Personality Traits and Participation in Political Processes

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Using data from two recent surveys, we analyze the relationship between Big Five personality traits and political participation. We examine forms of participation that differ in domain (local politics vs. national campaigns) as well as in the amount of conflict involved, whether they are likely to yield instrumental benefits, and whether they are likely to be viewed as a duty—characteristics that may affect the relationships between dispositional personality traits and political activity. We find relationships between personality traits and: (1) both self-reported and actual turnout (measured using administrative records), (2) overreporting of turnout, and (3) a variety of other modes of participation. The effect of personality on political participation is often comparable to the effects of factors that are central in earlier models of turnout, such as education and income. Consistent with our theoretical expectations, these relationships vary depending on personality-relevant characteristics of each participatory act.

It is evident to almost everyone that there are different types of personalities. At the most basic level, people commonly ask: "what sort of person is she?" and find the answer illuminating. In other words, people intuitively understand what psychologists have demonstrated empirically—that an individual's behaviors and attitudes show consistency across seemingly unrelated domains (Gosling 2008). Psychologists have identified a small number of personality dimensions that reduce the complexities of personality to a handful of basic traits. These traits (the "Big Five") capture broad and enduring dispositions that shape how people respond to the stimuli they encounter in the world. Research finds that these traits predict a wide range of behavioral outcomes (Gosling 2008) and are also highly stable over time and appear to be shaped by biological (genetic) factors (e.g., Plomin et al. 1990).

In this article, we examine the relationships between political participation and the Big Five traits identified in the Five-Factor Model (FFM) of personality.[1] We note that there are many dimensions along which one could identify personality differences, and prior scholarship has considered the role of, among others, personality as measured using Right-wing Authoritarianism (e.g., Hetherington and Weiler 2009; Stenner 2005), altruism (e.g., Fowler 2006), self-esteem (e.g., Sniderman 1975), conflict avoidance (e.g., Mutz 2002; Ulbig and Funk 1999), and racial resentment (e.g., Feldman and Huddy 2005). Analysis using the Big Five complements this earlier work because the Big Five are seen in psychological theory as "core dispositional traits" that are causally prior to midlevel psychological constructs, like Right-wing Authoritarianism, that are products of both dispositional traits and the environment (e.g., McAdams and Pals 2006). An additional distinction is that, relative to other psychological constructs, the Big Five are measured with minimal references to political content, and are therefore less likely to be confounded by the political outcomes they may predict.

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We make three contributions to existing research. First, using two datasets—one from a national survey and one from a survey of Connecticut residents—that were both matched to public voter rolls, we examine the relationships between Big Five traits and validated voter turnout in general elections. While previous research has examined the relationships between a number of individual and contextual factors that predict validated turnout (e.g., Katosh and Traugott 1981), to our knowledge, this is the first study to validate the relationship between Big Five Traits and political behavior. Our results indicate that people high on Extraversion (a trait associated with assertiveness and enthusiasm) and Emotional Stability (associated with low anxiety) are more likely to vote, while those high on Conscientiousness (associated with achievement striving) are less likely to vote. The data from the Connecticut survey, which include self-reports of turnout in 2004 and 2006, also allow us to determine whether personality traits are associated with misreporting of turnout.

Second, we examine how the relationships between Big Five traits and other forms of participation compare with the relationships between these traits and turnout. The outcomes we examine include summary measures of participation in national campaigns and participation in local affairs. We also assess the relationships between personality traits and engagement in specific participatory acts that differ in the amount of interpersonal interaction and conflict they are likely to involve (e.g., Ulbig and Funk 1999), the instrumental benefits they are likely to yield (e.g., Gerber, Green, and Larimer 2008; Riker and Ordeshook 1968), and the extent to which participation is likely to be seen as a duty (e.g., Dalton 2008; Riker and Ordeshook 1968). We posit that these differences are likely to make some modes of participation particularly attractive to individuals with certain personality traits while making other modes less appealing. We find that some traits predispose people to engage in a wide array of participatory acts. However, our findings also support our expectation that the relationships between Big Five traits and political participation vary substantially across participatory acts.

