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Honors Thesis Proposal

For

Do different personality types differ in levels of confirmation bias?

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The 2016 election revealed a problem in America labeled the “fake news crisis” (Balmas 2014). According to multiple research studies, people selectively analyze messages that they encounter to fit preexisting attitudes (Ditto and Lopez, 1992; Kunda, 1990; Taber and Lodge, 2006). Americans scrolling through their social media feed were presented with massive amounts of false data and accusations for both candidates. For example, Trump was accused of saying “If I were to run, I’d run as a Republican. They’re the dumbest group of voters in the country. They believe anything on Fox News. I could lie and they’d still eat it up. I bet my numbers would be terrific,” which his statement was later found to be false. Clinton was accused of laughing at a rape victim, which was also found to be untrue (NPR Staff 2016).

One of the most pernicious aspects of this fake news crisis has been that each side is only hearing or being exposed to false data from their own political viewpoint. The Wall Street Journal actually brought this to light before the election. Barberá, Jost, Nagler, Tucker, & Bonneau, (2015) worry that social networks can create “echo chambers.” This is where social media users are subject to seeing posts only from like-minded friends and family. Research suggests that confirmatory information gets accepted even if the information is proven false. Information that is nonconforming is sometimes ignored and might even increase group divergence (Bessi 2016). It is important to keep an open mind and look at data from all perspectives.

One of the most classic studies researching media effects has argued that media content serves to support existing beliefs (Klapper, 1960). This is consistent with the evidence that was found during this past year’s election with the previously mentioned “echo chambers.” Conforming beliefs and values are important motivators of media content and channels that are chosen (Slater 1997). In other words, people are more likely to follow media sources that

confirm their already held beliefs. Slater (2007) mentioned that the attention to content varies depending on whether conforming or nonconforming information is presented.

The present study investigates the relationship between personality type and level of confirmation bias. *Confirmation bias* is defined by Rajsic, Wilson, & Pratt (2015) as the observation that people are more likely to actively seek out and agree with ideas that are already similar to their own. A person shows confirmation bias by actively seeking out information that conforms to their own beliefs, often ignoring information that supports the opposite view. Confirmation bias occurs in many situations including political opinions, opinions about science, and beliefs about a person or group. Confirmation bias involves negative feelings toward those opinions that are different from our own.

Confirmation bias is usually an unconscious phenomenon and people are not always aware of it happening. Biases influence behavior more than most people would like to admit. (Teal, Gill, Green, & Crandall, 2012). Ignoring information that disagrees with presently accepted opinions is dangerous because this limits our ability to obtain accurate and innovative knowledge.

Previous studies have documented how people often skew information to adhere to their beliefs. Frost, Casey, Griffin, Raymundo, Farrell, & Carrigan (2015) have found evidence of this phenomenon demonstrating that participants were more likely to remember information that already adheres to their beliefs. Undergraduate students were recruited and shown 12 social media posts, either pro-gun or anti-gun, and were asked if the posts were written by a friend or a stranger. When the posts were consistent with the participants view on gun control they were more accurate at telling whether the message was from a friend or a stranger. This predicts the dangers of confirmation bias. If participants in this study were more likely to remember

information that adheres to their beliefs whether they are right or wrong means that it is extremely possible for false information to be spread this way. When it came to the posts that they did not agree with, the participants were more likely to make mistakes as to who wrote the post (Frost, Casey, Griffin, Raymundo, Farrell, & Carrigan, 2015).

Confirmation bias seems to be demonstrated at an early age by children seeking out intimidating evidence. Muris, Debipersad, & Mayer (2014) showed that children with high levels of anxiety seek out threatening information. The authors recruited children through primary schools. Compared to children with low levels of anxiety, children with higher levels of anxiety held a stronger tendency towards verification of their beliefs and a weaker inclination towards falsifying their beliefs (Muris, Debipersad, & Mayer, 2014). In other words, children who have high levels of anxiety also have a predisposition to a higher level of confirmation bias. The children completed a worry scale and a modified version of the Wason Selection Test to determine levels of confirmation bias in the children. The Wason Selection Test is a test for children by using cards, in this particular study, this test was used to assess levels of confirmation bias. The results showed evidence of confirmation bias because these children were finding information that was consistent with their beliefs and ignoring conflicting information.

Confirmation bias is a prevalent and problematic bias. Even psychiatrists can show some level of confirmation bias. Diagnostic errors are known to happen when psychiatrists ignore certain data in order to confirm a certain diagnosis (Mendel, Traut-Mattausch, Jonas, Leucht, Kane, Maino & Hamann, 2011). Even some of the most experienced individuals are no match for confirmation bias. They are likely to find information to support a certain belief and ignore contradicting information, which is the very definition of confirmation bias. It is important that psychiatrists and other medical professionals are aware of confirmation bias and know how to

reduce or get rid of that bias. Warning medical professionals about confirmation bias and the dangers of the bias may reduce diagnostic errors.

