Different Hearts for Different Heads:
How Personality Moderates the Emotional Impact of Political Advertisement

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Abstract: Previous literature has found that there are individual-level differences with how people engage with politics, and that levels of authoritarianism specifically can alter how people perceive political advertisements. This paper seeks to build off on this approach by exploring differences in ad perception across all of the Big Five personality factors and uses a complex radio ad experiment embedded within a survey to intentionally elicit anxiety and measure how much anxiety is felt as compared to a neutral control advertisement. Overall, personality was found to be a significant moderating variable that affected the amount of anxiety felt from the treatment advertisement. Conditions under which various Big Five personality factors matter are explored, and implications are drawn for how to make future political advertisements more effective in light of these results.

Introduction

Each election year, the airwaves are saturated with a numerous and inescapable amount of political advertising. The Columbus Dispatch reported that from November 2, 2012 to Election Day, more than 3000 political commercials were slated to air on four local channels in Columbus alone, jumping to 7000 if cable channels within the Columbus media market were included. Together, Obama and Romney spent more than $12.4 million on Columbus ads (Ludlow 2012). Overall, close to $900 million was spent on political advertisements by both campaigns (Andrews, Keating, and Yourish 2012).

Furthermore, the vast majority of this ad spending – more than 88% – is spent on negative ads (Andrews, Keating, and Yourish 2012). Indeed, the common political wisdom has been to go negative "early and often", define the opponent as quickly and negatively as possible, and appeal to the heart instead of the head (Lau et. al. 1999). And people's hearts do respond to this negativity – people react to negative ads with more cortical arousal on a neurological level (Reeves et al. 1989), and negative imagery changes the way people perceive political information (Brader 2005) by increasing people's attention to risk (Huddy, et. al. 2005; Druckman and McDermott 2008) and blame (Small, Learner, and Fischhoff 2006).

However, showing the same negative advertisement to a wide variety of people has an assumption that people will react more or less the same to such an advertisement. Is this assumption valid? Do all people respond to negative ads in similar ways, or are there individual-level differences in people's responses? If there are individual-level differences in people's responses, how can we explain them? And overall, what do these differences mean for making political advertisements more effective?

Literature Review

Emotional Cognition and Advertisements

The basis for negative advertisements comes out of the conclusion that much information acquired is processed non-consciously (Bargh and Chartland 1999) and based, at least in part, on emotionally affective responses (Lodge, Steenbergen, and Brau 1995; Huddy and Gunnthorsdottir 2000; Redlawsk 2001). Generally, emotional appeals assist in grabbing attention to political information (Pratto, Felicia, and John 1991) and are generally more persuasive (Jerit 2004).

However, not all emotions work equally – people pay closer attention to negative information than positive information (Fiske 1980; Pratto, Felicia, and John 1991) and experience greater arousal (Reeves, et al. 1989) and higher attention levels (Lang, et al. 1996) when exposed to negative television images. Eliciting a different emotion can also motivate different behaviors in a respondent – enthusiasm-based appeals tend to motivate participation and activate group loyalties, whereas anxiety-based appeals tend to motivate vigilance and facilitate persuasion (Pratto, Felicia, and John 1991; Brader 2005) and ultimately increase engagement with politics and political information (Marcus and Mackuen 1993). However, anxiety can also motivate withdrawal from politics, unless combined with hope (Nadeau, Niemi, and Amato 1995).

Lastly, there's some indication that advertisements take advantage of emotional appeals. Not only does Lau et. al. 1999 capture a specific wisdom of "going negative", but Ridout and Searles 2011 find some systematic patterns to the use of specific emotional appeals in political campaigns.

Individual-Level Differences and Advertisements

While people generally are made more anxious by negative advertisements, this anxiety is dependent upon many different differences within the listener. For instance, feelings of anxiety elicited by a negative advertisement were found to vary depending on the politics of the listener – for instance, liberals tend to feel anxiety when prompted with negative advertisements about the

Republican candidate, but feel very limited anxiety when prompted with negative advertisements about their own candidate (Martin 2004). Furthermore, enduring character traits, commonly referred to as "personality", also affect how people view advertisements and engage in politics – those higher in authoritarianism are more likely to react to a threatening message that emphasizes the drawbacks of not voting, whereas less authoritarian people are relatively unaffected by the threatening message and instead respond to a positive message emphasizing the benefits of voting, to which authoritarians are indifferent (Lavine, et. al. 1999).

Personality has also been characterized by the Big Five, which seeks to organize the vast amount of variation in personality traits into five core factors – openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (McCrae and John 1992; Mondak 2010; Mondak, et al. 2010). Personality has been applied to many different factors of political behavior with moderate success – so far, neuroticism, openness to experience, and conscientiousness can each predict some variation in party affiliation; higher extraversion can predict increases in media use and higher levels of political participation; higher openness to experience can predict a desire to engage in political conversation, higher opinionation, higher political knowledge, higher attentativeness to politics, and higher engagement with and participation in politics; and higher openness to experience can be used to predict higher levels of internal efficacy (Mondak 2010; Mondak, et al. 2010).

Hypotheses

With an indication that emotional reaction is key to the perception of political ads, that personality affects how people feel emotions and can affect how they engage in politics, and even some indication that personality traits like authoritarianism can directly affect ad perception, it seems very plausible that personality will moderate the amount of anxiety participants feel from the

anxiety-eliciting negative advertisements. However, personality is affected by the environment, and therefore can be expected to only have influences in particular circumstances (Mondak, et al. 2010).

In this paper, I will focus on testing the following six hypotheses:

- H1: Anxiety elicited will vary by personality
- H2: Neurotic people will have more anxiety across all advertisements
- H3: People more open to experience will have less anxiety with higher need for cognition
- H4: Conscientious people will have less anxiety when they have higher issue importance
- H5: Agreeable people will have less anxiety when they agree with the ad's position on the issue
- H6: Those who experience higher anxiety will find the ad more accurate and convincing

H1: Anxiety Elicited Will Vary by Personality

Given that personality is supposed to have some effect on emotion, I suspect that the amount of anxiety elicited by a political advertisement will be specifically moderated by personality variables in certain circumstances. If the amount of anxiety experienced in different political advertisements varies by personality, it would mean that there are enduring differences in how people perceive political advertisements.

