

Individually Informed: Personality, News Consumption, and Affective Polarization

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News consumption may be fueling affective polarization, and as media choices increase, individual factors such as personality may influence exposure patterns. Personality may also moderate the impact of news consumption and directly influence levels of hostility. This analysis of an original US survey (N = 855), examines the roles Big Five traits play in these processes. I find extraverted individuals are likely to consume more news overall, including more cross-ideological news. Extraversion is also associated with negative reactions to polarizing content. Agreeable individuals, in contrast, were associated with greater ideologically homogenous consumption patterns. Although news consumption was found to predict out-party hostility, this was not consistently moderated by personality traits. Personality, however, had direct effects on this hostility, with evidence that agreeableness and extraversion lower it, and neuroticism raises it. These results provide evidence that the effects of a diverse media environment should vary based on personality.

Keywords:

Affective Polarization; Big Five; Media; News Consumption; Personality

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1. Introduction

Public opinion polls suggest that partisans of both major US parties are increasingly willing to express a dislike of those on the “other side”. In 1960, less than 10% of Americans would be displeased if their child married someone of a different party. By 2010, that had risen to about 30% among Democrats, and almost 50% among Republicans, as reported by Iyengar, Sood, and Lelkes (2012). This phenomenon of ‘affective polarization’ has been shown to impact Americans’ lives in diverse ways, from shortening the time families spend together at Thanksgiving (Chen and Rohla 2018), to online dating profiles (Kiefer 2017), and in an experimental setting, influencing hiring decisions (Iyengar and Westwood 2015).

The consequences of this divide are potentially destabilizing for American democracy and social cohesion. This was seen in two recent, vivid examples. The rejection of the 2020 election results among a large number of Republicans and subsequent attack on the Capitol can be seen as one of those examples. Animosity towards Democrats likely inclines one to believe they would be behind large-scale election fraud. Another example is the response to the Covid-19 pandemic. Instead of the country coming together to fight the disease, we saw the politicization of potential treatments. From the potential uses (or dangers) of Hydroxychloroquine, to the use of masks, to the reopening of schools. Even early on, political affiliation largely drove beliefs about the pandemic and social distancing behaviors (Makridis and Rothwell 2020). This may not be solely the result of affective polarization. Differences in opinion on these issues could naturally be the result of long-standing ideological, dispositional, and policy differences between the two parties. That said, the growing distaste between the two parties likely exacerbated an already difficult issue.

Additionally, people tended to perceive party differences as larger than they were. One poll showed that over half of all Democrats thought that almost none, or just some of Republicans, thought it necessary to wear masks in public. According to the same poll, 68% of Republicans stated people should wear masks in public (Edwards-Levy 2020). These false beliefs may be further fueling the dislike between the parties. Misunderstandings about Covid-19 attitudes and behaviors parallel general misunderstandings of the policy distance between the two parties (Levendusky and Malhotra 2016; Yudkin, Hawkins, and Dixon 2019). Much of the growing dislike Americans are showing for their cross-party fellow citizens may stem from warped views of what the other side actually believes. Partisan news sources, especially when focusing on the negative aspects of the opposing party, may be driving much of these misperceptions. Yudkin, Hawkins, and Dixon (2019) found that increased media consumption increases misperceptions about the opposing party – with more partisan sources having much larger effects than more neutral ones. Indeed, a growing literature has developed showing that media consumption patterns may be a large factor driving affective polarization (e.g., Garrett et al. 2014; Hmielowski, Beam, and Hutchens 2016; Hopkins and Ladd 2013; Lau et al. 2017; Lelkes, Sood, and Iyengar 2017; Levendusky 2013; Stroud 2010).

The large role that media plays in affective polarization is likely due to the increased number of choices available to consumers, first with the rise of cable television, and subsequently with the internet. People are naturally inclined to consume news that accords with their beliefs. They may also be drawn to news that exaggerates the threats posed by the “other side”. As media options increase, so does the ability of consumers to seek out and consume polarizing content. However, not all individuals have the same preferences for polarizing media, and therefore an abundance of choices may magnify the impact of personality. Early research indicated that one’s personality influences general media preferences and consumption patterns (Gerber et al.

2011a; Mondak 2010). More recent research has found that personality traits influence consumption patterns linked to affective polarization, such as consuming cross-ideological content (Kim and Kim 2018) and negative news (Bachleda et al. 2020).

In order to get a clearer picture of how personality affects news consumption, I conducted an original survey in the US using the Prolific survey platform. I measured media usage as well as attitudes towards the media, in order to get a fuller picture of how personality influences overall consumption patterns. Furthermore, to assess the impact of negative portrayals of the out-party, respondents were given either supportive or hostile editorials to read about the opposing side. The impacts of these treatments were measured, as well as attitudes towards the editorials, to see how individuals with different personalities think about and react to this kind of content.

The results add to the small but growing literature on this topic in three main ways.

First, I find that news consumption differs depending on personality. Although open individuals claim they seek out cross-ideological news content, this is *not* reflected in reported consumption levels. On the other hand, two other traits do seem to play a role in cross-ideological consumption. Extraverted individuals report consuming the most news overall, including cross-ideological news. Additionally, extraverted individuals rated editorials hostile to the opposing party negatively. Agreeable individuals, in contrast, were found to be most likely to report “echo chamber” consumption patterns. Agreeableness was also found to predict getting upset by the news, as well as a dislike of offensive content. These findings may indicate agreeable individuals seek out more comfortable news – which results in less cross-ideological consumption.

Second, I show that both media consumption patterns and exposure to polarizing editorials impact assessments of the opposing party. In the case of reported consumption, matched consumption was associated with more hostility, and cross consumption less hostility. Similarly, reading an editorial sharply critical of the other side increased hostility, while reading an editorial displaying more understanding and support towards the other side lowered it.

Third, these relationships were not consistently and robustly moderated by personality traits. That said, I do find direct relationships between personality traits and hostility towards the opposing side. Agreeableness and extraversion are associated with less hostility, while neuroticism is associated with more.

2. A changing media landscape

Prior (2007) demonstrated that the transformations, first to broadcast based news consumption, and then to cable news consumption, had profound effects on the public – on political knowledge and political behavior. His research also demonstrated that it is not merely the nature of news programs which are relevant, but the alternative options available. The competition both between news providers and with non-news media has gone into overdrive with the emergence of the internet. Currently, more Americans frequently get their news from social media than newspapers (Shearer 2018). These changes have devastated the traditional news media. Over the past 15 years over 1 in 5 American newspapers has shut down, leaving many communities without a local paper (Takenaga 2019). Newsroom employment in the US

has shrunk by 23% between 2007 and 2019 (Grieco 2020), while digital native newsroom employment has more than doubled.

Growing hostility towards the out-party (for a recent review, see: Iyengar et al. 2019) could be partially attributable to these changes within the news media sector. By changing the format and availability of news sources, certain dynamics emerge which may exacerbate this relationship. The options available to consumers allow people to choose to consume news compatible with their prior beliefs, leading to further reinforcement and perhaps intensification of these beliefs. Moreover, due to a sensitivity to negative news and outgroup threats, people may choose to consume sources that paint an unfair and overly negative picture of their political opponents. These tendencies people have may further drive the sector into providing content which is one-sided and negative, due to market forces and better tracking and analytical capabilities.

