

Research Article

# Personality traits in citizen expectations towards public services

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**Abstract:** Prior expectations are an important determining factor of how citizens evaluate politicians, government and public services. Typically, citizen expectations are divided into two main categories: predictive (“will”) expectations and normative (“should”) expectations. Theories of expectations say that predictive expectations are the sterile and indifferent prediction of future events, while normative expectations have a foundation in personal norms and values and express how the world should look according to the individual. Therefore, normative expectations should have antecedents more closely related to the individual’s personality than predictive expectations. However, these theoretical claims regarding the nature of the two different expectation types have not yet been tested empirically. Examining broad personality traits (Big Five) and The Maximizing Tendency trait, this exploratory study analyzes whether different personality antecedents explain the two types of expectations. Results show that the personality traits agreeableness, conscientiousness, and openness correlate positively, and extraversion negatively, with normative expectations. None of the traits correlate with predictive expectations. These results have implications for politicians’ efforts to shape citizens’ expectations, the citizen satisfaction literature, including work considering the expectation-disconfirmation model, and for further research on citizen expectations.

Keywords: Personality traits, Expectations, Citizens, Public services, Satisfaction

Supplements: [Open data](#), [Open materials](#)

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Citizen<sup>1</sup> expectations are important looking glasses that citizens use to construct their attitudes towards public services and politics. As such, they work as standards against which reality is compared by asking, does the service live up to expectations, or not? Therefore, expectations are important determinants of how the citizenry feel about governmental policies, politicians, and services, and the influence of expectations should be understood in order to understand how citizens evaluate and how public opinion unfolds (Grimmelikhuisen & Porumbescu, 2017; Van Ryzin, 2006).

However, research has to date provided little evidence about the antecedents of citizen expectations (James, 2011). Especially the differences between the antecedents of the two main types of expectations introduced by James (2011) in the public administration literature, predictive and normative, are not well known.<sup>2</sup> Predictive expectations relate to how citizens think the future will be; in contrast, normative expectations relate to how citizens think the future should be. In the literature, predictive expectations have been described as a sterile, indifferent calculation of probability with no affective dimension (Miller, 1977, p. 76). On the other hand, normative expectations are described as norms and values about how the world should look like, and as such it should be a more personal and value-based characteristic (Boulding, Kalra, Staelin, & Zeithaml, 1993; Miller, 1977; Prakash, 1984). With these rather large differences in mind, it is surprising that the differences in

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predictive and normative expectations have not yet been the subject of much research.

This research letter investigates a set of important possible antecedents of citizen expectations that, in theory, should differently affect the two types of expectations: personality traits. Personality traits have recently been mentioned as important but underutilized in explaining bureaucratic attitudes, motivation, and behavior (Hugg & LeRoux, 2019; Nørgaard, 2018). Since normative expectations in theory build on citizens' personality, norms, and values, personality traits should especially be able to explain normative expectations (Devlin, Gwynne, & Ennew, 2002; Zeithaml, Berry, & Parasuraman, 1993).

## **Antecedents of Expectations**

Important antecedents of expectations toward public services include personal experiences with the service, word-of-mouth, social referents, the media, image, and implicit and explicit service promises from politicians and other actors (Devlin et al., 2002; Hjortskov, 2020; James, 2011; LaTour & Peat, 1979; Van Ryzin, 2004; Zeithaml et al., 1993). While all the above-mentioned antecedents are thought to influence both predictive and normative expectations, personality factors such as enduring service intensifiers, a personal philosophy about services in general, and personal needs are only thought to influence normative expectations (Day, 1977, p. 173; Devlin et al., 2002, p. 124; Zeithaml et al., 1993). Here, personal needs relate to the citizens' well-being in terms of their physical, social, and psychological needs, such as being socially accepted (Zeithaml et al., 1993, pp. 7–8). It is evident that personal factors influence expectations—perhaps more the normative expectations than the predictive.<sup>3</sup>

## **Personality Traits**

Two types of personality traits are used in this study: The Big Five model of personality and Maximizing Tendency. The Big Five model of personality consists of five personality dimensions that, according to the theory, encompass most individual differences in personality (John & Srivastava, 1999). The Big Five are “stable individual differences in people’s motivational reactions to circumscribed classes of environmental stimuli” (Denissen & Penke, 2008, p. 1286).

As the definition indicates, the personality traits inherent in the Big Five are thought to be stable from very early in life (Gosling, Rentfrow, & Swann, 2003) and may even have a genetic basis (Van Gestel & Van Broeckhoven, 2003). The Big Five model has previously been used to explain many different forms of human attitudes and behavior, for example political attitudes (Gerber, Huber, Doherty, Dowling, & Ha, 2010), political participation (Gerber, Huber, Doherty, Dowling, Raso, & Ha, 2011; Ha, Kim, & Jo, 2013), job satisfaction (Hogan & Holland, 2003), and citizen engagement with local government (Hugg & LeRoux, 2019).

The five broad dimensions are extraversion, agreeableness, conscientiousness, emotional stability, and openness to new experiences (John & Srivastava, 1999; Soto & John, 2017). Extraversion describes an energetic approach to the social and material world and encompasses such traits as sociability and assertiveness. Agreeableness represents a harmonious, cooperative relationship with others and includes such traits as trust, modesty, empathy, and altruism. Conscientiousness is impulse control that facilitates task- and goal-directed behavior, for example, self-control, following norms and rules, adherence to plans, and planning and prioritizing. Emotional stability (or neuroticism) describes even-temperedness, affect regulation, and ability to handle stress. The trait is seen as the opposite of being anxious, nervous, sad, and tense. Openness (to experience) is the opposite of closed-mindedness and encompasses the need to enlarge and examine experiences, curiosity, creativity, and engagement in idea-related behaviors (John & Srivastava, 1999, p. 121).