H2: Neurotic People Will Experience More Anxiety Across All Advertisements

On the Big Five factor analysis, neuroticism, or emotional stability, is the personality trait most obviously connected to emotion, and most likely *a priori* to affect how anxious people will be. Neurotic people are typically characterized as tense, nervous, touchy, worried, impulsive, emotional, or even *anxious* (McCrae and John 1992; Mondak 2010). Therefore, I would expect that those with higher neuroticism (and thus less emotional stability) would feel more anxiety when seeing a political advertisement. More importantly, I would expect the feeling of anxiety to be higher for those higher in neuroticism than those lower in neuroticism regardless of what emotions the advertisement intends to elicit, since any inadvertent anxiety produced would be magnified among the neurotic.

H3: Openness to Experience Will Experience Less Anxiety With Higher Need for Cognition

Openness to experience is defined by a desire to seek out information and experiences (Mondak, et al. 2010) and a general attraction and comfort with new ideas and experiences. It focuses on attention to and concern with intellect, art, creativity, curiosity, tolerance, and beauty (McCrae and John 1992; Mondak 2010) and has a close relationship with need for cognition and liberalism[1] (Mondak 2010).

Given that those higher in need for cognition tend to substitute a more fact-driven and emotionally "cool" approach for a hotter more emotion-driven approach, I would expect those open to experience and thus willing to seek out and dive into political information to be affected by need for cognition – among those higher in need for cognition, openness should play more of a part in reducing anxiety by slowing things down and avoiding quick and emotional leaps to judgment typically found within "hot cognition". Therefore, I hypothesize that openness will reduce anxiety among those who are higher in need for cognition, but not affect those low in need for cognition.

H4: Issue Importance Will Lead Conscientious People to Experience Less Anxiety

Conscientious people are typically characterized as punctual, organized, reliable, responsible, hardworking, thorough, efficient, persevering, and have strong concern for duty, self-discipline, and self-control (McCrae and John 1992; Mondak 2010). However, as Mondak 2010 emphasizes, conscientious people are often specifically conscientious with respect to executing perceived duties, and are not necessarily conscientious "in all aspects of life". This means that I would expect conscientiousness to only matter when a duty is perceived, or more precisely in conditions of high external political efficacy (Mondak 2010) or issue importance (Mondak, et al. 2010). Thus, I

[1] This is confirmed by our data, which finds a moderate positive correlation between openness and need for cognition ($r=+0.264$, $p<0.0001$) and a moderate negative correlation between openness and conservatism ($r=-0.212$, $p<0.0001$).

hypothesize that conscientiousness will reduce anxiety among those who specifically find the issue mentioned by the ad to be important.

H5: Agreeable People Will Experience Less Anxiety If They Agree With The Ad's Position

Less is known about agreeableness than any other factor of personality, but agreeable people are generally distinguished by desiring positive relationships with others and are considered to be warm, kind, sympathetic, forgiving, trusting, and perhaps generous and altruistic (McCrae and John 1992; Mondak 2010). Agreeable people also tend to shy away from competition and conflict, gravitating instead toward resolving disputes with collaboration and cooperation (Mondak 2010). Therefore, I expect that experiencing disagreement would cause agreeable people to get even more anxious and that agreeable people would be less anxious in conditions of agreement. Thus, I hypothesize that an advertisement will elicit less anxiety from an agreeable person when that person agrees with the position the advertisement takes on an issue.

H6: Those Who Experience Higher Anxiety Will Find the Ad More Convincing and More Accurate

Lastly, an analysis of the effects of personality on anxiety elicited from the advertisement would be of little practical importance unless we could somehow use this information to improve the effectiveness of our political advertising. Given prior literature calling attention to how anxiety can facilitate persuasion (Pratto, Felicia, and John 1991; Brader 2005), I hypothesize that the more a participant feels anxiety from a political advertisement, the more likely they will also find that advertisement accurate and convincing.

This hypothesis, if demonstrated, would have strong implications for those who seek to improve perceptions of ads as accurate and convincing – simply attempt to induce even more anxiety. But more importantly, this hypothesis in the context of the other hypotheses, if they were also demonstrated, would mean that advertisers should pay particular attention to the individual-

level differences in anxiety elicited, because these would lead to perceptions of accuracy and convincingness too.

Data and Method

Survey Logistics

To test these hypotheses, we surveyed 736 students at Denison University, 598 of which completed the entire survey, for a response rate of approximately 25%. The sample is obviously restricted by age to only First-Year through Senior students, but is relatively even on gender (Male = 47.28%, Female = 52.72%) and home state (52% from Ohio, 48% from out of state).

The survey was implemented by Qualtrics and was sent to the entire Denison University student body via an email that contained a link to take the survey. The survey was originally distributed during the week of Thanksgiving, a few weeks after the election, initially attracting 388 respondents. A follow-up reminder email was sent a week later attracting 348 additional respondents, and a few days after that the survey was closed.

The survey contained three different, unrelated experiments and asked a number of demographic questions. A chance to win one of six different $50 Amazon gift cards was offered as an incentive for students to take the survey. This experiment that this paper focuses on was the second treatment in the survey, and there is no reason to suspect that the first treatment influenced the second treatment and no evidential indication of such an order effect.

Treatment

Within the experiment designed to test hypotheses on how personality affects anxiety felt from political advertisements, participants were given a treatment of one of four different audio advertisements. The script of the advertisement was constant among all four treatments – a negative advertisement warning of the danger of repealing ObamaCare. However, the ads varied by the

gender of the speaker (male voice vs. female voice) and whether or not the advertisement was intended to illicit anxiety. The anxiety-inducing ads placed more emphasis on words in the script to play up the level of negativity and had anxiety-inducing background music that intentionally increased the amount of dissonance in the track, whereas the control ad had neutral emphasis and had neutral background music. The ads were designed specifically by the researchers and used two of the researchers as voice actors.