Selective exposure is an old idea in psychology that has recently been revived as an explanation for the patterns in ideological and affective polarization we are seeing today (e.g., Garrett et al. 2014; Lau et al. 2017; Stroud 2010). While previously its role has been viewed as limited, the transformations which have taken place in the media sector have increased its relevance. There are two questions to consider: First, to what extent do individuals actually choose to restrict their news consumption to one side? And second, what effect does a restricted consumption pattern have?

Explanations for why individuals would *choose* to restrict their consumption to “their side” are often based on theories of motivated reasoning and confirmation bias (Lodge and Taber 2013). These argue that people choose to consume information which confirms their existing

viewpoints and avoid information which challenges those viewpoints. This would be prior and in addition to a tendency to interpret information in a way which supports those viewpoints (Kahan et al. 2017). Although there has been debate about the extent of echo chambers and ideological bubbles, recent data indicates Democrats and Republicans do have very different sources of news they use and trust (Jurkowitz et al. 2020).² Experimental research also shows that individuals prefer to consume news that corresponds to their ideological views (Iyengar and Hahn 2009). Selective exposure, however, does not merely reflect existing attitudes. The introduction of Fox News into local television markets, a natural experiment, was found to reinforce Republican loyalties and increase Republican vote intentions (Hopkins and Ladd 2013). It stands to reason that affective polarization could be a product of similar processes. And indeed, access to broadband has been found to increase partisan hostility (Lelkes, Sood, and Iyengar 2017). These findings provide evidence that media usage does more than reflect existing positions.

Arguably, a key reason why selective exposure may increase affective polarization is due to negative representations of the out-party (Levendusky 2013). This is an illustration of the general tendency to be drawn to negative and threatening news (e.g., “if it bleeds it leads”). Additionally, news sources have a tendency to focus on the scandals of the out-party (e.g., Puglisi and Snyder 2011) more than they do on the scandals of the in-party. Research has also shown that affective polarization is most increased through negative depictions of the other side, rather than positive depictions of one’s own (Smith and Searles 2014). Both the behavior of the writers and editors, as well as the response of the viewers, are likely due to natural tendencies to look for threats and focus on the faults of the outgroup. After all, it is better to be excessively vigilant than risk catastrophe. Negative portrayals of the other side likely relates to

² However, for a contrary and nuanced perspective, see: Guess et al. (2018).

findings (Levendusky and Malhotra 2016; Yudkin, Hawkins, and Dixon 2019) that media consumption increases cross-party misperceptions.

Following these arguments, any media environment with large numbers of partisan choices would likely lead to increased affective polarization due to consumers choosing to selectively consume partisan media, often with menacing portrayals of the outgroup. Technological innovations may worsen this pattern. Unlike with previous news technologies, the internet allows media companies to get fine-grained data on which specific stories attract the most attention. If individuals are drawn to negative portrayals of the other side, this technology may lead organizations to focus on stories, headlines, and angles which exacerbate affective polarization (Klein 2020; Munger et al. 2020). Suggestion algorithms may amplify these effects, according to a similar logic.

As both choosing to consume ideologically consistent media and being drawn to negative portrayals of the other side are the result of human psychology, there is likely variation in these tendencies due to personality.

3. An increasing role for personality

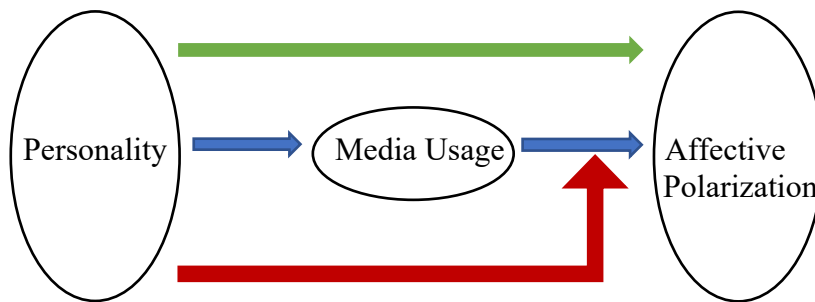
As the media landscape becomes more varied, it is reasonable to assume that one's personality will have a larger role in determining what one becomes exposed to. This argument is similar to the argument in Prior (2007). As media choices increased, he witnessed a greater divergence between different groups of individuals, based on their preferences. Our personalities influence our preferences enormously, and as a result, the more varied the options there are, the more our

individual differences will lead us into a unique environment. The two main areas where this is most relevant to affective polarization is, first, the tendency towards selective exposure, and second, the tendency to be attracted to negative news or negative portrayals of the other side.

This article, as well as the research it builds upon, are based on the Big Five, the most commonly used personality measure in psychology (John, Naumann, and Soto 2008). It consists of five traits. Openness describes how open individuals are to new experiences and ideas. Conscientiousness describes how orderly or rule-following a person tends to be. Extraversion describes how outgoing and extraverted individuals are. Agreeableness represents how nice or empathetic a person is. And neuroticism (also known as emotional stability) describes how sensitive to negative emotions a person is. For several decades these traits have been studied in political psychology to see how associated they are with various political attitudes. A large literature has developed, finding persistent influences of these personality traits. Largest and most consistent has been the relationships between openness and left-wing views and conscientiousness and right-wing views (e.g., Gerber et al. 2011b; Jost, Federico, and Napier 2009). All personality traits, however, have been found at times to be related to political attitudes.

This study looks into three ways personality could be influencing levels of affective polarization. First, one's personality may drive media consumption habits, with the media itself influencing levels of hostility – a mediation relationship. Second, one's personality may moderate the effect of media consumption. In other words, the same content affects people differently, based on who they are. Third, personality may have a direct effect on hostility towards the other side. A diagram of these relationships is shown in Figure 1.

Figure 1: Potential relationships between personality, media usage, and affective polarization



Notes: The green line represents a direct relationship between personality and affective polarization. Blue lines represent a mediation relationship – personality influences what media is consumed, and then that media impacts levels of affective polarization. The red line represents a moderation relationship – one’s personality moderates the media’s effect on affective polarization levels.

Initial studies into the relationships between news consumption preferences and personality (Mondak 2010; Gerber et al. 2011a) did not focus on selective exposure. In fact, there has been very little research so far into the role personality may play in selective exposure. Kim and Kim (2018) examine the question of whether openness predicts cross-cutting news exposure. On the one hand, one could argue that since openness has an association with left-wing viewpoints, higher levels of openness should only predict more left-wing consumption. On the other hand, one could argue that by its very nature open individuals are more open to new viewpoints, so openness should predict cross-cutting consumption, regardless of one’s ideological roots. Using the ANES, they find openness is only associated with left-wing consumption, not with *general* cross-cutting news consumption. These findings were attenuated but not eliminated by ideology and political identification. In other words, while Republicans with higher levels of openness consumed more left-wing media, Democrats with higher levels of openness did not consume more right-wing media. Thus, *only* when there was a lack of alignment between the natural tendency of the trait and one’s political attitudes, did openness predict selective exposure. Contrasting results were found a different context. Sindermann, Kannen, and Montag (2021) studied how personality is associated with how heterogenous or homogenous one’s

news intake is in Germany. They found that openness was associated with greater levels of heterogeneous intake, while agreeableness was associated with more homogenous intake.

