, if someone feels pleasure and is excited by conflict we would expect them to be more likely to consume political news.

**Self-Reported Emotions and Automatic Responses**

Much of the research on response to conflict as it relates to politics relies on various self-reported responses to conflict (although see Mutz and Reeves 2005). This study uses a combination of self-reported and automatic responses to conflict. The self-reported response provides a context (positive or negative) for the emotional reaction to conflict, while the physiological response indicates the level of arousal experienced while reading the article featuring conflict. Measures of automatic response allow for a unique insight into a subject’s response to a stimulus and because the response is an unconscious reaction by the body’s nervous system, it is not susceptible to the typical problems with self-reported measures such as social desirability or demand characteristics. Automatic responses can be measured through multiple aspects of the body’s automatic nervous
system including heart rate and breathing patterns. This study uses electordermal activity (EDA) which is a measure of the sweat present on skin, indicating an automatic response to arousal. EDA is widely used to measure changes in the sympathetic nervous system due to changes in emotional and cognitive states, as it is the only physiological response that is not contaminated by parasympathetic activity (Braithwaite et al. 2013). Scholars have used EDA as a measure for arousal while investigating the physiological processes behind deliberation (Lodge and Taber 2013), conflict aversion (Mutz and Reeves 2005), threat sensitivity (Oxley et al. 2008), disgust sensitivity (Smith et al. 2011), out-group considerations (Renshon, Lee, and Tingley 2015), and political ideology (Dodd et al. 2012).

While EDA is an excellent measure of arousal, it responds similarly to both positive and negative valance arousal (Duffy 1962; Lang et al. 1993). In other words, EDA does not clearly indicate if the response is stress or pleasure related. For the purposes of this study, EDA presents us with an incomplete picture when looking at subject’s response to conflict, as we suspect important differences between those with negative and positive responses. In order to solve this problem, we pair the EDA measure with an emotional valance measure in the form of the Semantic Differential Scale (Mehrabian and Russell 1974). While this scale measures a variety of emotions, this study uses the pleasure portion of the scale to operationalize valance. Based on what we know about these two measures, we expect there to be U-shaped or quadratic relationship between EDA and self-reported valance measure. When the EDA indicates high arousal, we expect for the self-reported valance to indicate strongly positive or negative emotions. When EDA is low, we would expect for moderate or mixed reports of emotion.
Responses to Conflict in Political News

This study is interested in a particular type of conflict, the type that is found within political news. Our theory suggests positive or negative responses to this type of conflict will predict levels of news-seeking behavior. We wanted to measure both self-reported and automatic responses to conflict while our subjects were reading conflictual political news. To do so, we selected six published political news articles featuring a variety of levels in conflict. Using Amazon’s Mechanical Turk, we asked respondents to read the article and then rate it on a 10-point scale between harmonious (0) and conflictual (10). We recruited 607 respondents and each one was randomly assigned one of the six articles so that each article was rated around 100 times. The articles with the highest and lowest scores on the conflictual scale was chosen for the proceeding study. The summary statistics of the two articles are listed below in Table 1 and the full text of the articles can be found in Appendix A.

Table 1 – Summary Statistics for Political News Articles

<table>
<thead>
<tr>
<th>Article</th>
<th>N</th>
<th>Mean Conflict Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict Article</td>
<td>102</td>
<td>7.09</td>
<td>2.17</td>
</tr>
<tr>
<td>Non-Conflict Article</td>
<td>111</td>
<td>2.49</td>
<td>2.20</td>
</tr>
</tbody>
</table>

Study Design

We recruited 97 subjects from a pool of regional staffing agencies and university students to participate in a “cognitive focus” study during the summer and fall of 2015. Subjects were paid at an hourly rate set by their respective agencies. Table 2 displays the descriptive statistics of the subject
pool, which were broader than a typical sample of university undergraduates. However, when compared to the general U.S. population, our sample was less educated, less Republican, and less racially diverse.

Table 2 - Descriptive Statistics of Participants

<table>
<thead>
<tr>
<th>Stat</th>
<th>Stat</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>36.9</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>(16.5)</td>
<td></td>
</tr>
<tr>
<td>Median Income</td>
<td>$25k-$35k</td>
<td>96</td>
</tr>
<tr>
<td>Proportion college-educated</td>
<td>.74</td>
<td>97</td>
</tr>
<tr>
<td>Proportion female</td>
<td>.65</td>
<td>96</td>
</tr>
<tr>
<td>Proportion white</td>
<td>.32</td>
<td>97</td>
</tr>
<tr>
<td>Proportion Democrat</td>
<td>.84</td>
<td>97</td>
</tr>
</tbody>
</table>

Standard deviations in parentheses

We seek to explain differences in news-seeking behavior. Rather than on relying on notoriously unreliable self-reported measures, we ask subjects to select an article from a list of sixteen headlines (Figure 1). After subjects read that article, they are returned to the list of headlines to select a second, and then again for a third. We coded these articles as either containing threatening news or as non-threatening news/entertainment. Our main dependent variable, then, is the probability of selecting a threatening news-oriented article.
The expectation is that those who exhibit the most anxiety while reading conflictual political news would be the least likely to select threatening news articles.

