Analysis of the Relationship between Conscientiousness and

Warmth Towards the Republican Party

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In this study, the 2016 American National Election Studies (ANES) data was used to examine if there is a correlation between the survey respondents' level of conscientiousness and their warmth towards the Republican Party. The hypothesis was the relationship is positive and statistically significant.

Research background

Conscientiousness is a personality trait that encompasses duty, carefulness, rule-abidingness, and ambition (Funder, 2022, p. 459). It is associated with conservatism, with highly conscientious individuals being more likely to identify with conservative political values and ideologies (e.g., Gerber et al., 2011).

One explanation for this relationship is that conscientious individuals are drawn to social norms and achievement striving. They are also more likely to value responsibility, reliability, and industriousness (Cooper et al, 2012, p. 71). These values are often associated with conservative ideology and the Republican Party (Gerber et al., 2011, p. 269).

Data Preparation

We're using 2 predictors and 1 response variable for our analysis. The first predictor (column V162335, labeled as "con1") is the question where respondents are asked on a 1 to 7 scale, 1 being lowest and 7 being highest, the question that they would describe themselves as "dependable, self-disciplined". The second predictor (column V162340, labeled as "con2") is the question that respondents would describe themselves as "disorganized, careless". The second

question is intended to be a straightforward antonym phrase of the first. The response variable (column V161096) is the Republican Party feeling thermometer on a 1 to 100 scale, with 1 being the coldest and 100 being the warmest towards the Republican Party.

Data Transformation

To aid data visualization and analysis, we first reverse-coded the "disorganized, careless" variable (subtracting it from 8) so that both con1 and con2 were positively worded. This ensures that the direction of the relationship between the two variables is consistent and makes them easier to interpret. Then we calculated the mean of con1 and con2 for each participant, which gave us a new variable called "mean conscientiousness." This variable represents the average of each participant's scores across the two conscientiousness items.

Data Visualization

To comprehend the distribution of our data, we constructed bar charts that illustrate the frequency distribution of responses regarding con1 (see Appendix, Figure 1), con2 (Figure 2), and sentiments towards the Republican Party (Figure 5).

For con1 (Figure 1), bars representing 6 and 7 stick out notably, demonstrating a clustering of data towards the higher end of the scale. This suggests most respondents are likely to perceive themselves positively in terms of dependability and self-discipline.

In contrast, the distribution of responses in the reverse-coded con2 (Figure 3) is different, with responses more dispersed evenly across the scale. The prominent middle-point score, 4, compared to neighboring scores 3 and 5, might indicate a notable amount of respondents feel ambivalent or neutral towards describing themselves as "disorganized" or "careless". The

difference in distribution may reflect a bias where respondents are inclined to rate themselves more highly when questions are worded positively.

The distribution of respondents' warmth towards the Republican Party (figure 5) shows a substantial frequency of responses at the 0-point mark. This indicates a noteworthy level of coldness towards the Republican Party. Apart from the local peak at 0, data points at multiples of 10 (e.g., 10, 20, 30, etc.) form an approximately normal distribution with a right skew. Heavy data distribution on the left suggests a larger proportion of respondents have colder feelings towards the Republican Party. Interestingly, a peak at 60 means there's also a notable group of respondents that have warm feelings towards the Republican Party.

The approximately bimodal distribution shows people's feelings are split. Considering the Republican representative Donald Trump was a polarizing figure, it makes sense that one sizable subgroup would be really against the party and the other would be supportive but not overly so. It's also interesting that the highend peak lies on 60, instead of 100. This may indicate respondents may intensely dislike the republican party but not intensely like it, or are reluctant to document their intense warmth towards the Republican Party.

Statistical Analysis

To statistically verify our hypothesis, we conducted a correlation test between mean conscientiousness and the Republican Party feeling thermometer. The results showed a very weak positive correlation ($r = 0.0175$, $p = 0.2975$), which was not statistically significant. This is further visualized by the scatterplot between the two variables (Figure 6), which shows a very slight upward trend. This finding contradicts our initial hypothesis, which is there is a significant positive relationship between the two variables.

Although conscientiousness is often associated with conservative values such as hard work, responsibility, and ordiliness, its 2016 representative Donald Trump, could be seen as evidently low on agreeableness, but we don't really get a sense of whether he is high or low on conscientiousness. Republican voters might be drawn to the party because of other reasons. This suggests conscientiousness may not be as important as other personality traits, such as agreeableness, in determining a person's political ideology, especially in the special context 2016. This hypothesis could echo the observation, from the Data Visualization section, that a noteworthy subgroup of respondents feel neutral towards the con2 question, and respondents may strongly dislike the Republican Party but not overly like it. This relationship could be different if we were to conduct the analysis in a different political context.

It's also important to reflect upon the question's construct. For example, items "disorganized" and "careless" may not be direct opposites of "dependable" and "self-disciplined." Conscientiousness as a multi-faceted trait, has a variety of different qualities, such as orderliness, responsibility, and self-discipline. It's possible to be disorganized and careless without being irresponsible or undisciplined. A possible idea is in the political context, words like "responsible" and "irresponsible" may be more accurate descriptions of conscientiousness since politicians are often judged on their ability to make responsible decisions and manage resources effectively.
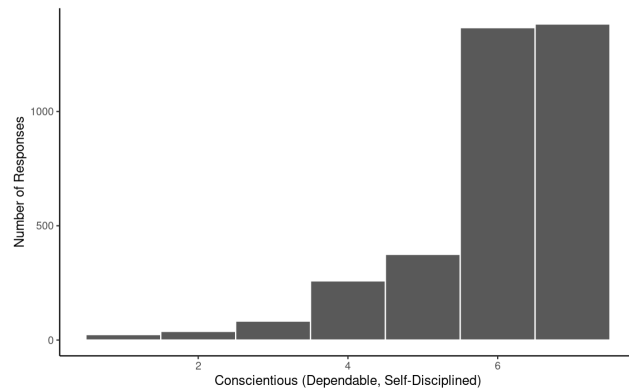
Conclusion

Our findings suggest that conscientiousness may not be as important as other personality traits, in determining a person's political ideology, at least in the context of the 2016 US presidential election.