Bachleda et al. (2020) examine whether personality predicts negativity biases in news selection (NBNS). As it is likely that negative portrayals of the outgroup play a large role in increasing levels of affective polarization, this negativity bias is especially relevant. They found that, in Canada, conscientiousness predicted an increased preference for NBNS, while extraversion and agreeableness a decreased preference. Despite controlling for ideology, they argue that the relationship between conscientiousness and NBNS may be due to the relationship between conscientiousness and conservatism. Conservatives may be more sensitive to potential threats (Hibbing, Smith, and Alford 2014) and therefore may react more strongly to negative stimuli (Dodd et al. 2012), including negative news.³ As this may be a fundamental characteristic, controlling for ideology may not eliminate the association between the personality precursors and this phenomenon. They argue the associations between agreeableness and extraversion may be related to the findings (discussed below) that agreeable and extraverted individuals have lower negative partisan affect (Webster 2018). These traits may predispose individuals to a form of positivity which can be seen both in news selection as well as judgments of the other side.

Beyond influencing what we choose to consume, one's personality is likely to impact how we interpret and are affected by that consumption. Just as two individuals may experience the same event very differently, so would we expect them to experience the same news or editorial

³ It is worth noting that recent research casts doubt on the claim that conservatives have stronger physiological responses to threat than liberals (Bakker et al. 2020).

content differently. What one person finds incisive, might come off as pompous to another. What one finds offensive, another might find funny. To my knowledge, this has not been studied directly.

The direct relationships between personality traits and affective polarization have been examined by Webster (2018). Using data from the 2012 ANES, he finds that extraverted individuals are significantly less likely to dislike the opposing party. Conditional on disliking the opposing party, agreeableness is associated with lower levels of dislike. He argues this is a two-step process. Extraverted individuals are more likely to come in contact with members of the opposing party, due to having larger networks, and this contact will decrease the likelihood of negative affective judgments. Agreeable individuals, in contrast, will not necessarily have more contact with members of the opposing party, but due to the natural characteristics of agreeableness (e.g., friendliness, empathy), they will be less negative in their appraisals of the opposing party.

We are only starting to get a grasp of the three ways personality may drive affective polarization, as discussed above. Many of those findings need to be corroborated, and there are still some questions not yet investigated. How does personality moderate the effect of news consumption? Do people with different personalities react differently to polarizing content? This study aims to bring these strands of research together, with multiple forms of measurement, in order to provide a fuller picture of the relationships between personality, news consumption, and affective polarization.

4. Hypotheses

This study includes pre-registered hypotheses focused on the relationships between personality and news consumption.⁴ There are three main areas of hypotheses I pre-registered. The first area concerns how personality predicts media selection. The second area is about how media consumption impacts affective polarization. The third and most speculative area explores how personality may moderate these effects of media consumption. The first two sets of hypotheses therefore relate to the mediation relationships shown in Figure 1, while the last set relates to the moderation relationship.

Media selection

As open individuals are thought to be open to new ideas, this trait is naturally connected to cross-ideological consumption. This has previously been examined by Kim and Kim (2018) and, in a similar form, Sindermann, Kannen, and Montag (2021). The latter found that openness was associated with more heterogenous news consumption.

H1: Higher levels of openness will predict cross-cutting and more balanced media consumption patterns for members of both parties.

⁴ See the supporting information file for a copy of the pre-registration. Note: The order and wording are slightly different here. Hypotheses about how openness and conscientiousness may relate to left- and right-wing news consumption are omitted here. Also, as I will discuss, hypotheses about heterogenous effects of news consumption have been condensed.

By looking at the overall balance, I will see if less open individuals are more likely to live in an echo chamber, which you could argue is most critical for understanding affective polarization.

Media consumption

Before measuring the moderating effects of personality, it is necessary to establish that media consumption itself increases measures of affective polarization.

H2: Biased media consumption patterns will predict higher levels of affective polarization.

The above hypothesis focuses on existing (reported) consumption patterns. These patterns, however, may *reflect* existing levels of polarization. Therefore, in order to better measure the impact of consuming polarizing content, the participants read editorial vignettes which were either supportive or hostile towards the opposing political party. The following two hypotheses concern the impact of those editorials.

H3: Reading an editorial harshly hostile to the opposing side will increase affective polarization.

H4: Reading an editorial sympathetic to the opposing side will decrease affective polarization.

It is necessary to examine the effects of *both* hostile and sympathetic editorials, to establish whether people respond more strongly to hostile portrayals than they do positive portrayals.

Heterogenous effects

There is no reason to believe that everyone will respond to the same media in the same ways. As such, I preregistered a number of hypotheses on the moderating effects of personality traits. I note in the preregistration that these were the most speculative hypotheses. For reasons of parsimony and clarity, however, these can be condensed in the article to:

H5: Personality traits will moderate the effects of news consumption on affective polarization.

Direct effects of personality

The preregistered hypotheses solely concerned relationships involving media consumption. However, as has been discussed above, one's personality likely directly influences hostility towards the opposing party.

H6: Extraversion and agreeableness will predict lower levels of affective polarization.

This prediction derives from Webster (2018). Note, however, that he measured hostility differently, focusing specifically on negative partisanship. That said, it is likely, due to contact patterns (extraversion) and overall friendliness (agreeableness), that these two traits would predict overall lower levels of hostility towards the other side.

5. Data and Design

To better understand these relationships, an original survey was launched in December of 2019 among Democrats and Republicans, through the Prolific platform. Respondents were paid £1.20 as compensation for their time and effort.⁵ In total, 434 Democrats responded and 421 Republicans. Although independents were excluded through filtering, a few answered the survey anyway, and their responses have been removed. The sample is roughly evenly split between men and women.⁶

The survey consists of two major parts. The first part assesses how personality may relate to existing (reported) news consumption patterns, as well as attitudes towards the news. This allows us to understand better how personality may influence the balance of news-intake and preferences for the tone of the news (e.g., negativity).

The second part of the survey brings in an experimental analysis to more precisely measure how people respond to polarizing news content, and the degree that response is influenced by personality. This section had the respondents read one of two short editorials (approximately 270 words) written for members of their party (with a control group not reading any editorial).

⁵ Initially respondents were paid £1.50. The amount was reduced due to the speed they demonstrated in answering the questionnaire.

⁶ Respondents (5 individuals) were excluded who finished the survey unreasonably quickly. Respondents (98 individuals) were also excluded from the second part of the analysis, which required them to read editorials, if they read the editorials unreasonably quickly. Details of the exclusion criteria can be found in the supporting information file.

40% read an editorial which harshly attacked the opposing political party, while 40% read an editorial which was more accepting and supportive of the opposing political party. The goal here is to directly test how polarizing media content may be received by individuals with different personalities. After reading the editorials, individuals answered feeling thermometer questions for the two parties, as well as rated the editorial on a number of metrics. All the editorials are in the supporting information file, however here are the beginnings of two editorials, to give an idea of how they were written.

For Democrats, attacking Republicans:

“The Republican party is not what it once was. The party of Lincoln and Reagan, as they like to say, has become the party of Trump. In the speech which launched his candidacy, Trump claimed that Mexicans coming to the US were murderers and rapists. Since that point on, he has only continued to promote hate and xenophobia in the US.”

For Democrats, supportive of Republicans:

“There’s a lot I disagree with about the modern Republican party, and of course Donald Trump. However, the media depictions of the party are often getting out of hand. Republicans make up about half of the electorate. They are your neighbors, your colleagues, your family. They aren’t monsters. Most of them are good, moral people. We might disagree with them about immigration policy, but that doesn’t mean they hate immigrants and are racists.”

Beyond the main measures discussed below, all models included demographic control variables: age, gender, income, race, and education level.

Measurement of Affective Polarization

Measurement of affective polarization was done in two ways.