**Figure 1 – Article Selection Prompt**

For this next task, we would like you to select a news article to read from the list below.

A. Terrorist Group Finances Are Strong
B. Cancellation Shocker! Long-Running Series Gets Axed
C. Columbian Town Hit Hard by Flood
D. Spotify’s Top 10 Most Streamed Tracks
E. ConAgra to Pay $11.2M to Settle Criminal Case
F. Actors Who Have Been Accused of Disturbing Crimes
G. Marcus Mariota has the NFL’s Best-Selling Jersey
H. Emma Watson Addresses Prince Harry Dating Rumors
I. Start Your Car with Apple Watch?
J. Man Wrongly Imprisoned Sues Detectives
K. Mad Max Sequel Planned
L. ISIS Planning Attacks on U.S. Soil
M. Immigrants Hold Large Protest for Immigration Reform
N. Four Charities Accused of Fraud
O. Ohio Man Finds Canister Containing 21-Year-Old Message
P. US Colleges Giving Financial Aid to Illegal Immigrants

Please press the letter of your selection on the keyboard and then press ENTER.

We use EDA as an indication of arousal and anxiety. Electrodes attached to the index and middle fingers of the subjects’ non-dominant hands record their EDA. These electrodes measure subjects’ skin conductance levels (SCL) as they vary with sweat gland activity due to stress, arousal, or emotional excitement. We then use the SCL measure to calculate each subject’s skin conductance response (SCR). SCR measures the phasic change in electrical conductivity of the skin. SCR is appropriate when measuring faster-changing elements of the signal.

To understand how individuals react to conflictual political news, we compare baseline measures of SCR to the SCR while subjects read the news articles selected from the Mechanical
Turk study. To establish each baseline measure, we average the SCR over a ten-second inter-stimulus interval (ISI) that immediately precedes the presentation of each article. During the ISI, subjects see a screen indicating that the system is retrieving the next article for display. Once an article is displayed, we average the SCR over the first ten seconds of the stimulus. We present subjects with with non-conflict article first, followed by the conflict article, each preceded by an ISI used to establish a baseline.

The difference in average SCR between each article and its preceding baseline ISI indicates the level of change in arousal associated with reading that news story. Once those differences are calculated, we then compare the differences for the conflict and non-conflict articles to determine whether individuals exhibit more arousal for conflict-laden stories. The equation below describes how we arrived at the EDA response measure.

\[
Arousal_{NC} = \overline{SCR}_{Article_{NC}} - \overline{SCR}_{ISI_1}
\]

\[
Arousal_C = \overline{SCR}_{Article_C} - \overline{SCR}_{ISI_2}
\]

\[
Arousal_C - Arousal_{NC} = EDA \text{ Response}
\]

To gather self-reports of emotion, we asked each subject questions from the Semantic Differential Scale (Mehrabian and Russell 1974) immediately after reading each article. Within this battery of questions, the subjects rate how they felt after reading the articles on two 5-point scales: Pleased (5) versus Annoyed (0) and Hopeful (5) versus Despairing (0). We add these two scales together to create a ten-point self-reported pleasure scale. The pleasure variable presented below is the self-reported pleasure after reading the conflict article. Prior to participating in this portion of the study, subjects completed a survey asking a variety of questions about their demographics,

\[1\] We gave subjects four tasks in between their selection of headlines and the presentation of these new articles to allow any residual effects from the selection task to subside.
attitudes, personality and politics. Among those questions was a 20 question battery to determine the subject’s five factor personality traits.

Results

This study is first interested in establishing the relationship between the automatic EDA response and the self-reported emotional response. We did not expect a linear relationship between the two, but instead a quadratic relationship. Table 3 presents the results of the EDA response regressed on pleasure and pleasure-squared in order to test the quadratic relationship between the two measures.