While confirmation bias has been shown to be widespread, it may not be as prevalent in all individuals. One factor that may influence susceptibility to confirmation bias is personality. One of the most established personality theories is the Five Factor model (Costa & McRae 1992). According to this model of personality, there are five different facets of this personality test: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

According to Costa & McRae (1992) people who score high in the *openness* category are more likely to be tolerant of other people's opposing world views to their own. People who score high in openness are also considered to be intellectual, curious, and imaginative. A study by Brandt, Chambers, Crawford, Wetherell, & Reyna (2015) established a connection between openness and tolerance. In order to test levels of tolerance, participants were given a test to rate different presidential candidates from 0-100 (cold-warm). The results indicate that participants low in openness expressed greater intolerance for the groups that were targeted overall (Blacks, whites, Hispanics, and Muslims) than the participants who scored high in openness. However, for conventional target groups (Catholic, Jew, Muslim, Person with no religion, Evangelical or "born again" Christian, Woman, Gay or Lesbian, Black, and Hispanic), openness was unrelated to intolerance (Brandt, Chambers, Crawford, Wetherell, & Reyna, 2015).

Conscientiousness is defined as resolute, trustworthy, and dependable (Costa & Mcrae 1992). For example, people who are thought to be high in conscientiousness are organized, motivated, and ambitious. Sears and Rowe (2003) found a relationship between confirmation bias and conscientiousness by exposing differences in a "similar-to-me" effect in their study. These researchers studied relationships between interviewers and interviewees and found that the

interviewers had a more positive opinion about their counterparts that shared the same traits as themselves. In other words, they found a favorable relationship between similar interviewer/interviewee pairs. For their study, conscientiousness was broken up into high and low levels. The similar-to-me effect was observed and appeared to be most evident in high conscientiousness raters. Individuals who score high in conscientiousness are more likely to relate to and accept people with ideas similar to their own, which may be related to higher levels of confirmation bias.

People who score higher in levels of *agreeableness* are thought to be more trusting than their less agreeable counterparts (Graziano, Bruce, Sheese, & Tobin, 2007; Graziano, Hair, & Finch, 1997; Graziano, Habashi, Sheese, & Tobin, 2007). People who score high in agreeableness are also liked better by their friends when compared to the less agreeable population. According to multiple sources, people who score high in agreeableness have more friends, are more likely to avoid conflict, are less prejudiced, and more empathetic (Graziano, Bruce, Sheese, & Tobin, 2007; Graziano, Hair, & Finch, 1997; Graziano, Habashi, Sheese, & Tobin, 2007). A byproduct of these traits might be lower levels of confirmation bias. A less prejudiced person will be less likely to show biased behavior when compared to someone who has a higher level of prejudice.

People who have higher levels of *neuroticism* are known to possess limited empathy, have a higher need for control, and are less likely to help others (Jonason, 2014). Neurotic people are also manipulative, have a higher sense of entitlement, and they are also found to be dishonest. It is predicted that people who score high on neuroticism will also score higher levels of confirmation bias. Highly neurotic people are thought to be extremely anxious which might

result in reluctance to change their mind or accept new ideas. A person who is unwilling to change their mind or accept new ideas will be more likely to keep a certain mindset.

Extraversion is defined as energetic, assertive, outgoing, enthusiastic, and adventurous individuals (John & Srivastava, 1999). Extraverts are thought to be more involved in politics but we predict their social ability will not determine their levels of confirmation bias. Orpen (1971) found no correlation between extraversion and “culturally disapproved” views. This supported their argument of the lack of correlation between attitudes and societal approval or disapproval. The results suggested that cultural background has a bearing on the relationship between extraversion and tough-mindedness. This is important because it will be highly unlikely to be able to determine level of confirmation bias from just mere social skills.

The primary purpose in this study is to determine whether or not there is a relationship between personality type and levels of confirmation bias. The following hypotheses were generated:

Hypothesis 1: There will be a negative correlation between openness and confirmation bias; i.e. participants who score high on levels of openness will score lower levels of confirmation bias.

Hypothesis 2: There will be a positive correlation between conscientiousness and confirmation bias; i.e. participants who score high in conscientiousness will score high on levels of confirmation bias.

Hypothesis 3: There will be a negative correlation between agreeableness and confirmation bias; i.e. participants who score high in agreeableness will score low in confirmation bias as well.

Hypothesis 4: There will be a positive correlation between neuroticism and confirmation bias; i.e. highly neurotic people will score high levels of confirmation bias.

Hypothesis 5: there will be no difference in levels of confirmation bias regarding extraversion.

Method

Participants

About 250 students will take part in this study. They will all be over the age of 18. Participants will be recruited from the University of Central Florida through the Psychology Department's on-line recruitment website, SONA <http://ucf.sona-systems.com/>. The link to the study will also be posted to a private Facebook page in order to add more diverse participants. All participants will be awarded 1 credit point for their participation toward a course requirement.

Materials

Confirmation Inventory Test. a 10 item self-report measure of confirmation proneness. All items will be answered on a five point scale: (1- strongly disagree; 2- disagree; 3- neutral; 4- agree; 5- strongly agree). An example of an item on the test is, "I only need a little information to reach a good decision."