The second personality trait, Maximizing Tendency, is described as an individual’s tendency in decision-making to seek out as much information as possible, to compare alternatives and constantly try to optimize the payoff of a choice. In difficult decision-environments with many choices, it is hypothesized that these “maximizers” often will regret their choices, because they do not feel they could do a good enough job in optimizing, and be unhappy and even depressed and dissatisfied with life because of their high standards (Cheek & Schwartz, 2016; Schwartz, Ward, Monterosso, Lyubomirsky, White, & Lehman, 2002). The concept is developed from the idea that some people do not generally satisfice (Simon, 1956), but instead seek to optimize and pursue maximization – the goal of making the best choice.

As other goals and strategies the trait can be described as a mid-level personality construct (Cheek & Schwartz, 2016, p. 136) that is more specific than the Big Five, and possibly even affected by some of the Big Five constructs (Purvis et al., 2011). Hypothetically, it could be more closely related to expectations, because maximizers tend to have too “high standards” (Cheek & Schwartz, 2016, p. 136; Schwartz et al., 2002, p. 1181), which theoretically seems directly transferable to high expectations. As described below, maximizing tendency is measured with a 6-item short scale developed by Weinhardt, Morse, Chimeli, & Fisher (2012). Questions in this scale concentrate on the tendency to have high standards (Cheek & Schwartz, 2016, p. 131) with wordings like “I never settle for second best” and “No matter what I do, I have the highest standards for myself”.

The general expectation is that personality traits will mostly affect normative expectations since these are theorized to be more deeply rooted in citizens’ values and norms, and therefore also personality. As this is an exploratory study, no directional hypotheses are offered on the correlations of the specific dimensions of the Big Five with expectations. While a few of the traits, like conscientiousness and agreeableness could be expected to lead to higher expectations, others are less obvious (e.g., emotional stability). In the case of Maximizing Tendency, it is likely that citizens who have a high maximizing tendency generally tend to view public services as something that should be maximized and held to a high standard, and therefore they might have high expectations.

## **Data**

The data were collected as a part of a larger research project carried out on Amazon’s MTurk in December 2015 (see Hjortskov (2020) for more details). A total of 1,665 responses were collected, 1,532 of which had answers to all relevant questions for this research letter. Each respondent was rewarded \$0.75. The survey included two questions, one predictive and one normative, asking about the respondent’s local government garbage and recycling services. The respondents were randomized into either one of the questions creating two comparable groups. The predictive question was: “Thinking back a few years, how would you rate your expectations back then of the overall quality of your local government’s garbage and recycling services? (possible answers ranging from “My expectations were very low” to “My expectations were very high”).”<sup>4</sup> The normative question was: “Considering the number of local taxes and other resources available for local government services, do you think that garbage and recycling services provided by your local authority should be of excellent quality... (possible answers ranging from “all of the time” to “never”).”<sup>5</sup>

Thus, the context is the public service of garbage and recycling in local government; a subject that has been used previously in satisfaction studies using national US and local European samples (Van Ryzin, 2006; James & Moseley, 2014). In a sense, this context generates a least-likely setting since expectations about garbage and recycling services should not be very personal, value-based, or emotional compared to other public services like health services, taxes, or public safety. It is also worth mentioning that recent research on citizens’ interpretations of predictive and normative expectation questions like these might result in measurement error that might be correlated with personality traits (Hjortskov, 2020). However, the study also finds a correlation between item wording and citizens’ interpretation.

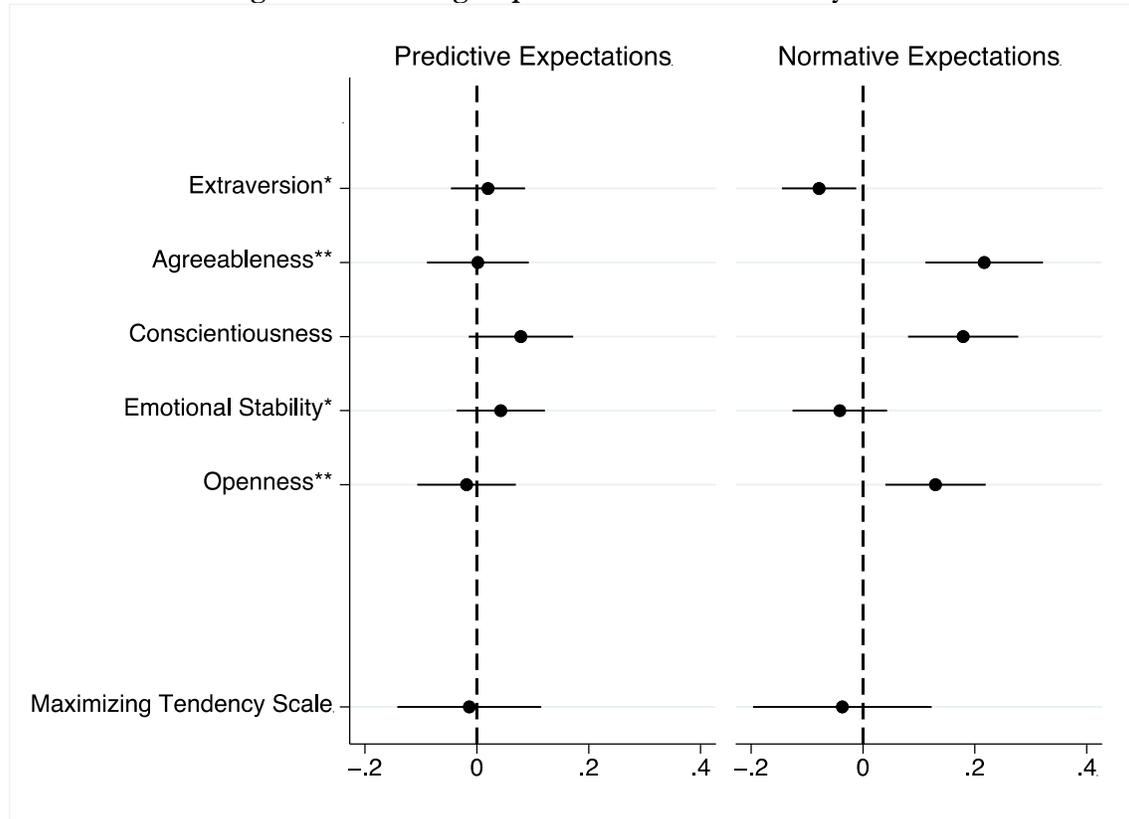
The TIPI measure (Ten-Item Personality Inventory) of the Big Five personality traits is used (Gosling et al., 2003).<sup>6</sup> Each of the five dimensions consists of the average of the two seven-point items belonging to the trait dimension, creating a 13-point scale. For example, the dimension of extraversion consists of two items: “I consider myself as: ... Extraverted, enthusiastic” and “... Reserved, quiet”. Answers are scaled from 1 = Disagree strongly to 7 = Agree strongly.