Table 3 – Quadratic Relationship between EDA and Pleasure Responses

<table>
<thead>
<tr>
<th>EDA Response</th>
<th>Coefficient</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Reported Pleasure</td>
<td>-0.066 *</td>
<td>0.028</td>
</tr>
<tr>
<td>Self-Reported Pleasure²</td>
<td>0.008 *</td>
<td>0.003</td>
</tr>
<tr>
<td>Constant</td>
<td>0.095</td>
<td>0.062</td>
</tr>
</tbody>
</table>

** = p-value > .05 | R² = .04

As the results show, there is a significant quadratic relationship between EDA and self-reported pleasure. These results show a relationship very close to what we expected. We see that when EDA response is high, self-reports of emotion are in the extremes. When EDA is low, subjects report moderate emotions. These results provide evidence that a U-shaped quadratic relationship between the automatic arousal and self-reported emotions exists.
Next we turn to testing our primary model in which self-reported and automatic responses to conflictual political news predict the probability of choosing news headlines. The model interacts the self-reported and automatic measures, and so this variable shows the effect when the subject reports positive emotions and exhibits high levels of EDA while reading the article. We expect that this relationship will be positive, so that a positive emotional reaction and high arousal will predict a high probability of choosing news. The coefficient for self-reported pleasure indicates the relationship when the subject reports positive emotions but exhibits low EDA. We do not expect this condition to significantly predict the probability of choosing news headlines. The EDA coefficient indicates when EDA is high but the subject reports a negative response to the article. Here, we expect that this condition will have a negative effect on choosing news, as we have observed a stressful reaction to reading conflictual political news.

The model also controls for age, party identification, partisan strength, and the five factor personality traits. Commonly known as the “Big Five” these personality traits are the product of over a century of research attempting to classify the broad dimensions that people use when thinking about personalities. The five factors are extraversion, agreeableness, conscientiousness, emotional stability, and intellectualism. Within political science, scholars associate the Big Five with various behaviors including political interest (Gerber et al. 2011), frequency of political discussions and level of political knowledge (Mondak and Halperin 2008). Research also shows an association with approaches to conflict (Eliot and Thrash 2002; Antonioni 1998). Because we know these associations exist, it is important to control for these traits. We would expect that conscientiousness and intellectualism would have positive correlations with choosing news headlines over
entertainment headlines. We also would expect emotional stability and extraversion to have some increased tolerance for conflict, while agreeableness may actually decrease tolerance for conflict.

Table 4 – Predicting Probability of Choosing News Headlines

<table>
<thead>
<tr>
<th>Choosing News</th>
<th>Coefficient</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Reported Pleasure</td>
<td>-0.021</td>
<td>0.023</td>
</tr>
<tr>
<td>EDA Response</td>
<td>-1.030 *</td>
<td>0.483</td>
</tr>
<tr>
<td>Pleasure * EDA Response</td>
<td>0.156</td>
<td>0.109</td>
</tr>
</tbody>
</table>

*Big Five Personality*

| Conscientiousness                  | -0.150      | 0.215|
| Agreeableness                      | -0.058      | 0.299|
| Intellectualism                    | -0.302      | 0.308|
| Emotional Stability                | 0.354       | 0.240|
| Extraversion                       | 0.052       | 0.219|

*Other Controls*

| Age                                 | -0.001      | 0.002|
| Party ID                            | 0.016       | 0.027|
| Partisan Strength                   | -0.025      | 0.055|
| Constant                            | 0.594       | 0.354|

*p-value > .05 | R² = .117

We present the results from the model in Table 4. The first independent variable is Self-Reported Pleasure which represents the condition when pleasure is high but EDA is low. This condition has a negative but insignificant effect on choosing news headlines. We did not expect that there would be a relationship for this variable. The EDA Response variable indicates the condition where a high EDA response is paired with a negative emotional response. As expected, this condition has a negative effect on the probability of choosing news headlines. This condition is indicative of those who respond with stress to conflictual news stories. Therefore, we would expect such individuals to avoid news when they have the chance. The next variable in the model is the interaction between pleasure and EDA response. The coefficient for this variable represents the
condition where there is a positive emotional response and high EDA response to reading the conflictual article. As expected this condition has a positive relationship with the selection of news headlines. Although this relationship is not statistically significant at the standard 95% confidence level, it is significant at the 90% one-tailed level. This finding provides evidence that there is a tentative relationship between being positively stimulated by political conflict and following news. As noted earlier, most research connecting conflict to politics has focused on how conflict drives some away from politics. This finding, along with that of Testa, Hibbing, and Ritchie (2014) indicates that conflict can actually draw some individuals towards political engagement.

Figure 3 below graphs the predicted probability of choosing news across levels of EDA responses. The lines show the relationship between EDA and choosing news with various levels of self-reported pleasure to reading conflictual news. The graph is focused on the moderate to high levels of both EDA and pleasure. The green line (dotted) shows the relationship when self-reported pleasure is high with a score of 9 out of 10, which was the highest recorded value. For this line, as EDA gets higher the predicted probability of choosing news headlines sharply increases to nearly a 50% chance of choosing threatening news. The red (solid) line shows the relationship when self-reported pleasure is moderately high (7 out of 10) and is also positive but at a lower rating topping out at just over 35% chance of choosing news headlines. The blue (dashed) line shows the relationship when pleasure is moderate and set at 5. At this level of pleasure, there is just over 20% chance of choosing the threatening news at the higher levels of EDA response.