In the beginning of the survey, respondents were asked what percentage of Democrats and Republicans were accurately described by four adjectives: *Greedy*, *Hateful*, *Responsible*, and *Honest*. This was done in order to focus on attitudes towards individual supporters of the parties, and not the party itself. From these responses, I created a scale based on the mean judgment of the opposing party. For each respondent, I calculated a value based on their scores of their out-party. As two of these adjectives are positive, and two are negative, I reversed the values for the positive ones, and averaged the four scores together. This scale therefore is solely focused on the respondents' assessment of their out-party. Among Democrats, the out-party hostility scale had a Cronbach's alpha of 0.80, and among Republicans it was 0.81.

I focused on out-party hostility for two primary reasons. First, the key issue in the affective polarization literature is a rising dislike of the opposing side, *not* a rising affection for one's own. Second, it is worth establishing the degree one's affinity towards one's own party predicts this hostility – and therefore if a measure of this affinity were included the outcome variable, this would cause a problem of endogeneity.

As mentioned above, after reading the editorials, respondents were also given feeling thermometers for the two parties. This would serve as a second measure, to assess the effects of the editorials. A different design was employed here to try to limit bias in the results based on how the respondents had previously answered the adjective-based questions. Despite the differing methodologies, the two measures were correlated, as expected ($r = 0.53$).

Measurement of News Consumption Patterns

In order to assess the respondents' media selection, they were asked how often they consumed media from a number of sources.⁷ Factor analysis was run on their responses and left-wing and right-wing media factors were established. See the supporting information for descriptive data about the factors.

The left-wing sources consist of:

Sources such as Slate, BuzzFeed, Daily Kos, or Huffington Post,
MSNBC,
CNN.

The right-wing sources consist of:

Fox News,
Talk Radio programs like Rush Limbaugh or the Sean Hannity Show,
Breitbart News,
Sources such as the Drudge Report, Redstate.com, or HotAir.com,
Religious news sources like The Christian Post or the Christian News Network.

To create measures of overall left- and right-wing news consumption, the scores for these items were averaged together. Note, however, that these two measures are not strictly comparable.

⁷ These were taken from Yudkin, Hawkins, and Dixon (2019), which uses a standard categorization of media sources, used by YouGov. Frequency went from “several times per day” to “never”.

There are five right-wing news sources, and three left-wing sources, and baseline consumption levels are different between the two. Furthermore, the two scales are correlated with each other ($r = .25$), indicating that individuals who are more likely to consume news from one side are more likely to consume news from “the other side” as well. In fact, every single news source is positively correlated with every other news source. See the supporting information for detailed information about how often Democrats and Republicans consumed the various news sources.

In order to estimate the general effects of cross-ideological consumption and matched-ideological consumption, the left-wing and right-wing scales were combined into cross and matched consumption scales. Right-wing consumption among Democrats and left-wing consumption among Republicans were turned into a measure of cross consumption. Similarly, left-wing consumption among Democrats and right-wing consumption among Republicans were turned into a measure of matched consumption.

As some level of cross consumption is the norm, and to better understand who is likely to select into a more homogenous pattern of consumption, for some analyses I use a measure of how balanced consumption is. More accurately, this can be seen as how much of an echo chamber-type consumption the respondent reports. This is simply matched consumption minus cross consumption. Due to differences between the left- and right-wing news measures, as well as differences in consumption patterns, the balanced consumption variable differs between members of the two parties (*Democrat mean: 0.64, Republican mean: 0.45. On a 0 - 1 scale*). This would indicate that Democrat respondents have more of an echo-chamber like consumption. However, as indicated, this should be interpreted with caution. All analyses involving the variable control for party.

Measurement of Ideology

As ideology is a strong predictor of affective polarization (e.g., Rognowski and Sutherland 2016; Webster and Abramowitz 2017), it is important to measure this specifically. Instead of ideological self-placement, I opted to create an ideological scale based on responses to four questions, which target four different political topics: the environment, immigration, marriage equality, and wealth distribution. The questions ask the respondents to place themselves between two extreme positions on the issues and were used previously in, for example, the Chapel Hill Expert Survey (Bakker et al. 2020). Responses were averaged together to create a scale, with a Cronbach's alpha of 0.78. For most analyses, an additional scale was used called 'ideological extremism'. This measures how far the respondent is from the mid-point on the ideology scale. Individuals on the wings of the parties are likely to be more affectively polarized. A scale which goes from far-left to far-right may thus miss this important feature.

Measuring issue stances risks missing something a left-right self-placement scale may capture, namely the identity aspect of ideological placement. However, to better capture this identity aspect of affective polarization, partisan identity, which has been argued to be a central component in affective polarization (e.g., Mason 2018), can be measured as well. This was done by asking respondents how strongly they identify with their party.

Measurement of Personality

The personalities of the respondents were assessed using the Mini-IPIP Big 5 20-item test (Donnellan et al. 2006). Each trait is assessed using four questions, with the goal of getting a

better measure of personality than commonly used 10-item tests (see: Bakker and Lelkes 2018). The Cronbach's alphas are as follows: *openness*: 0.75, *conscientiousness*: 0.73, *extraversion*: 0.86, *agreeableness*: 0.82, *neuroticism*: 0.79. Furthermore, there were no items which were found to be problematic. The correlations between the traits were all under $r = 0.3$, with three exceptions: conscientiousness and neuroticism ($r = -0.42$), extraversion and agreeableness ($r = 0.31$), and extraversion and neuroticism ($r = -0.33$). These correlations are sufficiently low that it is unlikely to cause problems for the statistical analysis. However, the lack of orthogonality between some of the traits indicates there may be some conceptual problems with the measure, namely, that the traits are not being finely distinguished from each other.