For Maximizing Tendency, a short version of the Maximizing Tendency Scale is used with standardized items (Weinhardt et al., 2012). Cronbach’s alpha for this measure is .86, and all six items load on the same dimension (eigenvalue=3.05). The scale has a maximum value of 1.72, a minimum of -2.24, and a standard deviation of .77.<sup>7</sup>

## Results

Figure 1 shows the results of regressing both predictive and normative expectations on the personality traits and a set of controls including state fixed effects (not shown, see full models in appendix B). Significant differences between the estimates across the two models are indicated with stars on the name of the personality variable (e.g., the correlation between extraversion and predictive expectations and extraversion and normative expectations is significantly different at the .05 level).

**Figure 1: Predicting Expectations with Personality Traits**



Note: OLS regressions with predictive and normative expectations as dependent variables. Robust standard errors. 95% confidence intervals indicated by spikes. Full models appear in Table B.3 in appendix B, models 2 and 5. Both models include control variables. Predictive:  $n = 763$ , Normative:  $n = 769$ . Stars indicate whether the difference between coefficients are significant between the two models: \*  $p < .05$ , \*\*  $p < .01$ . The difference is estimated in a model with the two expectations questions pooled and a set of interaction terms between an indicator of expectation type and the personality variables (see Table B.4, model 2).

It is clear from figure 1 that personality traits in general have a larger say in the normative expectations case. Conscientiousness, openness, and, unexpectedly, agreeableness correlate positively with normative expectations. Extraversion, on the other hand, unexpectedly correlates negatively with normative expectations. The coefficients are .130 for openness, .179 for conscientiousness, and .217 for agreeableness in the model (in standardized z-scores they are .109, .149 and .179 respectively). The negative correlation of extraversion is -.078 (z-score: -.087). Only conscientiousness seems to come close in having an effect on the predictive expectations. Having a maximizing tendency does not seem to affect either the predictive or the normative expectations. Conscientiousness and maximization tendency are the only factors that do not differ significantly between the

two models (see Table B.4). It is also worth noting that the explained variance (R-squared) differs quite substantially between the two models: personality factors explain almost 2% of the variance in predictive expectations and almost 10% in normative expectations (see models 1 and 4 in Table B.3).

## **Conclusion**

The main finding of this study relates to depicting statistically significant correlations between a common measure of personality (the Big Five) and normative expectations, but not predictive expectations. This is in line with the descriptions of the normative concept of expectations mentioning antecedents like personality, needs, and values. There is no correlation between the Maximizing Tendency construct and either type of expectations. The directions of some of the coefficients (agreeableness and extraversion) are surprising and conscientiousness is not significantly different between the two models, but the general takeaway is that personality correlates with normative expectations but not predictive expectations. A possible explanation for agreeableness is that agreeable people may have higher normative expectations (perhaps out of polite faith in the provider), but that the agreeableness first really kicks in when forming their satisfaction in light of their (high) expectations – they remain fairly satisfied even if their expectations are disconfirmed.

There are of course some limitations to this study. Further research should look at different service areas, operationalizations of both personality and expectations, and samples. For example, it could be a concern that taxes are only mentioned in the normative question used here and not in the predictive question, so further research should perhaps seek to align the questions better. Relatedly, the use of indexes instead of just single items when measuring expectations is also preferable in future research. Further theorizing on the concept of normative expectations is also warranted.

The implications of these results are that normative expectations may have a more personal and deeper-rooted foundation than previously assumed. This may help explain the differing results that have been obtained when using the two types of expectations in the Expectation-disconfirmation Model (see, e.g., James, 2009; Poister & Thomas, 2011; Van Ryzin, 2004, 2006). If personality is in fact built in to these “should” expectations, it seems probable that citizens will react more strongly to a disconfirmation of these. It also partly explains why researchers have a difficult time manipulating normative expectations (James, 2011).

## **Notes**

1. “Citizens” in this letter refer to all residents in a given location.
2. James (2011), however, uses the word “positive” instead of “predictive” expectations.
3. Words often used to characterize normative expectations are “personality” (Devlin et al., 2002, p.124), “personal needs,” and “personal service philosophies” (Zeithaml et al., 1993, p.7).
4. This question has been used extensively in citizen satisfaction research to measure the citizens’ predictive expectations (Van Ryzin, 2004, 2006).
5. The question was inspired by the overall normative expectations question in James (2009).
6. Only two items measure each broad personality domain in the TIPI short scale and use items at both the positive and negative poles. Therefore, alpha reliability and factor analyses are not reported (see Gosling et al. (2003) and <https://gosling.psy.utexas.edu/scales-weve-developed/ten-item-personality-measure-tipi/a-note-on-alpha-reliability-and-factor-structure-in-the-tipi/>).
7. See appendix A for an in-depth description of the TIPI, Maximizing Tendency Scale, and the political measures also included as controls along with a set of standard controls. See appendix B (Table B.1) for the pairwise correlations between the variables.

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## Appendix

### Appendix A

TIPI, Maximizing Tendency Scale and Political Variables

#### TIPI

The *Big Five personality* traits are measured through ten items (the TIPI scale (Gosling et al., 2003)). The five different dimensions in the Big Five have two items, each asked in a bipolar fashion. The item battery was introduced with the following question: “Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other”. Each item is rated on a 7-point scale ranging from 1 (Disagree strongly) to 7 (Agree strongly):

The items are as follows:

“I see myself as:

1. Extraverted, enthusiastic.
2. Critical, quarrelsome.
3. Dependable, self-disciplined.
4. Anxious, easily upset.
5. Open to new experiences, complex.
6. Reserved, quiet.
7. Sympathetic, warm.
8. Disorganized, careless.
9. Calm, emotionally stable.
10. Conventional, uncreative.”

TIPI scale scoring (“R” denotes reverse-scored items):

Extraversion: 1, 6R; Agreeableness: 2R, 7; Conscientiousness: 3, 8R; Emotional Stability: 4R, 9; Openness to Experiences: 5, 10R.

See: <http://gosling.psy.utexas.edu/scales-weve-developed/ten-item-personality-measure-tipi/ten-item-personality-inventory-tipi/>

The goal of the TIPI scale is to have a very short measure of the Big Five personality traits that optimizes validity. Gosling mentions that it was not created to obtain high alphas and good fits in confirmatory factor analyses. This is partly because the instrument tries to measure something very broad at a high level with very few items. With only two items per dimension such validity measures are less meaningful. High alphas and clean factor structures are only meaningful to the extent they reflect improved validity. Instead TIPI tries to maximize content validity (see <http://gosling.psy.utexas.edu/scales-weve-developed/ten-item-personality-measure-tipi/a-note-on-alpha-reliability-and-factor-structure-in-the-tipi/>).

#### Maximizing Tendency Scale

The *Maximizing Tendency Scale* is operationalized as a six item index following Weinhardt *et al.* (2012) with the below listed statements and options from 1 = Strongly disagree to 5 = Strongly agree. The resulting scale is standardized and has a Cronbach’s alpha value of 0.86. A principal-component factor analysis shows that only one factor has an eigenvalue above 1 (3.05).

1. I don’t like having to settle for good enough
2. I am a maximizer
3. No matter what I do, I have the highest standards for myself
4. I will wait for the best option, no matter how long it takes
5. I never settle for second best
6. I never settle

#### Political Variables

The political variables political trust, ideology and party identification are inspired by Morgeson’s use of the same items in a citizen satisfaction study (2013)

*Political trust* is measured through the question “Generally speaking, how much of the time (in percent) do you think you can trust the government in Washington?” with a percentage “slider” that is scaled from 0 to 100 percent. In the analyses in study 3 this variable is rescaled to 1 to 10.

The *ideology* variable was created from the question: “We hear a lot of talk these days about liberals and conservatives. When it comes to politics, do you usually think of yourself as...?” with options from 1 “Extremely liberal” to 7 “Extremely conservative”.

*Party identification* is constructed from the question “Generally speaking, do you usually think of yourself as a republican, a democrat or as an independent?” with options 1 “Strong Democrat”, 4 “Independent” and 7 “Strong Republican”.

Appendix B

Table B.1: Descriptive Statistics

Variable	n	Mean	SD	Min.	Max.
<b>Predictive Expectations</b>	763	4.72	1.27	1.00	7.00
<b>Normative Expectations</b>	769	5.64	1.50	1.00	7.00
<b>Maximizing Tendency</b>	1,532	3.25	.78	1	5
<b>Big Five - Extraversion</b>	1,532	3.57	1.62	1.00	7.00
<b>Big Five - Agreeableness</b>	1,532	5.28	1.23	1.00	7.00
<b>Big Five - Conscientiousness</b>	1,532	5.38	1.26	1.00	7.00
<b>Big Five - Emotional Stability</b>	1,532	4.93	1.50	1.00	7.00
<b>Big Five - Openness</b>	1,532	5.13	1.27	1.00	7.00
Gender	1,532	0.47	0.50	0.00	1.00
Age	1,532	36.05	12.03	18	115
Ideology	1,532	3.32	1.63	1.00	7.00
Political Trust	1,532	40.39	24.18	0.00	100
Party ID	1,532	3.19	1.81	1.00	7.00
<b>Household Income</b>					
under \$20,000	1,532	0.14	0.35	0	1
20,000-29,999	1,532	0.15	0.35	0	1
30,000-39,999	1,532	0.15	0.35	0	1
40,000-49,999	1,532	0.13	0.33	0	1
50,000-59,999	1,532	0.10	0.30	0	1
60,000-69,999	1,532	0.08	0.27	0	1
70,000-79,999	1,532	0.08	0.26	0	1
80,000-89,999	1,532	0.04	0.2	0	1
90,000-99,999	1,532	0.05	0.23	0	1
100,000-109,999	1,532	0.03	0.16	0	1
110,000-119,999	1,532	0.01	0.1	0	1
120,000-129,999	1,532	0.01	0.12	0	1
130,000-139,999	1,532	0.01	0.07	0	1
140,000-149,999	1,532	0.02	0.13	0	1
150,000+	1,532	0.02	0.13	0	1
<b>Education</b>					
Less than High School	1,532	0.00	0.06	0	1
High School / GED	1,532	0.12	0.32	0	1
Some College	1,532	0.25	0.44	0	1
2-year College Degree	1,532	0.12	0.33	0	1
4-year College Degree	1,532	0.39	0.49	0	1
Masters Degree	1,532	0.09	0.29	0	1
Doctoral Degree	1,532	0.01	0.08	0	1
Professional Degree (JD, MD)	1,532	0.02	0.12	0	1
<b>Race</b>					
White/Caucasian	1,532	0.79	0.41	0	1
African American	1,532	0.08	0.27	0	1
Hispanic	1,532	0.05	0.22	0	1
Asian	1,532	0.05	0.22	0	1
Native American	1,532	0.01	0.08	0	1
Pacific Islander	1,532	0.00	0.04	0	1
Other	1,532	0.02	0.15	0	1
<b>Area</b>					
Urban	1,532	0.30	0.46	0	1
Suburban	1,532	0.52	0.50	0	1
Rural	1,532	0.18	0.38	0	1

Note: The number of respondents in the predictive and normative variables is only 763 and 769 respectively, because respondents were randomized into answering either one of these questions. A few age observations are clearly not true, but only 6 observations report more than 80 years.