Figure 3 – Conditional Effect of Pleasure
Discussion

There are two interesting findings from this research. First, self-reported pleasure and automatic EDA response while reading the same conflictual news articles have a quadratic relationship. EDA is an established measure of arousal (Duffy 1962; Lang et al. 1993; Ravaja 2004; Braithwaite et al. 2013), having the benefit of being a fully automatic and unconscious response. The limitation of EDA is found in its qualitative interpretation. Excitement generated from positive stimuli looks nearly the same as stress caused from negative stimuli. While self-reports of emotional reactions to stimuli are not nearly as sensitive or accurate as automated measures, they are able to
provide a direction for the valance of the reaction. By using a portion of the Semantic Differential Scale (Mehrabian and Russell 1974), this study is able to provide an accurate measure of subject’s reaction to reading conflictual political news stories. This measure illustrates the variance in how individuals react to political conflict in the media. Some have a stressful reaction to conflict, some seem to be hardly effected, and others are excited.

The second finding of this paper makes use of the EDA and emotional measures to predict the likelihood subjects choose a news story when given the option to choose news or entertainment. As expected, the findings provide tentative evidence that individuals are more likely to choose news when they are positively aroused while reading conflictual news. Similarly, those exhibiting negative arousal are less likely to select news. This finding fits our theory, and confirms the findings of Testa, Hibbing, and Ritchie (2014); not only are some people dissuaded from following politics because of its inherent conflict, but others are actually more engaged with politics because of the conflict it provides. The difference between news seekers and entertainment seekers is partially explained by a negative and positive response to conflict.

These findings only lead us to a need for further research. First, we need to collect more data. We are still in the process of testing more subjects. We will have more confidence in our findings once the sample becomes larger and more representative. Second, scholars should conduct content analyses to determine what aspects within news articles some find avoidable while others find appealing. This study only tests six articles and only is able to gain a vague sense as to which articles were more or less conflictual. A better understanding of what attracts or dissuades people from political news will be beneficial.
Appendix A

Conflict Article

Putin accuses US of supporting separatists in Russia

Intercepted calls showed that United States helped separatists in Russia’s North Caucasus in the 2000s, Russian President Vladimir Putin claimed in a new documentary in which he underscored his suspicions of the West. The two-hour-long documentary focuses on Putin’s achievements as well as challenges to his rule — which the producers and Putin blame on Western interference.

The documentary showed Putin interviewed at the Kremlin in the dimly-lit St. Alexander’s Hall. In excerpts released shortly before the film’s broadcast, Putin said Russian intelligence agencies had intercepted calls between the separatists and the U.S. intelligence based in Azerbaijan during the early 2000s, proving that Washington was helping the insurgents.

Following a disastrous war in the 1990s, Russia fought Islamic insurgents in Chechnya and neighboring regions in the volatile North Caucasus. “They were actually helping them, even with transportation,” Putin said.

Putin said he raised the issue with then-U.S. President George W. Bush, who promised Putin to “kick the ass” of the intelligence officers in question. But in the end, Putin said the Russian intelligence agency FSB received a letter from their “American counterparts” who asserted their right to “support all opposition forces in Russia,” including the Islamic separatists in the Caucasus.

Putin also expressed his fears that the West wishes Russia harm as he recalled how some world leaders told him they would not mind Russia’s possible disintegration.

“My counterparts, a lot of presidents and prime minister told me later on that they had decided for themselves by then that Russia would cease to exist in its current form,” he said, referring to the time period around the second conflict in the Caucasus. “The only question was when it happens and what consequences would be.”
Navy to double maternity leave, make fitness changes

Navy Secretary Ray Mabus is set to unveil a host of far-reaching initiatives and policy changes aimed at improving quality of life and careers for sailors and Marines, a senior Navy official confirmed to Navy Times.

Mabus, in a speech to the U.S. Naval Academy in Maryland on Wednesday, will announce plans to ease body fat restrictions, boost career flexibility, and push to recruit more women in the Navy and Marine Corps, while opening up the last jobs that remain closed to them.

Some of the initiatives aimed at retaining women include doubling paid maternity leave to 12 weeks, longer child-care hours, an updated co-location policy for dual military couples and opportunities like the career intermission program, which allows sailors to take time off to pursue educational or other personal goals.

The initiatives have been in the works for some time. Mabus has publicly voiced support for increasing the number of women and the jobs open to them, while Chief of Naval Personnel Vice Adm. Bill Moran’s office has been collecting fleet feedback on everything from revamping Navy Knowledge Online and the Physical Fitness Assessment to beefing up education and civilian training opportunities. Mabus is also expected to highlight recent moves to accelerate promotions for top performing corporals.

All of the initiatives are on a timeline to be completed from as early as this year for many of them to 2018 for some of the fitness updates.
Sources Cited