Third, we assess the relative importance of personality compared to two variables traditionally at the heart of analysis of political participation, education and income (e.g., Rosenstone and Hansen 1993). We find that even after controlling for these and other demographic variables, personality variables are frequently comparable in importance to those of canonical predictors that have been the focus of numerous studies of participation. Our findings have a variety of implications, which we discuss in the conclusion.

The Five-Factor Model of Personality

In psychology a working consensus has emerged that personality traits can be measured using a Five-Factor Model (FFM). The FFM, "the most widely used and extensively researched measure of personality" (Gosling, Rentfrow, and Swann 2003, 506), emerged from analysis of natural language. Researchers have found that this trait structure is consistent across different types of samples, languages, raters (including self versus peer ratings), and methodological variations (John and Srivastava 1999, 106–109). These five traits are described by John and Srivastava (1999, 121) as follows:

> **Extraversion** implies an *energetic approach* to the social and material world and includes traits such as sociability, activity, assertiveness, and positive emotionality. **Agreeableness** contrasts a *prosocial and communal orientation* toward others with antagonism and includes traits such as altruism, tender-mindedness, trust, and modesty. **Conscientiousness** describes *socially prescribed impulse* control that facilitates task- and goal-directed behavior, such as thinking before acting, delaying gratification, following norms and rules, and planning, organizing, and prioritizing tasks. [**Emotional Stability** describes even-temperedness and] contrasts . . . with negative emotionality, such as feeling anxious, nervous, sad, and tense . . . **Openness to Experience** (versus closed-mindedness) describes the breadth, depth, originality, and complexity of an individual's *mental and experiential life* (bolded personality traits added for emphasis; italics in original).

These traits are variations in basic individual level tendencies (McCrae and Costa 1996). They are largely heritable (e.g., Bouchard 1997; Plomin et al. 1990; Van Gestel and Van Broeckhoven 2003) and are remarkably stable through life (e.g., Costa and McCrae 1992; Gosling et al. 2003). Because of this, scholars refer to Big Five traits as "core" (Asendorpf and van Aken 2003) or "dispositional" (McAdams and Pals 2006) traits. Dispositional traits are theorized to be causally prior to both (1) midlevel aspects of personality ("characteristic adaptations," McAdams and Pals 2006)—such as political ideology, Right-wing Authoritarianism, Social Dominance Orientation, and values—and (2) specific attitudes and behaviors (McCrae and Costa 1996).

Research finds that Big Five traits predict a wide range of behaviors, including job performance, school performance, juvenile delinquency, overall

health, musical tastes, dress, and a variety of other behaviors and attitudes (e.g., Gosling 2008; Ozer and Benet-Martínez 2006; Paunonen and Ashton 2001). These traits also predict a number of political outcomes. Most notably, there is a great deal of evidence that Big Five traits, particularly Openness and Conscientiousness, are associated with political ideology (for recent work in the U.S. context, see, e.g., Carney et al. 2008; Gerber et al. 2010).

Although scholars have devoted extensive attention to the relationships between Big Five personality traits and political attitudes and ideology, relatively little work has examined the relationships between these traits and political participation (see Gerber et al. 2011 for a review). Only one previous study has examined these relationships using a national sample (Mondak et al. 2010), and, in general, the findings reported in previous published work have been mixed. (These findings are summarized in Table A1 of the online appendix.). These differences may be the product of the samples used or the historical political context in which the studies were conducted (see Gerber et al. 2010). They may also stem from variation in the particular behaviors examined or how Big Five traits are measured. In the remainder of this section we review the basic contours of these findings.