**Table B.2: Pairwise Correlations**

	Predictive Expectations	Normative Expectations	Maximizing Scale	Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness	Ideology	Political Trust
Predictive Expectations	1									
	763									
Normative Expectations	.	1								
	0	769								
Maximizing Scale	0.0330*	-0.0020	1							
	763	769	1532							
Extraversion	0.0619*	-0.0341*	0.2221*	1						
	763	769	1532	1532						
Agreeableness	0.0460*	0.2427*	0.0529*	0.1415*	1					
	763	769	1532	1532	1532					
Conscientiousness	0.1218*	0.1844*	0.2671*	0.1226*	0.3363*	1				
	763	769	1532	1532	1532	1532				
Emotional Stability	0.0967*	0.0629*	0.1851*	0.2248*	0.3731*	0.4289*	1			
	763	769	1532	1532	1532	1532	1532			
Openness	0.0173	0.1487*	0.1927*	0.2609*	0.2516*	0.1836*	0.2356*	1		
	763	769	1532	1532	1532	1532	1532	1532		
Ideology	0.0060	-0.0776*	0.1214*	0.0390*	-0.0549*	0.1188*	0.0697*	-0.1560*	1	
	763	769	1532	1532	1532	1532	1532	1532	1532	
Political Trust	0.0992*	-0.0374*	0.0082	0.0781*	0.0593*	0.0249*	0.0535*	-0.0327*	-0.0985*	1
	763	769	1532	1532	1532	1532	1532	1532	1532	1532
Party ID	-0.0292*	-0.0251*	0.0851*	0.0301*	-0.0323*	0.0893*	0.0535*	-0.0867*	0.7266*	-0.2000*
	763	769	1532	1532	1532	1532	1532	1532	1532	1532

Note: \*  $p < .05$ . Pearson's correlations between variables in the full dataset, i.e. both experimental groups (predictive and normative) are pooled for questions asked to all respondents (personality traits and political items). Number of respondents below correlation coefficient.

**Table B.3: Full Models**

	(1) Predictive	(2) Predictive - w. covariates	(3) Predictive - w. political	(4) Normative	(5) Normative - w. covariates	(6) Normative - w. political
Big Five - Extraversion	0.032 (0.033)	0.020 (0.034)	0.012 (0.034)	-0.073* (0.030)	-0.078* (0.034)	-0.067* (0.034)
Big Five - Agreeableness	-0.019 (0.044)	0.002 (0.046)	-0.011 (0.046)	0.255** (0.047)	0.217** (0.053)	0.203** (0.054)
Big Five - Conscientiousness	0.105* (0.047)	0.079+ (0.048)	0.085+ (0.047)	0.186** (0.048)	0.179** (0.050)	0.191** (0.050)
Big Five - Emotional stability	0.048 (0.039)	0.043 (0.040)	0.043 (0.040)	-0.070+ (0.038)	-0.041 (0.043)	-0.044 (0.043)
Big Five - Openness	-0.022 (0.042)	-0.018 (0.045)	-0.001 (0.045)	0.136** (0.041)	0.130** (0.046)	0.111* (0.047)
Maximization Tendency	-0.018 (0.064)	-0.014 (0.066)	-0.036 (0.067)	-0.103 (0.075)	-0.037 (0.081)	-0.030 (0.085)
Question Order		-0.003 (0.095)	0.001 (0.096)		-0.010 (0.109)	0.004 (0.111)
Gender		-0.033 (0.103)	-0.018 (0.103)		-0.338** (0.120)	-0.339** (0.123)
Age		-0.005 (0.004)	-0.005 (0.004)		-0.010* (0.004)	-0.010* (0.004)
<b>Education</b>						
Less than High School		-3.720** (0.500)	-3.418** (0.559)		-0.169 (0.518)	-0.189 (0.500)
High School / GED		Ref. (.)	Ref. (.)		Ref. (.)	Ref. (.)
Some College		-0.247 (0.157)	-0.215 (0.156)		0.009 (0.191)	-0.061 (0.196)
2-year College Degree		-0.310+ (0.179)	-0.302 (0.185)		0.205 (0.208)	0.139 (0.210)
4-year College Degree		-0.172 (0.151)	-0.181 (0.153)		-0.112 (0.187)	-0.169 (0.190)
Masters Degree		-0.054 (0.203)	-0.047 (0.201)		0.075 (0.253)	0.045 (0.252)
Doctoral Degree		-0.762 (0.554)	-0.867 (0.553)		-0.498 (0.842)	-0.461 (0.727)
Professional Degree (JD, MD)		-0.641 (0.452)	-0.630 (0.425)		-0.288 (0.515)	-0.468 (0.514)
<b>Race</b>						
White/Caucasian		Ref.	Ref.		Ref.	Ref.