To check to see if they listened to the advertisement, participants were asked if they were able to successfully listen to the advertisement and to correctly identify the issue of the ad and the speaker of the ad. Afterward, participants were asked how convincing they found the ad to be on a 1-10 scale, how accurate they thought the ad was on a 1-7 scale, and how much they felt each of the following emotions on a 1-10 scale: anxiety, fear, anger, surprise, disgust, enthusiasm, pride, and indifference. Lastly, they were asked questions about how they felt about the Affordable Care Act, and how important various issues were to them.

There are two concerns with the audio treatment, but neither seems detrimental to results. First, there was a problem with some browser's Java settings; only 63.51% of respondents (N=409) were able to hear the advertisements. Of those who heard the audio, 87.5% were able to correctly identify the gender of the speaker, 87.8% were able to correctly identify the issue the ad was about, and 82.6% were able to correctly identify both. Only those who heard the ad and correctly answered both manipulation checks were used to test the hypotheses. Second, since some of the sample indicated in informal follow-up conversations that they were able to identify the person who voiced their particular ad, and said they were inclined to take the ad less seriously as a result[2].

[2] Since both the researchers creating the survey and those taking the survey were students of Denison University, it is easy to have informal conversations with them. One researcher says that he talked to around 8-10 of those who he knew (presumably fellow Seniors) and they were able to recognize the voice actors (also Seniors). If this concern were a problem, however, we would expect class year to have an effect on the dependent variables (since a Senior would be

However, both these concerns should work against the hypotheses by reducing the sample size and impact of the advertisements, so success among the hypotheses despite these factors should be considered especially significant.

Variables

Personality was constructed from a battery of twenty questions that ask "How well does each of the following statements describe you?"[3], with four questions each focused on openness, conscientiousness, agreeableness, and neuroticism[4] (see question wording and scale information in Appendix A). Secondly, following Lavine, et. al. 1999, we also included a variable to measure authoritarianism using the four-question battery developed by Hetherington and Weiler 2005. Overall, this battery did not work out as expected, but is still manageable with an alpha of 0.481 initially and an alpha of 0.535 when only the first three questions were included (see Appendix A)[5] – for the remainder of this paper, the three-variable authoritarian scale will be used, ignoring the fourth variable. Lastly, we included a battery to measure the respondent's issue importance for Health Care and an index of need for cognition was created to test how willing people were to think through issues (see Appendix A for coding).

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more likely to recognize a fellow Senior), but there is no such effect (correlation between anxiety and class year is nonexistent, $r = -0.03$, $p=0.6$).

[3] The phrasing of these questions and the general normativity of personality traits may give rise to social desirability effects, which could be a concern.

[4] Extraversion was intentionally left out to shorten the survey because there was little expectation that extraversion would be relevant to the amount of anxiety felt from the advertisement.

[5] The authoritarianism questions ask about child rearing in order to unobtrusively test for authoritarianism among the general population. However, for an all college student sample who have not yet raised children, such questions may not be interpreted the same way.

Analysis

Pre-Hypothesis: Did The Treatment Work?

Before any hypothesis can be tested, we first must ask: do the radio ads we included elicit any emotional reaction at all? Or rather, did the ads work as intended? Table 1 shows that among those who heard the ratio ad and passed the manipulation checks, comparing the two ads intended to induce anxiety to the two ads intended to be neutral[6], the anxiety-inducing ads induce a statistically significantly larger amount of anxiety, fear, and disgust than the neutral control condition when using T-tests. Furthermore, the two ads with a male voice are statistically identical to the two ads with a female voice in the levels of emotions they elicit.

Table 1: T-Test Comparison of Mean Emotional Reaction by Treatment Conditions

	Anxiety vs. Neutral	**Male vs. Female**
Anxiety	3.8 vs. 2.9***[7]	3.2 vs. 3.6
Fear	3.5 vs. 2.5***	2.9 vs. 3.2
Anger	3.0 vs. 2.6	2.7 vs. 3.0
Surprise	2.0 vs. 2.0	1.8 vs. 2.1
Disgust	3.2 vs. 2.4**	2.8 vs. 2.8
Enthusiasm	1.4 vs. 1.9	1.6 vs. 1.8
Pride	1.3 vs. 1.8	1.7 vs. 1.4
Indifference	4.7 vs. 4.8	4.8 vs. 4.7

N = ~210, * p < 0.10, ** p < 0.05, *** p < 0.01

While eliciting fear and disgust was not intentional in the anxiety condition, such additional motion is of little additional concern because anxiety, fear, and disgust are all closely correlated emotions, both in the previous literature (see Brader 2005) and in our data (alpha = 0.748).

[6] Another point of concern is that the 1-10 scale was presented with a slider appeared to have a default of "0", but the slider would have to be clicked to actually register a 0. Thus, some respondents might have left the slider question for a given emotion blank when they indented to indicate a response of 0. These missing values were not included in the analysis. However, this concern should also just reduce sample size and thus also work against demonstrating the hypotheses.

[7] Despite being on a 1-10 scale, very few people indicated high feelings of any sort from the advertisement in question. This isn't much of a concern because there is still sufficient varience to explain, but it is a bit odd.

H1: Does Personality Moderate Anxiety?

Once it is has been established that the treatment works and successfully elicits anxiety, we can compare how much anxiety was felt by people relative to the control condition. To test the hypothesis of whether personality had a moderating effect on the amount of anxiety felt, we compare the two treatments side-by-side using a linear regression with personality variables and controls predicting the amount of anxiety.

For controls, authoritarianism was included to possibly replicate Lavine, et. al. 1999 and ensure personality wasn't merely capturing authoritarianism; conservatism was included because we are dealing with an issue, health care reform, that is politically controversial and because personality could be merely capturing differences in ideology; issue importance was included to ensure personality wasn't merely capturing exposure and care to health care; and need for cognition was included to ensure personality wasn't merely capturing whether or not they were quick to view the ad without thinking it through.

Table 2 shows that even when we control for all these extra factors, personality still has a statistically significant effect on the amount of anxiety elicited by the ad in the anxiety condition – higher openness to experience tends to reduce anxiety, whereas higher agreeableness tends to enhance anxiety, and all other personality variables had no effect, with conservatism and need for cognition being the only statistically significant controls. The amount of anxiety in the neutral condition was unpredictable, as would be expected, since no anxiety was elicited.

If these personality variables were indeed causing increases in anxiety, however, we would also expect statistically significant interactions between the personality variable and whether or not the respondent was exposed to the anxiety treatment. Table 3 shows that for agreeableness and openness, such an interaction is statistically significant, further confirming that personality acts to

moderate the amount of anxiety induced by a political advertisement. I take this to confirm H1 that personality moderates anxiety.

Table 2: Bysort Regression of Anxiety Was Elicited by the Ad Under Each Treatment

Variable Name	**Neutral Condition Coefficient**	**Anxiety Condition Coefficient**
Openness to Experience	+0.011 (0.087)	-0.216 (0.084)**
Conscientiousness	-0.063 (0.054)	-0.031 (0.049)
Agreeableness	-0.020 (0.071)	+0.221 (0.066)***
Neuroticism	+0.054 (0.059)	+0.082 (0.069)
Authoritarianism	-0.080 (0.238)	-0.136 (0.226)
Conservatism	-0.244 (0.158)	-0.424 (0.160)***
Healthcare is important	-0.066 (0.188)	+0.069 (0.214)
Need for Cognition	-0.097 (0.177)	+0.392 (0.172)**
Constant	+5.372* (2.844)	+1.480 (2.756)
N	118	126
Prob > F	0.2896	0.001
Adjusted R^2	0.0153	0.1416

* p < 0.10, ** p < 0.05, *** p < 0.01

Table 3: Regression of Interaction Effects on Amount of Anxiety Elicited by the Ad, in the Anxiety-Inducing Treatment

Variable Name	**Coefficient**
Openness to Experience (1-4)[8]	+0.143 (0.191)
Received Anxiety Treatment?	+1.503 (0.663)**
Openness * Anxiety	-0.291 (0.260)

N = 256, Prob > F = 0.0286, Adjusted R2 = 0.0237, * p < 0.10, ** p < 0.05, *** p < 0.01

Conscientiousness (1-4)	-0.412 (0.196)**
Received Anxiety Treatment?	-0.475 (0.716)
Conscientiousness * Anxiety	+0.558 (0.271)**

N = 257, Prob > F = 0.0042, Adjusted R2 = 0.0395, * p < 0.10, ** p < 0.05, *** p < 0.01

Agreeableness (1-4)	-0.051 (0.197)
Received Anxiety Treatment?	-0.337 (0.706)
Agreeableness * Anxiety	+0.513 (0.274)*

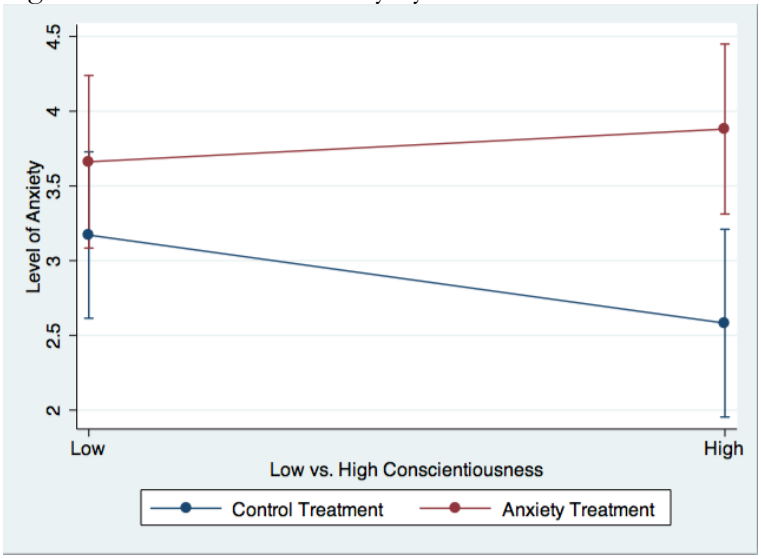
N = 257, Prob > F = 0.0028, Adjusted R2 = 0.0427, * p < 0.10, ** p < 0.05, *** p < 0.01

Neuroticism (1-4)	+0.369 (0.188)*
Received Anxiety Treatment?	+0.887 (0.703)
Neuroticism * Anxiety	-0.024 (0.279)

N = 256, Prob > F = 0.0025, Adjusted R2 = 0.0440, * p < 0.10, ** p < 0.05, *** p < 0.01

[8] These personality batteries were converted to scale from 1 to 4 in order to reduce excess variance within the interaction. However, the conscientiousness interaction remains significant even without converting the scale. (The agreeableness interaction becomes insignificant, though).

Figure 1: Prediction of Anxiety by Conscientiousness and Anxiety Treatment

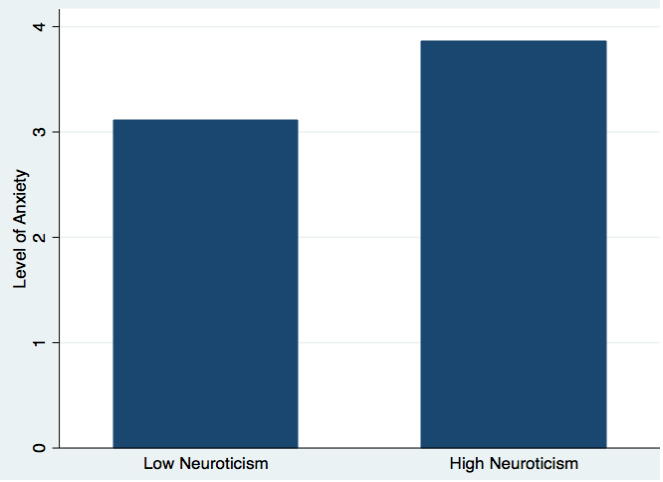


H2: Did Neurotic People Feel More Anxious?

I hypothesized that since neuroticism was directly related to how much emotion one feels in various situations, those higher in neuroticism would feel more anxiety when presented with the ad, regardless of whether the ad intended to elicit anxiety or not – neurotic people are just generally more anxious people.

Table 3 has no interaction as expected, since I hypothesize that neuroticism would boost anxiety *regardless* of treatment, and thus the fact that neuroticism itself has a significant main effect helps confirm the hypothesis. Looking at Table 2, however, the relationship does not seem to bear out with controls. However, there is some relationship – Figure 2 shows that there is a difference in the mean level of anxiety by level of neuroticism, and a T-test shows this difference is statistically significant ($p=0.008$, $N=292$).

Figure 2: Level of Anxiety Felt by Level of Neuroticism of Participant



The problem is presumed multicolinearity between neuroticism and conservatism, a control. As shown in Table 4, when conservatism is included, neuroticism is only marginally statistically significant (p=0.114), whereas when conservatism is excluded, neuroticism becomes statistically significant. Overall, I take this, with a bit of skepticism, to confirm H2 that neuroticism boosts anxiety, regardless of treatment.

Table 4: Regression of Anxiety Was Elicited by the Ad, Including or Excluding Conservatism

Variable Name	**Regression with Conservatism**	**Regression Without**
Openness to Experience	-0.123 (0.060)**	-0.092 (0.051)
Conscientiousness	-0.028 (0.036)	-0.035 (0.036)
Agreeableness	+0.121 (0.048)**	+0.126 (0.049)**
Neuroticism	+0.071 (0.045)	+0.091 (0.045)**
Authoritarianism	-0.148 (0.163)	-0.326 (0.158)**
Conservatism	+0.053 (0.111)	
Healthcare is important	-0.368 (0.140)***	-0.054 (0.138)
Need for Cognition	+0.206 (0.121)*	+0.194 (0.123)
Constant	+2.745 (1.950)	+1.433 (1.945)
N	244	245
F	0.0003	0.0119
Adjusted R^2	0.0841	0.0451

* p < 0.10, ** p < 0.05, *** p < 0.01

H3: Did Need for Cognition Make Open People Less Anxious?

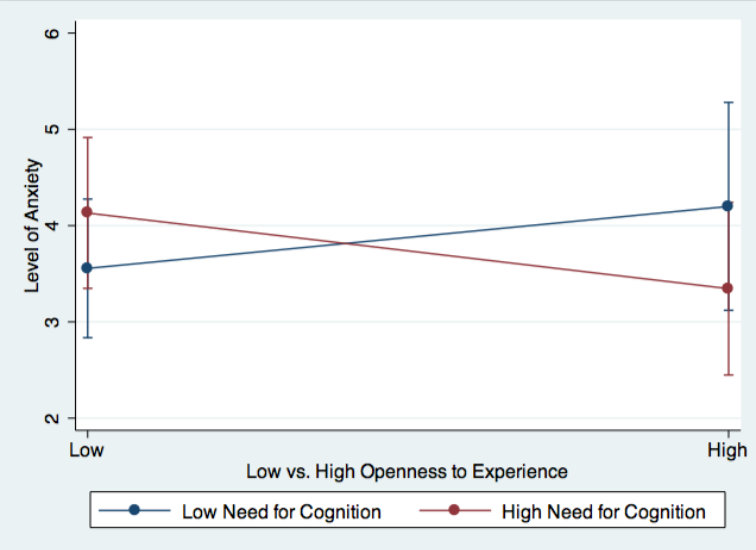
Openness to Experience is expected to matter in reducing anxiety only in a specific circumstance – within the anxious treatment among those with a high (above average) need for cognition. Table 5 and Figure 3 show that when the sample is split by need for cognition and ad treatment, conscientiousness is only statistically significant in high-cognition / anxious treatment situation when controlling for everything else, exactly as predicted.

Table 5: Effect of Openness to Experience on Anxiety by Need for Cognition and Treatment, Controlling for Conscientiousness, Agreeableness, Neuroticism, Authoritarianism, Conservatism, and Issue Importance

	Control Treatment	**Anxious Treatment**
Low Need for Cognition	**-0.073 (0.115)** N = 66, Prob > F = 0.833, Adjusted R2 = -0.057	**-0.129 (0.129)** N = 63, Prob > F = 0.227, Adjusted R2 = 0.0307
High Need for Cognition	**+0.260 (0.164)** N = 52, Prob > F = 0.086, Adjusted R2 = 0.1145	**-0.342 (0.128)**** N = 63, Prob > F = 0.005, Adjusted R2 = 0.2039

* p < 0.10, ** p < 0.05, *** p < 0.01

Figure 3: Prediction of Anxiety by Openness and Need for Cognition



H4: Did Issue Importance Make Conscientious People Less Anxious?

Similarly, Conscientiousness is expected to reduce anxiety only when the participant feels that Health Care, the topic of the advertisement, is an important issue, and only within the anxiety-inducing treatment. However, Table 6 shows that this hypothesis has failed, since conscientiousness failed to produce significant results for any of the four sections.

Table 6: Effect of Conscientiousness to Experience on Anxiety by Issue Importance and Treatment, Controlling for Openness, Agreeableness, Neuroticism, Authoritarianism, Conservatism, and Issue Importance

	Control Treatment	**Anxious Treatment**
Low Issue Importance	**-0.094 (0.058)** N = 86, Prob > F = 0.636, Adjusted R2 = 0.0771	**-0.151 (0.061)** N = 82, Prob > F = 0.138, Adjusted R2 = 0.1308
High Issue Importance	**-0.057 (0.140)** N = 32, Prob > F = 0.940, Adjusted R2 = -0.1829	**-0.129 (0.186)** N = 44, Prob > F = 0.106, Adjusted R2 = 0.1227

* p < 0.10, ** p < 0.05, *** p < 0.01

What if we were to focus instead on external efficacy, which is also supposed to be a sign of duty? Table 7 shows that this also does not work as expected.

Table 7: Effect of Conscientiousness to Experience on Anxiety by Efficacy and Treatment, Controlling for Openness, Agreeableness, Neuroticism, Authoritarianism, Conservatism, and Issue Importance

	Control Treatment	**Anxious Treatment**
Low External Efficacy	**-0.055 (0.066)** N = 80, Prob > F = 0.191, Adjusted R2 = 0.0401	**-0.036 (0.068)** N = 71, Prob > F = 0.019, Adjusted R2 = 0.2148
High External Efficacy	**-0.003 (0.103)** N = 40, Prob > F = 0.988, Adjusted R2 = -0.1704	**-0.031 (0.076)** N = 55, Prob > F = 0.263, Adjusted R2 = 0.0397

* p < 0.10, ** p < 0.05, *** p < 0.01

However, all hope is not lost for conscientiousness. Instead, we can turn to a third and weaker demonstration of commitment to politics as a duty – amassing political knowledge. Table 8 shows that conscientiousness has a strong impact on anxiety among those with high political

knowledge in the anxious treatment, and a small impact on anxiety among those with low political knowledge and in the control treatment.

Table 8: Effect of Conscientiousness to Experience on Anxiety by Political Knowledge and Treatment, Controlling for Openness, Agreeableness, Neuroticism, Authoritarianism, Conservatism, and Issue Importance

	Control Treatment	**Anxious Treatment**
Low Political Knowledge	**-0.123 (0.064)*** N = 77, Prob > F = 0.104, Adjusted R2 = 0.0672	**+0.040 (0.060)** N = 84, Prob > F = 0.030, Adjusted R2 = 0.1050
High Political Knowledge	**+0.066 (0.095)** N = 43, Prob > F = 0.754, Adjusted R2 = -0.0720	**-0.244 (0.080)***** N = 42, Prob > F = 0.002, Adjusted R2 = 0.3538

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

However, I would suspect that conscientiousness only really matters in the anxious treatment among high political knowledge, since the low political knowledge / control treatment model does not have a statistically significant F score and has a low Adjusted R2, whereas the high political knowledge / anxious treatment does not have either problem and is far more statistically significant. Thus, I would take all of this as a very weak confirmation of H4.

H5: Did Disagreement Make Agreeable People More Anxious?

Agreeable people are expected to experience more anxiety when encountering an advertisement that supports a view they disagree with. However, Table 9 shows that when the sample is split by the participant's perception of advertisement accuracy and ad treatment, agreeableness boosts anxiety regardless of perceived accuracy.

However, this seems to be a result of the controls included in Table 9. When the same regressions are done this time with only agreeableness (as a one variable regression) and no other controls, the results work out as expected. Figure 4 shows the interaction effect. Overall, I take this as weak confirmation of H5.

Table 9: Effect of Agreeableness on Anxiety by Agreement with Health Care, Controlling for Conscientiousness, Agreeableness, Neuroticism, Authoritarianism, Conservatism, and Issue Importance

	Control Treatment	**Anxious Treatment**
Low Perceived Accuracy	**+0.132 (0.122)** N = 49, Prob > F = 0.937, Adjusted R2 = -0.1200	**+0.254 (0.087)***** N = 64, Prob > F = 0.080, Adjusted R2 = 0.1016
High Perceived Accuracy	**-0.130 (0.167)** N = 69, Prob > F = 0.228, Adjusted R2 = 0.0418	**+0.223 (0.094)**** N = 62, Prob > F = 0.010, Adjusted R2 = 0.1967

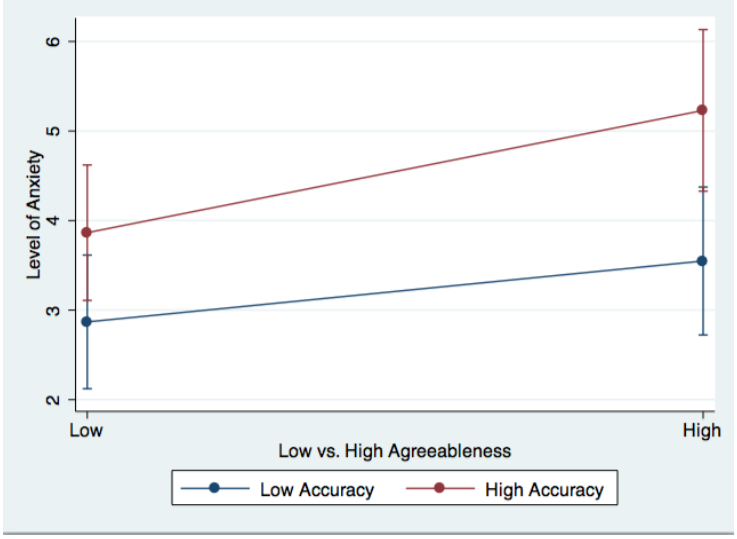
* p < 0.10, ** p < 0.05, *** p < 0.01

Table 10: Effect of Agreeableness on Anxiety by Agreement with Health Care, Without Controls

	Control Treatment	**Anxious Treatment**
Low Perceived Accuracy	**+0.115 (0.087)** N = 55, Prob > F = 0.191, Adjusted R2 = 0.0140	**+0.115 (0.079)** N = 69, Prob > F = 0.147, Adjusted R2 = 0.0167
High Perceived Accuracy	**-0.113 (0.082)** N = 70, Prob > F = 0.176, Adjusted R2 = 0.0124	**+0.225 (0.094)**** N = 63, Prob > F = 0.021, Adjusted R2 = 0.0695

* p < 0.10, ** p < 0.05, *** p < 0.01

Figure 4: Prediction of Anxiety by Agreeableness and Perceptions of Accuracy



H6: Did Anxiety Make People Find The Ad More Convincing and Accurate?

Lastly, once personality is understood as moderating the amount of anxiety elicited from the treatment advertisement, especially in certain conditions, we're left wondering where this leaves

advertisements in terms of their persuasion. Table 11 shows differences in perceptions of convincingness / persuasion and perceptions of accuracy among the various treatments and among differing levels of anxiety.

Table 11: T-Test Comparisons of Perceptions of Accuracy and Persuasion

	Accuracy Perception	**Persuasion Perception**
Control Treatment vs. Anxiety Treatment	4.4 vs. 4.1*** N = 392	4.6 vs. 3.8*** N = 372
Male Treatment vs. Female Treatment	4.3 vs. 4.3 N = 392	4.1 vs. 4.3 N = 372
Respondent's Gender Matches Ad Gender vs. Not	4.3 vs. 4.3 N = 392	4.1 vs. 4.3 N = 372
Low Anxiety vs. High Anxiety	4.1 vs. 4.6*** N = 304	3.7 vs. 5.1*** N = 292

* p < 0.10, ** p < 0.05, *** p < 0.01

Nothing about the gender of the speaker in the ad mattered – not male or female or whether or not the ad's speaker matches the gender of the listener. However, whether or not the ad intended to elicit anxiety and whether or not anxiety was felt both led to significantly different perceptions of accuracy and persuasion. Table 12 confirms the results of Table 11 with regression analysis.

Table 12: Regressions of Accuracy and Persuasion[9]

Variable Name	**Accuracy Coefficient**	**Persuasion Coefficient**
Conservatism	-0.292 (0.048)***	-0.359 (0.083)***
Need for Cognition	-0.011 (0.050)	-0.150 (0.087)*
Healthcare is Important	-0.072 (0.064)	-0.088 (0.113)
Anxiety Level	+0.079 (0.029)***	+0.274 (0.051)***
Received Anxiety Treatment?	-0.461 (0.139)***	-1.090 (0.240)***
Constant	+5.392 (0.494)***	+6.341 (0.876)***
N	253	245
Prob > F	<0.0001	<0.0001
Adjusted R^2	0.1987	0.2298

* p < 0.10, ** p < 0.05, *** p < 0.01

[9] Running the regression with variables for gender of participant, the gender of the speaker, and/or whether the two matched did not return any statistically significant results.

Figure 5: Prediction of Persuasion by Levels of Anxiety and Anxiety Treatment

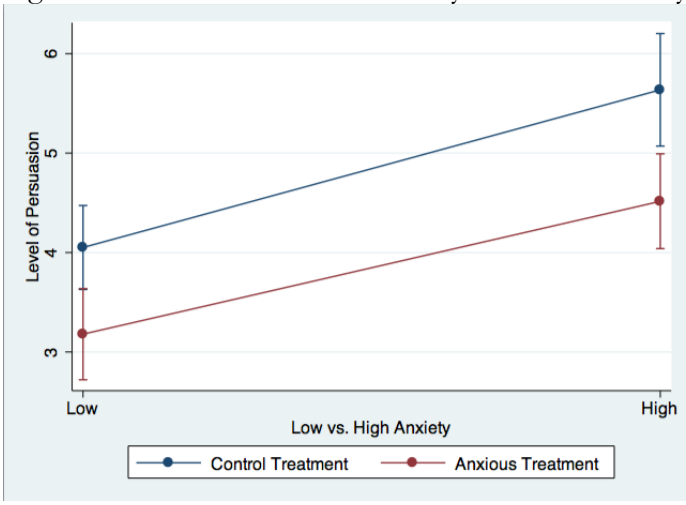
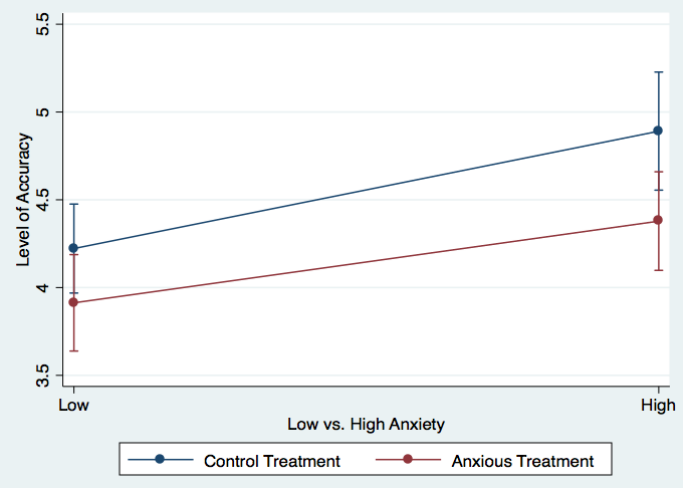


Figure 6: Prediction of Accuracy by Levels of Anxiety and Anxiety Treatment



Overall, as is expected, conservative participants are less likely to be persuaded by a pro-Health Care advertisement or find such an ad accurate, and those who felt higher anxiety were more likely to find the ad accurate and find the ad persuasive. Surprisingly, however, the overall anxiety-inducing treatment produced a surprisingly large reduction in accuracy and persuasion. Figures 5 and 6 confirm the relationship between the anxiety treatment and levels of anxiety – the more anxious you felt, the more accurate or persuasive you found the ad, confirming H6. However, being in the

anxiety-inducing treatment produces a currently inexplicable large drop in perceived accuracy and persuasion[10].

Conclusion

Do people perceive negative advertisements differently? Based on personality, the answer is yes. In the survey, the amount of anxiety elicited by the treatment did vary by personality, confirming personality's status as a moderating variable. While the evidence wasn't as strong as could be hoped for, it was also demonstrated that each personality trait tested has some effect on anxiety in different circumstances – neuroticism matters across all conditions, openness to experience matters under high need for cognition, conscientiousness matters under high political knowledge (a substitute for efficacy and issue importance), and agreeableness matters based on the extent they agree or disagree with the ad's position on the issue. Bolstering the conclusion, re-running the regressions focusing on emotions other than anxiety, or testing other personality variables in non-matching circumstances (such as the relationship between *conscientiousness* and need for cognition or *agreeableness* and high political knowledge) yields very few statistically significant results.

On the other front, ads are considered more accurate and more convincing the more anxiety they elicit. This gives a plausible theory for how personality can lead to individual-level differences in perceptions of the advertisement's persuasion and/or accuracy – emotion acts as a mediating variable, with personality affecting their emotional reaction to the ad and their emotional reaction in turn affecting their perceptions of persuasion and/or accuracy.

This connection between personality and emotions setting up individual-level differences among advertisements has two implications for making advertisements more effective:

[10] I'd suspect that the anxiety-inducing advertisement was too over the top in the anxiety music that people felt anxious but did not take the advertisement seriously.

1. First, attempting to elicit more anxiety will, all things considered, make the ad more accurate and persuasive, as long as the frame remains convincing – perhaps helping to fuel the long and unsettled debate about whether negative ads are more effective than positive ones.
2. Second, there is room for micro-targeting potential voters and giving them ads based on their personalities – specifically targeting anxiety-inducing advertisements to neurotic people, open people with high need for cognition, conscientious people with high political knowledge, and agreeable people who will disagree with your message and ignoring other populations will find you audiences most likely to react to your advertisement with anxiety and thus find it more persuasive.

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Appendix A: Question Wording

Personality

Openness to Experience

1. I like to think outside of the box (1-7, N = 599, M = 5.44)
2. I am open to new ideas (1-7, N = 598, M = 5.90)
3. I see myself as a curious person (1-7, N = 599, M = 6.08)
4. The prospect of new experiences excites me (1-7, N = 598, M = 5.87)

Scale Alpha = 0.740, 0-24, M = 19.29, SD = 2.87, N = 596

Conscientiousness

1. Organization is an important priority for me (1-7, N = 598, M = 5.33)
2. I almost always set out clear goals for myself (1-7, N = 598, M = 5.22)
3. I almost always get my work done before having fun with friends (1-7, N = 598, M = 4.36)
4. I often leave jobs partially completed (1-7, reverse coded, N = 598, M = 3.10)

Scale Alpha = 0.642, 0-24, M = 15.80, SD = 4.04, N = 595

Agreeableness

1. I am sympathetic to other people's feelings (1-7, N = 598, M = 5.94)
2. I prefer to avoid confrontation (1-7, N = 598, M = 4.95)
3. I seek peace in my relationships with others (1-7, N = 598, M = 6.04)
4. My conversations tend to turn into arguments (1-7, reverse coded, N = 598, M = 2.75)

Scale Alpha = 0.543, 0-24, M = 18.18, SD = 3.40, N = 597

Neuroticism

1. I become easily upset (1-7, N = 598, M = 3.34)
2. I am confident in my ability to succeed (1-7, reverse coded, N = 598, M = 5.42)

3. I am often anxious when making big decisions (1-7, N = 598, M = 5.29)

4. I am content with who I am (1-7, reverse coded, N = 597, M = 5.64)

Scale Alpha = 0.548, 0-24, M = 9.57, SD = 3.55, N = 596

Authoritarianism

Below are four pairs of desirable qualities. Please tell me which one you think is more important for a child to have:

1. Independence [1] or Respect for Elders [2] (N = 571, M = 1.48)

2. Obedience [1] or Self-Reliance [2] (N = 574, M = 1.76)

3. Curiosity [1] or Good Manners [2] (reverse coded, N = 581, M = 1.33)

4. Being Considerate [1] or Being Well-behaved [2] (N = 577, M = 1.18)

Total: Scale Alpha = 0.481, 0-4, M = 1.22, SD = 1.12, N = 561

First Three: Scale Alpha = 0.535, 0-3, M = 1.06, SD = 1.01, N = 561

Need for Cognition

1. Some people like to have responsibility for handling situations that require a lot of thinking and other people don't like to have responsibility for situations like that. How much do you like/dislike situations that require responsibility and a lot of thinking? (1-7, N = 598, M = 5.27)

2. Some people have opinions about everything and some people have few opinions. How about you? Do you have opinions about [almost everything, many things, some things, few things] (1-4, reverse coded, N = 596, M = 2.87)

Scale Alpha = 0.372, 0-11, M = 8.15, SD = 1.42, N = 596

Issue Importance

To what extent do you agree with the following statements…

1. …The Affordable Care Act will allow individuals more control over their health and well-being (1-7 scale, N = 395, M = 4.72)

2. … If Affordable Care Act is repealed some individuals will be left without health care (1-7 scale, N = 394, M = 5.25)

Scale Alpha = 0.5489, 0-12, M = 7.98, SD = 2.54, N = 391

Political Knowledge[11]

Political knowledge was constructed by grading the numbers of answers correct to the following questions:

1. Which political party holds a majority in the House of Representatives?
    a. Democrat (22%)
    b. Republican (78%)

2. What position does John Roberts hold?
    a. Vice President (0%)
    b. Secretary of Defense (4%)
    c. Chief Justice of the Supreme Court (93%)
    d. Majority Leader of the Senate (3%)

3. How many votes does it take to override a President's veto?
    a. A majority vote in either chamber of Congress (3%)
    b. 3/5s of all members in both chambers (18%)
    c. 2/3s of all members in both chambers (79%)

Overall Score (0-3):

- **0:** 29.4%
- **1:** 18.6%
- **2:** 23.5%
- **3:** 29.0%

Other Variables

- Conservatism: "What about ideology? Where would you place yourself on the following scale?" (1-7, N = 595, M = 3.04, SD = 1.49)

- Efficacy: "These will go quickly. Please tell us whether you agree or disagree with the following statements… My political views and efforts do not matter in the grand scheme of things." (1-5, N = 595, M = 3.52, SD = 1.10)

- Perceived Accuracy of Ad: "How accurate do you think this ad was?" (1-7, N = 392, M = 4.28, SD = 1.17)

[11] Given that the survey was administered over the Internet, people could look up answers, which could make people get higher scores than they otherwise would. This is a concern, but does not appear detrimental.

- Convincingness of Ad: "On a scale from 1-10, where 10 is very convincing, how convincing did you find this ad?" (0-10, N = 372, M = 4.19, SD = 2.05)