Appendix

Figure 1

Number of response distribution of respondents describing themselves as "dependable, self-disciplined"

Note. Number of respondents = 3529.

Figure 2

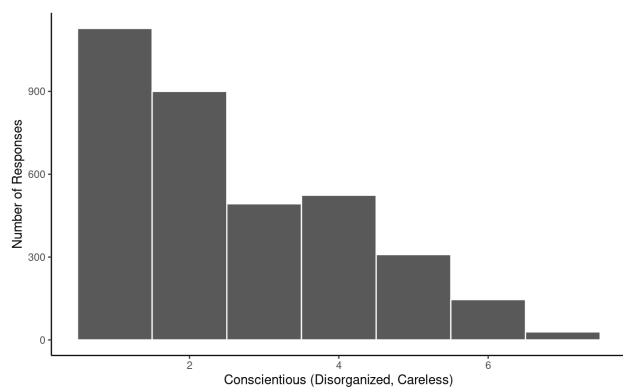*Number of response distribution of respondents describing themselves as "disorganized, careless"*

Figure 3

Number of response distribution of respondents describing themselves as "disorganized, careless" (reverse-coded)
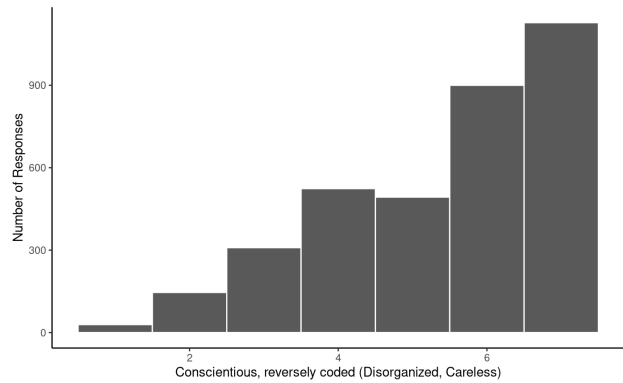

Figure 4

Average conscientiousness scores across conscientiousness items (post-transformation)
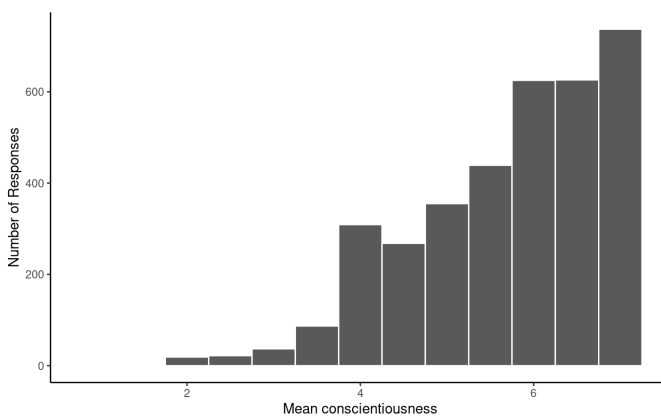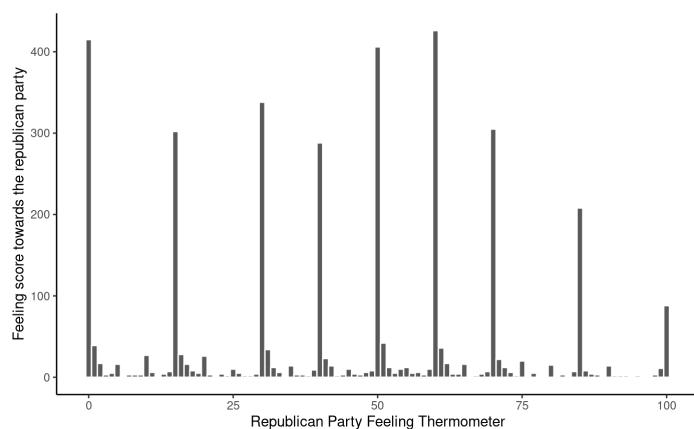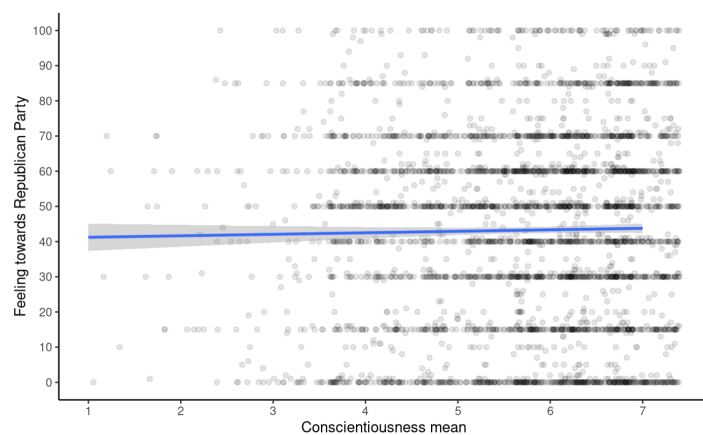

Figure 5

Number of response distribution of respondents' feelings toward the Republican Party

Note. Invalid responses were dropped; rows with values within the range [0, 100] were kept.

Figure 6

Scatterplot between conscientiousness mean and the Republican Party feeling thermometer, with regression line

References

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