African American	(.) -0.242 (0.161)	(.) -0.237 (0.166)	(.) 0.090 (0.210)	(.) 0.145 (0.217)
Hispanic	0.168 (0.253)	0.148 (0.249)	0.541* (0.222)	0.541* (0.213)
Asian	-0.227 (0.147)	-0.303* (0.146)	0.071 (0.275)	0.090 (0.275)
Native American	0.845* (0.414)	0.814* (0.378)	-0.018 (0.767)	0.035 (0.705)
Pacific Islander	0.465 (1.102)	0.634 (1.248)	1.504** (0.436)	1.062* (0.486)
Other	0.588 (0.418)	0.549 (0.427)	0.344+ (0.183)	0.389* (0.196)
<b>Income</b>				
Household Income	-0.019 (0.045)	-0.013 (0.047)	-0.092 (0.056)	-0.089 (0.056)
Household Income Squared	0.002 (0.003)	0.002 (0.003)	0.006 (0.004)	0.005 (0.004)
<b>Area</b>				
Urban	Ref. (.)	Ref. (.)	Ref. (.)	Ref. (.)
Suburban	-0.015 (0.108)	0.017 (0.110)	0.154 (0.130)	0.171 (0.130)
Rural	-0.285+ (0.149)	-0.255+ (0.151)	0.147 (0.170)	0.191 (0.173)
<b>State</b>				
Alabama	Ref. (.)	Ref. (.)	Ref. (.)	Ref. (.)
Alaska	1.915** (0.539)	1.842** (0.445)	-0.908 (0.552)	-1.173+ (0.666)
Arizona	-0.109 (0.385)	-0.140 (0.393)	0.126 (0.474)	0.098 (0.483)
Arkansas	0.711 (0.484)	0.572 (0.502)	0.817 (0.514)	0.805 (0.575)
California	0.294 (0.268)	0.259 (0.285)	-0.188 (0.461)	-0.216 (0.467)
Colorado	0.200 (0.526)	0.179 (0.514)	-0.083 (0.578)	-0.264 (0.586)
Connecticut	-0.858* (0.371)	-0.985* (0.387)	-0.807 (0.643)	-0.820 (0.653)
Delaware	-0.261 (0.570)	-0.246 (0.718)	-0.177 (0.499)	-0.001 (0.529)
District of Columbia	-0.585	-0.386	0.362	0.327

	(0.998)	(1.040)	(0.648)	(0.585)
Florida	-0.337	-0.453	-0.306	-0.377
	(0.270)	(0.288)	(0.458)	(0.462)
Georgia	0.291	0.260	0.153	0.137
	(0.371)	(0.383)	(0.481)	(0.487)
Hawaii	1.386**	1.429*	0.576	0.275
	(0.494)	(0.573)	(0.665)	(0.641)
Idaho	0.080	0.123	0.729	0.501
	(0.478)	(0.537)	(0.781)	(0.680)
Illinois	0.250	0.229	-0.010	-0.089
	(0.334)	(0.342)	(0.499)	(0.504)
Indiana	0.464	0.374	-0.224	-0.255
	(0.446)	(0.433)	(0.502)	(0.511)
Iowa	-0.032	-0.096	0.383	0.239
	(0.295)	(0.301)	(0.840)	(0.852)
Kansas	0.815	1.027+	-0.000	-0.057
	(0.596)	(0.610)	(0.733)	(0.734)
Kentucky	-0.217	-0.276	-0.137	-0.173
	(0.326)	(0.338)	(0.520)	(0.537)
Louisiana	-0.526	-0.617	-0.708	-0.747
	(0.399)	(0.412)	(0.648)	(0.664)
Maine	-1.067	-1.124	-0.904	-0.967
	(0.909)	(0.907)	(1.033)	(1.056)
Maryland	-0.073	-0.085	-0.427	-0.441
	(0.670)	(0.669)	(0.704)	(0.695)
Massachusetts	-0.004	-0.042	-0.308	-0.495
	(0.388)	(0.385)	(0.544)	(0.556)
Michigan	-0.111	-0.096	-0.542	-0.618
	(0.363)	(0.380)	(0.528)	(0.535)
Minnesota	0.031	0.028	-0.702	-0.859
	(0.611)	(0.690)	(0.511)	(0.533)
Mississippi	-1.363	-1.556	-0.671	-0.727
	(1.055)	(0.957)	(0.625)	(0.620)
Missouri	0.429	0.347	0.138	0.094
	(0.328)	(0.345)	(0.584)	(0.596)
Montana	0.232	-0.080	-	-
	(0.322)	(0.352)		
Nebraska	0.147	-0.023	0.112	0.015
	(0.720)	(0.768)	(0.658)	(0.630)
Nevada	0.587	0.508	0.010	-0.043
	(0.375)	(0.375)	(0.625)	(0.633)
New Hampshire	-1.377*	-1.409+	0.693	0.786
	(0.699)	(0.728)	(0.679)	(0.715)

New Jersey	-0.288 (0.385)	-0.283 (0.408)	-0.326 (0.518)	-0.312 (0.516)
New Mexico	-0.967* (0.393)	-1.050** (0.392)	-1.548+ (0.878)	-1.729* (0.860)
New York	-0.174 (0.317)	-0.189 (0.320)	-0.148 (0.480)	-0.212 (0.488)
North Carolina	-0.578 (0.366)	-0.648+ (0.376)	0.032 (0.489)	-0.001 (0.499)
North Dakota	-1.368** (0.286)	-1.246** (0.379)	1.930** (0.569)	2.138** (0.588)
Ohio	0.106 (0.337)	0.052 (0.352)	-0.524 (0.493)	-0.611 (0.492)
Oklahoma	0.056 (0.391)	0.049 (0.413)	-0.051 (0.804)	-0.169 (0.813)
Oregon	0.390 (0.338)	0.341 (0.361)	-0.123 (0.514)	-0.189 (0.511)
Pennsylvania	0.284 (0.327)	0.253 (0.341)	-0.237 (0.506)	-0.334 (0.511)
Puerto Rico	-	-	0.201 (0.500)	-0.213 (0.531)
Rhode Island	0.665+ (0.393)	0.822* (0.414)	-0.329 (0.951)	-0.331 (1.015)
South Carolina	-0.626 (0.490)	-0.528 (0.537)	-0.439 (0.885)	-0.455 (0.927)
South Dakota	-0.772* (0.307)	-1.026** (0.357)	-0.001 (0.601)	-0.220 (0.705)
Tennessee	0.019 (0.415)	-0.074 (0.428)	-0.215 (0.551)	-0.309 (0.564)
Texas	0.044 (0.320)	-0.003 (0.325)	-0.045 (0.456)	-0.121 (0.462)
Utah	0.517 (0.499)	0.517 (0.509)	-1.232 (0.839)	-1.276 (0.865)
Vermont	-1.330 (1.839)	-1.398 (1.737)	0.194 (0.553)	0.180 (0.672)
Virginia	0.138 (0.368)	0.104 (0.375)	-0.304 (0.530)	-0.383 (0.537)
Washington	-0.022 (0.315)	-0.062 (0.327)	-0.044 (0.511)	-0.084 (0.515)
West Virginia	-0.581 (1.093)	-0.696 (1.136)	-0.222 (0.582)	-0.396 (0.561)
Wisconsin	0.075 (0.325)	0.013 (0.348)	0.262 (0.674)	0.217 (0.662)
Wyoming	-0.341	-0.314	-	-

		(0.279)	(0.363)			
Political trust rescaled (0-10)			0.044*			-0.026
			(0.022)			(0.024)
<b>Party Identification</b>						
Strong Democrat			0.000			0.000
			(.)			(.)
Weak Democrat			-0.263+			-0.082
			(0.153)			(0.185)
Independent-Democrat			-0.274			0.303+
			(0.169)			(0.179)
Independent			-0.110			0.225
			(0.185)			(0.195)
Independent-Republican			-0.634*			0.271
			(0.250)			(0.303)
Weak Republican			-0.321			0.194
			(0.231)			(0.277)
Strong Republican			-0.077			0.285
			(0.333)			(0.365)
<b>Ideology</b>						
Extremely liberal			Ref.			Ref.
			(.)			(.)
Liberal			0.021			0.097
			(0.179)			(0.190)
Slightly liberal			0.177			-0.268
			(0.219)			(0.230)
Moderate			0.180			-0.369+
			(0.209)			(0.219)
Slightly conservative			0.325			-0.284
			(0.251)			(0.276)
Conservative			0.064			-0.231
			(0.264)			(0.337)
Extremely conservative			0.203			-0.304
			(0.433)			(0.414)
Constant	4.022**	4.799**	4.665**	3.202**	4.615**	4.875**
	(0.288)	(0.614)	(0.662)	(0.355)	(0.741)	(0.785)
Observations	763	763	763	769	769	769
R <sup>2</sup>	0.019	0.150	0.175	0.095	0.173	0.190

Note: +  $p < .1$ , \*  $p < .05$ , \*\*  $p < .01$ . Robust standard errors in parentheses. OLS estimates. A few variables drop out because of too few observations, especially in the state fixed effects

**Table B.4: Interaction Models**

	(1)	(2)	(3)
	Both	Both - w. covariates	Both - w. political
Predictive Question (0 = Normative)	0.820 <sup>+</sup> (0.457)	0.823 <sup>+</sup> (0.461)	0.812 <sup>+</sup> (0.461)
Big Five - Extraversion	-0.073 <sup>*</sup> (0.030)	-0.082 <sup>**</sup> (0.032)	-0.080 <sup>*</sup> (0.032)
Big Five - Agreeableness	0.255 <sup>**</sup> (0.047)	0.230 <sup>**</sup> (0.049)	0.226 <sup>**</sup> (0.050)
Big Five - Conscientiousness	0.186 <sup>**</sup> (0.048)	0.181 <sup>**</sup> (0.049)	0.182 <sup>**</sup> (0.049)
Big Five - Emotional stability	-0.070 <sup>+</sup> (0.038)	-0.059 (0.040)	-0.061 (0.040)
Big Five - Openness	0.136 <sup>**</sup> (0.041)	0.140 <sup>**</sup> (0.042)	0.131 <sup>**</sup> (0.043)
Maximization Tendency	-0.103 (0.075)	-0.058 (0.078)	-0.054 (0.080)
<b>Interaction Terms</b>			
Predictive # Extraversion	0.106 <sup>*</sup> (0.045)	0.107 <sup>*</sup> (0.045)	0.106 <sup>*</sup> (0.045)
Predictive # Agreeableness	-0.273 <sup>**</sup> (0.065)	-0.255 <sup>**</sup> (0.066)	-0.260 <sup>**</sup> (0.066)
Predictive # Conscientiousness	-0.081 (0.067)	-0.093 (0.066)	-0.091 (0.065)
Predictive # Emotional stability	0.118 <sup>*</sup> (0.055)	0.118 <sup>*</sup> (0.055)	0.125 <sup>*</sup> (0.055)
Predictive # Openness	-0.158 <sup>**</sup> (0.059)	-0.166 <sup>**</sup> (0.060)	-0.165 <sup>**</sup> (0.061)
Predictive # Maximization Tendency	0.086 (0.099)	0.053 (0.100)	0.043 (0.101)
Question Order		0.002 (0.071)	0.005 (0.071)
Gender		-0.178 <sup>*</sup> (0.079)	-0.161 <sup>*</sup> (0.081)
Age		-0.008 <sup>**</sup> (0.003)	-0.008 <sup>**</sup> (0.003)
<b>Education</b>			
Less than High School		-0.429 (0.717)	-0.412 (0.671)
High School / GED		Ref. (.)	Ref. (.)
Some College		-0.072 (0.123)	-0.082 (0.123)
2-year College Degree		-0.039 (0.133)	-0.049 (0.135)
4-year College Degree		-0.125 (0.119)	-0.155 (0.119)
Masters Degree		0.056 (0.158)	0.027 (0.157)
Doctoral Degree		-0.610 (0.462)	-0.643 (0.466)
Professional Degree (JD, MD)		-0.362 (0.322)	-0.405 (0.317)