The Cronbach's alpha (reliability) of the CI is 0.65. The scale is provided in Appendix A.

Five Factor Inventory Personality Test. Estimates of Cronbach's alpha (reliability) for this inventory was .63 for Openness to Experience, 0.82 for Conscientiousness, 0.72 for Agreeableness to 0.81 for Neuroticism and 0.82 for Extraversion (Körner, Czajkowska, Albani, Drapeau, Geyer, & Braehler, 2015). All items are rated on a 5 point likert scale from *Strongly Agree* to *Strongly Disagree*. The inventory is included in Appendix B. Items on this test include:

I believe in the importance of art. (Openness)

I am always prepared. (Conscientiousness)

I have a good word for everyone. (Agreeableness)

I often feel blue. (Neuroticism)

I feel comfortable around people. (Extraversion)

Vignettes and Scale. Each participant will be randomly assigned to one of two vignettes. These vignettes depict exactly the same scenario with the exception that the scenario focuses on Republican candidate in one condition and a Democrat in this other. The vignettes and scale are included in Appendix C.

Demographic scale. A background questionnaire will be administered, in addition, to collect basic demographic information, which will include educational level, major, age, and political affiliation. This scale is included in Appendix D.

Likert scale. This is to test how much a participant agrees with the candidate's view from each vignette. All items are rated on a 5 point likert scale from *Strongly Agree* to *Strongly Disagree*. This scale is included in Appendix E.

Procedure

Participants will be informed that they are going to take part in a research study regarding politics. The study will be available online only. Participants will be able to complete the study from any computer with internet access during the time the study will be available. The participants will first be instructed of the general purpose and procedure of the study and then they will be instructed to indicate consent by clicking "agree" before the experiment begins. As the experiment begins, participants will be randomly assigned to one of the two vignettes. They will be instructed to take as much time as they need to read the vignette. When they are finished

reading, they will be instructed to write about what they think of the candidate and given a window-box prompt. They will have as much time as they need to write their thoughts. When they have finished, they will be prompted to rate how much they agree or disagree with the candidate's view. As a manipulation check, they will also be asked whether the candidate was a republican or democrat and what the issue described in the scenario was about. After they complete these tasks, they will take the Five-Factor Inventory Personality Test followed by the Confirmation Inventory to determine levels of confirmation bias. Finally, they will be directed to fill out the demographic scale. The students will then be granted credit for completing the study.

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Appendix A: Confirmation Inventory Test

1. I only need a little information to reach a good decision.
2. My first impression usually seems to be correct.
3. I usually quickly know the ends and outs of the matter.
4. Some things are simply the way they are, regardless of other people's counter arguments.
5. Sometimes, I know things before there is actual proof of them.
6. I usually trust my intuition.
7. The first blow is half the battle.
8. Generally, half a word is enough for me.
9. If my reasoning and the physical evidence are in contradiction, I tend to give weight to my reasoning than to the evidence.
10. Once I have a certain idea, I can hardly be brought to change my mind.

Appendix B: Five Factor Inventory

Appendix C.

Vignette A.

This election year, the republican candidate for mayor is standing outside of the University of Central Florida to show support for increasing jobs after graduation. This celebrated right-wing candidate is concerned about the decreasing employment rate of students after graduation. Only 40% of students graduating with their four year degrees obtain jobs after graduation. This candidate feels there aren't enough opportunities for students once they graduate with their four year degree. Supporters within the party generated multiple solutions to increase the positions available for students, including policies encouraging partnerships between universities and local businesses. Another solution created by republican supporters is to hold more job fairs. They also want to increase the amount of resources available on the internet to help students. Republicans, especially this mayoral candidate, are proud of the work they have done on this project and feel that everyone – including students, businesses, and state run institutions will benefit as a result of these initiatives.

Vignette B.

This election year, the democratic candidate for mayor is standing outside of the University of Central Florida to show support for increasing jobs after graduation. This celebrated left-wing candidate is concerned about the decreasing employment rate of students after graduation. Only 40% of students graduating with their four year degrees obtain jobs after graduation. This candidate feels there aren't enough opportunities for students once they graduate with their four year degree. Supporters within the party generated multiple solutions to increase the positions available for students, including policies encouraging partnerships between universities and local

businesses. Another solution created by democratic supporters is to hold more job fairs. They also want to increase the amount of resources available on the internet to help students.

Democrats, especially this mayoral candidate, are proud of the work they have done on this project and feel that everyone – including students, businesses, and state run institutions will benefit as a result of these initiatives.

Appendix D: Demographic Scale

What is your age? _____

What is your gender?

Male

Female

Other

What is your major? _____

Which year in school are you?

Freshman

Sophomore

Junior

Senior

Graduate Student

Are you of Hispanic, Latino, or Spanish origin?

Yes

No

What race do you best identify with?

White

Black or African American

American Indian and Alaska Native

Asian

Native Hawaiian and Other Pacific Islander

Other race

What do you consider your political affiliation?

Democrat

Republican

Independent

Other

Appendix E: Likert Scale

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree