Emerging political conflicts and the role of personality

Adam Peresman

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University of Essex

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Abstract

The political systems of many Western, democratic countries are undergoing large changes. Particular issues are taking on greater prominence. Cooperation and compromise are becoming more difficult. And, arguably, we are seeing the resurgence of "populist" styles of politics. This dissertation, comprised of three papers, aims to show how personality is involved in some of these changes taking place.

My first paper focuses on immigration attitudes in the UK and investigates how people with different personalities respond to rising levels of immigrants in their local areas. I show that the likely response is dependent both on the immigrant group, as well as one's personality. Moreover, I found evidence that openness and extraversion may moderate the effects of local immigrant levels.

My second paper, co-authored with Royce Carroll and Hanna Bäck, continues the research into immigration attitudes in the UK. Focusing on authoritarianism, we show that 'right-wing authoritarianism' is very strongly associated with immigration attitudes – much more so than competing measures, such as 'social dominance orientation', left-right placement, and even a measure of explicit prejudice. We also show that authoritarianism predicts a large preference for culturally similar immigrant groups, especially among high-skill immigrants.

My third paper turns to a new issue: affective polarization. I argue that personality may influence out-party hostility in a number of ways. Due to the wide variety of media choices available, personality may influence media selection, indirectly impacting levels of hostility. One's personality may also moderate the effects of news consumption. Finally, personality

may directly drive levels of hostility. While I did not find evidence of a moderation effect, personality traits were found to both influence media selection and directly impact levels of affective polarization

These three papers demonstrate the importance of one's disposition to many of the emerging divisions we are witnessing in modern-day politics.

1. Introduction

"Der Mensch kann zwar tun, was er will, aber er kann nicht wollen, was er will."

Arthur Schopenhauer

My family argues about politics – often quite heatedly. At large family gatherings it would not be uncommon to hear raised voices and even mild insults. We are roughly split between relatively moderate Republicans and relatively moderate Democrats. In the past, nothing much came of these arguments. Topics would be changed, passions would dissipate, and we would leave each other with no hard feelings. This has since changed. Now some members of my family refuse to talk to others. Now the discussions are filled with an anger and desperation I do not recognize from earlier times. These family dynamics appear not to be unique to my family (see, e.g., Chen and Rohla, 2018). This overall rise in temperature demonstrates one of the phenomena I analyze in this dissertation: affective polarization. However, it also represents a larger shift in politics today. The discussions cover different ground. Different issues are focused on. Ideologically, some members of the family have become more extreme. And the overall salience of politics has risen dramatically. When I visit home, I am struck by the fact that cable news seems to be playing in the background at all times, and some family members struggle to find topics to discuss other than politics.

This dissertation hopes to contribute to our understanding of these changes by focusing on personality. How does one's disposition influence political attitudes relevant to these changes we are seeing today? I have wondered for a long time why it is that some in my family seem "naturally" more conservative, and others "naturally" more liberal, despite very similar backgrounds. This question feels all the more pressing now, when I see how some people have

become more extreme in their views, and how the general emphasis put on politics has increased dramatically. Why have some become so impassioned by the issues which are relevant today? While there has been a deluge of research into affective polarization (for an overview, see: Iyengar et al., 2019), very little research has focused on this phenomenon through a psychological lens. Yet this is clearly psychological in nature. It also ought to be seen as tied to the ideological transformations we are seeing. My dissertation aims to help explain how who we are as individuals, psychologically, is connected to the stances we take in this politically tumultuous world we find ourselves in.

A shifting world

The changes we are seeing are not necessarily uniform around the globe. Different countries face different issues, have different political cultures and histories, and naturally therefore are undergoing different changes. Some of the shifts we are seeing may be unconnected to others. However, there is strong evidence that these changes exhibit an underlying pattern – and therefore a general shift. In the United States, Hetherington and Weiler (2009) have argued we are seeing a polarization between the parties based on authoritarianism. In Europe, there is evidence that similar changes are taking place (e.g., Dalton, 2018; Scotto et al., 2018; Surridge, 2018).

One of the key issues in this divide is immigration. In Europe, immigration has been a major point of contention, leading to the growth of many anti-immigration parties. In the UK, Brexit was dominated by the question of immigration (e.g., Clery et al., 2017). And Donald Trump famously declared his candidacy by talking about the threats posed by illegal Mexican immigrants. This is only one example of a host of cultural and identity-based issues which have

become salient in recent years. The MeToo movement, Black Lives Matter, the discussion of Trans rights – all of these may represent a shift towards issues along this authoritarian axis, and not the traditional economically-focused left-right one. The salience and at times polarization around these issues does not imply, however, that the views at both poles have become more extreme. Americans, for instance, are less racist and more accepting of homosexuals than they were in recent memory (e.g., Charlesworth and Banaji, 2019). However, the *divisions* around these issues have become much more important to understanding the overall structure of contemporary political alignment.

This dissertation focuses on two related elements of these shifts. First, immigration attitudes. As discussed above, immigration has become a major issue with large practical significance for many countries. The enormity of the issue of immigration may partly lie in shifting attitudes towards it, but also may be due to the ideological sorting on the issue which has taken place among parties in many countries. The second focus is on affective polarization. Affective polarization represents the growing dislike between members of political parties, especially the two major parties in the United States (Iyengar et al., 2012). These two should not be treated as completely separate phenomena, however. Affective polarization may be driven by a growing moralizing around political issues (Garrett and Bankert, 2020), with immigration representing a prominent example of a moralized issue. The point is not to claim that affective polarization and immigration attitudes are two sides of the same coin. Rather, these both represent highly important and interconnected examples of the kinds of polarization we are seeing today, leading to radical shifts in political debate, and arguably, great instability.

A focus on disposition

There are likely a number of environmental causes for these changes we are seeing. With regard to immigration, a backlash against rising levels of immigration likely plays a large role (Schneider, 2008). With regard to affective polarization, I argue there is much evidence that changes in media play a large role (see, e.g., Garrett et al., 2014; Hmielowski et al., 2016; Hopkins and Ladd, 2013; Lau et al., 2016; Lelkes et al., 2017; Levendusky, 2013; Stroud, 2010). That said, these explanations are hardly exhaustive. However, if *some* environmental causes lie behind these changes, why does this dissertation focus on personality? I am *not* arguing that we are witnessing mass shifts in personality. What I am arguing is that personality may dispose one to favor one side or the other of some debate. More to the point, if there is a shift occurring in public opinion from divisions based around left-right economic divisions, to divisions around cultural and identity-based issues, it may be that one's personality can take on a larger role in determining where one stands.

The argument put forward by Hetherington and Weiler (2009), that we are witnessing a move towards cleavage along authoritarianism, represents just such an increase in importance for personality. Furthermore, as I will argue, one's personality may either exaggerate or minimize the effect of some of these external forces. How much one is influenced by rising immigration levels, or how much one is affected by a changing media environment, is in part due to what kind of personality you have. This kind of dynamic can be seen in the work by Feldman and Stenner (1997), which argues that those with an authoritarian predisposition may become "activated" when presented with certain forms of societal threat. Thus, one should not think of personality and external forces as working in opposition or detached from each other. Instead,

it is relevant to consider how they may work in concert – how one's disposition influences the way one responds to the environmental forces we encounter.

Measures of personality

One's personality, or disposition, represents the tendencies towards particular emotions or behaviors that we have. As a general measure of personality, this dissertation uses the 'Big Five'. The Big Five, also known as the five-factor model, is a trait-based taxonomy of personality. It was developed through factor-analytic techniques over a period of decades. By using factor analysis, the goal was to objectively develop a measure of personality, absent whatever biases the researchers may have.[1]

The five factors are: openness to experience (or just openness), conscientiousness, extraversion, agreeableness, and neuroticism (also called by its opposite: emotional stability). Openness represents how open to new ideas one is, how willing to try new things, as well as how imaginative or artistic one is. Conscientiousness represents how rule-following one is, how structured one is, and perhaps represents a general ability to control one's emotions (Davis and Panksepp, 2018). Extraversion represents how gregarious and outgoing a person is. Agreeableness represents how friendly and empathetic a person is. And finally, neuroticism represents how sensitive one is to negative emotions, how anxious or depressed a person tends to be.

[1] For a lengthy history of the development of the Big Five, combined with a focus on its political consequences, see: Mondak (2010).

Since its development, the Big Five has risen in prominence considerably within psychology. It is currently the most widely used personality scale in psychology (John et al., 2008). It has been replicated numerous times, including in many different countries (see, e.g., Schmitt et al., 2007). Research has found that personality is highly heritable, with a genetic influence of about 40-50% (Bouchard, 2004). While it continues to subtly change throughout our lives, it is overall very stable (Caspi, Roberts and Shiner, 2005). This is not to say that this measure is without criticism. There have indeed been numerous critiques of this measure (e.g., Block, 2010). However, its consistency, lack of strong competitors, and associations with relevant variables of interest have likely kept it in good stead.

In political research, the Big Five has been used for several decades and has been used in hundreds of studies. It has been consistently found to predict relevant political attitudes and behaviors. The strongest and most consistent associations have been between openness and left-wing attitudes, and between conscientiousness and right-wing attitudes (Gerber et al., 2011b; Jost et al., 2009). However, as will be discussed in the following chapters, all of the traits have been found to be relevant for political outcomes.

This dissertation takes an expansive view of personality. Many political measures, I would argue, have an element of personality which should not be discounted. If personality is our tendency to feel certain emotions and do certain behaviors, many aspects of politics would seem to be included in that. Similar to the innate tendencies that are captured by the Big Five, it seems undeniable that people have innate senses for certain political values. However, these are likely far more adaptable and driven by external factors such as culture and argumentation than Big Five traits. That does not mean that there are no inborn feelings towards justice or equality, or towards many other values. Research has shown that capuchin monkeys, for

instance, will reject payments in cucumber, which they previously accepted, if they see a neighboring monkey receive grapes for the same task (Brosnan and De Waal, 2003).[2] One can imagine a scale between those personality traits which are totally nonpolitical – "pure personality" – if you will, and those which are highly value-based. The ones on the value side of the scale will be much strongly associated with political outcomes. However, they will risk problems of endogeneity. That is not to say though that there is no innate sense there. There likely is, and it likely varies, much as with "pure" personality measures. To truly understand how one's unique makeup influence political attitudes and behavior, attempts have to be made to understand the innate political sides of our personality.

One of the first attempts at understanding the role of personality in politics, was in fact a form of value-based personality. In the wake of the Second World War, Adorno and colleagues wanted to understand why some individuals were drawn to authoritarian leaders and politics. They developed, in the 'Authoritarian Personality' (Adorno et al., 1950), a way to measure this tendency towards authoritarianism. However, the work later came under methodological criticism (Martin, 2001) leading to the ambition becoming largely abandoned by researchers. This ambition, however, was revived in the 1980s, through the development of the 'right-wing authoritarianism' scale (RWA) (Altemeyer, 1981). A version of this scale is used in this dissertation. RWA has much the same aims as the original Authoritarian Personality, avoiding some of the methodological pitfalls.

RWA uses a number of value- and political-based questions to assess the underlying personality trait. As the items are partly political, there is naturally the risk of endogeneity. Therefore, other researchers have sought to measure this trait with alternative methodologies,

[2] For a video of this experiment, see: https://www.youtube.com/watch?v=ZcMHN1nIckM

most notably through 'Child-Rearing Values'. This scale was employed in the work of Hetherington and Weiler (2009), discussed above. There is still debate about which measure is better at capturing the underlying trait, while balancing risks of endogeneity – however, this dissertation does not take a position on that debate. While RWA may be considered quite far on the value-side of the personality dimension, it has still been found to correlate with a number of Big Five traits (e.g., Ekehammer et al., 2004; Perry and Sibley, 2012; Sibley and Duckitt, 2009), perhaps signaling that these two sets of measures have some overlap in what innate tendencies they are tapping. Additionally, research has found that RWA is partially heritable (Kandler et al., 2016), indicating that variation in one's value-based personality may indeed be, to a certain extent, inborn.

This research project

Using these two measures of personality, the Big Five and RWA, this dissertation hopes to help explain the role of disposition in the changes which are taking place right now politically. By examining two issues, and using these two scales, I hope to approach this task from a number of different angles. And I believe these approaches to be complementary. As there are different elements to the changes we are witnessing, we are likely to see associations with various personality traits and measures. Moreover, while some of the relationships are direct, other relationships are indirect. These indirect relationships may involve traits that influence nonpolitical behaviors, choices, and reactions, which have subsequent political consequences. It would be a mistake to focus solely on the most "political" of personality traits. By applying this strategy, I hope to get a fuller account of how one's personality may be relevant to understanding the transformations we are seeing today. I will now discuss the research studies in this work, and what I believe their main contributions are.

Chapter Two

Chapter Two, "Divergent Responses to Local Diversity: Outgroup differences and the impact of personality", examines how both one's personality, as well as the immigrant makeup in one's local area can influence attitudes towards immigration. There are three main questions which are examined. First, how does one's personality, as measured using the Big Five, predict overall immigration attitudes? Second, how does the makeup of one's local area influence attitudes? And finally, how does one's personality moderate the effects of local immigrant levels?

To answer these questions, I relied primarily on the first wave of the British Election Study's (BES) online panel and the 2011 British censuses. From the BES I combined two general questions about the effects of immigrants on the economy and on the culture. Though much research has been devoted to the question of whether people are more concerned with the economic or cultural effects of immigration (Hainmueller and Hopkins, 2014; Sides and Citrin, 2007; Sniderman et al., 2004), in this sample, the two measures were highly correlated. Combining them also provided a good overall measure of immigration attitudes. The BES collects information about the respondents' local areas, so that allowed the data to be merged with British census data.

From the census I was able to get measures of the number of immigrants from particular groups that live in the respondents' local areas. I focused on three distinct groups, to assess the impacts of different forms of immigration. These were: Western European immigrants, Eastern European immigrants, and immigrants from primarily Muslim countries. I used multilevel

models with random intercepts at the local area level, and regressed immigration attitudes on personality and local immigrant levels, with demographic and ideological controls.

There were several core findings. First, of the Big Five traits, openness and conscientiousness had the biggest effects on immigration attitudes. Second, the effect of immigrants in one's local area depends on the group in question. While living near Western European immigrants is associated with more supportive attitudes, living near Muslim immigrants is associated with greater hostility. Third, these effects seem to be moderated by openness and extraversion. More open and extraverted individuals become more positive towards immigration as the percent of immigrants in their local area increases. This is likely due to a contact effect, though it was not measured in the study. Notably, this moderation effect did not vary substantially with the group in question.

This study builds on several different literatures, bringing them together to make some unique contributions.

First, this adds to the small, but growing, literature on the relationships between Big Five traits and attitudes to immigration (e.g., Ackermann, Ackermann and Freitag 2018; Dinesen et al., 2016; Gallego and Pardos-Prado, 2014). Notably, this study finds that the two strongest associations between Big Five traits and immigration attitudes are with the traits of openness and conscientiousness, with neuroticism close behind. This somewhat differs from other work in this area, indicating the importance of context in these personality studies. The relationships between personality traits and certain attitudes may depend on local circumstances, including perhaps how an issue is being framed.

Second, it contributes to general research on immigration and contact theory (Allport, 1954). While much research collapses immigration groups, this study shows that living in areas with different immigrant groups present has different effects on immigration attitudes. More culturally distant groups provoke more hostility than less culturally distant groups. This is especially relevant when considering contact. While evidence indicates that contact between groups leads to more positivity (Pettigrew and Tropp, 2006), more culturally distant groups may face both greater initial hostility, and a lower probability of the kind of integration which leads to contact in the first place. This study lends further evidence that this process is moderated by openness and extraversion, which is in contrast with Ackermann, Ackermann and Freitag (2018) and Ackermann and Ackermann (2015). They found that in areas with higher levels of diversity, the relationship between conscientiousness and hostile attitudes was attenuated. The differing findings in these studies may indicate that the findings are brittle, or rather, the importance of context-dependence.

Chapter Three

Chapter Three, "Authoritarianism and anti-immigrant attitudes in the UK", co-authored with Royce Carroll and Hanna Bäck, continues the look into UK immigration attitudes. Unlike the previous study, here we attempted to clearly distinguish between the economic and cultural sides of immigration. Our goal was to examine the relationships between RWA and these aspects of immigration attitudes. We wished, furthermore, to isolate the effects of RWA from related measures, such as 'social dominance orientation' (SDO) and explicit prejudice, as well as the traditional left-right self-placement scale.

We launched an original survey in the UK,[3] which included an original grid-instrument which asked respondents to indicate their immigration preference levels (more, fewer, same amount) for immigrants from different regions and skill levels.

We found that RWA was by far the strongest predictor of hostility towards immigration. Furthermore, the effect of RWA varied strongly between immigrant origins, but not skill levels. This differentiation was greater than that found with competing measures, even including the measure of explicit prejudice. These findings strengthen those in Chapter Two, indicating that it is worth distinguishing attitudes towards different immigrant groups. This study shows that this differentiation is driven most strongly by authoritarianism.

Authoritarianism can be seen as a tendency to put group interests, stability and norms above individual desires (Duckitt, 1989). Putting the group before the individual helps explain associations with immigration attitudes (Cohrs and Stelzl, 2010; Golec de Zavala et al., 2017), as well as, more fundamentally, prejudice (e.g., Altemeyer, 1998; Ekehammer et al., 2014; Sibley and Duckitt, 2008). That said, that these findings are stronger with RWA than with explicit prejudice, implies the associations between RWA and immigration attitudes are not being driven by these prejudicial attitudes.

To help identify the aspects of RWA which are most closely linked with the main findings, we created scales based on the three components of RWA: 'aggression', 'conventionalism', and 'submission' (Funke 2005). We found that the results were driven most strongly by aggression. Aggression represents most clearly the "law and order" side of authoritarianism. It taps the punitive side of authoritarianism. These findings, taken together, indicate that more

[3] Ethical approval was granted to Royce Carroll on 22 May 2017.

authoritarian individuals are threatened primarily by the cultural side of immigration, and this effect is stronger for groups perceived to be more culturally threatening. That these relationships, however, are not largely mediated by prejudice, both represents a contribution to the literature, as well as indicates a great need for further research to explore these relationships in more depth, and ideally with other methodologies.

This study also contributes to the general immigration literature by demonstrating the key role authoritarianism plays in heightened concern towards culturally distant immigrant groups. Hainmueller and Hopkins (2015) argued there was great agreement in the US about what type of immigrant was most favored – with little variation due to political affiliation. We find that in the UK party as well as left-right placement have little impact on immigrant origin preference, while there is a very large impact from RWA. Strictly speaking, it could be that here too there is a general consensus on the ideal immigrant type. However, we have found that preferences for ideal *levels* vary considerably by immigrant group. And crucially, that variation is most strongly associated with one's level of authoritarianism.

Put together, this chapter demonstrates the heavy importance of one measure of personality – authoritarianism – for one of the most contentious and important debates of our time.

Chapter Four

Chapter Four, "Individually Informed: Personality, news consumption, and affective polarization", returns to the Big Five and examines its role in both media consumption and affective polarization. I argue in the chapter that personality may have an increasing effect on news consumption patterns, due to the growth of partisan news options. As more choice is

available, people's disposition ought to play a larger role than it did before, when choices were more limited.

This chapter examines three possible routes through which personality may influence affective polarization. The first is with news consumption as a mediator. Personality may influence media selection, and this subsequent consumption will itself influence levels of affective polarization. The second is through moderating media consumption. The same consumption patterns may have differential effects, depending on who is doing the consuming. Finally, personality may directly affect levels of affective polarization. To examine these routes, an original survey was launched using the Prolific platform in December of 2019.[4]

This line of thought builds on several growing literatures.

There has been much recent research implicating news consumption in levels of affective polarization (e.g., Garrett et al., 2014; Hmielowski et al., 2016; Hopkins and Ladd, 2013; Lau et al., 2016; Lelkes et al., 2017; Levendusky, 2013). With the emergence of cable news and then internet news, there are many more partisan voices available. Evidence indicates people are drawn to news which confirms their viewpoints (Iyengar and Hahn 2009). As news organizations often focus on divisive, negative news stories, to draw in consumers, this selective exposure could be having a magnified effect on out-party hostility. This hostility has indeed been found to be driven more by negative portrayals of the other side, than positive portrayals of one's own (Smith and Searles, 2014).

[4] Ethical approval was granted to me on 4 December 2019.

Personality has also been shown to impact news consumption generally (Gerber et al., 2011a; Mondak, 2010), as well as the partisan make up of news consumption (Kim and Kim, 2018), and preferences for negative news (Bachleda et al., 2020). Additionally, one's personality appears to have direct impacts on levels of affective polarization (Webster, 2018). With this study I wished to bring these different strands of research together. I used a longer personality battery to, ideally, get a better measure of personality than commonly used 10-item measures. I also asked the respondents about their attitudes towards the news, to get a fuller understanding of how they perceived and interacted with the news, beyond merely its ideological composition. Finally, I had the respondents read either a supportive or hostile editorial about the opposing party. This was to directly see how one's personality impacted the effects of and attitudes towards polarizing content. As the relevant aspect of affective polarization is hostility towards the other side, out-party hostility was focused on specifically, and not the difference between judgements of the two parties.

Going back to the three routes I sketched out above, I found that extraversion predicts higher levels of news consumption – and news consumption from all sides of the political spectrum. Open individuals were likely to claim they made an effort to consume media from the other side, however their reported consumption did not support this. Agreeable individuals were most likely to have homogenous news consumption patterns. The partisan balance of reported consumption patterns showed a clear relationship with out-party hostility. Similarly, reading a supportive or hostile editorial about the opposing party decreased and increased out-party hostility, respectively. These relationships, however, were not moderated by personality. That said, personality traits did directly predict levels of out-party hostility. Agreeableness and extraversion predicted lower levels of hostility, while neuroticism predicted higher levels.

These results show that personality has an impact on both news consumption patterns and affective polarization, however the findings are mixed. Some relationships are not very strong, while others are somewhat inconsistent. These weaknesses may be partly due to measurement issues (e.g., reported rather than actual news consumption), however it may also indicate that other aspects of one's personality play a larger role in this dynamic than the Big Five. Future research into news consumption patterns should utilize other forms of personality before concluding its role is limited.

Moving forward

These three research projects illustrate that different aspects of one's personality play important roles in current political dynamics and schisms. I show that personality not only directly influences these phenomena, but also indirectly influences them. This is a complex picture and therefore I am using my conclusion, Chapter Five, to discuss some of the larger ideas which emerge from these chapters, as well as possible directions for future research.

2. Divergent Responses to Local Diversity: Outgroup differences and the impact of personality

Recent research has shown that differences in personality can help explain support or hostility towards immigration. Personality differences may also be related to the likelihood of contact with immigrant groups, as well as the effect of that contact. Using attitudinal measures from the British Election Study, this research confirms the importance of personality in predicting immigration attitudes. Furthermore, it shows that the effects of two Big Five traits, openness and extraversion, depend on the concentration of immigrants at a local level. In areas with high levels of immigrants, these traits more strongly associate with supportive attitudes. This may be due to more open and extraverted individuals having greater levels of contact with immigrants. Moreover, by looking at local concentrations of Western European immigrants, Eastern European immigrants, and immigrants from predominantly Muslim countries, this study shows that only greater concentrations of Western European immigrants are associated with increases in immigration support, while in contrast, greater concentrations of immigrants from Muslim countries are associated with increases in hostility. These findings demonstrate that how individuals respond to local immigration levels is likely to depend both on their personality and the immigrant group in question.

Keywords:

Brexit, Contact Hypothesis, Immigration Attitudes, Personality, UK

2.1 Introduction

Immigration has become central to many contemporary political debates, and anti-immigration parties and politicians have risen to prominence in many countries. The unprecedented UK vote to leave the European Union, for example, was largely fueled by fears over immigration (Clery et al., 2017). This growing salience of immigration may be a consequence of increased immigration levels, a backlash effect. How one responds to changes in immigration levels, however, is not uniform. This paper focuses on the impacts of local immigration levels in the UK. I argue that the way one responds to rising numbers of immigrants in their local area will greatly depend on both their own personality, as well as the origin of the immigrants.

Personality, which shapes our behavior and emotions, is likely to impact how we respond to changes in our neighborhood. It has been shown to strongly shape our general political attitudes (Mondak, 2010) and, more recently, been found to predict prejudice and immigration attitudes (e.g., Akrami et al., 2011; Dinesen et al., 2016; Gallego and Pardos-Prado, 2014; Sibley and Duckitt, 2008). This should not be surprising, as we know that prejudice and immigration attitudes are linked to emotional reactions (Brader et al., 2008). Beyond this, one's personality has been shown to impact friendships and contact networks (Harris and Vazire, 2016; Selden and Goodie, 2018), which is particularly relevant for immigration attitudes.

As the concentration of immigrants increases in a local area, there is an increased chance of contact between members of the majority community and immigrants. Contact theory (Allport, 1954) argues that these interactions, especially close ones, should reduce prejudice and hostility towards the minority group. A meta-analysis of the large literature on this subject found that contact typically does reduce prejudice, and while close contact has a stronger effect, even

impersonal contact can improve relations (Pettigrew and Tropp, 2006). However, positive responses to contact are not a given, and some studies have indeed found increases in prejudice and hostility from contact (Enos, 2014, Hopkins et al., 2014; Johnston et al., 2015; Karreth et al., 2015; Quillian, 1995), supporting what we can call Conflict theory (Blumer, 1958). As areas become more diverse, one's personality may begin to take up an even larger role in determining responses to these changes. We cannot expect all people to be equally likely to strike up a conversation or begin a new friendship with people from other countries and cultures. As personality affects so much, it seems unlikely to not impact patterns of contact.

Whether contact takes place, or even how deep it is likely to be, is only part of the equation. We cannot assume everyone would interpret and be affected by the same experiences in the same way. If personality shapes how we behave and feel about the world, it is likely to influence reactions to the same experiences. What one person feels as threatening, might be exciting or enriching to another. Whether through contact patterns, or through different threat perceptions, research is beginning to find an interaction between immigration levels and personality (Ackermann and Ackermann, 2015; Ackermann, Ackermann and Freitag, 2018; Danckert et al., 2017). This provides strong evidence that in more diverse environments the role of personality shifts. However, the interactions found in these studies differ. They differ in which traits were found to moderate the impact of diversity and contact, as well as whether the traits became more or less powerful in diverse environments. Some of this may be due to differences in datasets and methodology, however it also indicates that context may play a large role in determining response patterns.

When considering distinct reactions to rising immigration numbers, personality is not the only variable to consider. Who the immigrants are should matter. This is not to blame or target any

particular group, but to simply understand that we should not expect that contact is equally likely, regardless of the origin of the immigrant group. Nor should we expect that the depth, quality, and positivity of the experience is equally likely. Research has shown that attitudes towards immigrants differ depending on the group (Brader et al., 2008; Dustmann and Preston, 2007; Ford et al., 2012; Hainmueller and Hangartner, 2013; Hainmueller and Hopkins, 2015), and while there has not been much research directly comparing the effects of contact with different ethnic groups, it seems unlikely that pre-existing beliefs are irrelevant to our expectations. The situation may arise that contact between those groups where it may be most beneficial in alleviating prejudices, may be least likely to occur, due to those same prejudices. One's personality may then serve to exaggerate or dampen the effects of these pre-existing beliefs.

Through analysis of personality and attitudinal measures from the British Election Study and government sources of local immigration data, this study helps us to disentangle some of these issues. This study specifically compares the effects of living near three different immigrant groups: Western European immigrants, Eastern European immigrants, and immigrants from predominantly Muslim countries. This differentiation allows the study to look at how contact effects may vary depending on the kind of outgroup in question.

This study contributes to the literature in three main ways. First, it confirms the importance of personality as a determinant of immigration attitudes. Unlike other studies in this area, however, it finds the strongest predictors of immigration attitudes are openness and conscientiousness, reflecting the broader personality findings. Second, by modelling several immigrant groups together, it finds strong evidence that a distinction between immigrant groups is necessary. While higher local concentrations of Western European immigrants are associated with much

more positive attitudes toward immigration, no such relationship was found for Eastern European immigrants, and higher concentrations of immigrants from Muslim countries are associated with more negative attitudes towards immigration. Third, this study found evidence for an interaction between the traits of openness and extraversion, and immigrant concentrations. These interactions indicate that as immigration levels rise, irrespective of group, these traits have a larger impact on immigration attitudes, with those high in the traits becoming more positive towards immigration than those low on the traits.

2.2 Immigrant Groups and Contact

Initial attempts to understand immigration attitudes have focused on whether and to what extent these attitudes are determined by economic or cultural concerns (Hainmueller and Hopkins, 2014; Sides and Citrin, 2007; Sniderman et al., 2004). Research has made it clear that while both are relevant to voters (e.g., Hainmueller and Hopkins, 2015), cultural concerns seem to dominate in certain contexts (Card et al., 2012; Carey, 2002). Schneider (2008) argues that in Europe higher immigration levels do in general produce a backlash against immigration, and this is driven by cultural concerns and a fear of conflict over values, and not economic competition. This perceived conflict of values is likely connected to and strengthened by prejudice, which has also been associated with negative views towards immigration (e.g., Hainmueller and Hopkins, 2014).

This backlash effect is most apparent when looking at changes in immigration numbers, rather than overall levels. Kaufmann (2017) showed that, in the UK, areas with established minority ethnic groups were less hostile towards immigration and less likely to support UKIP. In contrast, in areas that showed rapid ethnic change, UKIP support was higher and attitudes were more

hostile to immigration. These were longitudinal data, indicating this effect was not due to self-selection. This effect could be due to two related phenomena. The first is that people become used to living around immigrants, and this gradually reduces perceived threats associated with them. The second is that, over time, people have more and more contact with immigrants, and this reduces perceived threats and prejudices.

Contact theory (Allport, 1954) argues that hostilities and prejudices between groups should decrease as contact, and especially close contact, occurs between members of those groups. Though it was not originally developed with immigration as its focus, if prejudices and cultural fears are behind much of the hostility towards immigration, contact between members of the majority population and immigrants should lessen those concerns. A large number of studies have now indeed found that contact with immigrants is associated with less hostile attitudes (Ellison et al., 2011; Kokkonen et al., 2016; Laurence, 2014; McLaren, 2003; Savelkoul et al., 2011; Schlueter and Scheepers, 2010; Schneider, 2008). This is not necessarily causal, as one would expect those who are already less hostile to immigration would be more likely to befriend and associate with immigrants. However, Laurence (2014) shows that areas with more diversity have more interethnic ties, and both McLaren (2003) and Kokkonen et al. (2016) show an interaction between the percentage of immigrants in areas and contact. As immigration levels increase, attitudes diverge more and more between those who have immigrant contact and those who do not.

This general trend, however, may vary by immigrant group. Different immigrant groups may be more or less likely to come into contact with the majority population, and they may also have different prejudices and cultural concerns associated with them. Cultural concerns, in general, are amplified for more different groups (Brader et al., 2008; Dustmann and Preston

2007; Ford et al., 2012; Hainmueller and Hangartner, 2013; Hainmueller and Hopkins, 2015). Potential culture clashes are not viewed as equally likely with all immigrant populations, and specific groups have specific concerns or fears attached to them. While long-term trends may follow the same pattern, how long to expect for a change to occur may vary, due to these issues. In other words, in order to be accepted, the hurdles may be higher for some immigrant groups.

In this paper I distinguish between three immigrant groups, chosen as a way to contrast three very different forms of immigration, with different perceptions attached. Western European immigrants are culturally similar and are generally not viewed with much concern. In contrast, Eastern European immigrants came recently to the UK, have been a great source of low-skilled labor in the country, and are less accepted and assimilated. Immigrants from Muslim countries were chosen as the third group because they particularly are viewed with suspicion in the UK. A 2017 survey in the UK found that 52 percent of respondents agreed that "Islam poses a serious threat to Western civilisation", 42 percent were more suspicious of Muslims as a result of recent terror attacks, and only 10 percent believed that Muslims were similar to themselves (HOPE not Hate, n.d.).

Comparing different immigrant groups is important both because of how they are perceived, and how likely contact may be. That likelihood is further impacted by personality. How open we are, how extraverted we are, how friendly we are, all of these things and more may steer us either towards or away from meeting and forming friendships with immigrants in our communities. The same traits may also drive our perceptions of immigrants in the absence of contact. As a result, as immigration numbers increase, the role of personality may also increase.

2.3 Personality and Immigration Attitudes

Personality is associated with political attitudes generally (Gerber et al., 2011b; Mondak, 2010; Mondak et al., 2010), as well as immigration attitudes (e.g., Ackermann, Ackermann and Freitag 2018; Dinesen et al., 2016; Gallego and Pardos-Prado, 2014), and levels of prejudice (Akrami et al., 2011; Sibley and Duckitt, 2008). Personality can be thought of as our general patterns of thinking, behaving, and feeling, and can be seen as a precursor to political attitudes (Block and Block, 2006; Mondak, 2010). The impact of local levels of immigration provides an example where personality is especially important to study, as the behavioral patterns associated with different personalities will likely impact the attitudinal effects of immigration. In the field of personality research, the Big Five is currently the major measurement construct for personality, used in the majority of psychological studies using personality (John et al., 2008). This measure is composed of five traits: openness (or openness to experience), conscientiousness, extraversion, agreeableness and neuroticism (also called emotional stability). These traits are highly heritable (Bouchard, 2004) and quite stable throughout one's life, though they do continuously change as one ages (Caspi et al., 2005).

As the concentration of immigrants in one's local area increases, it is likely that one's personality will affect how one responds to that increase. In other words, there should be an interaction. There are two main ways this could occur. The first way is through threat perceptions. Johnston et al. (2015) found that levels of authoritarianism predicted perceived threats in response to ethnic change and, similarly, Karreth et al. (2015, pp. 1) found that increasing diversity is "associated with negative attitudes towards, immigrants, but only among natives on the political right". This dynamic seems likely to occur with personality as well. The second way is through behavioral mediation. Personality may impact behavioral patterns which

then subsequently affect immigration attitudes. This will most likely be through contact. Our behavioral choices will make us more or less likely to come into contact with immigrants, and some of those choices will be driven by our personalities. Once we are in contact with immigrants, some of us will be more or less likely to befriend them, again, due to our personalities, and not necessarily our pre-existing attitudes towards immigration.

Openness describes how curious people are and how open they are to new experiences. A high level of openness has been the most consistent Big Five predictor of left-wing views overall (Gerber et al., 2011b; Jost et al., 2009). Beyond that, it has been found to predict less-prejudicial views (Akrami et al., 2011; Sibley and Duckitt, 2008) as well as been associated with more tolerant and permissive views towards immigration (Ackermann and Ackermann, 2015; Ackermann, Ackermann and Freitag 2018; Dinesen et al., 2016; Freitag and Rapp, 2015; Gallego and Pardos-Prado, 2014; Ziller and Berning, 2019). Relatedly, it has been found to predict lower voting levels for a right-wing populist party (Ackermann, Zampieri and Freitag 2018). Some evidence indicates openness predicts a larger friendship network (Harris and Vazire, 2016), and it has also been found linked to more new contacts as a percent of one's network (Zhu et al., 2013), and more critically here, more interethnic friendships (Jackson and Poulsen, 2005; Laakasuo et al., 2017), as well as a more positive interpretation of those experiences (Jackson and Poulsen, 2005). It has also been found to interact with immigrant contact and subjective neighborhood diversity, increasing the effect of openness in those conditions (Danckert et al., 2017). We can be confident that openness will predict more positive views towards immigration. Although this has not been consistently found, it is reasonable to expect that as immigration levels rise, the effect of openness on attitudes may increase, as high-open individuals may be more likely to have contact with immigrants, and have those experiences be perceived as more positive.

Conscientiousness describes how rule-following and organized people are. A high level of conscientiousness is the most consistent Big Five predictor of right-wing views overall (Gerber et al., 2011b; Jost et al., 2009). As it is associated with upholding tradition and national unity, it is not a big surprise that it has also been found associated with anti-immigration views (Ackermann and Ackermann, 2015; Ackermann, Ackermann and Freitag 2018; Dinesen et al., 2016; Gallego and Pardos-Prado, 2014; Ziller and Berning, 2019) as well as voting for a right-wing populist party (Ackermann, Zampieri and Freitag 2018). It has been found to weakly predict prejudicial views, however that depends on the region of the world (Sibley and Duckitt, 2008). As conscientiousness is generally not related to friendship or network size (Harris and Vazire, 2016; Selden and Goodie, 2018), it is unlikely that it will play a large role in contact patterns with immigrants. However, two studies from Switzerland found that perceived neighborhood diversity moderated the effect of conscientiousness on immigration attitudes (Ackermann and Ackermann, 2015; Ackermann, Ackermann and Freitag 2018). Conscientiousness only predicted hostile attitudes in *less* diverse areas. In *more* diverse areas the negative association disappeared. This is the opposite of what they predicted, as they predicted more diverse areas should be seen as more threatening to very conscientious individuals. It is reasonable that, for this trait, interactions with immigration levels could go in either direction. Those predisposed to hostility could become more hostile. Or, as areas become more diverse, they could find their fears and concerns mollified, through contact or otherwise. Both patterns may occur, but to different individuals. This may result, on the population level, with the effects essentially canceling each other out, or with the dominant effect depending on local conditions. As a result, there is no clear prediction for interactions involving this trait.

Extraversion describes how socially outgoing an individual is. Research results regarding its impacts on general political attitudes are mixed, though there are indications it may weakly

correlate with right-wing views (Gerber et al., 2011b). It has not been found associated with prejudice (Sibley and Duckitt, 2008). However, it has been associated with anti-immigrant views (Freitag and Rapp, 2015) and voting for a right-wing populist party (Ackermann, Zampieri and Freitag 2018), although the majority of studies in this area did not find a significant effect related to immigration attitudes. On the other hand, extraversion is found to predict larger friendship and contact networks (Harris and Vazire, 2016; Selden and Goodie, 2018; Zhu et al., 2013) and has been found to predict lower intergroup anxiety, through higher cross-group contact levels (Turner et al., 2014). Thus, while it seems unlikely that, on its own, extraversion will have a large impact on immigration attitudes, it is reasonable to expect that to change as immigration levels increase. In other words, extraversion may not have a strong intrinsic relationship with immigration attitudes, but through its role in contact networks and friendships, it may begin to predict positive attitudes as immigrant concentrations become larger. Therefore, it is reasonable to expect an interaction between extraversion and immigration levels.

Agreeableness describes how friendly or empathetic an individual is. Although it is not a strong predictor of left- or right-wing views overall (e.g., Gerber et al., 2011b; Mondak, 2010), it has been found to be associated with lower levels of prejudice (Akrami et al., 2011; Sibley and Duckitt, 2008), more supportive views towards immigration (Ackermann and Ackermann, 2015; Ackermann, Ackermann and Freitag 2018; Dinesen et al., 2016; Freitag and Rapp, 2015; Gallego and Pardos-Prado, 2014; Ziller and Berning, 2019) and less support to a right-wing populist party (Ackermann, Zampieri and Freitag 2018). Agreeable individuals also are found to have larger networks (Harris and Vazire, 2016; Selden and Goodie, 2018; Zhu et al., 2013), lower intergroup anxiety (Turner et al., 2014), and more intergroup contact, with a more positive interpretation of those experiences (Jackson and Poulsen, 2005). The positive

association between agreeableness and immigration attitudes increased, according to one study, in more diverse neighborhoods (Ackermann, Ackermann and Freitag 2018). This trait is likely to be a strong predictor of immigration attitudes, and also is likely to have a stronger effect as immigration increases, through increased contact levels with immigrants and/or a differential response to rising levels, with high-agreeable individuals being less threatened than low-agreeable ones.

Neuroticism indicates how sensitive to negative emotions one is. Overall, it is not as strong a predictor of overall left- or right-wing views as openness or conscientiousness, but higher levels of neuroticism tend to predict left-wing economic views (Gerber et al., 2011b), and the trait been associated with support for parties which provide "shelter against material or cultural challenges" (Schoen and Schumann, 2007, pp. 492). Like with conscientiousness, it has also been found to weakly correlate with prejudicial views, but only in some regions (Sibley and Duckitt, 2008). It has also been found in at least one study to predict anti-immigration attitudes (Gallego and Pardos-Prado, 2014). Neuroticism does not seem to have much bearing on the size of one's network, but it does predict instability in current friendships (Harris and Vazire, 2016) and may hinder friendship formation (Selden and Goodie, 2018). It is likely to have an association with anti-immigrant attitudes, however that may depend on context, as with its associations with prejudice. There is no clear prediction of an interaction with this trait with rising immigration levels. As with conscientiousness, it could be that increased immigration levels will exaggerate its effect, due to differing threat perceptions at the different ends of the traits, or it could diminish the concerns held by high-neuroticism individuals through normal levels of contact with immigrants over time.

Interactions between traits and immigration levels are likely to occur either through differential contact patterns, or different interpretations of experiences. Both are likely to occur to some degree. We can be more confident that, to the extent a trait predicts contact, higher immigration levels should increase the predictive power of the trait, as the more contact-prone side of the trait pulls farther away from the more reticent side. This sort of an interaction is most likely to occur for openness, extraversion, and agreeableness. Interactions dependent on the interpretation of experiences are harder to predict. Here it is reasonable to expect interactions in two directions. Those who are "naturally" more hostile to immigration may become even more hostile in the presence of immigrants, enlarging the effect of the trait. On the other hand, over time, as they get used to immigrants and have more contact with them (even if they did not seek it out), the perceived threat may lower, bringing the two sides of the trait closer together. This may be what occurred in Ackermann and Ackermann (2015) and Ackermann, Ackermann and Freitag (2018). It is worth considering that this can also run in the opposite direction. Perhaps those less prone towards hostility will have negative experiences, and the trait will lose predictive power as both sides become more similarly hostile.

In this paper I distinguish between three immigrant groups. It is reasonable to expect that there will be overall more hostility towards more culturally distant groups. That said, it is not straightforward to predict how this will impact interactions. Groups that provoke less hostility may also be most likely to come into contact with the respondents, and the experiences may be closer and more positive. On the other hand, there may be less room for the experiences to have an effect, as attitudes towards those groups may be relatively positive to begin with. It may be the groups which provoke the most concern where contact could have the largest effect. Similarly, as a more threatening group increases in numbers, it is reasonable to assume that, without contact, this will increase the predictive power of personality traits, as the poles of the

trait have a more and more disparate response. As a result of these complexities, this paper does not make any predictions about differences between group-personality interactions. Ideally though, what should be seen are consistent patterns.

2.4 Research Design

In order to investigate these issues, I combined several data sources. For data on political attitudes, as well as personality, I used Wave 1 of the internet panel of the British Election Study (Fieldhouse et al., 2014). This dataset contains information about the respondents' local authority, which allowed me to merge it with data concerning these local authorities. Wave 1 was used as it was closest in time to the latest census, which provides the most accurate data on immigrant distributions. Immigration and population data come from the 2001 and 2011 censuses for England and Wales, and for Scotland (National Records of Scotland, 2020a, 2020b; Office for National Statistics, 2020a, 2020b). From the censuses, I used population totals, and immigrant totals for three groups of immigrants. Western European immigrants are those who come from countries which were members of the EU prior to 2001, Eastern European immigrants come from countries which joined the EU between 2001 and 2011, and immigrants from predominantly Muslim countries are those who came from the Middle East, North Africa, Pakistan and Bangladesh.[5] Additionally, to control for the effects of the local economy, I used UK government estimates of unemployment for these local areas averaged over the year 2014 (Office for National Statistics, 2019).

[5] There might be slight discrepancies in which countries are included in the Eastern European category between 2001 and 2011. This is unlikely to impact results in any large way – and the main results are solely for the 2011 percentages.

Table 1: Correlation matrix of immigrant population variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) Western European Percent	1.00					
(2) Eastern European Percent	0.53	1.00				
(3) Muslim Percent	0.45	0.49	1.00			
(4)Western European Change	**0.85**	0.48	0.48	1.00		
(5) Eastern European Change	0.32	**0.93**	0.39	0.30	1.00	
(6) Muslim Change	0.04	0.20	**0.63**	0.02	0.27	1.00

Notes: Change represents percentage point change from 2001 to 2011. Correlations between percent and change measures for the same immigrant group are bolded.

I used immigration data from 2001 in order to calculate the percentage point changes in each local authority for each immigrant group. This is because there may be a different effect of immigration change as there is for total immigrant shares (see, e.g., Kaufmann, 2017). However, as can be seen in Table 1, the correlations between the change variables and the percent variables for each group are quite high, indicating very similar relationships with the variables of interest. Indeed, that was what was found. Therefore, only the analysis for the immigration percent variables will be shown below. See the appendix for the results for the immigration change variables.

Table 2 shows summary statistics for the different immigrant measures. As can be seen, the mean values for all measures are low, between 1 and 2 percent. However, the maximum values are generally quite high, reaching up to 16 percent, indicating a long tail in values. As this study focuses on how individuals of the majority population respond to living in areas with varying levels of non-UK born residents, I am restricting the sample to only those who are UK citizens and who answered that their ethnicity was “White, British”.

Table 2: Summary statistics for immigrant population variables

Variables	Mean	SD	Min	Max
Western European Percent	1.44	1.27	0.33	14.52
Eastern European Percent	1.75	1.47	0.20	10.58
Muslim Percent	1.44	2.05	0.06	17.01

Notes: Observations omitted when NAs present for key variables in base models. N = 18,301.

The outcome variable I am using, *Immigration Attitudes* is the mean of the *Economic Effects* and *Cultural Effects* variables. These questions ask the respondents: "*Do you think immigration is good or bad for Britain's economy?*" and "*And do you think that immigration undermines or enriches Britain's cultural life?*", respectively. While the sources of immigration concern may vary, it seems that the respondents largely see the effects as being the same or highly similar, as these two variables are highly correlated ($r = 0.80$).

Measures of personality are based on responses to the Ten-Item Personality Inventory (TIPI) (Gosling et al., 2003). Shown in the appendix, correlations indicate the traits are not highly correlated with each other. The highest correlation is between conscientiousness and neuroticism at $r = -0.34$. The correlation between the two most politically relevant traits, openness and conscientiousness is low ($r = 0.08$). None of these correlations are therefore perceived to be problematic for the analysis. The correlations between personality traits and immigrant group percentages are very low, but not zero. The largest is between openness and Western European immigrants $(r = 0.05)$. It is likely that personality influences where people choose to live, and due to its relationships with income and employment status, it will indirectly influence what options are available. I believe these correlations are sufficiently low, however, to avoid serious theoretical problems for the analysis below. That these correlations do exist, may indicate the possibility of a small selection effect, however.

Demographic controls are used in the analysis: sex, age, a measure of education, and personal income. Possible mediators are also used in the analysis. This includes self-reported left-right placement is used, as well as dummy variables for the major political parties. Local area-level covariates were also used, specifically 2011 population size and the 2014 unemployment level. The analysis was conducted using OLS multilevel regressions, with random intercepts varying by local area. To compare effect sizes, all independent variables have been min-max transformed so that 0 represents the lowest value and 1 the highest. In order to make the results more comprehensible, predicted values are plotted to visualize the important relationships.

2.5 Results

The major results are summarized in Table 3. Model 1 excludes political covariates, while Model 2 includes them. In terms of demographic control variables, some findings should be noted. As has been found previously, age is found to predict hostility towards immigration, while both higher levels of education and income were found to predict less hostile immigration attitudes, with education having a stronger effect. These effects persist after the inclusion of political covariates. Additionally, men were predicted to be slightly less hostile to immigration.

Local area level variables are also noteworthy, if predictable. A greater population predicts less hostile attitudes, while higher unemployment levels predict more hostile attitudes, though only once political attitudes are controlled for.

All personality traits, aside from extraversion, were found to predict immigration attitudes, and in precisely the directions expected. The strongest effects were with openness and

conscientiousness. We find here that agreeableness predicts support for immigration, while neuroticism hostility, as expected. However, the effect of agreeableness becomes insignificant when political variables are included in the models. Aside from neuroticism, the effect sizes of all personality variables shrink in the presence of these party and political covariates. This indicates part of their effects may be mediated by ideology and party preference. That neuroticism does not have this effect indicates that its relationships with immigration attitudes may run counter to its relationships with left-right placement or party preference.