<b>Race</b>		
White/Caucasian	Ref. (.)	Ref. (.)
African American	-0.065 (0.130)	-0.057 (0.133)
Hispanic	0.360* (0.168)	0.367* (0.167)
Asian	-0.046 (0.155)	-0.054 (0.156)
Native American	0.526 (0.388)	0.540 (0.390)
Pacific Islander	0.735 (0.719)	0.656 (0.778)
Other	0.457* (0.197)	0.460* (0.201)
<b>Income</b>		
Household Income	-0.056 (0.036)	-0.048 (0.036)
Household Income Squared	0.004 (0.003)	0.003 (0.003)
<b>Area</b>		
Urban	Ref. (.)	Ref. (.)
Suburban	0.064 (0.083)	0.076 (0.083)
Rural	-0.089 (0.112)	-0.074 (0.112)
<b>State</b>		
Alabama	Ref. (.)	Ref. (.)
Alaska	0.511 (0.755)	0.437 (0.755)
Arizona	0.012 (0.276)	-0.031 (0.279)
Arkansas	0.771* (0.345)	0.684+ (0.360)
California	0.093 (0.239)	0.046 (0.246)
Colorado	0.084 (0.366)	0.008 (0.372)
Connecticut	-0.812* (0.384)	-0.832* (0.393)
Delaware	-0.166 (0.346)	-0.166 (0.393)
District of Columbia	-0.054 (0.532)	-0.116 (0.529)
Florida	-0.307 (0.240)	-0.375 (0.248)
Georgia	0.251 (0.279)	0.204 (0.286)
Hawaii	1.068** (0.384)	0.998* (0.397)
Idaho	0.211 (0.457)	0.257 (0.448)
Illinois	0.112 (0.270)	0.028 (0.277)
Indiana	0.049 (0.308)	-0.038 (0.311)
Iowa	0.084 (0.330)	0.024 (0.332)
Kansas	0.268 (0.494)	0.250 (0.500)

Kentucky	-0.110 (0.290)	-0.168 (0.295)
Louisiana	-0.575 (0.365)	-0.646 <sup>+</sup> (0.371)
Maine	-0.883 (0.700)	-0.934 (0.720)
Maryland	-0.307 (0.480)	-0.360 (0.479)
Massachusetts	-0.066 (0.309)	-0.170 (0.318)
Michigan	-0.355 (0.304)	-0.402 (0.310)
Minnesota	-0.229 (0.409)	-0.323 (0.435)
Mississippi	-0.695 (0.495)	-0.778 (0.487)
Missouri	0.291 (0.296)	0.246 (0.302)
Montana	0.327 (0.286)	0.031 (0.308)
Nebraska	0.149 (0.470)	0.148 (0.452)
Nevada	0.282 (0.323)	0.235 (0.325)
New Hampshire	-1.095 (0.727)	-1.219 <sup>+</sup> (0.712)
New Jersey	-0.337 (0.300)	-0.388 (0.306)
New Mexico	-1.161 <sup>**</sup> (0.438)	-1.240 <sup>**</sup> (0.449)
New York	-0.174 (0.265)	-0.238 (0.270)
North Carolina	-0.258 (0.287)	-0.310 (0.295)
North Dakota	0.385 (1.260)	0.348 (1.224)
Ohio	-0.202 (0.278)	-0.257 (0.286)
Oklahoma	-0.077 (0.390)	-0.149 (0.394)
Oregon	0.159 (0.296)	0.109 (0.300)
Pennsylvania	0.022 (0.274)	-0.045 (0.281)
Puerto Rico	0.521 <sup>+</sup> (0.311)	0.257 (0.337)
Rhode Island	0.162	0.142
South Carolina	-0.429 (0.499)	-0.417 (0.518)
South Dakota	-0.159 (0.469)	-0.224 (0.457)
Tennessee	-0.074 (0.334)	-0.134 (0.344)
Texas	-0.003 (0.253)	-0.063 (0.259)
Utah	-0.394	-0.445
Vermont	-0.452 (0.898)	-0.628 (0.913)
Virginia	-0.073 (0.296)	-0.157 (0.302)
Washington	-0.016 (0.268)	-0.066 (0.275)

West Virginia		-0.290 (0.499)	-0.335 (0.496)
Wisconsin		0.072 (0.294)	-0.003 (0.302)
Wyoming		-0.578* (0.244)	-0.574* (0.286)
<hr/>			
Political trust rescaled (0-10)			0.012 (0.016)
<hr/>			
<b>Party Identification</b>			
Strong Democrat			Ref. (.)
Weak Democrat			-0.145 (0.120)
Independent-Democrat			-0.009 (0.122)
Independent			0.043 (0.135)
Independent-Republican			-0.212 (0.195)
Weak Republican			-0.109 (0.185)
Strong Republican			0.104 (0.241)
<hr/>			
<b>Ideology</b>			
Extremely liberal			Ref. (.)
Liberal			0.079 (0.128)
Slightly liberal			-0.107 (0.159)
Moderate			-0.107 (0.151)
Slightly conservative			0.023 (0.190)
Conservative			-0.138 (0.215)
Extremely conservative			0.003 (0.289)
<hr/>			
Constant	3.202** (0.355)	4.278** (0.552)	4.407** (0.584)
<hr/>			
Observations	1532	1532	1532
R <sup>2</sup>	0.155	0.208	0.214

Note: +  $p < .1$ , \*  $p < .05$ , \*\*  $p < .01$ . Robust standard errors in parentheses. OLS estimates. The predictive and normative expectation questions have been pooled into one variable. The variable Predictive Question is a dummy indicating whether the question the respondent answered was the predictive or the normative.