The Big Five trait most consistently associated with political participation is Extraversion. In the United States, individuals scoring high on Extraversion are more likely to attend campaign events and local meetings and express their views through petitions, letters to the editor, and contact with elected officials (Mondak et al. 2010; Mondak and Halperin 2008). Similar findings emerge in non-U.S. samples (in Uruguay and Venezuela, Mondak et al. 2011; and in Italy, Vecchione and Caprara 2009). However, while previous research finds a number of statistically significant relationships between Extraversion and participation, in some cases this trait does not significantly predict participation. Most notably, none of the analyses of the relationships between Big Five traits and reported turnout find a significant relationship between Extraversion and this form of participation (Anderson 2009; Mondak et al. 2010; Mondak and Halperin 2008).

Prior research has also found a number of significant relationships between the other Big Five traits and participation, but these findings are also mixed. For example, Mondak and Halperin (2008) find a negative association between Agreeableness and reported turnout in one sample, but not in another. They also find several positive relationships between this trait and a variety of forms of local political participation (but not national campaign participation), including attending local meetings and signing petitions. No other studies find a relationship between Agreeableness and political participation. Mondak and Halperin (2008) find a positive association between Conscientiousness and attending local meetings and contacting local officials; however, in later work Mondak and his colleagues (Mondak et al. 2010) do not find a statistically significant relationship between Conscientiousness and contacting elected (not necessarily local) officials. This later study does find that Conscientiousness is negatively associated with both working for and contributing money to a party or candidate.

Mondak and Halperin (2008) also find a positive relationship between Emotional Stability and both attending rallies and working for national parties or candidates, but Mondak et al. (2010) do not. While the 2008 article does not find any relationships between Emotional Stability and other forms of local and national participation (including reported turnout), the 2010 article reports negative associations between Emotional Stability and contributing money to a political party or candidate, contacting elected officials, and reported turnout.[2] Finally, there is some evidence that Openness is positively associated with a wide variety of participatory acts, including reported turnout (Mondak et al. 2010). While these findings are not replicated in other U.S. samples, they are largely consistent with research using non-U.S. samples that finds that Openness is associated with some forms of political participation and community engagement (Vecchione and Caprara 2009; Mondak et al. 2011).

Before proceeding, we note that although Big Five traits are broadly accepted as the best way to comprehensively measure dispositional traits, they are not the only way to conceive of personality. Previous research has examined the relationships between other psychological characteristics and political participation (e.g., Blais and Labbé-St-Vincent 2011; Denny and Doyle 2008; Mussen and Wyszynski 1952). For example, there is evidence that individuals high on altruism (a specific component or "facet" of Agreeableness) are more likely to vote in the United States and

[2]Anderson (2009) also finds a negative and statistically significant association between Emotional Stability and turnout in local elections in one of the models she reports. It is important to note that Anderson includes controls that Mondak and his colleagues (and we, see below) do not. Mondak and Halperin (2008) control for gender, age, race, and education; Mondak et al. (2010) control for gender, age, and race; Anderson (2009) includes a variety of controls, such as internal efficacy and political knowledge, that are likely endogenous to Big Five personality traits (see Mondak and Halperin 2008).

Canada (Blais and Labbé-St-Vincent 2011; Fowler 2006; Fowler and Kam 2007). There is also some evidence that the conflict avoidant, as measured by a self-expressed distaste for contentious (sometimes explicitly political) discussion, are less likely to participate in politics (Blais and Labbé-St-Vincent 2011; Mutz 2002; Ulbig and Funk 1999). This research provides valuable insight into how individual-level characteristics affect participatory behavior and informs our hypotheses about the likely relationships between Big Five traits and participation, both generally and across modes of participation.

Personality and Political Participation: Theory and Hypotheses

Big Five traits shape the attractiveness of different forms of stimuli. Determining exactly what sort of stimuli political participation constitutes is therefore a necessary step in forming expectations about the relationship between personality and those activities. We begin by specifying which forms of political participation we consider in our analysis and then discuss how differences in the nature of each mode of participation may suggest variation in the relationships between Big Five traits and undertaking each type of action. We focus on three broad categories of participation: (1) voting in general elections, (2) participating in national political campaigns, and (3) participating in local community affairs and politics. Within the latter two categories we distinguish among different types of activities.

Three characteristics of these different participatory acts are likely to be relevant to the relationships between personality and participation: (1) interpersonal interaction and the accompanying potential for exposure to conflict (e.g., Ulbig and Funk 1999), (2) social and civic norms and expectations concerning behavior (e.g., Dalton 2008; Gerber et al. 2008), and (3) the weak relationship between political participation and instrumental outcomes (e.g., Riker and Ordeshook 1968). It is immediately obvious that virtually all forms of political participation involve more interpersonal interaction and potential for conflict than watching television at home; that each may be affected by social norms; and that each mode of participation is less likely to yield instrumental benefits than showing up for work. However, modes of participation also clearly vary along these three dimensions. Donating money involves little interaction with others while speaking at a local meeting necessarily involves taking a stand that others may challenge. Participation in local politics is more likely to yield direct personal benefits than participation in a national campaign. Turning out to vote is more likely to be seen as a civic duty than volunteering for a candidate (Dalton 2008).

The top portion of Table 1 displays variation along these three personality-relevant dimensions for each general mode of participation we analyze (voting, national campaign participation, and participation in local affairs): interpersonal interaction (and the accompanying possibility of conflict), norms, and instrumental outcomes. (We consider further distinctions among participatory acts in each category below.) Each ranking along those dimensions is relative. So, for example, interpersonal interaction is lowest for voting relative to participation in national campaigns or local politics. We use this description of the characteristics of different forms of participation to formulate predictions about the likely effects of Big Five traits on each mode of participation, realizing that in some cases traits are likely to have countervailing effects across the different characteristics of the mode of participation.

We begin with Extraversion. People high on this trait are assertive and sociable. As such, they are likely to be drawn to the social engagement aspects of political participation and to be eager to advocate for their preferences. Thus, in line with previous work (Mondak et al. 2010; Mondak and Halperin 2008), we expect that Extraversion will be a particularly strong predictor of participation that involves interpersonal interactions, like participating in national campaigns and local politics. Across forms of participation in campaigns, individuals low on this trait may be willing to send a check to a candidate, but may be unwilling to participate in more active, social forms of participation such as attending a meeting or rally. Previous research provides some support for this expectation. Both Mondak et al. (2010) and Mondak and Halperin (2008) find relationships between Extraversion and a variety of socially engaging forms of participation, but do not find a relationship between this trait and the relatively private act of turning out to vote.

We also expect that Agreeableness will affect political participation. Those high on this trait tend to be altruistic, modest, and sympathetic. Findings regarding the relationship between this trait and political participation have been mixed. Agreeableness is associated with nonpolitical volunteering (e.g., Bekkers 2005) and one aspect of Agreeableness—altruism—is associated with higher levels of turnout

TABLE 1 Summary of Expectations

	Vote	National Campaigns	Local Politics
Interpersonal	–	+	+
Norm	+	–	+
Instrumental Benefit	–	–	+
Extraversion	+	++	++
Agreeableness	None	–	– (+ for less conflictual activities)
Conscientiousness	None (– if instrumental benefits dominate, + if norms dominate)	None (may vary across specific activities: see text for details)	None (may vary across specific activities: see text for details)
Emotional Stability	+	++	++
Openness to Experience	None	+	+

Note: In the top half of the table, rankings are relative. + indicates participatory activity is higher on characteristic than for activities denoted with a −. In the bottom half of the table, + indicates an expected positive relationship; – indicates an expected negative relationship.

(Blais and Labbé-St-Vincent 2011; Fowler 2006). However, research also finds that conflict avoidance (another characteristic likely to be associated with Agreeableness) is associated with lower levels of political participation (Blais and Labbé-St-Vincent 2011; Mutz 2002; Ulbig and Funk 1999). For this reason, we expect the relationship between Agreeableness and participation to vary depending on the nature of the participatory act. Individuals high on Agreeableness are likely to be repelled by (and thus unlikely to participate in) forms of participation that may involve conflictual interactions (see Antonioni 1998), such as speaking at a local meeting or attending a rally. However, other forms of participation, such as voting (and perhaps some forms of local community decision making) involve less conflict. Thus, Agreeableness may be less negatively (or even positively) associated with these types of participation. Mondak and Halperin (2008) find mixed support for these predictions, reporting a number of statistically significant and positive relationships between Agreeableness and local participation, but a negative relationship between this trait and turnout in national elections.

Conscientious individuals are characterized by dutifulness, norm compliance, and achievement striving. As with Agreeableness, some aspects of political participation may be attractive to those high on this trait while other aspects may be less appealing. For example, to the extent that political participation is viewed as a civic duty, Conscientious people may be likely to participate as a way of adhering to social norms. Individuals high on this trait may therefore be more likely to fulfill a perceived obligation to vote than to engage in other forms of participation, such as attending a rally, that are unlikely to be viewed as civic duties. However, Conscientiousness is also associated with a focus on instrumental benefits—benefits that are unlikely to be garnered by voting or donating money to a national candidate. For this reason, Conscientious individuals may eschew political participation in favor of more practical activities (including perhaps participation in local politics—behavior that is more likely to lead to concrete personal payoffs than participation in national campaigns). Prior research offers some support for each of these offsetting predictions, particularly Mondak et al.'s finding that Conscientiousness is more likely to be associated with political participation when the individual perceives the campaign activity to be "important" (2010, 96–98).

Emotional Stability is associated with self-assuredness and an absence of anxiety, depression, and other negative emotionality. We expect the self-assuredness and lack of anxiety that characterize Emotional Stability to lead to greater willingness to participate in the conflictual realm of politics. As discussed above, however, previous findings regarding the relationship between this trait and political participation have been mixed (Anderson 2009; Mondak et al. 2010; Mondak and Halperin 2008).

Last, Openness is associated with curiosity and a willingness to entertain novel ideas. The most recent work to examine the relationships between the Big Five and political participation finds that Openness is associated with a variety of political activities (Mondak et al. 2010), but this stands in contrast to the earlier work that typically found no relationship

(Anderson 2009; Mondak and Halperin 2008). We expect that individuals high on Openness will be particularly drawn to participatory activities where they are likely to be exposed to a variety of ideas, such as local meetings. However, we do not have clear expectations about how this trait will be related to other forms of participation.

We summarize our expectations on a trait by trait basis in the bottom panel of Table 1. In those cases where we identify salient countervailing forces, most notably regarding the associations between Conscientiousness and political participation, we also note the ambiguity in our predictions.

Data Sources (CT Survey and CCAP)

The data for our analysis come from two surveys. The first is the 2007–2008 Cooperative Campaign Analysis Project (hereafter "CCAP": Jackman and Vavreck 2009). The CCAP is an Internet-based panel survey of 20,000 registered voters that uses a combination of sampling and matching techniques to approximate a random digit dialing sample.[3] We employ sampling weights to approximate a nationally representative sample in our analysis. Demographic measures were collected in December 2007 and measures of non-voting participation were collected in September and October of 2008. Additionally, we have a partially overlapping sample of 3,367 CCAP respondents, of whom 2,447 (73%) were successfully matched to publicly available voter rolls by the survey firm.

The second data source is a telephone survey of a random sample of approximately 1,800 Connecticut residents with listed phone numbers (hereafter "CT Survey") fielded in June 2008. To facilitate matching with Connecticut voter records, which list name and address for all registered voters, Survey Sampling Inc. drew a random sample from a residential phone directory of Connecticut households with accurate mailable addresses. In addition to a personality battery (see below) and demographic items, survey respondents were asked about their political participation. Respondents who completed the survey were then matched to the Connecticut voter file to obtain validated turnout data from 2000 to 2006 (see online appendix).

Both surveys permit us to verify participation using administrative records of actual behavior. The chief advantage of the CCAP is that it is a large sample that, after applying weights, is nationally representative of registered voters. The chief advantages of the CT Survey are that it is drawn from a telephone directory sample and, because respondents to this survey were also asked to report whether they voted in 2004 and 2006, we can examine whether Big Five traits predict the extent to which respondents misreport turnout behavior. Moreover, similar questions were asked on both and we obtain similar results (exceptions are noted), increasing our confidence in the inferences we make.

Measuring the Big Five. Our surveys use the Ten Item Personality Inventory (TIPI), developed by Gosling et al. (2003), to measure the Big Five personality dimensions. This battery is ideal in the survey context because its length and speed of administration make it feasible where longer batteries are not. The TIPI asks respondents to report how well ten pairs of traits (e.g., "extraverted, enthusiastic") describe themselves. Gosling et al. compared the performance of the 10-question battery to much longer tests and find that scores obtained from the TIPI are highly correlated with those obtained from longer instruments (2003, see Tables 6 and 9). We present a more complete discussion of the reliability, robustness, and use of the TIPI in the online appendix.

Analysis

Validated Turnout. We begin by analyzing the relationships between Big Five traits and validated turnout in both surveys. In each case we have records of turnout in the four even-year general elections from 2000 to 2006. *Validated Turnout Count* is therefore the number of these four elections in which a respondent voted that ranges from zero (voted in none of the elections) to four (voted in all four elections). We present results for this turnout index because accounting for turnout across multiple elections reduces measurement error associated with three factors: idiosyncratic reasons why one would vote in any given election, potential random error in recording of voting in any given election, and unobserved contextual factors that might affect turnout in any given election. In addition to this measure of average or typical behavior, we also report analysis for each election separately in the online appendix. (Turnout is measured slightly differently in the two datasets because the CCAP sample is restricted to cases of [self-reported] registered voters successfully matched to the voter file while the CT sample

[3]Details about the construction of all samples used in our analysis (including full question wording, coding rules, and summary statistics) and supplemental analysis appear in the online appendix.

includes unregistered individuals and therefore unmatched cases are coded as zero turnout.) Because they were not eligible to vote for the full period for which we examine turnout behavior, we exclude respondents who were not of voting age in 2000 (less than 26 years old at the time the surveys were fielded—approximately 5% of each weighted sample) from all analyses.

In our analysis of turnout, as well as our analysis of other modes of participation, we present specifications using this general equation:

$$DV = B0 + C^{*}\text{Personality} + D^{*}\text{Controls} + F^{*}\text{State Fixed Effects} + e, \quad (1)$$

where *Personality* is a vector of Big Five traits and *Controls* includes gender, race, age, and age-squared (to allow for nonlinearity in the effects of age), income (measured as a linear scale with a separate indicator for income refused), and educational attainment (measured using indicators for each education category [the excluded category is high school graduate]).[4,5] (Summary statistics are presented in the online appendix.) In CCAP analyses we also include *State Fixed Effects* (a vector of state of residence indicators) and cluster standard errors at the state level to allow for interdependence of observations in a given geographic area. The inclusion of state fixed effects ensures that our CCAP results are not generated by some correlation between personality and other factors that might affect the propensity to participate in political activities (e.g., state political culture or legal rules affecting registration).