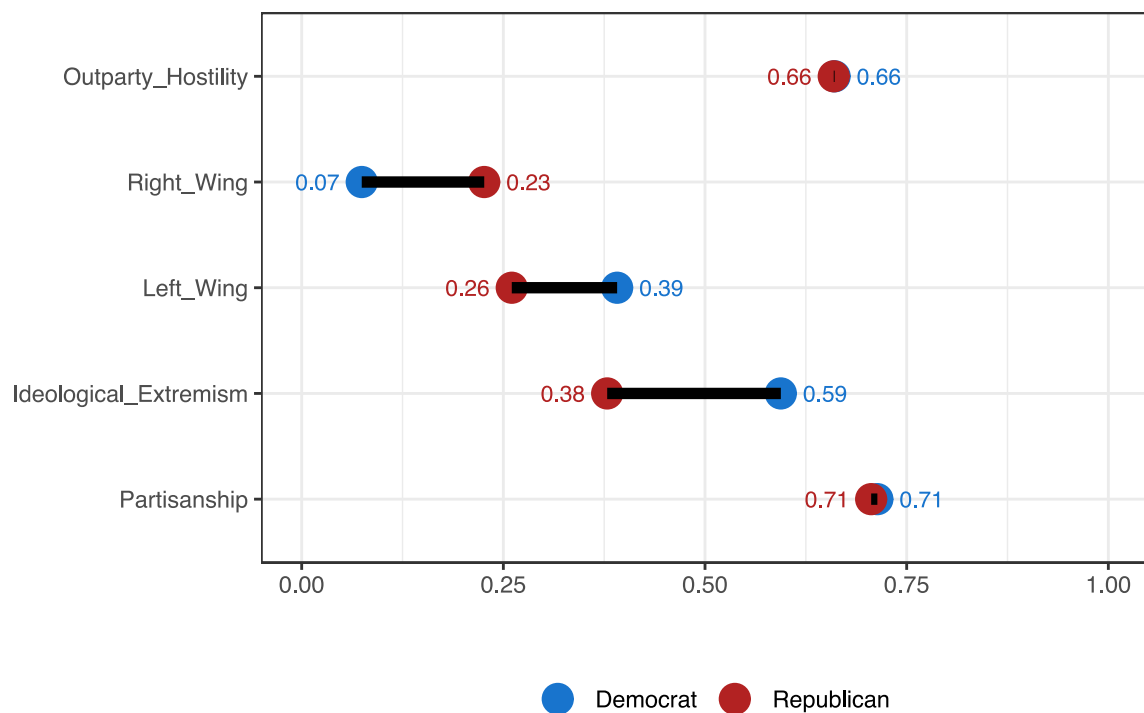
Party differences

Figure 2 displays descriptive differences between members of the two parties. There are two main trends to note. First, the two parties are almost exactly equally partisan and, relatedly, equally hostile to each other. Second, we see some degree of asymmetric polarization for news consumption and ideological extremism. On this rough scale, Democrats indicate about 30% of the right-wing news consumption of Republicans, while Republicans indicate approximately 67% of the left-wing news consumption of Democrats. Furthermore, Democrats demonstrate more ideological extremism than the Republicans do.

However, this should be interpreted very carefully. The two measures of news consumption are not easily comparable, as they rely on a differing number of sources, and some are much more seldomly consumed. This is most clearly seen in the fact that, according to these measures, Republicans here consume slightly more left-wing media than they do right-wing. Moreover,

the fact that Democrats show more ideological extremism may reflect that the overall electorate is shifted towards the left for many of the issues here. Finally, this was not a representative sample, and therefore these findings relate solely to the sample here. See the supporting information for more descriptive statistics on the sample as well as exact means and standard deviations for Figure 2.

Figure 2: Average differences between parties on variables of interest



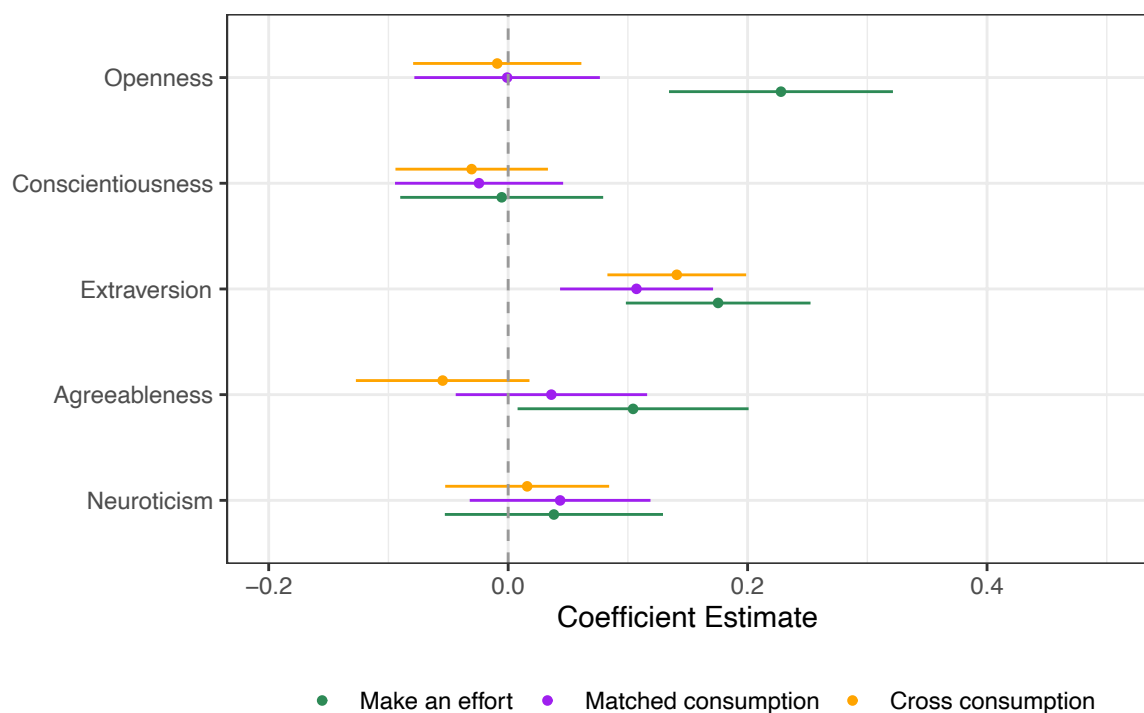
Notes: Out-party hostility measures adjective-based assessment of members of the opposing party. Right- and left-wing correspond to right- and left-wing news consumption levels. Ideological extremism indicates distance from the midpoint position. Partisanship measures strength of partisan identification. All variables have been min-max transformed.

6. Results

Does one's personality influence the likelihood of polarized media consumption patterns?

Figure 3 displays regression results, showing models for matched and cross media consumption, as well as whether the respondents believe they make an effort to consume news from the other political side.⁸

Figure 3: News consumption patterns



Notes: OLS regressions. Demographic controls as well as controls for party, ideological extremism, and partisan strength. Lines represent 95% confidence intervals. All variables min-max transformed.

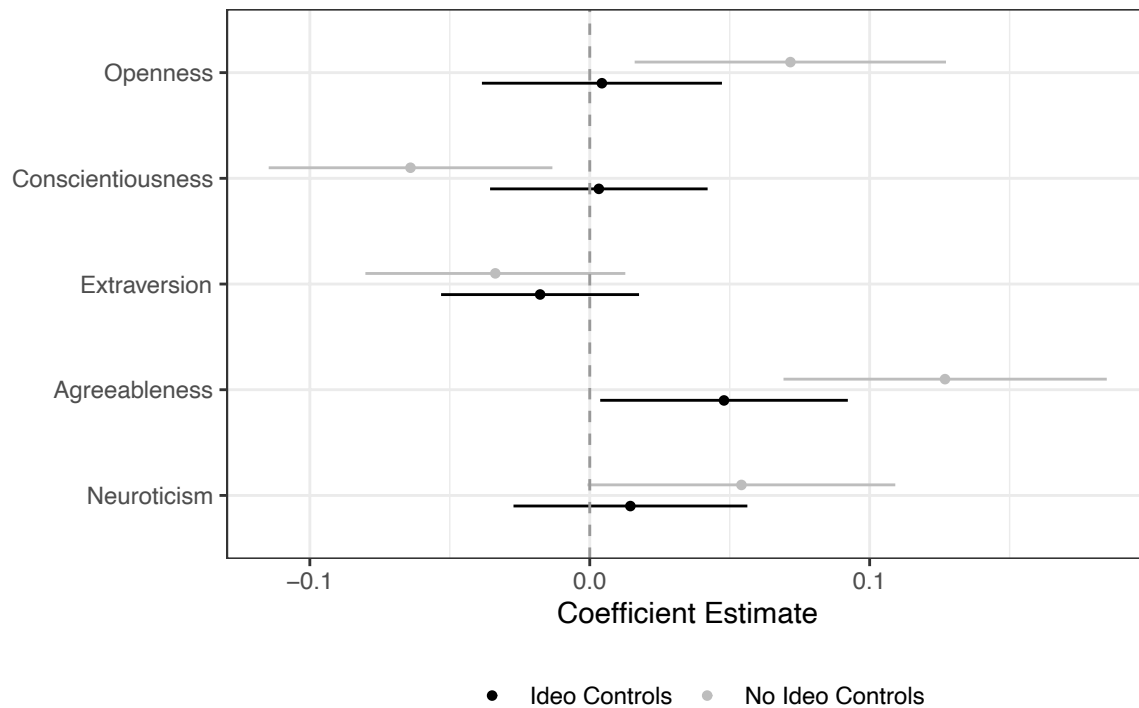
⁸ Matched consumption refers to consumption of the left-wing news measure by Democrats and the right-wing measure by Republicans. Cross consumption is the opposite.

Openness was identified as a possible predictor of cross-ideological news consumption. We see that it strongly predicts the *belief* that one consumes cross-ideological news. However, it was not found to predict actual reported consumption levels. Nor was this found without ideological and party controls. Agreeable individuals are also more likely to claim they make an effort to consume cross-ideological news, and yet do not demonstrate that in their reported consumption patterns.

The strongest and most consistent finding above is that extraverted individuals are predicted to consume more news overall, including news from both sides, and also report making an effort to consume cross-ideological news. Previous research has identified extraversion as related to increased news consumption (e.g., Mondak 2010), however it has not been fully understood why, nor was the trait identified for this paper as a likely predictor of cross-ideological consumption. Clearly, future research should focus more on the role extraversion plays in news consumption.

An alternative strategy is to look at the balance of consumption – the difference between matched- and cross-ideological consumption. As a key driver of affectively polarized attitudes may be echo chamber-like consumption patterns, it is worth focusing not on those who have balanced consumption, but those who have more homogenous consumption patterns. A drawback to this analysis is that we lose any measure of the amount of news being consumed. The fact that extraverted individuals report consuming more news overall is missed in the below analysis. Additionally, one may consume relatively more “matched” content, but if one still consumes quite a lot of “cross” content, the implications become much murkier. Thus, it is of value to measure both.

Figure 4: Personality predictors of “echo chamber” consumption



Notes: OLS regressions. Grey coefficients are without controls for party, ideological extremism, or partisan strength. Black includes them. Lines represent 95% confidence intervals. All variables min-max transformed. Coefficients above 0 indicate more matched consumption than cross consumption.

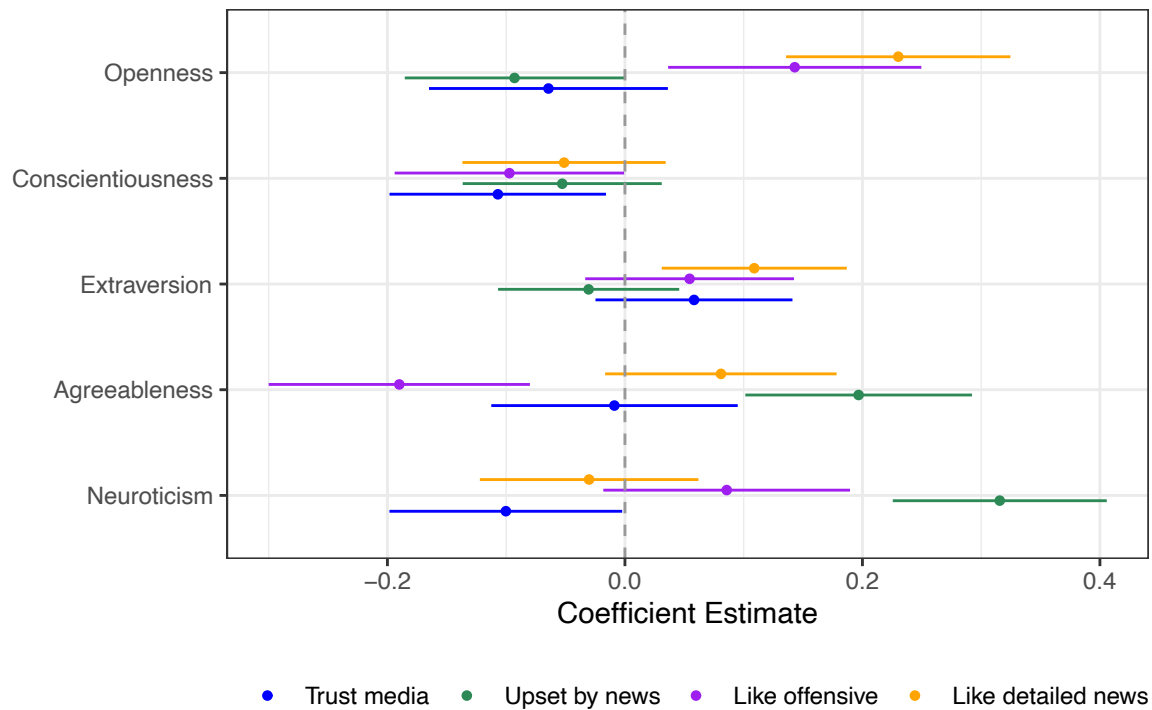
In Figure 4 we can see that, without controlling for party, ideological extremism, or partisanship, conscientiousness predicts less homogenous news consumption, while openness and agreeableness predict more homogenous consumption. After bringing in these covariates, only agreeableness remains statistically significant. This indicates more agreeable individuals are more likely than less agreeable individuals to favor ideologically consistent content, regardless of political affiliation or ideological leanings. This is especially noteworthy in that agreeable individuals were predicted to claim they made an effort to consume media from the other political side. The associations between openness and conscientiousness and echo chamber-like consumption appears largely mediated through ideology and partisanship. Additionally, absent party and ideological controls, modeling matched and cross consumption

directly, agreeableness was associated with less cross consumption and more matched consumption, yet openness and conscientiousness were not significant predictors of either.

These findings lend no support to the idea that open individuals are more likely to seek out cross-ideological news sources – though they claim that they do. These findings give only weak support to the contention that openness is associated with bubble-like consumption patterns, and that appears to be mediated by ideology and partisanship. Thus, on the whole, we can reject H1. We do find, however, that extraverted individuals are most likely to report consuming cross-ideological content. Their news balance is also fairly even, as they report consuming much matching content as well. Agreeable individuals are those most likely to report homogenous new consumption patterns.

This finding for agreeableness can be fleshed out with supporting evidence from data on attitudes towards news. Beyond reporting consumption patterns, the respondents were asked several questions about how they felt about the news, as well as how the news made them feel. The results of some of these questions can be seen in Figure 5. Agreeableness (as well as neuroticism) was associated with getting upset by the news. Additionally, agreeableness was associated with not liking content some may view as offensive. This may indicate that agreeable individuals seek out more comfortable news. That is, less offensive and upsetting, as well as more ideologically consistent. However, future research would have to test this more thoroughly.

Figure 5: News consumption attitudes

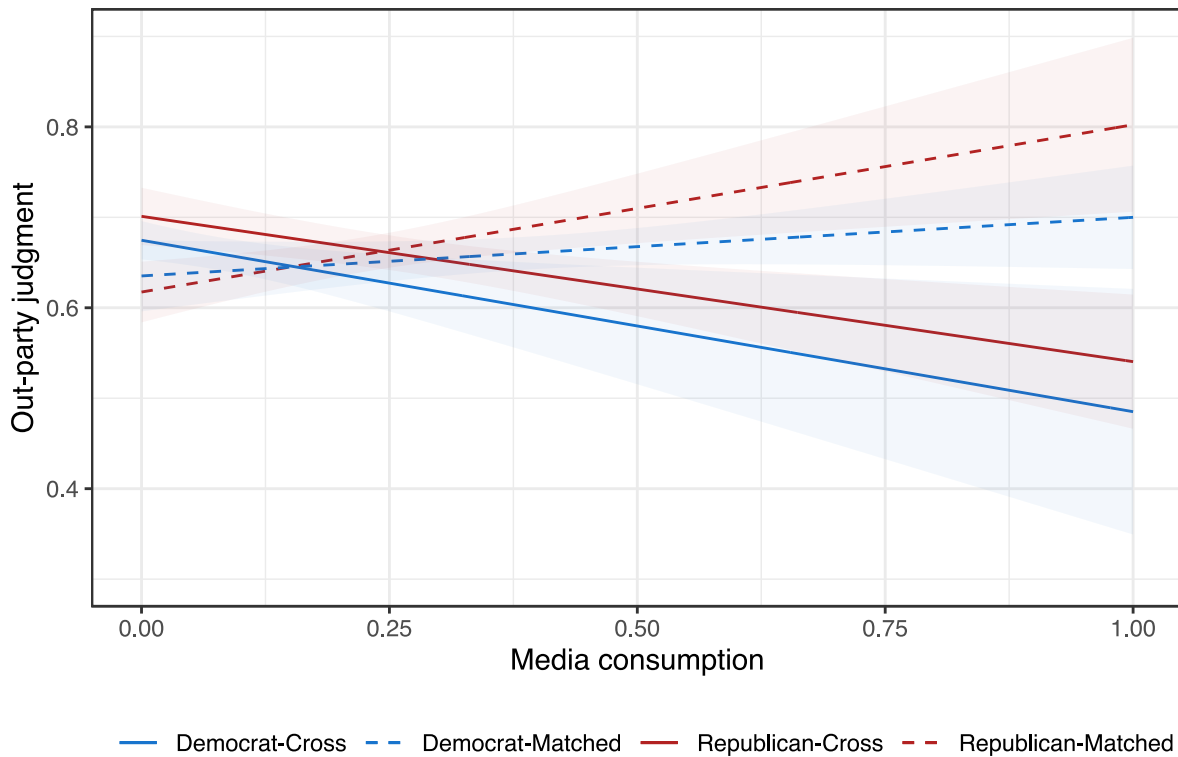


Notes: OLS regressions. Demographic controls as well as controls for ideology, party, and partisan strength. Lines represent 95% confidence intervals. All variables min-max transformed. Text descriptions in legend abbreviate the items.

Do polarizing media and polarized media balances predict out-party hostility?

Before delving into whether personality moderates the effects of consuming polarizing content, it is worth first establishing what the *general* effects of such content are. First, we can examine the effects of reported consumption patterns.

Figure 6: Predicted out-party hostility by consumption type and party



Notes: Lines show predicted values when the other variable is held at its mean. Variables min-max transformed. Shaded regions represent 95% confidence intervals. Controlling for demographics (excluding race) as well as ideological extremism and partisan strength. Higher values on the y-axis represent greater hostility.

Figure 6 shows that, for members of both parties, high levels of matched consumption are associated with more hostility towards members of the other party, while high levels of cross consumption are associated with less hostility. This is after controlling for how extreme the ideological views of the respondents are, as well as degree of partisanship. It is interesting to note that we do not see a drastic difference between matched and cross consumption patterns. If individuals became more affectively polarized through negative portrayals of the out-party, we would expect that the matched lines would have steeper slopes than the cross lines.

These results may indicate that cross consumption has a large depolarizing effect. Another possibility is that these results illustrate the outcome of polarization. Those who are more

polarized choose to consume more matched content and less cross content, while those who are less polarized choose to consume more cross content and less matched content. These explanations are not mutually exclusive.

In order to establish more confidently a *causal* effect, the respondents read short editorials about the opposing party. 40% received an openly hostile editorial (polarizing), 40% read a supportive editorial (depolarizing), and 20% received no editorial, to serve as a control group. After reading the editorials, the respondents were given party feeling thermometers. The results of this can be seen in Table 1.

Table 1: Feeling thermometers for opposing party

<u>Editorial</u>	<u>Democrat respondent</u>	<u>Republican respondent</u>
Critical	17.37	17.47
Supportive	22.45	28.41
Control	22.22	23.99

Notes: Ratings are out of 100.

Pooling the results together for the two parties, and controlling for demographics, ideological extremism, party, and partisan strength, both the supportive ($b = -.04, p < .05$) as well as critical editorials ($b = .05, p < .01$) were statistically significant predictors of these thermometer ratings. Columns 3 and 4 of Table 2 display these results.

This indicates that both polarizing and depolarizing content can strengthen or weaken affective polarization, respectively. The polarizing editorials had a slightly larger effect, perhaps demonstrating that such content may be more impactful. Note, however, that the depolarizing effect of the supportive editorials was only present among Republicans. This may indicate that

Democrats in general are less receptive to such messaging, or the difference may reflect the representativeness of the sample – namely, that the Republicans are not as extreme as the Democrats, as they consume more left-wing media than the Democrats consume right-wing media. Or, more simply, the supportive editorial vignettes were not equally persuasive from an “objective” point of view.

Both reported consumption habits as well as the editorial vignettes give evidence that polarizing media may be increasing out-party hostility. The reported consumption results indicate that matched content may be making the situation worse, while cross-ideological content may make the situation better. These findings lend support to H2. The editorial vignettes show that, in an experimental environment, both critical media and supportive media may influence levels of affective polarization, giving support to H3 and H4. However, the supportive editorials had a slightly weaker effect, and the effect was concentrated among Republicans. It is important to note that the experimental findings contrast somewhat with the non-experimental findings. This could reflect a lack of balance between the editorials in the experiment, or that consumption patterns may be more reflective of existing levels of polarization.

Are there heterogenous effects of a polarized media diet, due to personality differences?

The above sections have shown that personality can influence the type of news sources people choose to consume, and that ideologically polarized news consumption can increase levels of out-party hostility. An additional question is whether, or to what extent, individuals will differ in how polarizing news consumption affects them. In other words, are some people more responsive to such content? Does personality moderate the effects of news consumption?

To test this, I ran models with interactions between the echo chamber consumption variable and all personality traits, modeled together, as well as models for the editorials, interacting the treatments with personality traits. These results are displayed in the supporting information file. In one instance – the interaction between echo chamber consumption and conscientiousness – there was a significant interaction – just below the traditional $p < 0.05$ threshold. Further exploration indicated this effect was driven by the level of matched news consumption, and when respondents from the two parties were modeled separately, it was significant only among Republicans. Although in this paper the specific hypotheses relating to heterogenous effects were collapsed, I view this result with some skepticism. This specific interaction was not pre-registered,⁹ the effect is not terribly strong, and it was not replicated with editorial consumption. Hence, this paper demonstrates only weak evidence of heterogenous effects of polarizing consumption – H5.

Related, I also found evidence that one’s personality may influence how one judges polarizing media. After reading the editorial vignettes, the respondents were asked a number of questions about what they thought of the editorials. Respondents were asked if they thought the editorial was fair, persuasive, and offensive. They were also asked if it made them angry and if they trusted the author. Finally, they were asked to give it an overall rating. All of the items were correlated with each other, except for whether the article made them angry. That item was

⁹ However, a similar interaction was pre-registered for the editorial vignettes. Note: In the supporting information, I display the following results: interactions between traits and the echo-chamber variable, as well as with the editorial treatments. I omit results broken down by party or matched- or cross-consumption.

uncorrelated with the others when the respondent received the critical editorial. To get an overall picture of their response to the article, a composite measure was created using the means of all items, aside from whether the editorial made them angry.