Table 3: Linear mixed models

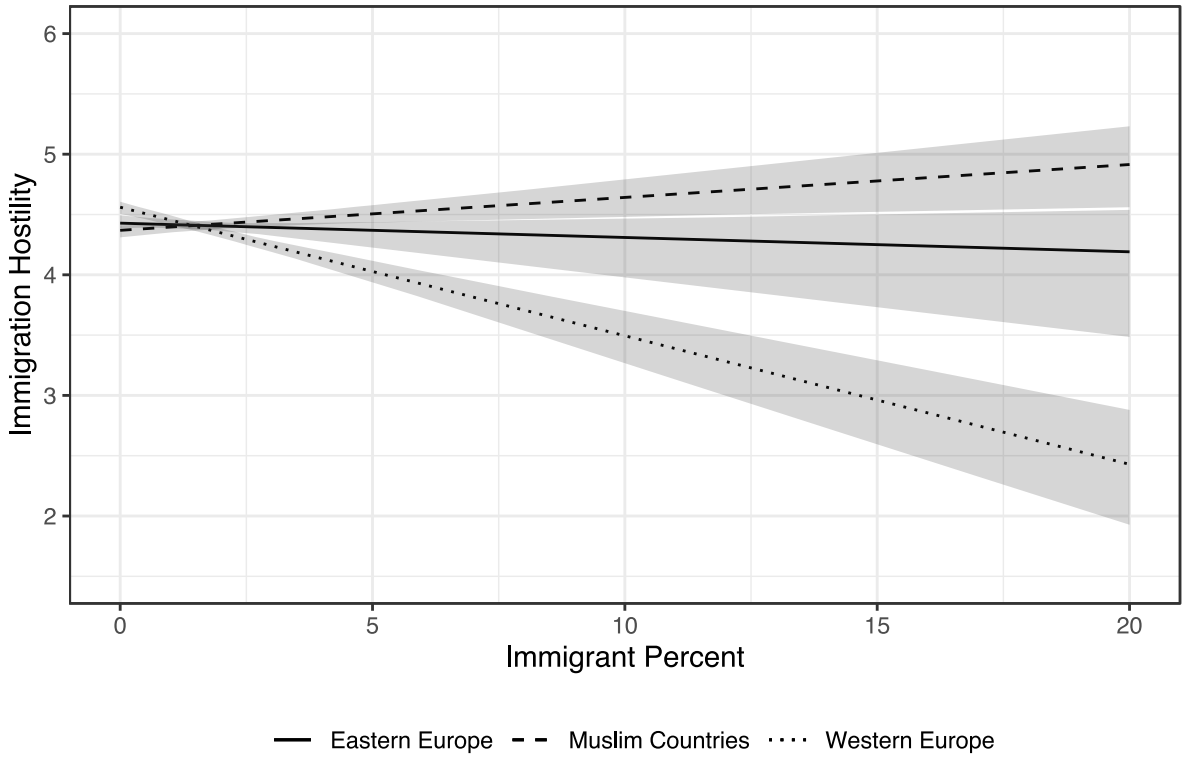
	Model 1	Model 2
Openness	-0.990***	-0.590***
Conscientiousness	0.987***	0.661***
Extraversion	0.100	-0.017
Agreeableness	-0.387***	-0.046
Neuroticism	0.313***	0.417***
Male	-0.044	-0.095***
Age	0.336***	0.152**
Education	-1.418***	-1.100***
Income	-0.153**	-0.317***
Left-Right		2.259***
Conservative		0.007
Labour		-0.185***
Libdem		-0.623***
UKIP		1.048***
Green		-0.503***
Population	-0.553***	-0.375***
Unemployment	-0.078	0.239**
Western European Percent	-1.857***	-1.513***
Eastern European Percent	-0.090	-0.123
Muslim Immigrant Percent	0.672***	0.462***
Observations	15,431	15,431
Groups (Local Areas)	374	374
Log Likelihood	-30,028.370	-28,613.740
Akaike Inf. Crit.	60,090.750	57,273.490
SD of Random Effects:		
Local Area (intercept)	0.221	0.161
Residual	1.682	1.536

Notes: *p<0.1; **p<0.05; ***p<0.01. All continuous IVs standardized to be on 0 - 1, min-max scale. Higher values in the dependent variable indicate greater hostility. In order to better compare the results between the models, participants were dropped from Model 1 if they did not respond to the political questions.

The general finding which emerges from the immigration measures is that Western European immigrant presence predicts less hostility towards immigration, Muslim-country immigrant presence predicts more hostility, and Eastern European immigrant presence shows no

significant relationship. Figure 1 shows predicted levels of hostility depending on percent of each immigrant group.

Figure 1: Predicted immigration attitude levels by group population share



Notes: Predicted values estimated from multilevel linear model, with bootstrap confidence intervals. Specifically, Model 2, presented above in Table 3. Immigration attitude scale runs from 1 to 7. Values above 4 represent hostility, while values below 4 represent support.

This finding supports the expectation that white British citizens react differently to different groups of immigrants, with more culturally distant groups provoking more hostile responses. This is important nuance. When predicting the effects of neighborhood diversity on immigration attitudes, simply looking at the total number of immigrants is likely to be misleading. It is essential to disentangle the groups and measure them separately, in order to understand their effects.

In order to establish whether personality traits moderate the effect of immigrant presence, or similarly, that immigrant presence moderates the effects of personality traits, I added interaction effects to the models presented in Table 3. I re-ran both of the models with an individual interaction between one of the personality traits and one of the immigrant group variables. Thus, for each personality trait, six separate models were constructed, each with one interaction. The purpose of this was to look for consistent patterns, both in terms of significance, as well as direction of effect. There could be a difference in how individuals respond to the different immigrant groups, however, to trust any differences found in immigrant group interactions, they should form a sensible pattern.

Table 4: Interactions

	Open.	Consc.	Extra.	Agree.	Neuro.
	Without Political Covariates - (N = 18301)				
Western Europe %	-1.41*	0.91	-0.80	0.67	0.07
Eastern Europe %	-0.98*	-0.33	-1.11***	0.40	-0.39
Muslim %	-0.87	-0.13	-0.99**	0.36	0.13
	With Political Covariates - (N = 15431)				
Western Europe %	-0.40	0.76	-1.33**	0.45	0.03
Eastern Europe %	-1.05**	-0.19	-1.15***	0.20	-0.37
Muslim %	-0.75	-0.05	-1.18***	0.47	0.12

Notes: *p<0.1; **p<0.05; ***p<0.01. All continuous IVs standardized to be on 0 - 1, min-max scale. All are multilevel linear models, including other covariates as seen in Table 3. Unlike in Table 3, to maximize power, participants were not dropped from the first set of models.

Table 4 shows the results of these interactions. First it is important to note what we do not find. For conscientiousness, agreeableness and neuroticism, even at a generous $p < 0.1$ standard, there are no significant results. The two traits which do show evidence of interaction effects are openness and extraversion. Openness and extraversion were highlighted as strong contenders for interactions. Openness is a likely predictor for both its consistent connection to

political attitudes more generally, as well as to friendship networks and to inter-ethnic friendships. No specific prediction was made for a main effect of extraversion, and indeed was not found to have such an effect. However, given its role in friendship networks, it was reasonable to expect that extraversion might be implicated in a contact effect, especially at higher immigration levels. The lack of a main effect would therefore be likely due to the fact that average immigration levels are quite low.[6]

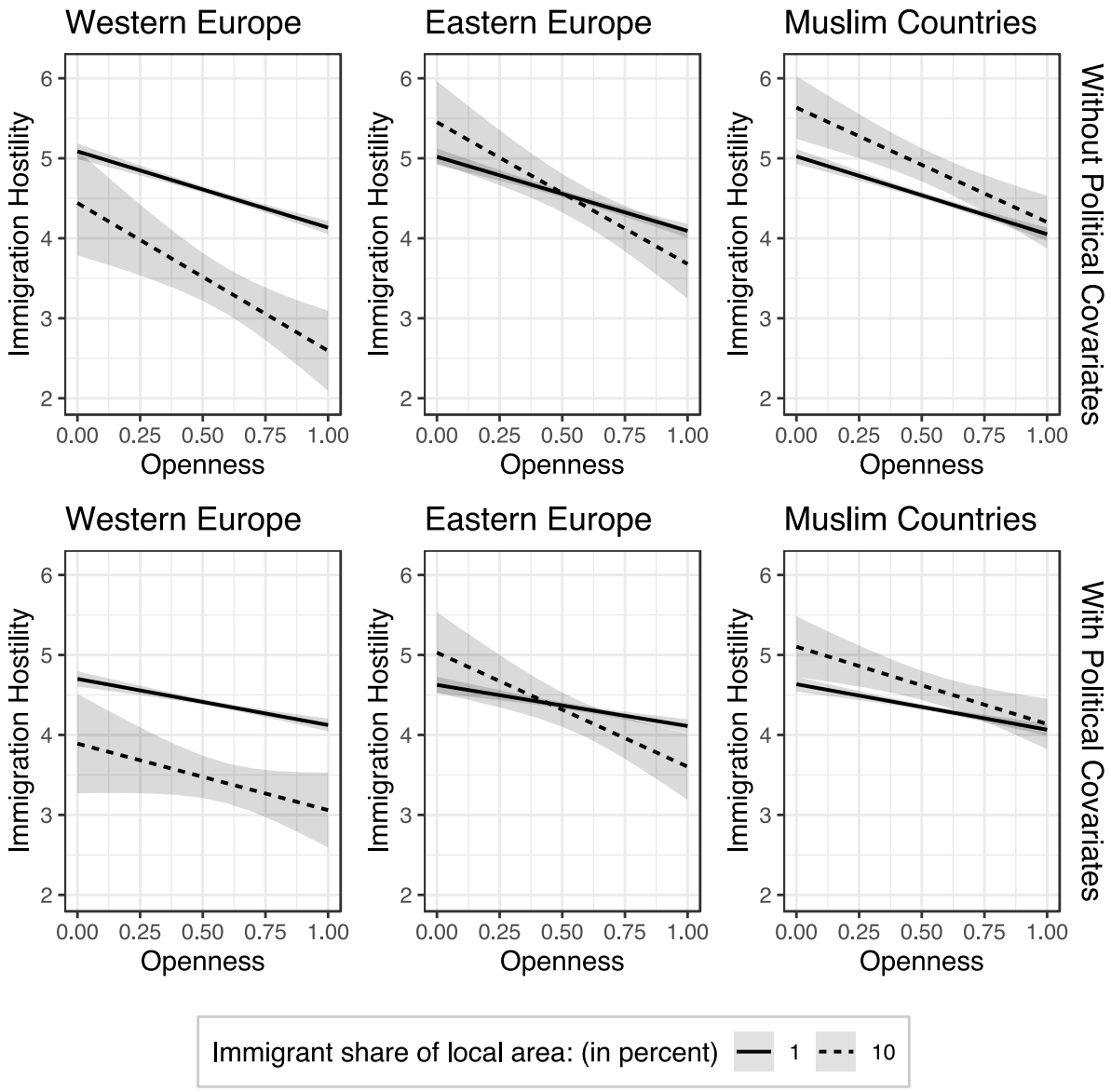
Figure 2 shows us predicted levels of immigration attitudes at 1% and 10% immigrant shares for the three groups, by levels of openness, both with and without political covariates. For all three immigrant groups, we see that at higher immigrant concentrations, the slope increases, showing that there is a larger differentiation between those low and high in openness. This effect is quite similar for interactions with all immigrant groups. This indicates there is no major difference in the effect pattern, based on immigrant group. What differs between the groups is the overall level of support. For all levels of openness, higher levels of Western European immigrants are associated with more supportive attitudes overall. However, the high-open individuals show a greater increase in supportive attitudes than the low-open individuals. As we move to Eastern European and Muslim-country immigrants, we see the 10% line is shifted upwards. In the Eastern European condition, low-open individuals become more hostile to immigration at the 10% level, while high-open individuals become more supportive. In the Muslim origin condition, we see all groups are more hostile to immigration at the 10% level,

[6] In the appendix I replicate this analysis with a more conservative modeling strategy, with each model having five interactions – one for each personality trait and one of the immigrant group percentages. Following that strategy, the openness interactions generally stay consistent in terms of sign, however, they all lose their statistical significance. The extraversion interactions, while weakened in terms of significance, still support the findings above, with over half of the interactions reaching conventional statistical significance ($p < 0.05$).

however low-open individuals have a large increase in hostility, while high-open individuals show little increase.

Finally, we see that including political covariates changes the story subtly for interactions with Western European immigrant shares. Here we see that without political covariates, the interaction is most dramatic with this immigrant group, however that changes with the inclusion of political variables. This indicates that the interaction is partly driven by mediation effects on the part of other political attitudes.

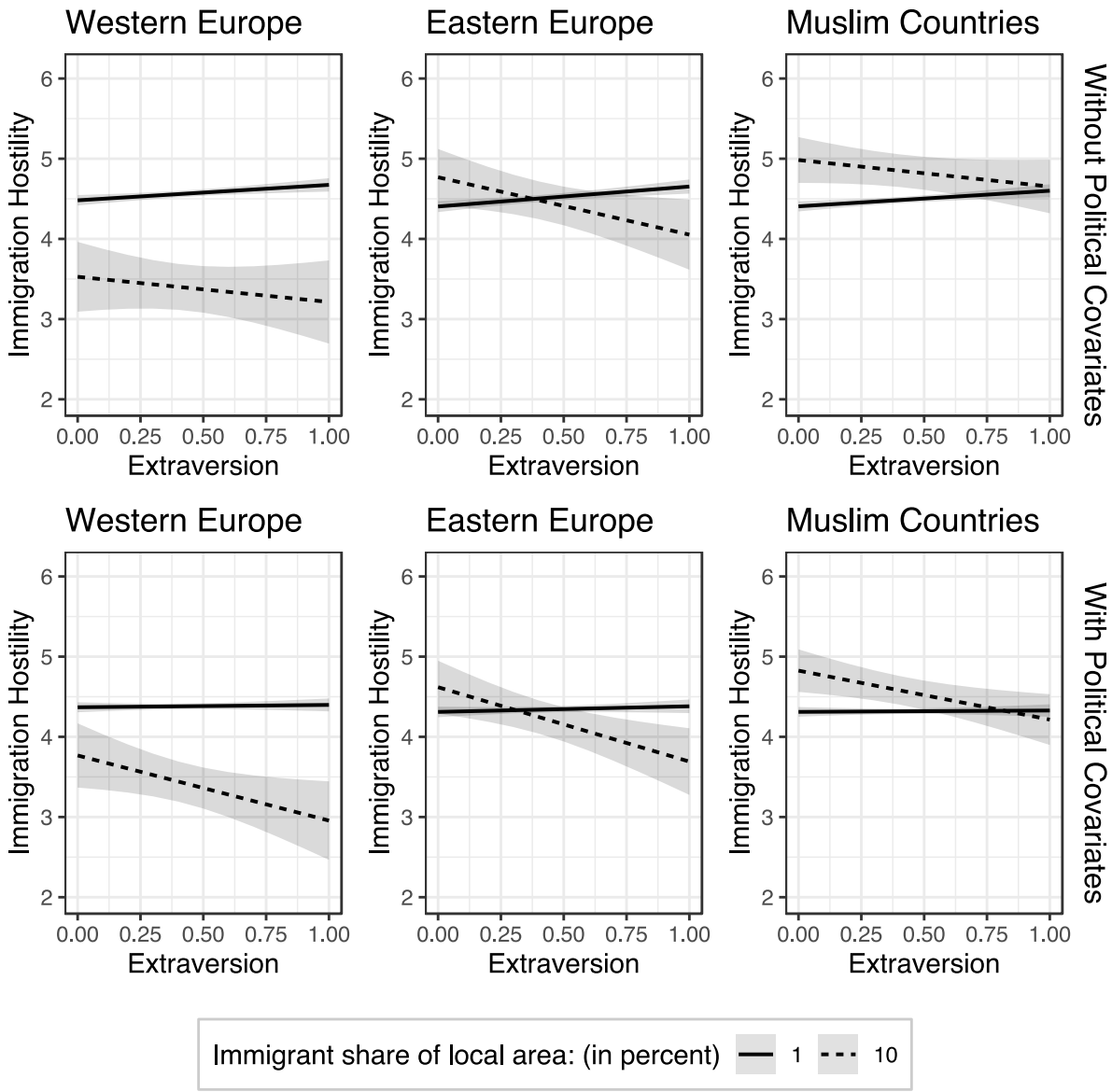
Figure 2: Predicted immigration attitudes based on openness and immigrant interactions



Notes: X-axis represents increase from lowest value of openness to highest. Solid lines represent 1% share of population by immigrant group in question, dashed lines 10%. Shaded regions represent 95% confidence intervals. Predictions made from multilevel linear models, including all other covariates. Immigration attitude scale runs from 1 to 7. Values above 4 represent hostility, while values below 4 represent support.

Moving on to extraversion in Figure 3, we see a different, and even stronger pattern. At low immigrant levels, extraversion is weakly correlated with immigration hostility. However, that pattern reverses and strengthens in the presence of large immigrant populations.

Figure 3: Predicted immigration hostility based on extraversion and immigrant interactions



Notes: X-axis represents increase from lowest value of extraversion to highest. Solid lines represent 1% share of population by immigrant group in question, dashed lines 10%. Shaded regions represent 95% confidence intervals. Predictions made from multilevel linear models, including all other covariates. Immigration attitude scale runs from 1 to 7. Values above 4 represent hostility, while values below 4 represent support.

At higher immigrant concentrations we see that high levels of extraversion predict lower hostility levels. This is the case for all immigrant groups, both with and without political covariates. This would be expected, given the general lack of association between extraversion

and general political attitudes. Once again we see the same pattern present in Figure 2 that, due to the disparate effects of each immigrant group, the line in the 10% condition shifts upwards as the group becomes more culturally distant. With a high percentage of Western European immigrants, we see that both high and low levels of extraversion predict greater levels of support for immigration, but this effect is magnified for more extraverted individuals. With high levels of Eastern European immigrants, we see that introverted individuals become slightly more hostile towards immigration, while extraverted individuals become slightly more supportive. And with high levels of immigrants from Muslim countries, we find that introverted individuals are more hostile, but no real change among extraverted individuals.

These findings with extraversion, like with openness, may point to an unmeasured contact effect. Despite not having strong connections either to general political attitudes, or to immigration attitudes generally, we see here that at higher immigrant concentrations, extraversion becomes very relevant. This could indicate that extraverted individuals in these situations are more likely to have contact with immigrants, and this, according to contact theory, leads to more supportive attitudes towards immigration. This also points to a context dependency for this trait. Its major effect does not merely change in the presence of higher immigration levels, it may only really emerge under those conditions.

2.6 Discussion

Rising immigration levels could provoke two different responses. Either individuals could become more positive towards immigration, or more negative. And indeed, both phenomena were found here, for different groups of immigrants. High levels of Western European immigrants were associated with support for immigration, Eastern European immigrants had a

neutral effect, while Muslim presence was associated with slight hostility. This highlights the importance of avoiding broad conclusions about the effects of increasing diversity.

This study also confirmed the important role of personality traits in predicting immigration attitudes, even when controlling for explicit measures of political preference and affiliation. Finally, this research showed that personality, specifically openness and extraversion, moderated the effect of immigrant presence on immigration attitudes. This demonstrates that whether someone responds positively or negatively to local immigration will depend both on who they are and the immigrant group in question.

However, these interactions should be interpreted with caution. They followed a consistent pattern, but some specific coefficients were statistically insignificant. Some of the effect of openness, moreover, seems mediated by other political attitudes and affiliations. As a result, it is unclear exactly what is driving the interaction effects for openness. The strong relationship between extraversion and immigration attitudes only emerges at higher immigrant levels, however mean immigrant levels in the study were low, meaning this association is based on limited data points. Both traits were identified as being contenders for predicting increased contact with immigrants, providing a clear explanation for these interactions, but contact was not measured, which is the main limitation of this study. The interactions for extraversion seem to clearly point in the direction of a contact-driven relationship, however for openness, the interaction may also be due to other factors, such as threat sensitivity. Future research, therefore, which more carefully measures contact can greatly help us to understand how much of these interactions are due to these competing explanations.

The broad personality findings here are in accordance with existing research about the connections between the various traits and attitudes towards immigration and prejudice (e.g., Ackermann, Ackermann and Freitag 2018; Akrami et al., 2011; Dinesen et al., 2016; Gallego and Pardos-Prado, 2014; Sibley and Duckitt, 2008). However, in previous immigration-personality studies, openness and conscientiousness were not consistently highlighted as the most important traits, whereas here they were. This is more in line with the general findings about personality and political ideology, which has found those two traits to be of the greatest importance (Gerber et al., 2011b; Mondak et al., 2010; Jost et al., 2009). Despite the differences with other studies, it should be noted that, in this sample, the effect sizes for those two traits are nearly as large as for education, which has been considered a major predictor of immigration attitudes (Hainmueller and Hopkins, 2014). This further indicates the importance of personality to immigration attitudes. These differences in which traits are found to be predictors may have to do with study methodology as well as local context. Both conscientiousness and neuroticism, for instance, were found to predict prejudice only in certain regions (Sibley and Duckitt, 2008). Personality may relate to immigration attitudes in a number of ways, and although the findings may at times diverge, the strength of these relationships indicates they deserve attention. Future studies can help us to understand better when certain traits are more relevant to immigration attitudes, and why these differences exist between different contexts.

Previous studies have found interactions between personality traits and immigration levels or outgroup contact (Ackermann and Ackermann, 2015; Ackermann, Ackermann and Freitag 2018; Danckert et al., 2017; Turner et al., 2014), however they do not precisely match what was found here, although they do not conflict with the findings here. Again, the differences could be due to methodology or local context. Notably, Ackermann, Ackermann and Freitag

(2018) and Ackermann and Ackermann (2015) found that the effect of conscientiousness disappeared in areas with higher diversity. That finding indicates that increasing levels of immigration can reduce the differences in effect between the two ends of a trait, a finding not found with other traits or in other studies. More research should be done to understand when that phenomenon is likely to occur, and moreover, if it is occurring through the more hostile end becoming more tolerant, or the more tolerant end becoming more hostile. This study found the presence of different immigrant groups are associated with differing attitudes towards immigration. However, it is notable that the interaction patterns were quite similar regardless of group. This indicates that the increased perceived threat associated with the different groups did not significantly alter the general moderation effect. That may have to do with the lack of sensitivity of the measures, or it could indicate that this effect is similar for all outgroups, just with differing starting points.

Additionally, as with contact studies generally, longitudinal data would be very useful for understanding how opinions change over time. With this study, we do not know how long the respondents have been living in their listed local areas, or where they moved from. We do not know how much these findings relate to self-sorting and not contact directly. This may be especially true for the findings relating to Western European immigrants, where it is unlikely there were strong prejudices to begin with.

What effect do increasing levels of immigration have on political attitudes? It is a simple question, but the answer may not be so straightforward. There is no single effect. This study finds strong evidence that immigration origin greatly influences how likely it is to provoke positive or negative responses in the British population. That likelihood will also depend on the individual. This study also finds strong evidence for the importance of personality. Not

only is it a strong predictor of immigration attitudes, but as local immigration levels increase, the effects of certain traits may become even more prominent. In other words, at higher immigration levels, one's disposition becomes even more of a determining factor.

2.7 Appendix

Table A1: Summary statistics for immigrant population change variables

Variables	Mean	SD	Min	Max
Western European Change	0.26	0.45	-0.44	3.40
Eastern European Change	1.39	1.18	-1.30	10.34
Muslim Change	0.37	0.70	-3.40	4.07

Notes: Change represents percentage point change from 2001 to 2011. Observations omitted when NAs present for key variables in base models. N = 18,301.

Table A2: Correlation matrix of personality and immigrant group percentages

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Openness	1.00							
(2) Conscientiousness	0.08	1.00						
(3) Extraversion	0.30	0.02	1.00					
(4) Agreeableness	0.09	0.24	0.05	1.00				
(5) Neuroticism	-0.11	-0.34	-0.13	-0.26	1.00			
(6) W. European Percent	0.05	-0.03	0.02	-0.04	0.01	1.00		
(7) E. European Percent	0.02	-0.03	0.01	-0.03	0.02	0.53	1.00	
(8) Muslim Percent	0.02	-0.02	0.02	-0.04	0.02	0.44	0.49	1.00

Notes: The correlation reported here between Western European and Muslim immigrant groups is slightly different from that reported in Table 1 ($r = 0.45$). This is due to slight variations in which respondents were omitted due to missing values.

Table A3: Linear mixed models for change variables

	Model 1	Model 2
Openness	-0.988***	-0.588***
Conscientiousness	0.988***	0.663***
Extraversion	0.100	-0.017
Agreeableness	-0.388***	-0.047
Neuroticism	0.317***	0.419***
Male	-0.043	-0.094***
Age	0.331***	0.149**
Education	-1.418***	-1.101***
Income	-0.159***	-0.323***
Left-Right		2.259***
Conservative		0.003
Labour		-0.187***
Libdem		-0.627***
UKIP		1.045***
Green		-0.505***
Population	-0.507***	-0.354**
Unemployment	0.140	0.405***
W. European Change	-1.173***	-0.939***
E. European Change	-0.032	-0.157
Muslim Immigrant Change	0.505**	0.392**
Observations	15,431	15,431
Groups (Local Areas)	374	374
Log Likelihood	-30,030.100	-28,617.290
Akaike Inf. Crit.	60,094.200	57,280.580
SD of Random Effects:		
Local Area (intercept)	0.224	0.165
Residual	1.682	1.536

Notes: *p<0.1; **p<0.05; ***p<0.01. All continuous IVs standardized to be on 0 - 1, min-max scale. Higher values in the dependent variable indicate greater hostility. In order to better compare the results between the models, participants were dropped from Model 1 if they did not respond to the political questions.

Table A4: Interactions for change variables

	Open.	Consc.	Extra.	Agree.	Neuro.
	Without Political Covariates – (N = 18301)				
W. Europe Change	-1.51**	0.88	-0.84*	0.60	0.15
E. Europe Change	-0.89	-0.70	-1.38**	0.43	-0.59
Muslim Change	0.12	-0.07	-0.35	0.59	-0.21
	With Political Covariates – (N = 15431)				
W. Europe Change	-0.70	0.74	-1.23***	0.19	0.33
E. Europe Change	-1.26*	-0.39	-1.40**	0.19	-0.57
Muslim Change	-0.34	-0.16	-0.44	0.24	-0.24

Notes: *p<0.1; **p<0.05; ***p<0.01. All continuous IVs standardized to be on 0 - 1, min-max scale. All are multilevel linear models, including other covariates as seen in Table A3. Unlike in Table A3, to maximize power, participants were not dropped from the first set of models.