Regression models showed that extraverted individuals were found to judge the critical editorials more harshly than introverted individuals ($b = -.13, p < .01$). Although extraversion did not moderate the treatment effects, future research could explore whether extraverted individuals prefer less openly polarizing content. Given the small sample sizes here, the lack of statistically significant interactions may not represent the true lack of a moderation effect.

What are the direct impacts of personality traits on out-party hostility?

The main thrust of this paper is about how personality may influence news consumption patterns, which may subsequently drive levels of affective polarization. However, personality likely influences levels of affective polarization directly, as was shown by Webster (2018).

This survey has two ways of measuring hostility towards the opposing party: the adjective scale, and the thermometers used after the editorial vignettes. Table 2 displays regressions for both measures, with and without ideological and partisan control variables. Reported consumption was also included this time in the models, to focus on the direct effects of personality. For both measures, openness is a significant predictor of hostility, but only in models without these control variables. Including the control variables, agreeableness is associated with less hostile attitudes and neuroticism is associated with more hostile attitudes for the adjective-based measure. Additionally, extraversion is found associated with less hostility for the party measure.

Webster (2018) found extraverted individuals were less likely to have negative partisan affect, but conditional on having it, agreeable individuals were associated with less negativity. These results generally accord with those, providing evidence for H6 – that extraversion and agreeableness are associated with lower levels of affective polarization. However, the results here are not clear-cut. It is unclear why personality traits have different associations with the two measures. To remind readers, the two measures were correlated ($r = .53$), but hardly identical. Assessing the proportion of partisans with positive or negative traits is fundamentally different than providing one’s warmth towards the parties. It is quite possible that these three traits directly influence levels of affective polarization, however the degree of influence is dependent on the aspect of affective polarization focused on. Future research is needed to really establish how these traits relate to specific measures of out-party hostility.

Table 2: Out-party hostility

	<i>Dependent variable:</i>			
	Adjectives		Thermometer	
	(1)	(2)	(3)	(4)
Treatment: Hostile			0.06** (0.02)	0.05** (0.02)
Treatment: Supportive			-0.04 (0.02)	-0.04* (0.02)
Openness	0.08* (0.04)	0.04 (0.04)	0.10* (0.04)	0.01 (0.04)
Conscientiousness	0.06 (0.03)	0.05 (0.03)	-0.02 (0.04)	0.003 (0.04)
Extraversion	0.03 (0.03)	0.04 (0.03)	-0.10** (0.04)	-0.07* (0.03)
Agreeableness	-0.07 (0.04)	-0.08* (0.04)	-0.02 (0.04)	-0.04 (0.04)
Neuroticism	0.12** (0.04)	0.12*** (0.04)	-0.02 (0.04)	-0.01 (0.04)
Republican		0.08*** (0.02)		0.08*** (0.02)

Ideological Extremism	0.10 ^{***}		0.17 ^{***}
	(0.03)		(0.03)
Matched Consumption	0.10 ^{**}		0.13 ^{***}
	(0.04)		(0.04)
Cross Consumption	-0.16 ^{***}		-0.26 ^{***}
	(0.04)		(0.04)
Partisan Strength	0.10 ^{**}		0.15 ^{***}
	(0.033)		(0.035)

Observations	847	847	749	749
Adjusted R ²	0.05	0.11	0.07	0.22

Notes: OLS regressions. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Bolded when $p < 0.05$. All variables min-max transformed. Demographic controls included in models but not displayed here.

Taking the three relationships together, it is quite easy to provide an explanation for why these three traits may directly influence levels of out-party hostility. Extraverted individuals have larger social networks and may therefore have more contact with members of the opposite party. Agreeable individuals are more friendly and empathetic and would therefore be likely to have more positive views of their political opponents than less agreeable individuals. Finally, individuals high in neuroticism would be more sensitive to potential threats and dangers and would therefore be more likely to have negative assessments of members of the opposing party.

However, given the inconsistent results here, dependent on which measure is used, and the differences with Webster (2018), it is worth examining these results much more closely to understand how durable they are, and how the traits really associate with these different aspects of affective polarization.

7. Conclusion

The media environment we are in today provides us with many choices of where to get our news from. This affluence may come at a cost. We may be more inclined to consume partisan news and negative news – leading arguably to a destabilizing level of hostility between the two parties in the US. As individuals are unlikely to be equally predisposed to consume one-sided or negative news, our personalities become relevant in understanding these proclivities. We are also not all equally receptive to all messages, and some of that receptivity may be shaped by our personalities. Finally, beyond their relationships with news consumption, our personalities may directly impact how likely we are to be hostile towards the other side. This paper found evidence that one's personality influences news selection and that news selection may partly drive levels of affective polarization. In addition, personality directly impacts levels of affective polarization.

Openness was identified as a possible predictor of cross-ideological consumption. This prediction flows naturally from the trait description. And indeed, open individuals claimed to make an effort to consume news which contrasted with their ideological beliefs. However, open individuals were not found to be associated with more cross-ideological consumption. In fact, when not controlling for partisanship and ideology, openness was associated with more echo chamber-like consumption. This is in contrast to Sindermann, Kannen, and Montag (2021). Open individuals were also not found to be more or less likely to hold hostile views of the opposing side. Openness, as well as the other major Big Five predictor of political attitudes, conscientiousness, were both found not to be strongly associated with news consumption or affective polarization.

In contrast, extraversion was found here to be related to both news consumption and affective polarization. Extraverted individuals consume more news, including cross-ideological news, than introverted individuals. They also report making an effort to do so. That they consume more news is in line with previous research findings (Mondak 2010). Additionally, when given hostile editorials to read, extraverted individuals rated those editorials poorly. That they rated polarizing media poorly supports the findings by Bachleda et al. (2020) that extraverted individuals seek out less negative news. Finally, according to one measure of out-party hostility, extraverted individuals were less hostile than introverted individuals. Extraversion has not been strongly identified previously as a major predictor of political attitudes – perhaps this is due to it playing a role in political moderation.

Agreeableness was also found related to both news consumption and affective polarization. Agreeable individuals were more likely to have echo chamber-like consumption patterns and reported being upset by the news and disliking content which could be seen as offensive. Perhaps agreeable individuals seek out more comfortable news, which may mean more ideologically similar news. This consumption pattern aligns with Sindermann, Kannen, and Montag (2021), however future research can do more to explore the extent of this finding and better determine the reasons behind it. Notably, despite this consumption pattern, agreeable individuals were found associated with lower levels of hostility towards members of the opposing party.

Neuroticism was not found to be strongly associated with reported consumption patterns, though it was associated with getting upset by the news. Neuroticism predicted higher levels of hostility towards members of the opposing party. This trait was not previously identified as

a predictor of such hostility by Webster (2018), but this finding is in accordance with the nature of the trait. Future research should seek to see how reliable and consistent this relationship is.

Future research would add much to our understanding with better measurement of media consumption, ideally with accurate reporting of actual consumption patterns, instead of reported ones. Respondents are unlikely to have accurate memories of what they consumed, a major limitation of this study. By using measures of actual consumption, the influence of many more news sources could be studied as well. Future research could also include other personality and personality-adjacent measures, such as measures of cognitive style, as the Big Five may not be the most relevant measure for this domain.

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