Table A5: Interactions for percent variables – alternative modeling

	Open.	Consc.	Extra.	Agree.	Neuro.
	Without Political Covariates - (N = 18301)				
Western Europe %	-1.37	1.03	-0.53	0.69	0.42
Eastern Europe %	-0.66	-0.65	-1.05**	0.46	-0.71
Muslim %	-0.52	-0.18	-0.87*	0.54	0.03
	With Political Covariates - (N = 15431)				
Western Europe %	0.03	0.78	-1.38**	0.45	0.24
Eastern Europe %	-0.73	-0.43	-1.07***	0.23	-0.66
Muslim %	-0.31	-0.17	-1.13**	0.65	0.02

Notes: *p<0.1; **p<0.05; ***p<0.01. All continuous IVs standardized to be on 0 - 1, min-max scale. All are multilevel linear models, including other covariates as seen in Table 3. Unlike in Table 3, to maximize power, participants were not dropped from the first set of models. Unlike in Table 4, each model included five interactions: the immigrant group percentage interacted with all of the trait variables.

3. Authoritarianism and anti-immigrant attitudes in the UK

Co-authored with:

Royce Carroll, University of Essex,

Hanna Bäck, Lund University

The ‘cultural backlash’ to globalization has culminated in populist movements centered on opposition to immigration. In Britain, immigration attitudes were a key determinant of the Brexit referendum. While Brexit is often linked to the economic impact of globalization, research suggests cultural aspects of immigration are especially important in shaping anti-immigrant attitudes. In this paper, we examine the effect of ‘right-wing authoritarianism’ (RWA) on immigration attitudes in the UK after Brexit. We use an original survey measuring attitudes towards immigration from differing skill-levels and national origins. In line with recent literature, we find RWA is a strong predictor of immigration attitudes. Additionally, the effect of RWA is strongest for attitudes towards culturally distant immigrant groups. Finally, these effects are driven most by the 'aggression' component of RWA, suggesting it is individuals who want strong leadership to enforce group norms who are most negative towards immigration, particularly from culturally distant origins.

Keywords:

Authoritarianism; Brexit; Immigration Attitudes; RWA; UK

3.1 Introduction

A wave of political upheaval surrounding responses to globalization has struck many Western political systems in recent years. Populist leaders and parties have risen in prominence, with opposition to immigration central to these movements (Shehaj et al., 2019). The Leave vote in the Brexit referendum in the UK has similarly been shown to have been fueled in large part by concerns about immigration (Clery et al., 2017; Langella and Manning, 2016; Meleady et al., 2017). With such far-reaching political implications, it is important to understand the nature and origins of immigration attitudes.

Some research argues that economic conditions, such as the unemployment or austerity growing out of the 2008 financial crisis, are key factors predicting anti-immigrant attitudes (e.g., Rodrik, 2018). However, experimental work has shown that cultural threats are stronger than economic concerns in provoking opposition to immigration (Sniderman et al., 2004). Many scholars have thus focused on identifying the individual attributes that affect sensitivity to intergroup threats, showing that such sensitivity is influenced by measures such as 'authoritarianism' and 'social dominance orientation' (SDO) (Duckitt, 2006; Duckitt and Sibley, 2007). In particular, these traits are shown to influence which types of group prejudices are observed (Asbrock et al., 2010; Duckitt, 2006), as well as the types of outgroup threats that are most salient (Asbrock et al., 2012).

Here, we build on this line of inquiry, drawing on research on authoritarian values and theories of intergroup threat to examine in more detail how these factors are associated with attitudes toward immigration. These literatures, taken together, suggest that a perceived need to protect the ingroup from potential cultural threats can serve as a key mechanism by which authoritarian predispositions manifest as hostility toward immigration. We argue that this explains a

tendency for individuals who are high in 'right-wing authoritarianism' (RWA)—who give preference to group norms, cohesion, and stability over individual needs and desires (Duckitt, 1989)—to be more likely to hold hostile views towards immigration. We suggest that RWA has a uniquely strong role in predicting immigration attitudes because it captures a predisposition toward protecting the ingroup from perceived cultural threats (Duckett, 1989; Feldman, 2003; Feldman and Stenner, 1997), and because of the centrality of cultural threats in shaping attitudes towards immigration (McLaren and Johnson, 2007; Sides and Citrin, 2007). Further, if immigration is perceived as a cultural threat that prompts authoritarian predispositions to protect ingroup norms, we argue the RWA 'aggression' component is especially important. Aggression captures the predilection some individuals have for leaders and policies that take a tough stance towards deviants and outgroups (Altemeyer, 1996). Therefore, this component is especially relevant to the desire to protect the ingroup from outside threats, which may include immigration from culturally distant origins.

To examine this, we focus on the extent to which individuals differentiate between types of immigration, arguing that this provides additional insight into the role that ingroup protection plays in the relationship between RWA and immigration attitudes. We use an original survey of British adults which examines the relative hostility towards immigrants of differing regional and skill-level backgrounds. This measure of immigration attitudes allows us to better understand the nature of authoritarianism's effects by allowing us to more precisely measure variation in responses to immigration from different regional backgrounds *separate* from those with differing skill levels, capturing both the cultural and economic concerns associated with immigration.

We make several empirical contributions. First, we illustrate that the differentiation made between low-versus-high-skilled immigrants is fundamentally different from the differentiation made across geographic origins. While respondents are broadly hostile towards low-skill immigration (Hainmueller and Hiscox, 2010), we show that it is individuals who differentiate the most between immigrants by *origin* (as opposed to skill level) that tend to be most strongly against immigration in general, as well as for Brexit.

Second, we show that RWA has a very strong effect compared to other individual-level predictors of immigration attitudes, such as education, age, income, left-right self-placement, and party affiliation. In particular, we find that RWA is a much stronger predictor of immigration attitudes than SDO or an explicit measure of prejudice. Most importantly, we show that, among these measures, RWA is the strongest predictor of the degree of importance people place on immigrants' regional origins. This effect is most apparent for high-skilled immigrants.

Finally, we examine the components of RWA and find that the aggression component, which focuses on the individual's emphasis on enforcement of ingroup norm preservation, demonstrates the strongest effect on immigration attitudes overall and differentiates most strongly by origin. This facet, we suggest, taps most into the desire for restrictive government policies with regard to immigration.

We conclude with a discussion of the implications of these findings for our understanding of attitudes toward immigration policy and the broader politics of globalization.

3.2 Authoritarianism and Immigration Attitudes

An extensive literature has examined the motivation behind immigration attitudes and the threats that motivate hostility to immigration in particular. Studies focused on economic threats have examined income levels, sector of occupation, and sector presence in geographic areas, as determinants of hostility (e.g., Facchini and Mayda, 2009; Hainmueller and Hiscox, 2010; Hainmueller and Hopkins, 2015; Hanson et al., 2001; Sniderman et al., 2004). However, this work finds limited evidence for economic vulnerability as a driving cause, instead suggesting that the cultural effects of immigration are most salient in attitude formation (Hainmueller and Hopkins, 2014).

Another strain of research on variation in immigration attitudes has focused on core traits, values, personality, and ideology. Such individual-level factors may relate to one's sensitivity to different forms of threat (e.g., Croucher, 2013; Stephan et al., 1998; Stephan et al., 1999). Sensitivity to cultural threat is of particular interest, as it may be a major source of overall immigration attitudes (Schoon and Anderson, 2017). Individual traits are likely sensitive to particular threats. As authoritarianism has been found to be a strong predictor of immigration attitudes (Cohrs and Stelzl, 2010; Golec de Zavala et al., 2017), an important question remains as to whether these observed associations are driven by sensitivity to cultural threat, with authoritarian values directing particular negativity towards groups perceived as threatening to the social order.

Measurement of authoritarianism originates with the work by Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950). This was further developed and refined, most notably, by Altemeyer (1981), with the creation of the ‘right-wing authoritarianism’ (RWA) scale.

Although there is some disagreement about how authoritarianism should be measured, there seems to be some agreement about the general characteristics of this trait. Authoritarianism can be seen as the inclination to give preference to group norms, cohesion, and stability over individual needs and desires (Duckitt, 1989; Feldman, 2003). As RWA includes a predisposition for upholding norms, and immigration can be seen as a threat to the national culture (Newman et al., 2012), it is therefore not surprising that RWA and hostility towards immigration are associated.

While RWA has been found to predict intolerance and prejudicial views toward outgroups (e.g., Altemeyer, 1998; Ekehammer et al., 2014; Sibley and Duckitt, 2008), explicit attitudes of outgroup inferiority are distinct from RWA's emphasis on protecting the ingroup from cultural threats, which may also come from socially deviant members of the ingroup. However, in the context of attitudes toward ingroup protection, the cultural effects of immigration are likely most important to this trait and therefore RWA should be most associated with hostility towards culturally distant groups.

Several scholars have suggested that RWA consists of three core components, or facets: 'aggression', 'submission', and 'conventionalism' (or 'traditionalism'). The aggression dimension taps into aggressive and punitive attitudes towards rule-breakers, deviants, and outgroups, for example, focusing on whether the individual believes that society needs tougher government and stricter laws. Conventionalism instead taps into traditional values and gauges beliefs about whether people should adhere to societal norms, for example, focusing on sex, marriage, and drugs. The submission dimension focuses on beliefs about whether individuals should submit to legitimate authorities, and whether it is important that children learn to obey authorities (Altemeyer, 1996; see also, Funke, 2005). These three dimensions have been shown

to have distinct qualities pertinent to the issue of sensitivity to cultural threats (Duckitt et al., 2010)

Considering the important role of cultural threats in determining immigration attitudes, and that individuals should be more hostile towards immigration when they have a desire to protect their ingroup, the aggression facet of RWA is especially important for immigration attitudes. As mentioned, aggression focuses on the idea that some individuals will prefer that the government takes a tougher stance towards deviants and outgroups to protect their own ingroup. If immigrants in general, or those from a specific origin, are perceived as a cultural outgroup that threatens the ingroup, individuals high in aggression will want to reduce their numbers entering the country. Hence, these individuals should prefer more restricted immigration, particularly from more culturally distant origins.

Another trait suggested as a predictor of immigration attitudes is 'social dominance orientation' (SDO), designed to capture acceptance of hierarchy and the legitimacy of the dominant group (Henry et al., 2005). It has been used in recent research on the rise of populism, such as Mutz (2018), as a measure of status threat, to explain for Donald Trump's support in the US. Like RWA, SDO also influences prejudicial views (e.g., Danso et al., 2007; Sibley and Duckitt, 2008; Thomsen et al., 2008).

However, previous work shows that the two measures differ in their relation to prejudice and immigration hostility. Duckitt and Sibley (2010) show, for example, that RWA's relationship with immigration attitudes is particularly sensitive to differences in cultural values, as well as perceived threats, such as from crime or terrorism. In contrast, these authors find that SDO was predictive of concerns towards immigrants with lower economic status. In general, SDO

emphasizes *group* equality is at the core of the evaluation. Thomson et al. (2008) show that RWA predicts hostility towards immigrants who do not assimilate into the majority culture, while SDO predicts hostility towards immigrants who do assimilate, as this blurs group boundaries.

In the next section, we describe the survey we use to examine the impacts of individual factors and sensitivities to different types of immigration. In particular, we examine whether RWA responds to the cultural aspects of immigration concerns, due to the association between this trait and cultural threats.

3.3 Research Design

A large-scale survey measuring anti-immigrant attitudes

To better understand the relationship between immigration attitudes and individual traits, we surveyed a sample of British respondents recruited through Prolific Academic, using the Qualtrics survey platform. In return for completing our survey, participants received a payment of £3.5. In total, we surveyed 1102 individuals. We sought to balance both party affiliation and support for the Brexit referendum. 29% of our sample affiliated with the Conservative party, 33% with Labour, 20% did not declare any affiliation, and the remaining respondents were distributed among other parties. Of those in our sample who voted in the EU referendum, approximately 50% voted Remain and 50% Leave. The sample is 55% female and 45% male, with 46% having university education or higher.

To measure economic and cultural immigration concerns, we asked our respondents to indicate their desire to change the levels of immigration from groups varying in skill level and

geographic origins. By probing our respondents on a range of types of immigrants, we can better isolate the importance of economic or cultural factors in preferences for changes to immigration. We created a grid of choices based on skill level and type of immigration. Our analysis below is based on the responses to the high-skilled and low-skilled grids. Existing research has assessed and contrasted attitudes towards immigrants based on these skill levels, as they may differ due to, for instance, potential labor competition, concerns such as burdening the public services, or beliefs about the economic benefits of immigrants with needed expertise (e.g., Facchini and Mayda, 2009; Hainmueller and Hiscox, 2010).

Within each skill-level grid, the participants stated whether they preferred more, less, or the current number of immigrants from several potential geographic origins across which individuals are likely to have different attitudes. The survey captures a range of possible perceptions via categories for 'Western European', 'Muslim,' 'Commonwealth', 'Eastern European', 'East Asian', and 'Sub-Saharan African' countries. Previous research suggests that Western Europe is likely to be seen as among the least culturally distant origins for immigration (Dustmann and Preston, 2007), while perceived cultural distance is likely greater for immigrants from Muslim countries (Richardson, 2004). In a recent analysis, Ford (2011) shows that attitudes toward immigrants in the UK are consistently more favorable when countries of origin are associated with white immigrants and have "stronger economic, cultural and political links to Britain" (pp. 1033). Our categories overlap in this regard — with The Commonwealth, for instance, encompassing other categories — but overall grant us variation in perceptions of cultural and ethnic differences for immigrant groups.

For our analysis, we use the responses directly as well as compute a mean score of all the skill and geographic origins to assess overall attitudes towards desired immigration levels (*mean = 2.15, sd = 0.43, alpha = 0.96*).

Measuring predictors of immigration attitudes

To measure RWA, we used a slightly modified version of a 12-item RWA scale (Funke, 2005). We took the mean of all responses and then computed a min-max transformation (which we computed for all non-dummy independent variables) (*mean = 0.46, sd = 0.17, alpha = 0.84*). We also measure the three specific components of RWA to get a fuller understanding of how RWA is related to immigration attitudes. We computed scales using the items for RWA's three components, as shown in Funke (2005). We find somewhat low Cronbach's alphas among these components, especially for conventionalism and submission: aggression (*alpha = 0.75*), conventionalism (*alpha = 0.65*), and submission (*alpha = 0.62*).

To distinguish the effects of RWA from SDO, we measure this using the 8-item SDO-D scale. Here we also take the mean of responses (*mean = 0.37, sd = 0.21, alpha = 0.88*). Although these represent different theoretical constructs, we find that RWA and SDO are correlated here at $r = 0.55$. See the appendix for a full correlation matrix of our dispositional measures.

As immigration attitudes have been linked to racial and ethnic prejudicial attitudes, we include a measure of explicit prejudice. This allows us to determine whether RWA and SDO may be mediated by prejudice or have effects independent of prejudicial beliefs. Furthermore, it is important to understand the relative impact of prejudice compared to these other traits. We

created a scale made up of three items used by the European Social Survey to capture explicit prejudicial beliefs. These items are:

'*Some races or ethnic groups are born less intelligent than others*.'
'*Some races or ethnic groups are born harder working than others*.'
'*Some cultures are much better than others*.'

We computed the mean to create the scale (*mean = 0.33, sd = 0.25, alpha = 0.76*).

To fully understand if RWA and SDO are distinct from overall ideological profiles or policy preferences, it is necessary to distinguish their roles from that of left-right measures, which predict a wide variety of attitudes and behaviors. For this reason, we use the self-placement of respondents on a 'left-right' scale. While RWA and SDO can correlate with this scale (see, e.g., Mirisola et al., 2007), the effects of authoritarian traits on immigration attitudes are more central and fundamental than those originating from a left-right division.

We include four controls for respondent demographics: age, gender, income, and university-level education (binary). These controls are commonly accounted for in literature on immigration attitudes, with older, male, lower-income, and less educated respondents' typically in opposition to immigration. Each of these also captures elements of respondents' potential economic vulnerability to immigration.

3.4 Empirical Analyses

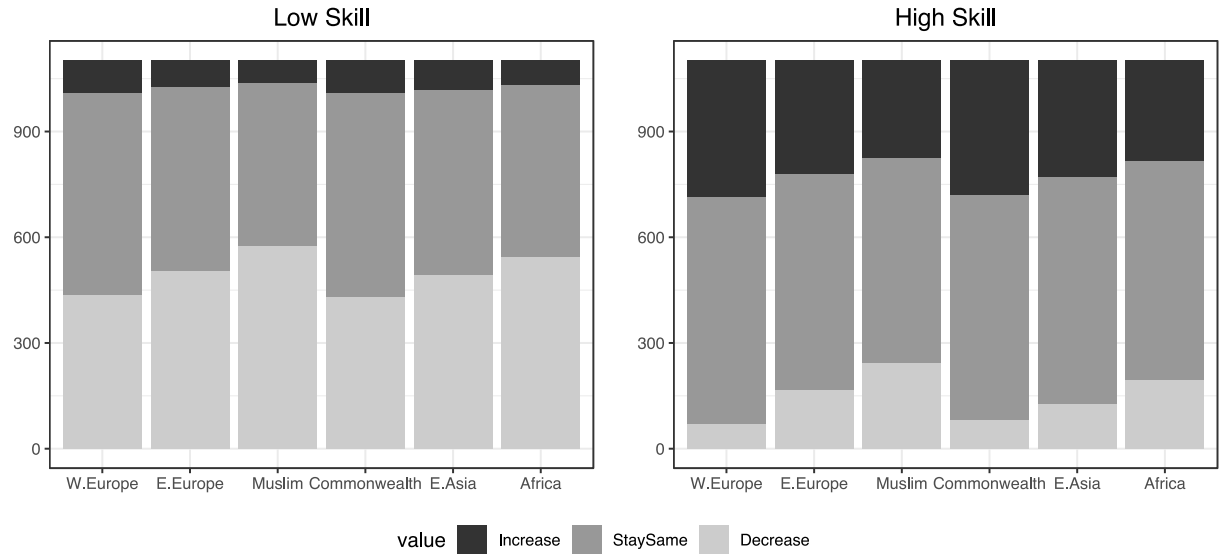
Immigration attitudes: descriptive patterns

In order to indirectly study cultural and economic concerns about immigration, we asked our respondents if they wanted more, fewer, or the same number of immigrants from various skill levels and origin regions. In Figure 1, we can see how many respondents our sample wanted to increase, decrease, or maintain the current number of high- and low-skilled immigrants from different regions.

For the high-skill category, few respondents want to decrease immigration levels from any group, and relatively more who want to increase immigration. The pattern is reversed for low-skilled immigrants, with a large amount wanting to decrease immigration levels, and very few wanting an increase. Here the effects are exaggerated. More people want to reduce low-skill immigration than increase high-skill immigration (and vice versa). In both skill-level categories, a large proportion prefers to maintain the current levels.

There is also a clear pattern regarding immigrants of different origins, with some groups consistently favored relative to others. Western European and Commonwealth immigrants are most favored, while Muslim and African immigrants are least favored. However, this variation is smaller than the difference between skill-levels.

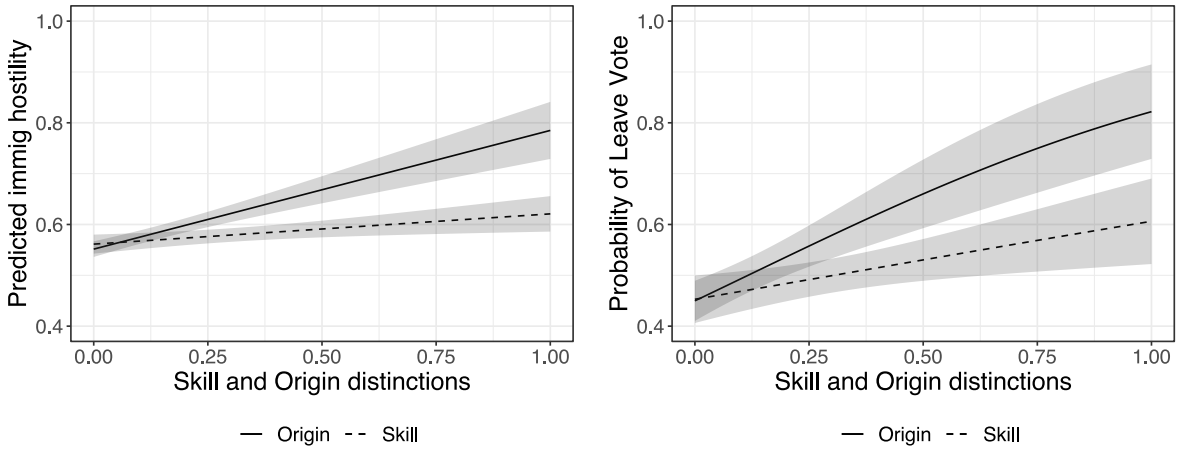
Figure 1: Attitudes towards immigrants of different skill levels and different origins



The overall pattern is one of general hostility toward low-skill immigration, and cultural concerns are not the largest source of variation. However, our purpose is to determine if differentiation across origins (and the cultural concerns this represents) results from *systematic* differences in the traits we examine.

To illustrate the difference between these two types of differentiation, we computed measures based on the variance on skill and origin in the mean responses to our question of increasing or decreasing immigration. To create the measure of skill differentiation, reflecting economic concerns, we took the difference between the high-skill and low-skill means across all origins. To compute the origin differentiation measure, we took the difference between the Western European and Muslim means across skill levels. For this purpose, we remove the few respondents who preferred low-skill or Muslim immigration, so that the scale begins with the value of those that make no distinction.

Figure 2: Immigration opposition (left) and Brexit vote (right) by skill and origin differentiation



Notes: Two single-variate OLS regressions (left) and logistic regressions (right). Shaded regions represent 95% confidence intervals. The dependent variable is overall immigration attitudes (left) and Leave vote (right). Skill IV represents the difference between the mean of high-skilled immigrant groups and the mean of low-skilled immigrant groups. Origin IV represents the difference between the mean of Western European immigrants and immigrants from Muslim countries. The immigration hostility scale was min-max transformed, running from 0 to 1.

In Figure 2 (left), we show the overall measure of immigration attitudes regressed separately on skill differentiation and cultural differentiation. On the right side of Figure 2, we show the same relationship applied to the participants' vote for Leave in the Brexit referendum. Together, these figures show that an individual's tendency to discriminate on immigrants' cultural origins is a strong predictor of overall immigration attitudes and relevant policy preferences. The tendency to discriminate against immigrants of lower skill levels has much weaker predictive power. In our sample, those who make no distinction for either skill-level or origin are predicted to have voted Leave at a probability of 45%. Among those who make the largest skill distinction for immigrants, about 61% are predicted to have voted Leave. However, that number increases to 82% among those who make the largest distinction based on origin. This is especially notable considering the fact that leaving the European Union does not directly impact immigration from primarily Muslim countries. Similarly, on the immigration opposition

scale (0-1 min-max transformed scale), the difference between exhibiting minimum and maximum skill-level distinctions was predicted to increase from .56 to .62, compared to a difference of .55 to .79 between the minimum and maximum origin distinctions.

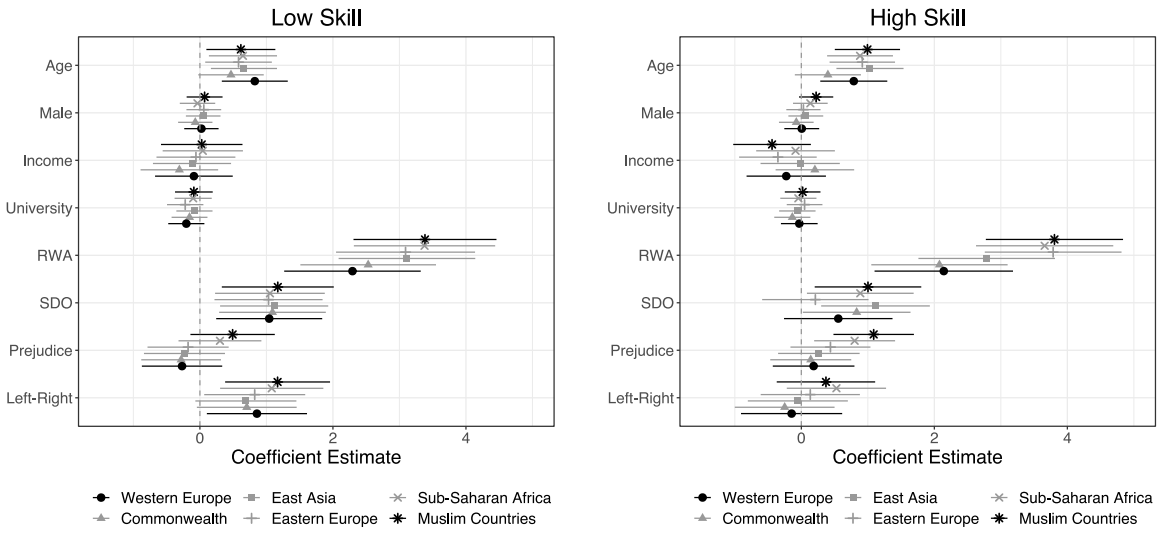
Multivariate analyses predicting immigration attitudes

To examine what factors are most important in determining immigration attitudes from different skill levels and origin regions, we ran individual ordinal logistic regressions for each of the skill-origin combinations. Figure 3 (left panel) displays the results for immigrants with low skill levels, while Figure 3 (right panel) displays the results for immigrants with high skill levels.

Looking at both panels, we see that, of the demographic variables, the most important is age, which predicts hostility towards immigration. The other demographic variables are generally not statistically significant in these models where traits and ideology are included. Of all the variables, RWA has the strongest effect. Focusing specifically on the ideological and dispositional variables, we see important differences between the two conditions. The effect of prejudice is stronger in the high-skill condition while identifying as being conservative on the left-right spectrum is stronger in the low-skill condition. In both conditions, the range of effect sizes is larger for RWA, which indicates that the effect varies by origin categories. While a distinction present in both low and high skill cases, the difference is much larger within the high-skill category. Within that category, we see that RWA has the weakest effect for Western European and Commonwealth immigrants, while the effect is strongest for Eastern European, Sub-Saharan African and Muslim immigrants, with East Asian immigrants in between. This implies that higher RWA increases the hostility towards Eastern European, Sub-Saharan

African, and Muslim immigrants much more than it does hostility towards those from Western European and Commonwealth countries.

Figure 3: Ordered logit models for low-skill (left) and high-skill (right) immigrants



Notes: Ordered logistic regressions. Regression coefficients are represented by the dots, while 95 percent confidence intervals with the horizontal lines. Variables were transformed to be on a min-max scale, where moving from zero to one indicates movement from the lowest observed value to the observed highest value for the variable.

It is noteworthy that these differences exist when controlling for an explicit measure of prejudice and that the differing effects of RWA are not based just on ethnic distinctions. The coefficient for Eastern European immigrants is comparable to that of sub-Saharan African and Muslim immigrants, especially in the high-skill condition. Commonwealth also tends to be comparable to Western Europe, even though our prompt made it clear this label encompasses countries with predominantly non-European populations (our example countries were Australia and India). The results are consistent with our expectation that RWA's effect on immigration attitudes depends on perceived cultural proximity, as the cultural connections between the United Kingdom and the Commonwealth likely play a role.

We also examined several alternate models (see the appendix for tables of all our models, including alternate ones). First, in the analysis above we have omitted party dummies from our models since party identification is likely endogenous to RWA and the other ideological and trait variables. If we include party dummies in the models above, we find statistically significant relationships (at the $p < .05$ level) only in the high-skill condition, and only for UKIP and Conservative supporters. Moreover, all the models without party dummies have better fit in the low-skill condition, according to the Akaike Information Criterion (AIC). In the high-skill condition, most of the models have a better fit with party dummies included, however the differences are marginal. Overall, the effects of party identification cannot be easily distinguished from the values behind these affiliations, and so those results should be read with caution. Nevertheless, the separate effects of party affiliation are sufficiently small such that including party dummies in our models does not impact the strong effects found for RWA.

As the ideological and trait variables (SDO, RWA, prejudice, and left-right) are partly interrelated, we also investigated whether these are more consequential in the absence of the others. Therefore, we examined models with the demographic variables as well as each ideological or trait variable, independent of the others. For every ideological and trait variable, in every model, the effect size increases and the coefficient becomes significant. Importantly, when RWA is not present, other variables exhibit the general origin-based effect size orderings seen above for RWA, with larger differences in the high-skill condition. However, run independently, RWA still demonstrates by far the strongest effect overall, as well as the greatest differentiation based on origin. These findings indicate that some of the effects that could be attributed to SDO, prejudice, and left-right self-placement are derived from shared variance with RWA. That is, it may be the authoritarian traits partly captured in the other

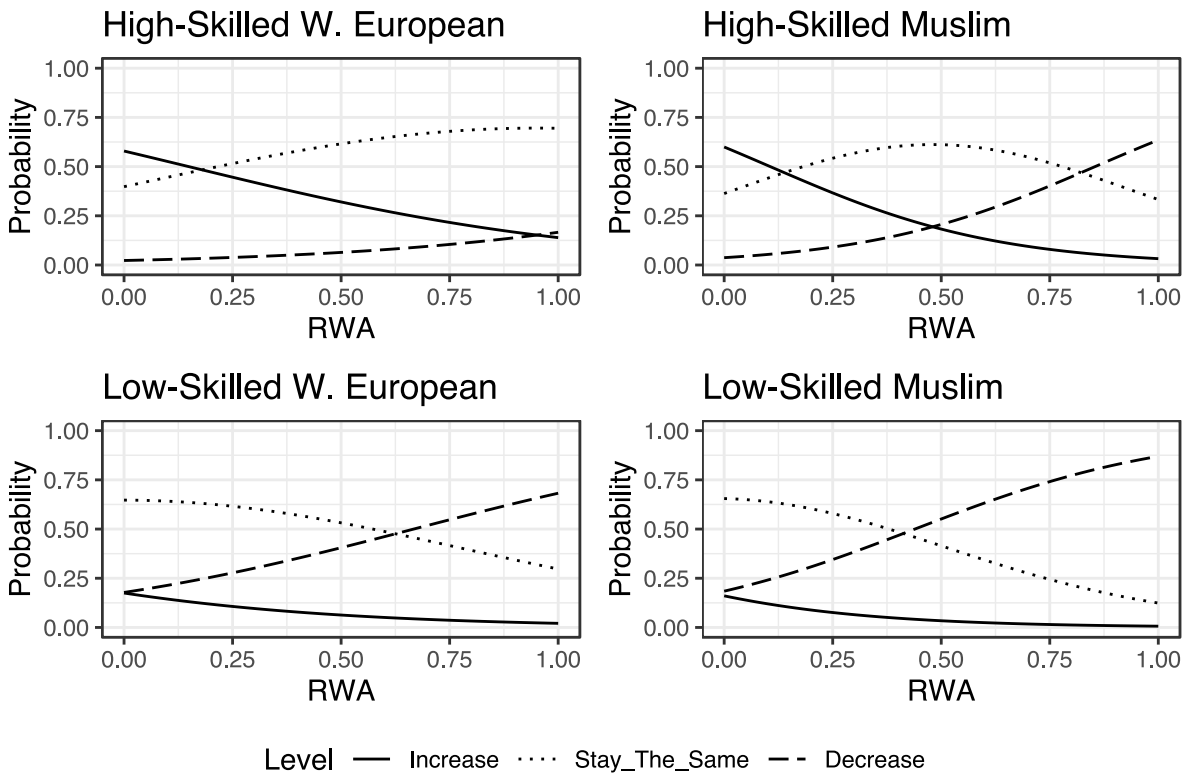
measures that drive their effects. Additionally, when SDO is included alone, there are only modest and inconsistent differences between the two skill level conditions, not supporting the contention that SDO has a particularly strong impact on attitudes toward low-skilled immigration.

So far, we have treated the response toward different immigrant types as continuous, ignoring the categorical distinctions between the choices. As there are three distinct choices with regard to each type of immigration – increase, decrease, stay the same – we can also distinguish the predicted effects for each level. Figure 4 reports predicted probabilities for the three different levels of the dependent variable for the four most distinct types of immigrant groups, as derived from the findings above: high-skilled immigrants from Western Europe, high-skilled immigrants from Muslim countries, low-skilled immigrants from Western Europe, and low-skilled immigrants from Muslim countries.

Looking at the two low-skill populations, we see that the Western Europe and Muslim country patterns are similar. Even among those with low RWA, few wish to increase the low-skilled immigration numbers and most wish to keep levels the same. However, as the level of RWA increases, that answer decreases in probability, while the desire to decrease the number of immigrants increases. The difference between "stay the same" and "decrease" is larger when the immigrant population comes from Muslim countries. At the highest level of RWA, the probability of wanting to decrease low-skill Muslim immigration is around 87%, while it is around 68% for Western European low-skilled immigrants. These two plots corroborate the earlier results. Even low-RWA individuals are significantly hostile to low-skilled immigration, and as a result, the room for differentiation between origin is smaller for high-RWA individuals. That said, we do see that high levels of RWA greatly increase the likelihood one will wish to

decrease the level of low-skilled immigrants, regardless of origin. Although respondents overall have a negative attitude toward low-skill immigration, RWA increases that opposition. This reflects the general opposition RWA predicts for immigration.

Figure 4: Detailed predicted probabilities for desired levels of four immigrant groups



Notes: Predicted probabilities of giving each desired immigration level. Computed from ordinal logistic regressions, with all other variables held at their means.

While the two low-skilled plots are quite similar to each other in their patterns, the two high-skill plots differ quite substantially, both from the low-skilled plots and each other. For high-skilled Western European immigrants, even at very high levels of RWA, few wish to decrease the rate of immigration. Increasing levels of RWA lowers the probability of supporting an increase in immigration rates, while raising support for 'stay the same.' If the high-skilled immigrants come from Muslim countries, the pattern is very different. As RWA increases past its midpoint, both 'stay the same' and 'increase' responses become less and less likely, while

'decrease' becomes the most likely viewpoint. At the highest level of RWA there is almost a 64% probability that a respondent would wish to decrease high-skilled immigration if it originates from a Muslim country. In contrast, if that immigrant had come from Western Europe, the probability would have been approximately 17%. Thus, we see here that while high levels of RWA predict an overall hostility towards immigration, it is at high skill levels that one most sees the relevance of origin.

Analyzing the impact of various dimensions of RWA

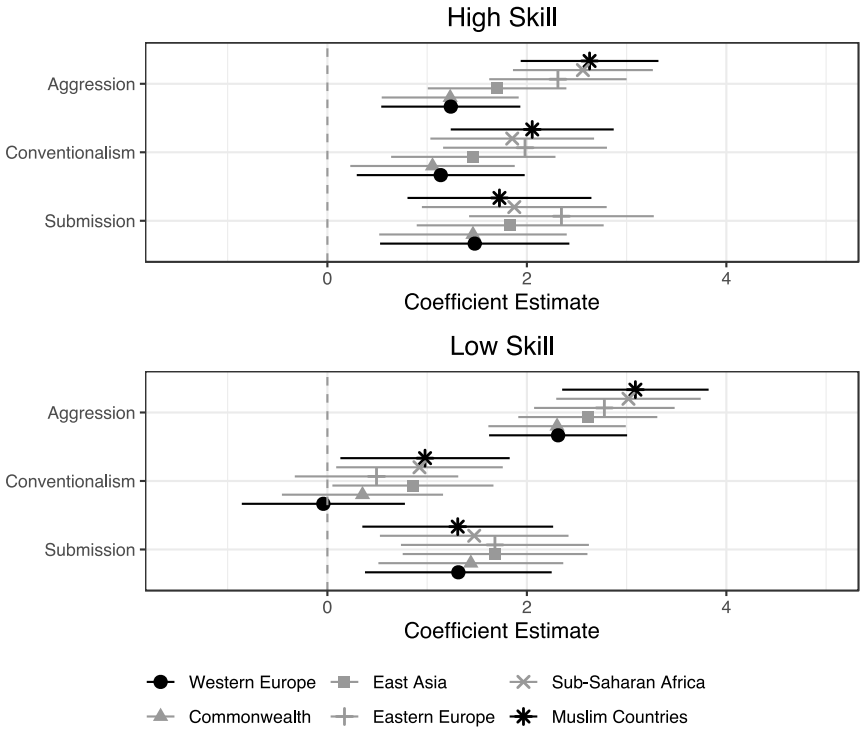
As described above, Altemeyer (1996) conceptualized the RWA scale as being composed of three facets: ‘aggression’, ‘conventionalism’, and ‘submission’. The scale was designed to aggregate these specific aspects of authoritarianism, and the items were written to capture multiple facets, making the scale essentially unidimensional. Funke (2005) argues that, while the overall scale is the best measure of authoritarianism, understanding which aspects of the scale are most relevant requires decomposing the scale into these three components. Funke proposes a revised set of items, each intended to more clearly capture an individual facet of authoritarianism.

Below, in Figure 5, we replicate the models in Figure 3 substituting in the individual components, instead of the full RWA scale. Note that in our main analysis of these components, we include each independently. Although the components are only moderately correlated (aggression and conventionalism: $r = 0.49$, aggression and submission: $r = 0.61$, conventionalism and submission: $r = 0.66$), we intend to capture both their individual characteristics and the variance shared between these facets. Still, we also display a model

simultaneously including all components in the appendix, along with a discussion of the differences between the two sets of findings.

In the high-skill condition, we see that all three RWA components are associated with opposition to immigration from all groups. The submission component does not strongly differentiate between origins and does not present a preference order in line with the overall RWA scale ordering. Both conventionalism and aggression, however, do have these properties of the overall RWA index, with a stronger effect with aggression. For aggression, the differentiation is about the same as is present for the overall RWA scale. That aggression is a strong predictor of origin differentiation is consistent with an emphasis on cultural threats, given the association between this component and punitiveness towards rule-breakers and outgroups. The differentiation present for conventionalism indicates that traditional beliefs and attitudes are also relevant for the preference for culturally similar immigrants.

Figure 5: Ordered logit models with RWA components



Notes: Regression models include the same variables as those in Figure 3 with one of the RWA components included. Here, only the RWA component coefficients are displayed, with 95 percent confidence intervals. Variables are standardized to be on a min-max scale, where moving from zero to one indicates movement from the lowest to the highest value.

In the low-skill condition, we again see a similar order of coefficient magnitudes with both aggression and conventionalism. However, with conventionalism, only half of the coefficients are statistically significant. Aggression is by far the strongest predictor here, and while the origin differentiation is present, this is much weaker than in the high-skill condition, as is with the overall RWA index. Submission shows significant relationships for all origin groups, yet with no differentiation between the origins. Submission seems to represent in both conditions a general hostility towards immigration.

That aggression has the most differentiation between origin groups suggests that the finding regarding RWA in the main analysis above is driven in large part by the aggression component, albeit with contributions from conventionalism. However, while RWA itself strongly predicts

hostility towards low-skilled immigrants, only aggression has a similarly strong effect. In the high-skill condition, we do not find a similar pattern, suggesting aggression is not the only component driving overall attitudes towards immigration. Overall, these findings suggest that aggression captures a threat-sensitivity to both culturally distant immigrants and low-skill immigrants not seen in the effects of the other components.

3.5 Conclusion

Understanding the sources of immigration attitudes has become especially important for understanding the changes taking place in many Western societies, including phenomena such as Brexit and the rise of populism. In this study, based on an original survey of UK citizens, we found support for the central role of authoritarianism in this dynamic. In predicting attitudes towards immigration, a common operationalization of this trait, 'right-wing authoritarianism' (RWA), has a far stronger substantive effect on immigration attitudes than other predictors, such as prejudice and 'social dominance orientation' (SDO).

By separately measuring immigration preferences by different origin and skill levels, we can better understand the effects of RWA on immigration attitudes. This gives us insight into the mechanism behind hostility: what aspects of immigration are causing a negative response from individuals high in authoritarianism. We found here not only that RWA strongly predicts differences in overall attitudes towards immigrants, but that the origins of immigrants differentiate these effects. Although research has shown that SDO's effect is likely triggered by low-skill immigration (Duckitt and Sibley, 2010), we do not find strong differentiation by skill-level. Even when RWA is not present in the model, there are small and inconsistent differences in the effects between the two skill levels for SDO. Thus, our findings within this

sample do not add support to the notion that SDO is capturing a unique feature of immigration attitudes.

By examining the roles of different facets of RWA, our results help us understand how authoritarianism relates to immigration concerns. While all components drive overall hostility towards high-skill immigrants to a similar extent, the aggression component was most strongly predictive of overall hostility towards low-skill immigrants. We additionally find that aggression is the largest factor in discrimination between origins, although conventionalism clearly plays a large role as well. The findings for aggression, however, demonstrate the critical role for the "law-and-order" aspect of authoritarianism in determining both immigration attitudes overall and preferences for culturally similar immigrants. We interpret this as support for our argument that the connection between authoritarianism and immigration is driven primarily by traits associated with an emphasis on enforcement of ingroup norms.

As the facets of right-wing authoritarianism seem to differ in their relationship to immigration hostility, future research should further refine the measurement scale and its various facets. Multiple ways of measuring authoritarianism will illuminate the contexts in which authoritarian traits most predict immigration hostility.

These findings are important in light of the extant literature. In their seminal piece, Hainmueller and Hopkins (2015) found a "hidden American consensus" on immigration in the US, with very strong agreement on the type of immigrant favored by Americans and little variation due to education levels or party leanings. Although our results in the UK are consistent with this on one level — we confirm that education levels and partisan leanings weakly explain attitudes

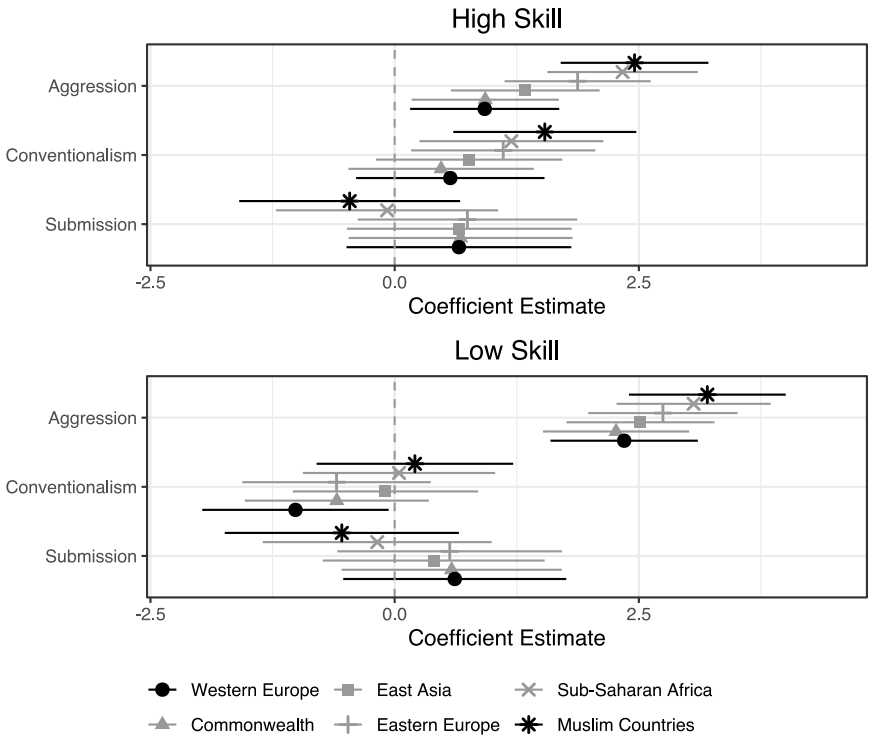
towards different immigrant groups — the strength of preferences varies substantially and systematically with authoritarianism levels measured by RWA.

Authoritarian individuals, for whom protecting ingroup norms is crucial, are especially hostile towards those with culturally distant origins. We find, for example, that an individual at the lowest levels of RWA would have almost a 60% probability of choosing to increase numbers of high-skilled immigrants from Muslim countries, while those at the highest levels of RWA have virtually no probability of holding this preference. Even if we assumed that individuals with high and low authoritarian predispositions share preferences for the ideal immigrant, the preferred immigration levels from specific immigrant groups vary dramatically between these groups. This represents a sharp divide among individuals, which was also apparent in attitudes toward Brexit.

More broadly, these findings are relevant to recent work emphasizing a shift in political dynamics in western countries from an economic left-right division to a division based more on divisions regarding authoritarianism (Dalton, 2018; Hetherington and Weiler, 2009; Scotto et al., 2018; Surridge, 2018). The connection to immigration as a cultural threat illuminates one pathway for how authoritarianism may contribute to the modern globalization divide facing many Western democracies. As polarization among citizens can undermine social cohesion, it is crucial that we better understand how authoritarian traits contribute to this divide.

3.6 Appendix

Figure A1: Ordered logit models with RWA components (together)



Notes: Regression models include the same variables as those in Figure 3 with RWA components included instead of the overall RWA scale. Here, only the RWA component coefficients are displayed, with 95 percent confidence intervals. Variables are standardized to be on a min-max scale, where moving from zero to one indicates movement from the lowest to the highest value.

When we include all three components in the same models, this eliminates the effects of the components' shared variance. While, we see some differences, the key findings for aggression are still present. Regarding the other components, in the low-skill condition, all coefficients are not statistically significant except for one. Meanwhile, in the high-skill condition none of the correlations for submission, and only half of those with conventionalism, are statistically significant. The ordering pattern is still present for conventionalism, especially in the high-skill condition, indicating it provides a distinct contribution to the main RWA origin-differentiation findings. Due to the correlations between the RWA components, as well as their theoretical

closeness, we must be cautious in interpreting this alternative model. However, it is important to note that both approaches are similar with regard to the main findings.

Table A1: RWA items

Aggression

- What our country really needs instead of more "civil rights" is a good stiff dose of law and order
- What our country really needs is a strong, determined leader who will crush evil doers and set us on our right way again.
- There is no crime that justifies capital punishment.
- It is important to protect all people, even radicals and social deviants, in all ways.

Conventionalism

- The withdrawal from tradition will turn out to be a fatal mistake one day.
- Being virtuous and law-abiding is in the long run better for us than permanently challenging the foundations of our society.
- People should develop their own personal standards about good and evil and pay less attention to the Bible and other old, traditional forms of religious guidance.
- Homosexual couples should be able to get married and be treated the same way as opposite-sex couples.

Submission

- Obedience and respect for authority are the most important values children should learn.
- The real keys to the "good life" are obedience, discipline, and virtue.
- The days when women are submissive should belong strictly in the past. A "woman's place" in society should be wherever she wants it to be.
- It is good that nowadays young people have greater freedom "to make their own rules" and to protest against things they don't like.

Table A2: Sample demographics

	n	(%)
Gender		
Male	496	45
Female	606	55
Age		
18-24	134	12
25-34	311	28
35-44	291	26
45-54	210	19
55-64	118	11
65+	38	3
Education		
Below University	591	54
University or Higher	504	46

Table A3: Correlation matrix of ideology and immigration attitudes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) RWA	1.00							
(2) SDO	0.55	1.00						
(3) Prejudice	0.48	0.52	1.00					
(4) Left-Right	0.53	0.51	0.33	1.00				
(5) Immigration Attitudes	0.51	0.39	0.31	0.37	1.00			
(6) Aggression	0.85	0.49	0.42	0.46	0.52	1.00		
(7) Conventionalism	0.82	0.43	0.39	0.42	0.34	0.49	1.00	
(8) Submission	0.87	0.48	0.41	0.47	0.40	0.61	0.66	1.00

Table A4: Ordered Logit - High Skill – Demographics

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.899***	1.132***	1.233***	0.493**	1.173***	1.111***
	(0.252)	(0.245)	(0.241)	(0.248)	(0.252)	(0.244)
Male	-0.056	-0.072	0.126	-0.133	-0.005	0.042
	(0.130)	(0.126)	(0.124)	(0.129)	(0.129)	(0.127)
Income	-0.005	-0.024	0.038	0.411	0.272	0.352
	(0.298)	(0.288)	(0.286)	(0.296)	(0.296)	(0.291)
University	-0.294**	-0.360***	-0.488***	-0.379***	-0.408***	-0.521***
	(0.132)	(0.129)	(0.127)	(0.131)	(0.131)	(0.129)
AIC	1746.33	1963.98	2049.78	1807.37	1856.27	1975.44
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:				*p<0.1; **p<0.05; ***p<0.01		

Table A5: Ordered Logit - Low Skill – Demographics

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.960***	0.766***	0.843***	0.622**	0.834***	0.891***
	(0.245)	(0.244)	(0.247)	(0.243)	(0.242)	(0.246)
Male	-0.064	-0.052	-0.031	-0.158	-0.054	-0.112
	(0.127)	(0.127)	(0.128)	(0.127)	(0.126)	(0.128)
Income	0.239	0.308	0.476	-0.003	0.235	0.457
	(0.290)	(0.291)	(0.294)	(0.290)	(0.288)	(0.292)
University	-0.491***	-0.557***	-0.535***	-0.437***	-0.429***	-0.529***
	(0.130)	(0.130)	(0.131)	(0.129)	(0.129)	(0.130)
AIC	1849.43	1819.11	1765.18	1864.3	1852.64	1794.85
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:				*p<0.1; **p<0.05; ***p<0.01		

Table A6: Ordered Logit - High Skill – Main Model

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.789***	0.917***	0.994***	0.399	1.032***	0.883***
	(0.257)	(0.251)	(0.250)	(0.254)	(0.257)	(0.253)
Male	0.006	0.031	0.222*	-0.076	0.067	0.136
	(0.134)	(0.131)	(0.131)	(0.133)	(0.134)	(0.133)
Income	-0.227	-0.352	-0.440	0.204	-0.017	-0.087
	(0.304)	(0.298)	(0.298)	(0.301)	(0.304)	(0.302)
University	-0.031	0.049	0.020	-0.136	-0.060	-0.045
	(0.141)	(0.137)	(0.137)	(0.139)	(0.140)	(0.139)
RWA	2.142***	3.787***	3.806***	2.077***	2.787***	3.659***
	(0.531)	(0.525)	(0.526)	(0.523)	(0.524)	(0.526)
SDO	0.555	0.211	1.002**	0.832**	1.115***	0.886**
	(0.416)	(0.408)	(0.409)	(0.413)	(0.417)	(0.409)
Prejudice	0.185	0.438	1.088***	0.141	0.264	0.801***
	(0.313)	(0.307)	(0.309)	(0.311)	(0.313)	(0.310)
Left Right	-0.146	0.135	0.370	-0.250	-0.053	0.528
	(0.388)	(0.380)	(0.378)	(0.383)	(0.384)	(0.381)
AIC	1711.04	1852.52	1848.41	1767.75	1768.12	1802.34
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A7: Ordered Logit - Low Skill – Main Model

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.825***	0.581**	0.616**	0.467*	0.662***	0.647**
	(0.253)	(0.256)	(0.265)	(0.251)	(0.253)	(0.261)
Male	0.023	0.059	0.071	-0.070	0.049	-0.036
	(0.132)	(0.133)	(0.138)	(0.132)	(0.133)	(0.136)
Income	-0.090	-0.060	0.028	-0.309	-0.119	0.043
	(0.298)	(0.303)	(0.313)	(0.298)	(0.299)	(0.308)
University	-0.204	-0.221	-0.091	-0.156	-0.082	-0.101
	(0.139)	(0.140)	(0.145)	(0.138)	(0.139)	(0.143)
RWA	2.294***	3.092***	3.384***	2.530***	3.113***	3.377***
	(0.524)	(0.533)	(0.548)	(0.520)	(0.524)	(0.542)
SDO	1.042**	1.032**	1.171***	1.091***	1.116***	1.053**
	(0.407)	(0.415)	(0.429)	(0.409)	(0.415)	(0.421)
Prejudice	-0.269	-0.178	0.492	-0.282	-0.232	0.301
	(0.308)	(0.311)	(0.324)	(0.306)	(0.311)	(0.318)
Left Right	0.857**	0.824**	1.168***	0.705*	0.691*	1.080***
	(0.384)	(0.387)	(0.402)	(0.383)	(0.387)	(0.396)
AIC	1770.84	1705.6	1590.75	1779.61	1740.04	1638.64
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A8: Ordered Logit - High Skill - Party

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.852***	0.942***	1.045***	0.457*	1.125***	0.938***
	(0.261)	(0.255)	(0.255)	(0.257)	(0.262)	(0.257)
Male	0.009	0.023	0.224*	-0.077	0.065	0.139
	(0.134)	(0.132)	(0.132)	(0.134)	(0.134)	(0.134)
Income	-0.140	-0.266	-0.338	0.293	0.041	0.042
	(0.307)	(0.301)	(0.302)	(0.304)	(0.307)	(0.306)
University	-0.006	0.069	0.053	-0.090	-0.029	-0.018
	(0.142)	(0.138)	(0.139)	(0.140)	(0.141)	(0.141)
RWA	2.126***	3.774***	3.887***	2.000***	2.768***	3.764***
	(0.541)	(0.536)	(0.540)	(0.534)	(0.535)	(0.541)
SDO	0.612	0.238	1.043**	0.912**	1.244***	0.956**
	(0.420)	(0.412)	(0.416)	(0.419)	(0.422)	(0.415)
Prejudice	0.117	0.338	0.998***	0.040	0.165	0.665**
	(0.317)	(0.311)	(0.314)	(0.315)	(0.317)	(0.315)
Left Right	0.197	0.441	0.683	0.201	0.645	1.024**
	(0.443)	(0.439)	(0.439)	(0.441)	(0.445)	(0.444)
Conservative	-0.431**	-0.185	-0.316	-0.381*	-0.394**	-0.413**
	(0.198)	(0.194)	(0.194)	(0.196)	(0.197)	(0.197)
Green	0.055	0.733*	0.706*	0.115	0.452	0.768*
	(0.399)	(0.386)	(0.393)	(0.401)	(0.405)	(0.399)
Labour	-0.063	0.141	0.032	0.111	0.278	0.071
	(0.185)	(0.181)	(0.183)	(0.184)	(0.185)	(0.185)
Lib Dem	-0.262	-0.181	-0.081	-0.149	-0.142	-0.057
	(0.278)	(0.275)	(0.276)	(0.278)	(0.280)	(0.279)
SNP	-0.539	-0.808	-0.729	-0.726	-0.467	-0.336
	(0.484)	(0.494)	(0.481)	(0.479)	(0.478)	(0.483)
UKIP	0.271	0.810**	0.842**	0.839**	0.258	0.759**
	(0.368)	(0.341)	(0.354)	(0.365)	(0.360)	(0.341)
AIC	1714.28	1846.38	1840.76	1761.88	1764.87	1793.86
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A9: Ordered Logit - Low Skill - Party

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.823***	0.543**	0.620**	0.490*	0.685***	0.660**
	(0.256)	(0.259)	(0.269)	(0.255)	(0.257)	(0.265)
Male	0.031	0.061	0.074	-0.064	0.050	-0.031
	(0.132)	(0.134)	(0.138)	(0.132)	(0.133)	(0.136)
Income	-0.033	0.005	0.109	-0.265	-0.088	0.107
	(0.301)	(0.306)	(0.316)	(0.300)	(0.302)	(0.311)
University	-0.207	-0.234*	-0.123	-0.142	-0.100	-0.131
	(0.140)	(0.141)	(0.146)	(0.139)	(0.140)	(0.144)
RWA	2.269***	3.070***	3.610***	2.487***	3.176***	3.553***
	(0.533)	(0.543)	(0.561)	(0.530)	(0.534)	(0.554)
SDO	1.011**	0.954**	1.118**	1.060**	1.091***	1.014**
	(0.410)	(0.419)	(0.435)	(0.413)	(0.418)	(0.425)
Prejudice	-0.273	-0.171	0.495	-0.278	-0.192	0.311
	(0.312)	(0.315)	(0.328)	(0.310)	(0.314)	(0.321)
Left Right	0.776*	0.647	1.024**	0.622	0.564	0.992**
	(0.440)	(0.448)	(0.466)	(0.442)	(0.449)	(0.456)
Conservative	-0.163	-0.009	-0.180	-0.215	-0.145	-0.173
	(0.193)	(0.197)	(0.207)	(0.194)	(0.196)	(0.202)
Green	0.036	0.397	0.810*	-0.179	0.143	0.663
	(0.399)	(0.391)	(0.417)	(0.403)	(0.390)	(0.412)
Labour	-0.217	-0.159	-0.315*	-0.232	-0.241	-0.253
	(0.181)	(0.183)	(0.187)	(0.181)	(0.183)	(0.186)
Lib Dem	-0.358	-0.389	-0.103	-0.197	-0.109	-0.125
	(0.282)	(0.280)	(0.285)	(0.276)	(0.281)	(0.282)
SNP	-0.412	-0.500	-0.455	-0.858*	-0.686	-0.505
	(0.470)	(0.486)	(0.494)	(0.489)	(0.485)	(0.485)
UKIP	0.056	0.264	0.020	0.184	-0.233	-0.138
	(0.351)	(0.365)	(0.395)	(0.351)	(0.354)	(0.370)
AIC	1779.59	1711.52	1592.45	1786.24	1748.15	1643.49
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A10: Ordered Logit - High Skill - RWA

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.779***	0.944***	1.042***	0.375	1.018***	0.932***
	(0.254)	(0.249)	(0.247)	(0.251)	(0.255)	(0.250)
Male	0.033	0.067	0.317**	-0.046	0.121	0.211
	(0.132)	(0.130)	(0.129)	(0.131)	(0.132)	(0.131)
Income	-0.212	-0.324	-0.343	0.220	0.015	0.002
	(0.304)	(0.296)	(0.296)	(0.301)	(0.303)	(0.301)
University	-0.033	0.038	0.002	-0.132	-0.056	-0.058
	(0.140)	(0.136)	(0.136)	(0.138)	(0.139)	(0.138)
RWA	2.561***	4.310***	5.393***	2.584***	3.700***	5.090***
	(0.410)	(0.415)	(0.429)	(0.405)	(0.413)	(0.425)
AIC	1708.05	1850.18	1874.93	1767.23	1773.55	1819.18
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A11: Ordered Logit - Low Skill - RWA

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.796***	0.567**	0.647**	0.443*	0.638**	0.678***
	(0.249)	(0.252)	(0.259)	(0.248)	(0.250)	(0.257)
Male	0.040	0.076	0.138	-0.052	0.067	0.023
	(0.129)	(0.131)	(0.135)	(0.130)	(0.130)	(0.133)
Income	-0.024	0.009	0.118	-0.249	-0.060	0.133
	(0.296)	(0.300)	(0.309)	(0.296)	(0.298)	(0.305)
University	-0.168	-0.189	-0.077	-0.122	-0.052	-0.090
	(0.137)	(0.138)	(0.143)	(0.136)	(0.137)	(0.141)
RWA	3.385***	4.206***	5.203***	3.538***	4.154***	4.952***
	(0.414)	(0.426)	(0.451)	(0.412)	(0.421)	(0.443)
AIC	1780.92	1714.64	1614.88	1788.05	1748.85	1656.17
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A12: Ordered Logit - High Skill - SDO

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.889***	1.109***	1.224***	0.481*	1.163***	1.101***
	(0.253)	(0.246)	(0.245)	(0.250)	(0.254)	(0.247)
Male	-0.061	-0.090	0.112	-0.138	-0.028	0.020
	(0.131)	(0.127)	(0.126)	(0.130)	(0.130)	(0.128)
Income	-0.130	-0.179	-0.226	0.282	0.099	0.111
	(0.301)	(0.291)	(0.290)	(0.299)	(0.300)	(0.294)
University	-0.204	-0.248*	-0.334***	-0.292**	-0.282**	-0.372***
	(0.134)	(0.131)	(0.130)	(0.133)	(0.134)	(0.132)
SDO	1.503***	2.095***	3.273***	1.673***	2.407***	3.054***
	(0.315)	(0.308)	(0.318)	(0.314)	(0.316)	(0.317)
AIC	1725.17	1918.64	1938.54	1780.48	1798.41	1880.07
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A13: Ordered Logit - Low Skill - SDO

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.950***	0.755***	0.854***	0.609**	0.832***	0.884***
	(0.249)	(0.250)	(0.257)	(0.247)	(0.248)	(0.254)
Male	-0.088	-0.069	-0.051	-0.184	-0.083	-0.153
	(0.128)	(0.129)	(0.133)	(0.129)	(0.129)	(0.131)
Income	0.066	0.114	0.263	-0.178	0.047	0.256
	(0.294)	(0.297)	(0.304)	(0.294)	(0.295)	(0.300)
University	-0.373***	-0.445***	-0.401***	-0.327**	-0.307**	-0.395***
	(0.132)	(0.133)	(0.136)	(0.132)	(0.132)	(0.134)
SDO	2.200***	2.528***	3.258***	2.269***	2.538***	2.990***
	(0.312)	(0.318)	(0.338)	(0.312)	(0.316)	(0.328)
AIC	1799.35	1753.93	1663.91	1811.15	1786.05	1706.34
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A14: Ordered Logit - High Skill – Left-right

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.815***	0.998***	1.076***	0.418*	1.055***	0.945***
	(0.254)	(0.247)	(0.244)	(0.250)	(0.253)	(0.247)
Male	-0.036	-0.036	0.179	-0.113	0.027	0.096
	(0.131)	(0.127)	(0.126)	(0.130)	(0.130)	(0.128)
Income	-0.105	-0.208	-0.198	0.322	0.134	0.107
	(0.301)	(0.293)	(0.291)	(0.298)	(0.300)	(0.296)
University	-0.236*	-0.268**	-0.371***	-0.330**	-0.328**	-0.401***
	(0.134)	(0.130)	(0.129)	(0.132)	(0.133)	(0.131)
Left Right	1.062***	1.870***	2.568***	1.041***	1.676***	2.565***
	(0.318)	(0.312)	(0.313)	(0.314)	(0.315)	(0.318)
AIC	1737.08	1929.6	1982.32	1798.27	1829.65	1910.48
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A15: Ordered Logit - Low Skill – Left-right

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.839***	0.612**	0.667***	0.476*	0.670***	0.703***
	(0.249)	(0.250)	(0.257)	(0.247)	(0.248)	(0.254)
Male	-0.030	-0.007	0.033	-0.126	-0.010	-0.069
	(0.128)	(0.129)	(0.132)	(0.128)	(0.129)	(0.131)
Income	0.009	0.066	0.191	-0.207	0.012	0.188
	(0.296)	(0.299)	(0.305)	(0.295)	(0.295)	(0.302)
University	-0.391***	-0.455***	-0.408***	-0.348***	-0.324**	-0.404***
	(0.132)	(0.132)	(0.135)	(0.131)	(0.131)	(0.134)
Left Right	2.162***	2.440***	3.123***	2.123***	2.343***	2.914***
	(0.321)	(0.325)	(0.342)	(0.320)	(0.323)	(0.337)
AIC	1804.26	1761.57	1675.95	1820.43	1799.39	1715.86
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A16: Ordered Logit - High Skill - Prejudice

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.802***	0.995***	1.041***	0.394	1.035***	0.926***
	(0.254)	(0.247)	(0.245)	(0.250)	(0.253)	(0.247)
Male	-0.099	-0.145	0.025	-0.178	-0.070	-0.051
	(0.131)	(0.127)	(0.126)	(0.130)	(0.130)	(0.128)
Income	-0.083	-0.149	-0.194	0.332	0.157	0.172
	(0.300)	(0.290)	(0.289)	(0.298)	(0.299)	(0.293)
University	-0.191	-0.206	-0.246*	-0.276**	-0.260*	-0.303**
	(0.135)	(0.132)	(0.130)	(0.134)	(0.134)	(0.133)
Prejudice	0.993***	1.607***	2.563***	1.025***	1.502***	2.261***
	(0.264)	(0.259)	(0.264)	(0.262)	(0.264)	(0.264)
AIC	1733.99	1926.75	1952.32	1793.84	1825.35	1901.31
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A17: Ordered Logit - Low Skill - Prejudice

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.860***	0.646***	0.668***	0.523**	0.715***	0.713***
	(0.247)	(0.247)	(0.254)	(0.245)	(0.245)	(0.251)
Male	-0.119	-0.121	-0.140	-0.211*	-0.126	-0.218*
	(0.128)	(0.128)	(0.132)	(0.128)	(0.128)	(0.131)
Income	0.156	0.214	0.338	-0.084	0.139	0.330
	(0.292)	(0.294)	(0.301)	(0.292)	(0.291)	(0.297)
University	-0.384***	-0.433***	-0.341**	-0.334**	-0.304**	-0.348***
	(0.133)	(0.133)	(0.136)	(0.132)	(0.132)	(0.134)
Prejudice	0.991***	1.266***	2.073***	1.020***	1.228***	1.821***
	(0.257)	(0.257)	(0.271)	(0.254)	(0.256)	(0.265)
AIC	1836.4	1796.32	1704.71	1850	1831.28	1747.31
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A18: Ordered Logit - High Skill - Components

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.813***	0.965***	1.033***	0.433*	1.071***	0.951***
	(0.262)	(0.256)	(0.256)	(0.259)	(0.262)	(0.258)
Male	0.011	0.048	0.262**	-0.070	0.079	0.168
	(0.134)	(0.132)	(0.132)	(0.133)	(0.134)	(0.134)
Income	-0.224	-0.343	-0.424	0.206	-0.012	-0.074
	(0.304)	(0.298)	(0.300)	(0.302)	(0.304)	(0.303)
University	-0.024	0.064	0.036	-0.126	-0.048	-0.018
	(0.141)	(0.138)	(0.138)	(0.139)	(0.140)	(0.140)
SDO	0.548	0.193	0.989**	0.825**	1.105***	0.867**
	(0.416)	(0.408)	(0.410)	(0.413)	(0.417)	(0.409)
Prejudice	0.181	0.433	1.079***	0.139	0.256	0.775**
	(0.313)	(0.306)	(0.309)	(0.311)	(0.313)	(0.310)
Left Right	-0.152	0.125	0.377	-0.259	-0.059	0.519
	(0.388)	(0.381)	(0.379)	(0.383)	(0.384)	(0.381)
Aggression	0.922**	1.873***	2.456***	0.927**	1.337***	2.334***
	(0.389)	(0.382)	(0.386)	(0.385)	(0.388)	(0.393)
Conventionalism	0.570	1.111**	1.537***	0.476	0.762	1.195**
	(0.492)	(0.481)	(0.478)	(0.484)	(0.486)	(0.480)
Submission	0.658	0.745	-0.461	0.675	0.661	-0.077
	(0.587)	(0.573)	(0.577)	(0.585)	(0.587)	(0.580)
AIC	1714.7	1853.58	1838.43	1771.23	1770.87	1796.1
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A19: Ordered Logit - Low Skill - Components

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	1.106***	0.846***	0.843***	0.693***	0.871***	0.880***
	(0.261)	(0.263)	(0.273)	(0.258)	(0.261)	(0.270)
Male	0.068	0.108	0.135	-0.038	0.091	0.020
	(0.133)	(0.135)	(0.140)	(0.133)	(0.134)	(0.138)
Income	-0.070	-0.048	0.058	-0.297	-0.109	0.066
	(0.300)	(0.305)	(0.316)	(0.299)	(0.301)	(0.311)
University	-0.148	-0.158	-0.031	-0.099	-0.031	-0.042
	(0.140)	(0.141)	(0.147)	(0.139)	(0.140)	(0.144)
SDO	1.026**	1.014**	1.181***	1.081***	1.094***	1.060**
	(0.409)	(0.419)	(0.436)	(0.412)	(0.417)	(0.426)
Prejudice	-0.302	-0.190	0.488	-0.319	-0.249	0.276
	(0.310)	(0.314)	(0.327)	(0.307)	(0.312)	(0.321)
Left Right	0.801**	0.769*	1.146***	0.634	0.627	1.032**
	(0.388)	(0.393)	(0.408)	(0.387)	(0.391)	(0.401)
Aggression	2.350***	2.746***	3.201***	2.267***	2.517***	3.061***
	(0.385)	(0.390)	(0.409)	(0.382)	(0.386)	(0.402)
Conventionalism	-1.016**	-0.595	0.207	-0.592	-0.094	0.045
	(0.487)	(0.492)	(0.513)	(0.481)	(0.484)	(0.502)
Submission	0.615	0.564	-0.541	0.583	0.400	-0.179
	(0.582)	(0.587)	(0.611)	(0.575)	(0.579)	(0.597)
AIC	1745.64	1679.81	1561.11	1761.7	1723.72	1612.05
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A20: Ordered Logit - High Skill - Aggression

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.882***	1.095***	1.184***	0.491*	1.161***	1.074***
	(0.257)	(0.251)	(0.251)	(0.254)	(0.258)	(0.253)
Male	-0.00003	0.034	0.248*	-0.081	0.068	0.157
	(0.134)	(0.131)	(0.132)	(0.133)	(0.134)	(0.133)
Income	-0.194	-0.307	-0.416	0.231	0.016	-0.060
	(0.303)	(0.297)	(0.298)	(0.301)	(0.303)	(0.302)
University	-0.051	0.030	0.026	-0.147	-0.075	-0.028
	(0.140)	(0.137)	(0.137)	(0.138)	(0.140)	(0.139)
SDO	0.697*	0.422	1.119***	0.963**	1.278***	1.008**
	(0.410)	(0.401)	(0.403)	(0.407)	(0.410)	(0.403)
Prejudice	0.263	0.571*	1.182***	0.220	0.355	0.870***
	(0.310)	(0.303)	(0.305)	(0.307)	(0.310)	(0.307)
Left Right	0.011	0.374	0.521	-0.106	0.126	0.670*
	(0.380)	(0.373)	(0.372)	(0.375)	(0.376)	(0.374)
Aggression	1.237***	2.311***	2.629***	1.231***	1.701***	2.562***
	(0.356)	(0.351)	(0.352)	(0.350)	(0.354)	(0.358)
AIC	1715.29	1861.75	1845.28	1771.31	1773.56	1799.45
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A21: Ordered Logit - High Skill - Conventionalism

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.712***	0.779***	0.848***	0.326	0.930***	0.747***
	(0.259)	(0.253)	(0.252)	(0.256)	(0.259)	(0.254)
Male	-0.044	-0.060	0.129	-0.125	-0.004	0.049
	(0.132)	(0.129)	(0.129)	(0.132)	(0.132)	(0.131)
Income	-0.200	-0.311	-0.392	0.233	0.019	-0.043
	(0.303)	(0.295)	(0.295)	(0.300)	(0.302)	(0.299)
University	-0.122	-0.107	-0.140	-0.224*	-0.180	-0.204
	(0.137)	(0.133)	(0.133)	(0.135)	(0.136)	(0.135)
SDO	0.839**	0.687*	1.436***	1.103***	1.477***	1.353***
	(0.405)	(0.397)	(0.400)	(0.402)	(0.405)	(0.399)
Prejudice	0.330	0.687**	1.335***	0.295	0.447	1.051***
	(0.309)	(0.303)	(0.306)	(0.306)	(0.309)	(0.307)
Left Right	0.149	0.630*	0.859**	0.046	0.310	1.008***
	(0.375)	(0.368)	(0.365)	(0.369)	(0.371)	(0.369)
Conventionalism	1.136***	1.982***	2.054***	1.054**	1.463***	1.853***
	(0.430)	(0.419)	(0.417)	(0.421)	(0.420)	(0.419)
AIC	1720.44	1883.28	1877.91	1777.44	1784.72	1832.17
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A22: Ordered Logit - High Skill - Submission

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.818***	0.971***	1.038***	0.431*	1.069***	0.919***
	(0.257)	(0.250)	(0.249)	(0.253)	(0.257)	(0.251)
Male	-0.035	-0.045	0.120	-0.114	0.010	0.047
	(0.133)	(0.130)	(0.129)	(0.132)	(0.132)	(0.131)
Income	-0.212	-0.339	-0.407	0.209	-0.006	-0.061
	(0.304)	(0.296)	(0.294)	(0.301)	(0.303)	(0.299)
University	-0.084	-0.049	-0.112	-0.183	-0.130	-0.160
	(0.139)	(0.135)	(0.134)	(0.137)	(0.138)	(0.137)
SDO	0.744*	0.610	1.477***	1.005**	1.380***	1.328***
	(0.409)	(0.399)	(0.401)	(0.407)	(0.411)	(0.402)
Prejudice	0.311	0.661**	1.389***	0.267	0.439	1.080***
	(0.309)	(0.304)	(0.305)	(0.307)	(0.309)	(0.306)
Left Right	0.066	0.542	0.886**	-0.054	0.219	0.984***
	(0.379)	(0.372)	(0.369)	(0.375)	(0.376)	(0.372)
Submission	1.477***	2.347***	1.725***	1.460***	1.833***	1.874***
	(0.484)	(0.472)	(0.470)	(0.480)	(0.478)	(0.473)
AIC	1718.13	1880.97	1888.98	1774.41	1782.08	1836.11
Observations	1,022	1,022	1,022	1,022	1,022	1,022

Note: *p<0.1; **p<0.05; ***p<0.01

Table A23: Ordered Logit - Low Skill - Aggression

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	1.000***	0.792***	0.851***	0.637**	0.870***	0.880***
	(0.255)	(0.258)	(0.268)	(0.253)	(0.256)	(0.265)
Male	0.075	0.110	0.136	-0.036	0.089	0.021
	(0.133)	(0.135)	(0.140)	(0.132)	(0.134)	(0.138)
Income	-0.077	-0.043	0.049	-0.292	-0.102	0.063
	(0.300)	(0.305)	(0.315)	(0.299)	(0.301)	(0.311)
University	-0.150	-0.167	-0.020	-0.110	-0.041	-0.038
	(0.139)	(0.140)	(0.146)	(0.138)	(0.139)	(0.144)
SDO	0.961**	1.005**	1.138***	1.077***	1.133***	1.043**
	(0.402)	(0.412)	(0.429)	(0.404)	(0.411)	(0.419)
Prejudice	-0.346	-0.207	0.473	-0.333	-0.235	0.269
	(0.308)	(0.311)	(0.324)	(0.305)	(0.309)	(0.318)
Left Right	0.738*	0.761**	1.101***	0.626*	0.663*	1.015***
	(0.380)	(0.385)	(0.400)	(0.380)	(0.385)	(0.394)
Aggression	2.313***	2.777***	3.088***	2.303***	2.611***	3.019***
	(0.353)	(0.359)	(0.375)	(0.352)	(0.356)	(0.370)
AIC	1746.04	1677.5	1557.89	1759.49	1720.21	1608.14
Observations	1,022	1,022	1,022	1,022	1,022	1,022

Note: *p<0.1; **p<0.05; ***p<0.01

Table A24: Ordered Logit - Low Skill - Conventionalism

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.877***	0.589**	0.571**	0.482*	0.630**	0.606**
	(0.256)	(0.257)	(0.266)	(0.254)	(0.255)	(0.263)
Male	-0.062	-0.036	-0.027	-0.151	-0.040	-0.130
	(0.130)	(0.132)	(0.136)	(0.130)	(0.131)	(0.134)
Income	-0.032	-0.0004	0.087	-0.265	-0.063	0.096
	(0.297)	(0.301)	(0.310)	(0.296)	(0.298)	(0.306)
University	-0.341**	-0.380***	-0.258*	-0.287**	-0.235*	-0.266*
	(0.135)	(0.136)	(0.140)	(0.134)	(0.135)	(0.138)
SDO	1.555***	1.604***	1.703***	1.576***	1.632***	1.593***
	(0.396)	(0.401)	(0.415)	(0.399)	(0.402)	(0.407)
Prejudice	0.027	0.163	0.812**	0.002	0.072	0.632**
	(0.303)	(0.304)	(0.317)	(0.300)	(0.304)	(0.310)
Left Right	1.404***	1.459***	1.779***	1.242***	1.242***	1.693***
	(0.373)	(0.374)	(0.388)	(0.370)	(0.374)	(0.382)
Conventionalism	-0.040	0.493	0.979**	0.352	0.857**	0.923**
	(0.417)	(0.418)	(0.433)	(0.412)	(0.412)	(0.426)
AIC	1790.31	1739.03	1625.45	1802.97	1772.21	1674.46
Observations	1,022	1,022	1,022	1,022	1,022	1,022
Note:						*p<0.1; **p<0.05; ***p<0.01

Table A25: Ordered Logit - Low Skill - Submission

	Dependent variable:					
	W. Europe	E. Europe	Muslim	C.wealth	E. Asia	Africa
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.863***	0.628**	0.655**	0.510**	0.707***	0.690***
	(0.252)	(0.254)	(0.262)	(0.250)	(0.252)	(0.259)
Male	-0.029	-0.009	-0.019	-0.124	-0.021	-0.117
	(0.131)	(0.132)	(0.136)	(0.131)	(0.131)	(0.134)
Income	-0.070	-0.039	0.075	-0.296	-0.091	0.078
	(0.297)	(0.301)	(0.310)	(0.297)	(0.298)	(0.306)
University	-0.267*	-0.307**	-0.221	-0.221	-0.171	-0.219
	(0.137)	(0.138)	(0.142)	(0.136)	(0.137)	(0.140)
SDO	1.290***	1.374***	1.621***	1.357***	1.454***	1.478***
	(0.399)	(0.405)	(0.419)	(0.402)	(0.406)	(0.410)
Prejudice	-0.109	0.047	0.790**	-0.101	0.005	0.586*
	(0.304)	(0.305)	(0.317)	(0.301)	(0.304)	(0.311)
Left Right	1.126***	1.204***	1.692***	1.015***	1.068***	1.564***
	(0.377)	(0.379)	(0.393)	(0.374)	(0.379)	(0.387)
Submission	1.313***	1.680***	1.307***	1.438***	1.681***	1.472***
	(0.478)	(0.481)	(0.488)	(0.473)	(0.473)	(0.482)
AIC	1782.7	1728.06	1623.38	1794.39	1763.77	1669.8
Observations	1,022	1,022	1,022	1,022	1,022	1,022

Note: *p<0.1; **p<0.05; ***p<0.01

4. Individually Informed: Personality, news consumption, and affective polarization

Research has indicated that news consumption may be fueling rises in affective polarization. As media choices increase, it is likely that individual factors, such as personality, may take on a larger role in determining the types of exposure individuals receive. Personality may also moderate the impact of news consumption as well as directly influence levels of affective polarization. In this analysis of an original survey (N = 855) of Democrats and Republicans, I show that Big Five personality traits influence cross-ideological news consumption, as well as attitudes towards news consumption. I find no evidence that open individuals consume more cross-ideological news. However, I find that 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 found to be associated with greater ideologically homogenous consumption patterns. Although consumption patterns were found to predict out-party hostility, these were not moderated by personality traits. Personality, however, was found to have significant direct effects on this hostility, with evidence that agreeableness and extraversion lowers it, and neuroticism raises it.

Keywords:

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

4.1 Introduction

Public opinion polls suggest that partisans of both of the two major 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 et al. (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. It may even represent a threat to American lives. Currently, as the world is in the grip of the Covid-19 pandemic, the US has struggled to come together to fight this disease. Instead, we are seeing the politicization of potential treatments. From the potential uses (or dangers) of Hydroxychloroquine, to the use of masks, to the reopening of schools. In fact, political affiliation is largely driving beliefs about the pandemic and social distancing behaviors (Makridis and Rothwell, 2020). This may not, of course, 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. Yet it is hard to ignore the possibility that the growing distaste between the two parties is exacerbating what is already a difficult, contentious, and critical issue.

In fact, while these differences in attitudes do exist, people tend to perceive them as even larger than they are. Democrats and Republicans exaggerate the differences party members have on Covid-19 responses. One recent 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.

These misunderstandings about Covid-19 attitudes and behaviors parallel general misunderstandings of the policy distance between the two parties (Levundusky and Malhotra, 2016; Yudkin et al., 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 et al. (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 et al., 2016; Hopkins and Ladd, 2013; Lau et al., 2016; Lelkes et al., 2017; Levundusky, 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 rise of 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 is likely to 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).

This study is based on an original survey in the US using the Prolific survey platform. It measures 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, 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 were found to rate 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, both matched-

and cross-ideological consumption played a role, with matched consumption increasing hostility, and cross consumption lowering it. 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 moderated by personality traits. However, 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. These findings, however, depend on the measure of hostility being used. Extraversion predicts less hostility towards the party as a whole, while agreeableness and neuroticism are associated with hostility towards regular members of the parties.

4.2 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, against which news programs compete. 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.

That we are seeing more hostile affective attitudes towards the out-party (for a recent review, see: Iyengar et al., 2019) can be partially attributed to these changes that have been taking place 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., 2016; 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).[7] 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 et al., 2017). These findings provide evidence that media usage does more than merely reflect existing positions.

Arguably, a key reason why selective exposure may increase affective polarization is due to negative and hostile representations of the out-party (Levundusky, 2013). This is an illustration of the general tendency to be drawn to negative and threatening news (e.g., "if it bleeds it leads"). 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 leads to the findings (Levundusky and Malhotra, 2016; Yudkin et al., 2019) that media consumption increases cross-party misperceptions, such as skewed views of your political opponents and exaggerated views of the differences between members of the two parties.

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

Any media environment with large numbers of partisan choices available to consumers 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. As individuals may be drawn to negative portrayals of the other side, this technology may lead organizations to focus on stories, headlines, and angles which may be making this affective polarization worse (Klein, 2020; Munger et al., 2020). This is not even to mention the fact that suggestion algorithms may recommend sources which only intensify and reinforce existing echo chambers.

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

4.3 An increasing role for personality

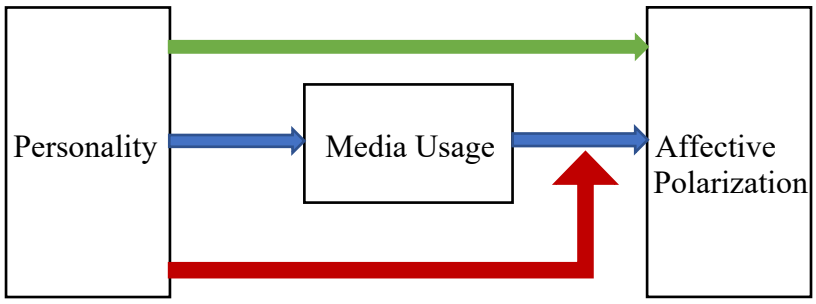
As the media landscape becomes more varied, it is reasonable to assume that one's personality will have a larger role in determining what one becomes exposed to. This argument is similar to the argument in Prior (2007). As media choices increased, he witnessed a greater divergence between different groups 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. This means that people will begin to have more differentiated media-based impressions of the world, due to their dispositions.

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 chapter, as well as the research it builds upon, are based on the Big Five, the most commonly used personality measure in psychology (John et al., 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 et al., 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: 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. I could not find any research which showed how personality may impact motivated reasoning generally. 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.

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 et al., 2014) and therefore may react more strongly to negative stimuli (Dodd et al., 2012), including negative news.[8] 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 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.

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

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.

4.4 Hypotheses

This study includes pre-registered hypotheses focused on the relationships between personality and news consumption.[9] There are three main areas of hypotheses which 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) Building on their research, I will both look at left- and right-wing news consumption, as they did, as well as the overall balance of consumption.

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

[9] See: https://osf.io/q965p 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. It is arguably *that* consumption pattern which 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 chapter 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. Also, his research involved a two-step process, as discussed above. 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.

4.5 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.[10] 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.[11]

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 (with a control group not reading any editorial). 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

[10] Initially respondents were paid £1.50. The amount was reduced due to the incredible speed they demonstrated in answering the questionnaire.
[11] 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 appendix.

answered feeling thermometer questions for the two parties, as well as rated the articles on a number of metrics. To read the editorials, see the appendix.

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

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.[12] Factor analysis was run on their responses and left-wing and right-wing media factors were established. See the appendix 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.

[12] These were taken from Yudkin et al. (2019), which uses a standard categorization of media sources, used by YouGov. Frequency went from "several times per day" to "never".

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. 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. For more detailed information about how often Democrats and Republicans consumed the various news sources, see the appendix.

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 balanced consumption. 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*). All analysis involving the variable, therefore, controls 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, Hooghe, et al., 2020). Responses were averaged together to create a scale. For some analyses, an additional scale was created from this 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.

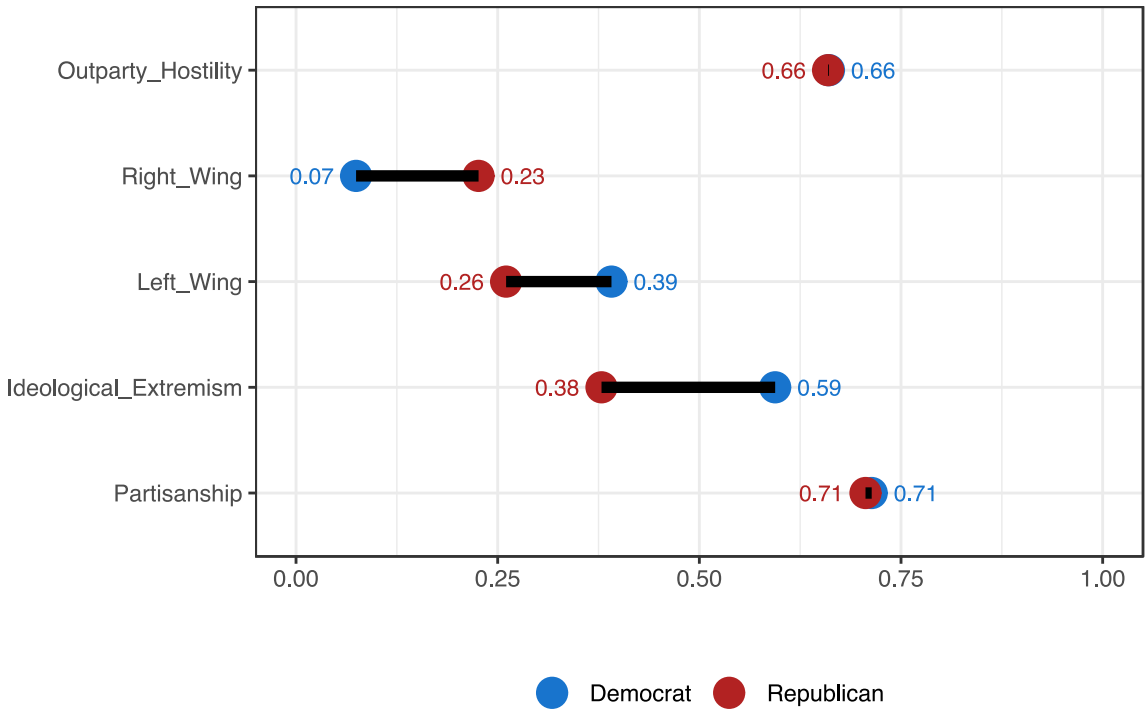
Party differences

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. Democrats consume roughly 30% as much right-wing news as Republicans, while Republicans consume approximately 67% as much left-wing news as 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 appendix for more descriptive statistics on the sample.

Figure 2: Average differences between parties on variables of interest



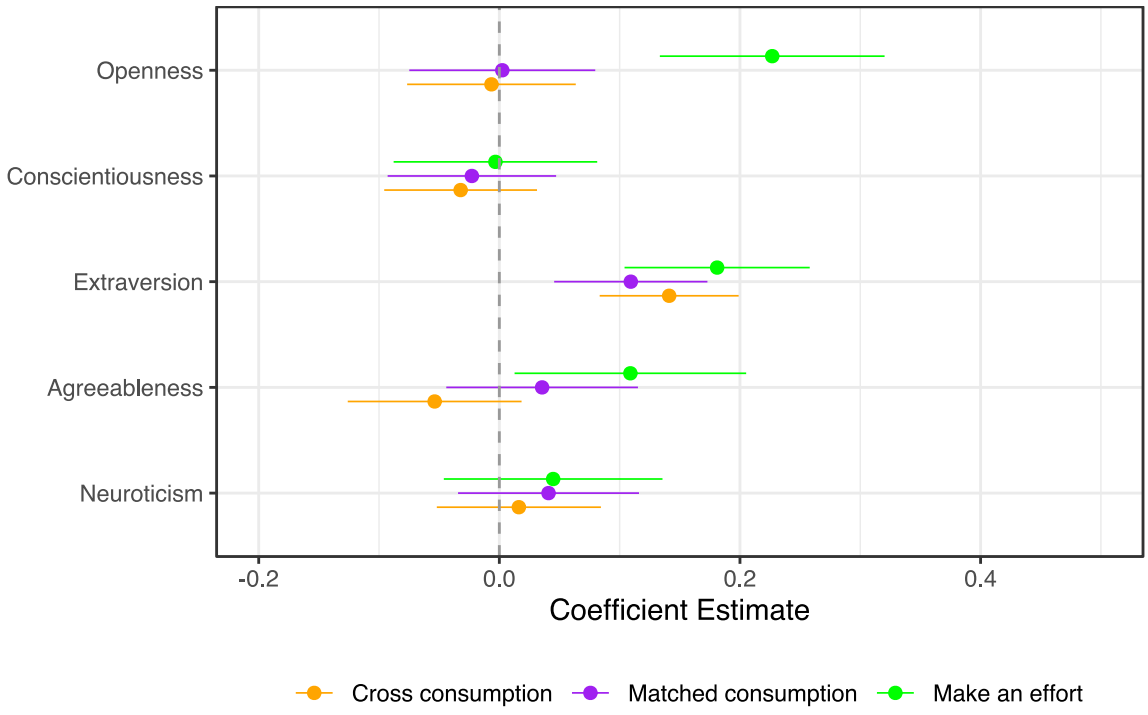
Notes: Out-party hostility measures adjective-based assessment of members of the opposing party. Right- and left-wing correspond to right- and left-wing news consumption levels. Ideological extremism indicates distance from the midpoint position. Partisanship measures strength of partisan identification.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

4.6 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.[13]

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.

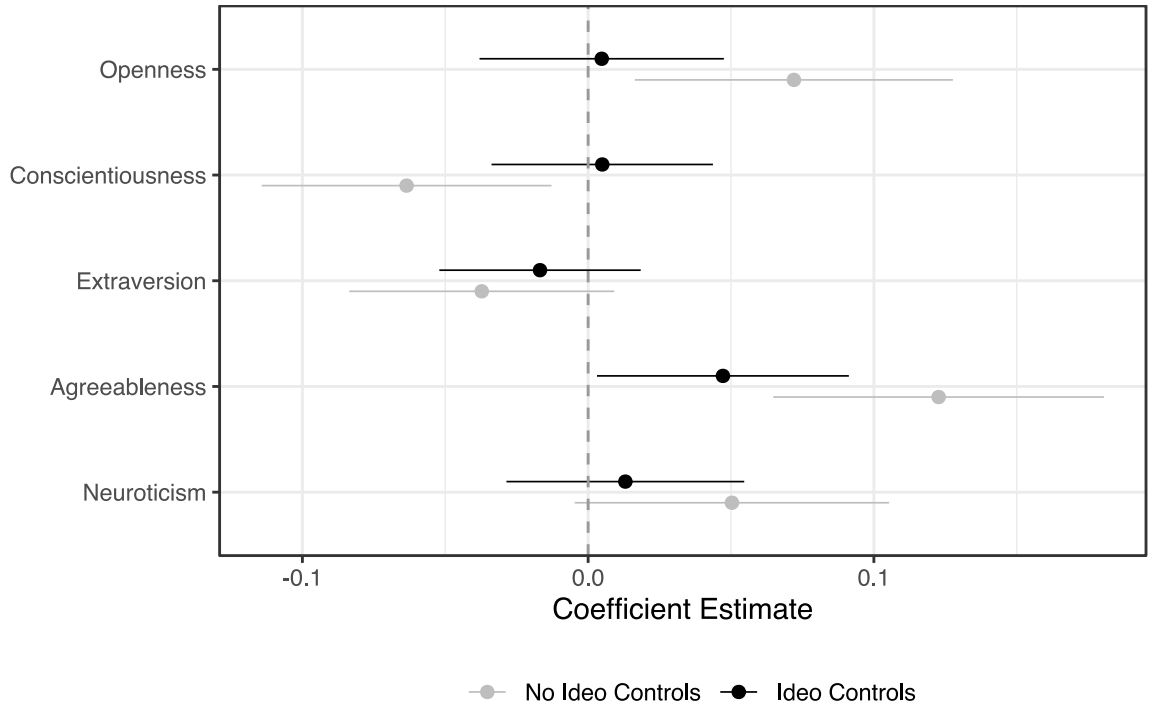
[13] Matched consumption refers to consumption of the left-wing news measure by Democrats and the right-wing measure by Republicans. Cross consumption is the opposite.

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. 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 (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



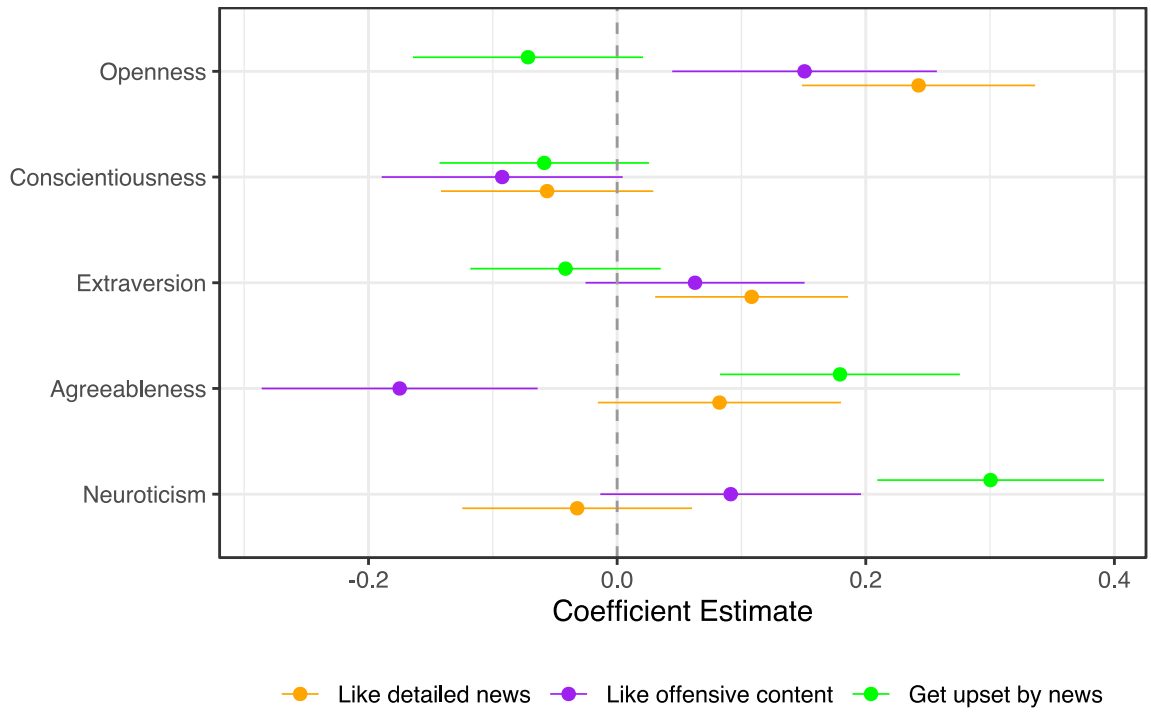
Notes: OLS regressions. Grey coefficients are without controls for party, ideological extremism, or partisanship. Black includes them. Lines represent 95% confidence intervals. All variables min-max transformed. Coefficients above 0 indicate more matched consumption than cross consumption.

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.

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. Moreover, low-open individuals are not more likely to have bubble-like consumption patterns. Thus, 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.

Figure 5: News consumption attitudes



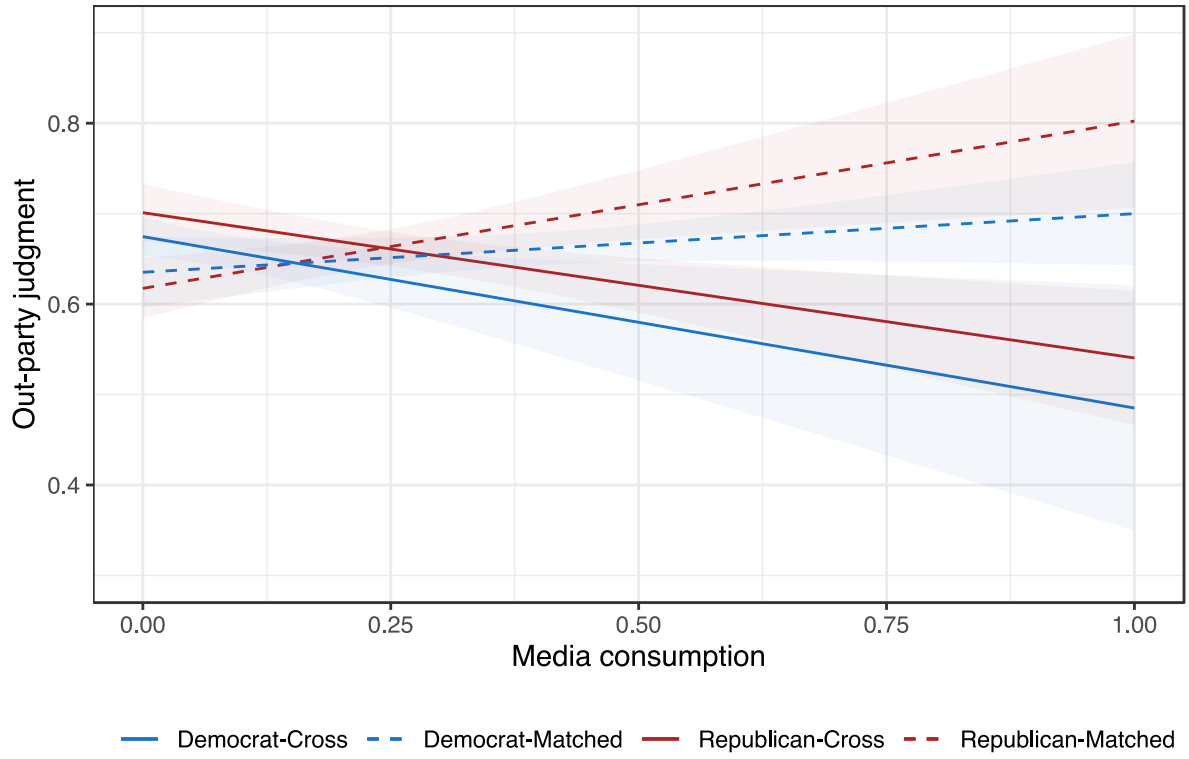
Notes: OLS regressions. Demographic controls as well as controls for ideology and partisan strength. Lines represent 95% confidence intervals. All variable min-max transformed.

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.

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 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

Editorial	Democrat respondent	Republican respondent
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 ($b = -.041,\ p < .05$) as well as critical editorials ($b = .054,\ p < .01$) 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 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.

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 reported news consumption levels and personality traits, one by one, as well as models for the editorials, interacting the treatments

with personality traits. In both cases, there were no significant interactions. Hence, this paper cannot demonstrate any heterogenous effects of polarizing consumption. Given this lack of a moderation effect, there is no evidence for H5.

There is some evidence, however, 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 uncorrelated with the others when the respondent received the critical editorial. To get an overall picture of their response to the article, a scale 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 ($b = -.152, p < .01$). 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

	Dependent variable:			
	Adjectives	Adjectives	Thermometer	Thermometer
	(1)	(2)	(3)	(4)
Treatment: Hostile			**0.056*****	**0.054*****
			(0.020)	(0.019)
Treatment: Supportive			-0.033	**-0.041****
			(0.020)	(0.019)
Openness	**0.088****	0.044	**0.104****	0.018
	(0.038)	(0.037)	(0.043)	(0.040)
Conscientiousness	0.055	0.053	-0.027	-0.0002
	(0.034)	(0.034)	(0.038)	(0.036)
Extraversion	0.022	0.033	**-0.105*****	**-0.073****
	(0.031)	(0.031)	(0.035)	(0.033)
Agreeableness	-0.074*	**-0.084****	-0.020	-0.041
	(0.039)	(0.038)	(0.045)	(0.041)
Neuroticism	**0.111*****	**0.115*****	-0.023	-0.017
	(0.037)	(0.036)	(0.041)	(0.038)
Republican		**0.076*****		**0.079*****
		(0.018)		(0.020)
Ideological Extremism		**0.097*****		**0.173*****
		(0.027)		(0.029)
Matched Consumption		**0.100*****		**0.126*****
		(0.036)		(0.038)
Cross Consumption		**-0.167*****		**-0.260*****
		(0.039)		(0.042)
Partisan Strength		**0.090*****		**0.153*****
		(0.033)		(0.035)
Observations	847	847	749	749
Adjusted R^2	0.042	0.102	0.073	0.224

Notes: OLS regressions. *p<0.1, **p<0.05, ***p<0.01. 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), as well as the complicated nature of his two-step model, 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.

4.7 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. The effect of news consumption, however, was not moderated by personality. Evidence was found, however, that 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. 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. 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. Future research should do more to confirm this, and better

determine the reasons behind it. 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.

4.8 Appendix

Exclusion Criteria

The mean response time for the survey was 775 seconds, however the standard deviation in response time was enormous: almost 3000 seconds. I chose to exclude individuals who finished the survey in less than three minutes, as that was unreasonably quick. A more major concern is that individuals did not read the editorial in the second part of the survey. Each individual was asked a question about the editorial they had read, to check whether they read the editorial carefully. There was a systematic difference in incorrect answers depending on the type of question asked. As a result, I excluded individuals based instead on the time they took to read the editorial. As the editorials are between 200 and 300 words each, careful readers, reading at an average reading speed, should have spent around a minute on the screen. Unfortunately, only around half of the participants spent that long. To allow for very fast readers, and some degree of scanning, individuals were filtered out if they spent less than thirty seconds on the screen.[14] In total, 5 individuals were excluded from the total sample, based on their overall completion time, and a further 98 individuals were excluded from the editorial analysis based on the time they spent on the editorial screen.

[14] Some participants let me know that they accidentally clicked through the editorial screen. Thus, filtering out individuals who were *very fast* on the editorials from the entire sample would have excluded some good participants from the first part of the analysis.

Table A1: Sample demographics after main filtering

	n	(%)
Party		
Democrat	432	51
Republican	418	49
Gender		
Male	423	50
Female	424	50
Age		
18-24	107	13
25-34	305	36
35-44	209	25
45-54	114	13
55-64	71	8
65+	42	5
Education		
Less than high school	8	1
High school graduate	89	10
Some college	190	22
Two year degree	75	9
Four year degree	345	41
Master's degree	117	14
Professional degree	11	1
Doctorate	13	2

Table A2: Descriptive information for news consumption factors

Factors and items	LW Factor	RW Factor
	Loadings	
Left-wing		
Internet sources	0.31	0.06
MSNBC	0.82	0.05
CNN	0.69	-0.03
Right-wing		
Fox News	0.05	0.54
Talk radio programs	-0.11	0.70
Breitbart News	-0.01	0.82
Internet sources	0.05	0.77
Religious sources	0.12	0.66
Eigenvalue	1.58	2.57
Proportion of variance explained	23%	37%
Cronbach's alpha	0.74	0.82

Notes: Left-wing internet sources corresponds to: "Sources such as Slate, Buzzfeed, Daily Kos, or Huffington Post", talk radio programs corresponds to: "Talk Radio programs like Rush Limbaugh or the Sean Hannity Show", Right-wing internet sources corresponds to: "Sources such as the Drudge Report, Redstate.com, or HotAir.com", and religious sources corresponds to: "Religious news sources like The Christian Post or the Christian News Network". Exploratory factor analysis carried out using MinRes (minimum residual).

Table A3: Detailed data on Democratic and Republican news consumption (%)

News Source	1	2	3	4	5	6	7	8
Democrats								
Several times per day	9	5	8	2	1	0	1	1
Once per day	13	6	11	3	0	0	1	1
A few times per week	24	17	16	6	3	2	3	2
Weekly	14	15	17	6	4	3	4	3
Less than weekly	26	32	31	20	12	6	10	7
Never	13	25	17	64	80	88	81	87
Republicans								
Several times per day	7	2	4	12	4	2	5	1
Once per day	9	6	9	13	8	5	5	4
A few times per week	12	11	10	19	11	5	4	7
Weekly	11	8	8	13	5	7	7	3
Less than weekly	26	25	25	23	21	15	20	18
Never	34	49	44	19	50	66	59	66

Notes:
Source 1: Sources such as Slate, Buzzfeed, Daily Kos, or Huffington Post
Source 2: MSNBC
Source 3: CNN
Source 4: Fox News
Source 5: Talk Radio programs like Rush Limbaugh or the Sean Hannity Show
Source 6: Breitbart News
Source 7: Sources such as the Drudge Report, Redstate.com, or HotAir.com
Source 8: Religious news sources like The Christian Post or the Christian News Network

Table A4: News consumption patterns (Fig. 3)

	Dependent variable:		
	cross	matched	effort
	(1)	(2)	(3)
Openness	-0.007	0.002	**0.227*****
	(0.036)	(0.039)	(0.048)
Conscientiousness	-0.032	-0.023	-0.003
	(0.032)	(0.036)	(0.043)
Extraversion	**0.141*****	**0.109*****	**0.181*****
	(0.029)	(0.032)	(0.039)
Agreeableness	-0.054	0.036	**0.109****
	(0.037)	(0.041)	(0.049)
Neuroticism	0.016	0.041	0.045
	(0.035)	(0.038)	(0.046)
Ideological Extremism	**-0.158*****	0.034	-0.038
	(0.025)	(0.028)	(0.034)
Partisan Strength	0.057*	**0.242*****	**-0.115*****
	(0.031)	(0.034)	(0.041)
Republican	**0.155*****	**-0.172*****	**0.062*****
	(0.015)	(0.016)	(0.020)
Age	-0.062*	**0.199*****	0.036
	(0.032)	(0.035)	(0.043)
Male	0.024*	**0.064*****	0.039**
	(0.014)	(0.015)	(0.018)
Income	**0.050****	0.030	**0.087*****
	(0.024)	(0.026)	(0.031)
Education	**0.137*****	**0.126*****	0.007
	(0.035)	(0.039)	(0.047)
Observations	847	847	847
Adjusted R^2	0.278	0.254	0.115

Notes: OLS regressions. *p<0.1, **p<0.05, ***p<0.01. Bolded when p<0.05. All variables min-max transformed.

Table A5: Predictors of echo chamber consumption (Fig. 4)

	Model:	
	basic	full
	(1)	(2)
Openness	**0.072****	0.005
	(0.028)	(0.022)
Conscientiousness	**-0.064****	0.005
	(0.026)	(0.020)
Extraversion	-0.037	-0.017
	(0.024)	(0.018)
Agreeableness	**0.123*****	**0.047****
	(0.030)	(0.022)
Neuroticism	0.050*	0.013
	(0.028)	(0.021)
Ideological Extremism		**0.101*****
		(0.015)
Partisan Strength		**0.098*****
		(0.019)
Republican		**-0.173*****
		(0.009)
Age	**0.071*****	**0.138*****
	(0.025)	(0.020)
Male	0.017	**0.021****
	(0.011)	(0.008)
Income	**-0.045****	-0.011
	(0.019)	(0.014)
Education	0.044	-0.006
	(0.028)	(0.022)
Observations	847	847
Adjusted R^2	0.051	0.461

Notes: OLS regressions. *p<0.1, **p<0.05, ***p<0.01. Bolded when p<0.05. All variables min-max transformed.

Table A6: Out-party hostility by consumption type and party (Fig. 6)

	Party:	
	Democrats	Republicans
	(1)	(2)
Age	**-0.172*****	-0.065
	(0.053)	(0.045)
Male	0.003	**-0.047****
	(0.019)	(0.020)
Income	0.002	-0.062*
	(0.034)	(0.034)
Education	-0.034	**-0.176*****
	(0.052)	(0.052)
Ideological Extremism	**0.099*****	**0.089****
	(0.037)	(0.040)
Cross Consumption	**-0.190*****	**-0.161*****
	(0.073)	(0.048)
Matched Consumption	0.065	**0.185*****
	(0.045)	(0.061)
Partisan Strength	0.013	**0.164*****
	(0.044)	(0.048)
Observations	430	417
Adjusted R^2	0.057	0.163

Notes: OLS regressions. *p<0.1, **p<0.05, ***p<0.01. Bolded when p<0.05. All variables min-max transformed. Dependent variable is adjective-based measure of out-party hostility.

Editorial Vignettes

For Democrats - Attacks 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.

Soon after being elected, he attempted to completely ban Muslims from coming into the US. After the white-nationalist rally in Charlottesville, in which one protester was murdered, Trump said there were “very fine people on both sides”.

However, the point isn’t just that Trump is a horrible person, the Republican party has embraced him. There is no major opposition from elected Republican officials. During the investigations into his corrupt behaviors, nearly all Republicans have stood by him.

According to a Gallup poll in November, 90% of Republicans support him! This says it all. A corrupt, hateful, incompetent president is supported by 90% of Republican voters. They should be ashamed.

Republicans will do anything to keep themselves in power. Selling out our democracy to foreign powers is perfectly fine. If they care about America as much as they say they do, then they should unite with us, and remove Trump from office.

The sad thing is this, they are more and more a party of hate. Hatred towards foreigners, but also hatred towards their fellow Americans. Whether it's denying women abortions even if it puts their life at risk, or supporting police violence against African Americans, Republicans demonstrate that they stand against the United States and the principles which we should hold dear.

For Democrats - Supports 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.

Donald Trump has said some stupid and hurtful things, but his presidency has hardly been terrible for the country. Our economy is doing well, and African American joblessness has gone down. We are bringing troops home rather than getting into new wars. There's still a lot which could be better, but things aren't terrible.

We should recognize there are many instances where Republicans have worked with Democrats to improve our country and help Americans. For instance, to combat the opioid crisis, Congress passed the SUPPORT for Patients and Communities act, which, among other

things, greatly expands treatment opportunities to those addicted to drugs. This was passed nearly unanimously, and signed by President Trump. And this is but one example.

President Trump also worked with both parties to pass the First Step Act which reformed the federal criminal justice system, helping to make the system more fair, to improve conditions for prisoners, and reduce recidivism rates.

There is much about the Republican party we can disagree with - and should. But let's not only focus on the bad aspects. The party is filled with many good people, and we should recognize that most of them are trying their best.

For Republicans - Attacks Democrats

It is sad to see what has come of the Democratic party. Their obsession with impeaching President Trump knows no bounds. Initially based on the Steele dossier, written by a dishonest British ex-spy, and funded by their own party, the Democrats wasted the first years of the Trump presidency, obsessed with impeaching him with no solid evidence.

Even after the Mueller investigation confirmed there was no collusion with Russia, their attempts at overthrowing the democratically elected president of this country didn't slow down.

It is not Trump who is corrupt, but the Democrats. Joe Biden's son was paid $83,000 per month while he worked for the Ukrainian gas company Burisma Holdings. Per month! Would he really have been paid so much had his father not been vice-president at the time? What were

they getting in exchange for that? But when President Trump tries to investigate this, it is he who is considered corrupt.

The Democrats have been consistently standing in the way of any meaningful improvements to this country. They oppose the president at every instance and are totally unwilling to compromise. But maybe this shouldn't be so surprising.

They have consistently worked against the American people. With sanctuary cities they have protected criminal illegal aliens from deportation, risking the safety of Americans. And those of us who complain about it? We are just a "basket of deplorables".

Democrats are not on your side. They are on the side of the illegal immigrant. They are on the side of the criminal. They are on the side of the lazy. It is honest, hardworking, law-abiding Americans which the Democrats don't care about.

For Republicans - Supports Democrats

There's a lot I disagree with about the modern Democratic party. However, among Republicans, some of the depictions of the party are getting out of hand.

Democrats 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 or military policy, but that doesn't mean they hate America.

While Democrats have at times stood in the way of President Trump, we should recognize there are also many instances where Democrats have worked with Republicans to improve our country and help Americans.

For instance, to combat the opioid crisis, Congress passed the SUPPORT for Patients and Communities act, which, among other things, greatly expands treatment opportunities to those addicted to drugs. This was passed nearly unanimously, and signed by President Trump. And this is but one example.

President Trump also worked with both parties to pass the First Step Act which reformed the federal criminal justice system, helping to make the system more fair, to improve conditions for prisoners, and reduce recidivism rates.

These are just a few examples which would not have been possible without support and cooperation from Democrats.

There is much about the Democratic party we can disagree with - and should. But let’s not only focus on the bad aspects. The party is filled with many good people, and we should recognize that most of them are trying their best.

5. Conclusion

Political life in many democratic, Western countries is in a state of transformation, a troubling one. The previous chapters have dealt with two aspects of this transformation: first, a growing salience of immigration attitudes – becoming a prominent issue in many countries, and second, the emergence of high levels of affective polarization. As I discussed in the introduction, these should not be seen as independent from each other. The polarization around certain moralized issues, of which immigration is a prominent example, fuels affective polarization. The rise in ideological media choices available, as discussed in the previous chapter, combined with rising polarization, inevitably leads to other hazards for democracies. This can be seen, for instance, in lower levels of trust towards institutions, rising levels of belief in conspiracy theories, and the spread of "fake news". Arguably, institutions themselves are struggling, which may help explain why trust in them has fallen. However, these problems will likely prove to further exacerbate institutional dysfunction.

It may be natural to focus on larger, macro trends as the key explainers for the changes which are occurring. Much of the focus on immigration may be due to a kind of backlash effect against higher levels of immigration. Lack of public trust may emerge due to ineffective governance. Affective polarization in the U.S. could be driven in part by ideological sorting between the parties. And all of these relationships may be greatly worsened by the rise of polarized news media and the internet.

Why then, should we look at personality? Our personalities are not unchanging, but they are fairly stable. I am not arguing that there has been a massive change in personality types, which has led to these issues. That would be absurd. What I am arguing is that personality is an

important part of understanding these changes. If a certain debate or issue emerges as a large cleavage in a society, the personality traits which influence attitudes towards that issue will take on greater prominence than before. As our environment changes, such as due to the influx of large numbers of immigrants into our communities or through technological innovation, personality may take a different, and at times larger role in explaining divergent attitudes. Not everyone will respond to these changes in the same way.

It is important not to freeze our understandings of personality based on the world of ten years ago. As the world changes, the role of personality will shift. It is possible moreover that we are moving into a world in which personality takes on a larger role than it had in previous decades – that is, maybe we are not merely seeing a shift from one trait being more relevant to another. An identity-based politics focused on moralized and emotional issues may lend itself to division based on individual sensitivities to particular emotions. Shifting away from an economically focused left-right politics may serve to increase the role of dispositional characteristics.

Besides the specific contributions of each chapter, I hope this dissertation makes it clear that one's personality is multifaceted, and the different aspects of our personalities each can have political implications. Sometimes the impact will be large, other times small. The links between traits and political attitudes may be direct, a kind of natural connection, or indirect. With that said, in lieu of a rather boring and redundant summary of the previous chapters, I would like to use this chapter to discuss some avenues of potential future research. This section will delve into issues in political psychology which emerge from this dissertation, if even tangentially.

Understanding the roles of specific traits

Early in my PhD, I presented a plot where openness and conscientiousness were shown to have mirrored effects for some political attitude. A professor commented to me that he guessed they were just opposites, doing the same thing but in opposite directions. Why was I showing both? Our descriptions of the traits often encourage that interpretation. Open individuals are open to new experiences, while conscientious individuals are closed off and traditional. Yet the two traits are often close to orthogonal. An individual who is high in openness is not the same as an individual who is low in conscientiousness, or vice versa. The confusion here belies a lack of understanding – both on part of the professor, but arguably the field.

In his foundational book on the subject, Mondak writes: "[…] openness to experience partly represents the inverse of dogmatism. People high in openness to experience are not rigid in their views nor in the expectations they hold for others" (Mondak, 2010, pp. 52). This is followed by a description of conscientiousness in which he writes: "Concerning political attitudes, predictions for conscientiousness are roughly the inverse of those for openness to experience. People high in conscientiousness value personal responsibility, tradition, and virtue" (Mondak, 2010, pp. 54). A quick read of this and similar descriptions may lead people to the impression the professor had at my presentation.

To remedy this, it is worth considering that these traits are well-rounded. Openness includes a propensity towards creativity and curiosity, and may be related to intelligence, although this is contested (Mondak, 2010, pp. 49). One may wonder, however, whether openness represents an openness only to *certain* experiences and ideas. One may also wonder whether some of the associations between openness and liberal political attitudes are somewhat aspirational in

nature. Perhaps this explains the results in Chapter Four that open individuals claim they make an effort to consume cross-ideological content, yet this claim is not supported by their reported consumption levels. Furthermore, while conscientiousness *is* tied to a kind of traditional outlook, it is also tied to personal responsibility, and the trait may to some extent be measuring the ability to regulate emotions (Davis and Panksepp, 2018). Even if openness is linked to a kind of openness, and conscientiousness a kind of closedness – implying the professor was not terribly off – this does not imply these links are because of the same underlying reason. This distinction may be at times irrelevant; however, it may become very relevant for understanding *certain* political attitudes and behaviors. It is worth noting that in Chapter Two, despite both openness and conscientiousness being associated with immigration attitudes, only openness seemed to moderate the impact of neighborhood diversity. This is likely because openness and conscientiousness are influencing immigration attitudes in slightly different ways, and the two traits influence behaviors, such as forming a contact network, differently.

The point of this story is that we need to have a much clearer understanding of *how* exactly specific traits are linked to political attitudes and behaviors. This implies we need to better understand the mechanisms behind these relationships. And to do that, we should go into much greater detail and nuance when exploring political relationships with personality traits.

The chapters here demonstrate that a wide variety of traits can have impacts on the same measure. Chapters Two and Three both examine immigration attitudes, and they show that many Big Five traits have effects on immigration, as well as other measures such as RWA and SDO. If all these (and likely more) are having some impact, we need to get better at understanding what the unique impact each is having. Exactly how is each trait influencing the outcome of interest? This likely will involve different survey questions, getting at more specific

aspects of attitudes, such as Chapter Three did with disaggregating immigrant types, to see the origin-based discriminatory effect of authoritarianism. However, a simple step is to expand the range of attitudes asked about. This would help to understand the unique roles traits have. Expanding the range of outcome variables studied will likely demonstrate that traits we do not typically associate with political attitudes and behaviors actually do play important roles, as was shown in this dissertation.

However, simply expanding the range of outcome variables, naturally runs into problems. Similar attitudes may be highly correlated, individuals are unlikely to understand why they believe what they believe, and there may be a great deal of noise. The range of methodological approaches should therefore be expanded. Perhaps more experimental methods need to be employed. Perhaps there needs to be greater utilization of longitudinal studies, showing how people with different personalities react to changes they encounter. Likely a variety of methods will be necessary to understand more precisely why particular traits are associated with particular attitudes, and the mechanisms which may lie behind.

In looking to understand causal mechanisms, it is important to recognize the indirect effects that some traits may have. This is likely to involve traits which are not typically thought of as "political" traits. For instance, this research shows how a trait like extraversion, which has not been recognized as very impactful for immigration attitudes, may have a large effect in areas with large numbers of immigrants, likely due to increased contact rates. A decade ago, Mondak (2010) called for a better understanding of these linkages. However, much still remains unexamined. More research may find that personality traits which we may think of as relatively unimportant for political concerns may become relevant in different spheres. Personality traits help shape all aspects of our lives and choices, which will inevitably influence political matters.

Environmental impacts

The overarching argument presented in the introduction and again in this chapter is that the political transformations we are seeing will affect the roles that personality traits play. The changes we are witnessing, however, are not distributed equally – which implies that one's local environment is relevant to consider. Chapter Two shows evidence that personality traits interact with local immigrant levels, likely due to increased or decreased levels of contact with immigrants, to help form immigration attitudes. And although Chapter Four did not find evidence of an interaction between news consumption and personality traits, it showed how personality traits can affect news consumption patterns, a relationship that likely becomes more impactful where media offerings are larger.

Recognizing the importance of environment reaffirms the call to expand the locations and contexts for (in this case) personality research. Much of psychological research has been done in a few Western countries (Henrich et al., 2010). This is also true of personality research within political psychology. A large step towards understanding the precise roles of particular traits is to expand the contexts in which these relationships are measured. A large meta-analysis found, for example, that while the relationship between prejudice and openness was consistent between North American and European samples, the relationships between prejudice and the traits of conscientiousness and neuroticism differed between the two continents (Sibley and Duckitt, 2008). This indicates what may seem like an intrinsic relationship may in fact be context-dependent, at the very least for the magnitude of an effect.

Ideally, many different personality constructs should be tested in many environments and for many specific issues. This is especially important for understanding the current moment and

the current changes which are taking place. Understanding where and under which contexts the role of personality may vary, can help us to avoid untrue blanket assertions about the universal roles of personality traits. Unfortunately, this dissertation is itself not very geographically adventurous – surveying the exotic locations of the United Kingdom and United States. However, future research can extend the ideas here to other locations and contexts.

A more foundational rethink?

This call for more nuance, more detail, and more outcome variables may therefore seem at home in a world with a wealth of personality and personality-like measures employed in political psychology. This dissertation uses the Big Five, as well as RWA and SDO. Beyond those are numerous others used in this kind of research, such as narcissism scales, disgust sensitivity, measures of cognitive style, and others. Umbrella terms like authoritarianism are measured in multiple ways: RWA and child-rearing values. There are multiple value-specific measures, such as the Schwartz Value Survey and Moral Foundations. Some of these measures which were intended to be used as single-dimension measures are being disaggregated into different components, as we did in Chapter Three for RWA.

Is this not a blessing? Perhaps. Perhaps not.

Were all these measures to be completely orthogonal to each other, and were it quite clear what each actually measured, there might be no problem. However, a large step forward for the field may come in the form of a rethink.

The Big Five emerged in psychology out of a time when there was a plethora of different personality scales. In part because the Big Five was, arguably, discovered rather than designed, and because that discovery was replicable, it became the standard personality measure. However, it is clear that the Big Five does not measure every aspect of personality. It is not specific enough to capture in detail all aspects of each trait, nor is it intended to.

While the Big Five has been used for decades now in political research, similar measures have been developed to capture specific aspects of one's "political personality" which may be absent or unemphasized in the Big Five. These measures have proven to be immensely useful and have clearly captured important aspects of our character which ought to be measured. That said, this abundance of different scales presents us with an analogous situation to that of early personality researchers. With a lack of clarity of what each measure is precisely measuring, and with high correlations between many of the measures, perhaps there is a need for a redevelopment, a restructuring.

An approach forward could be to undertake a research program like that which developed the Big Five: using a tool like factor analysis to isolate the unique aspects of one's political character. However, this would run into a frequent criticism of the Big Five, namely, that there is a lack of theoretical basis behind the traits (e.g., Block, 2010). This may be a larger problem than that which occurs with the Big Five. As one's political personality is partly value-based, and is strongly affected by one's environment, many of the factors which could emerge from this process may be the result of historical accident – in other words, not a true, unified, natural "trait". Perhaps a way forward is through breaking down the existing measures into their component parts – understanding how they link together, and as advised above, testing these in a wide variety of contexts.

As was discussed in the introduction, there are sides of our personalities which are less directly political, and sides which are much more political. People have natural senses for things like justice and fairness. Currently we have a wealth of measures which likely overlap in the facets of our political personalities they tap. I would argue that the goal should be to distinguish these sides clearly from each other and have measures which directly capture one at a time. Ideally, these can be complemented with measures of the more value-free sides of our personality, as those clearly impact political outcomes as well, although often indirectly, as we have seen.

The sum of all these suggestions is this: we need more clarity and nuance. Rough measures, with at times unclear mechanisms, will only get us so far. While the work done so far in the field has taught us a great deal about the various relationships between personality and public opinion, a large step forward would come from finer tools. These finer tools would clarify many of the relationships already discovered, and hopefully bring to light new ones. I hope that this dissertation succeeded in demonstrating that personality contributes to explaining the current political moment. And that the many sides of our personality play different roles. These changes we are witnessing provide an opportunity to see how people respond, in a different context, to new political problems. Although I have pointed out limits to the current approach to personality-based research, I hope that this dissertation helped to reveal some of the psychological phenomena behind the political transformations taking place.

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Principal Author

Name of Principal Author (Candidate)	Adam Peresman		
Registration Number	1601924		
Department	Government		
Contribution to the Paper	Creating survey, research, writing, editing, data analysis, discussion of results		
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Co-Author Contributions

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Name of Co-Author	Royce Carroll
Contribution to the Paper	Creating survey, research, writing, editing, discussion of results

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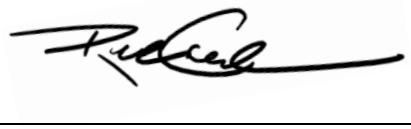
Signature		**Date:**	13/11/20

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Contribution to the Paper	Idea origination, creating survey, writing, editing, discussion of results		
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