We present the results of our ordered logit analysis of the relationships between Big Five traits and validated turnout using multielection indices in Table 2. We did not expect Openness to affect turnout and find disparate and statistically insignificant relationships across datasets. Consistent with our expectations, across the two surveys we find strong positive associations between both Extraversion and Emotional Stability and *Validated Turnout Count*. These findings support our theoretical claim that Extraverts are drawn to the interpersonal components of political participation and the more Emotionally Stable are more confident in the face of the contestation of the political realm and, thus, more willing to participate. Results on an election-by-election basis are similar, although indications of statistical significance and magnitudes of effects vary from year to year (see online appendix).

To demonstrate the relative importance of these associations, in columns (1) and (2) of Table 3 we present the estimated marginal effect of a two-standard-deviation increase in each of the Big Five traits as well as in income (a substantial increase from approximately $25,000 to $100,000 per year in each sample) and education (a shift from being a high school to a college graduate) on the likelihood of a respondent being an above-average turnout voter (voting in three or four elections in the CCAP; voting in two, three, or four elections in the CT sample) rather than a below average turnout voter.[6] Given the similarity of the *Validated Turnout Count* and the election-by-election results, these marginal effects also provide a sense of the average effect of each trait on the probability of turning out in any given election relative to staying home (see online appendix for marginal effects by election). In the CCAP and CT Surveys, respectively, a two-standard-deviation increase in Extraversion is associated with a 7.5% and 9.8% increase in the likelihood of a respondent being a high-turnout voter (relative to the baseline probabilities of 60.2% and 46.7%). A similar increase in Emotional Stability is associated with 14.1 and 8.9% increases in the likelihood of being a high-turnout voter in the CCAP and CT Surveys. These magnitudes are comparable to the estimated effects of a two-standard-deviation increase in income (18.0 and 10.9%) and education (8.7 and 9.9%)—canonical predictors of participation.

Our expectations regarding the relationship between Conscientiousness and participation were mixed. We posited that individuals high on this trait may be more likely to turn out because they see voting as a social norm to be followed. Alternately, we proposed that this trait could be associated with lower turnout due to the minimal instrumental benefits associated with voting in national elections. The negative and

[4]We cannot control for gender in our analysis of the CT survey because this variable was not recorded. We note that only about 11% of respondents in the CT survey identified as nonwhite, with fewer than 3% in any specific nonwhite racial category. For this reason, we include an indicator for "nonwhite" in our analysis of these data rather than the more detailed set of indicators we use in the CCAP analysis.

[5]We also report in the online appendix models without measures of income and education, which yield similar results, because both of those characteristics have been shown to be at least partially endogenous to personality (e.g., Borghans et al. 2008; Paunonen and Ashton 2001). We view models that include these controls as quite conservative because the indirect effects of personality on participation as mediated through income and education will be absorbed by those variables.

[6]All estimated marginal effects are for a 51-year-old white female from California, with personality traits, education, and income set to their sample means.

TABLE 2 Validated and Overreporting Turnout in General Elections

	(1) CCAP	(2) CT Survey	(3)	(4)	(5)
			CT Survey		
	General Election Turnout 2000-2006 (4 elections)		General Election Turnout 2004 and 2006 (2 elections)		
	Validated Turnout Count (0-4)		Validated Turnout Count (0-2)	Reported Turnout Count (0-2)	Overreport Turnout Count (0-2)
Extraversion (0-1)	0.390 [0.234]*	0.319 [0.152]**	0.328 [0.160]**	0.605 [0.190]***	–0.096 [0.162]
Agreeableness (0-1)	–0.471 [0.293]	0.129 [0.217]	0.292 [0.220]	–0.197 [0.270]	–0.435 [0.226]*
Conscientiousness (0-1)	–0.615 [0.366]*	–0.383 [0.232]*	–0.402 [0.239]*	0.050 [0.270]	0.327 [0.236]
Emotional Stability (0-1)	0.793 [0.261]***	0.350 [0.188]*	0.399 [0.195]**	0.437 [0.227]*	–0.225 [0.198]
Openness (0-1)	0.242 [0.272]	–0.302 [0.189]	–0.097 [0.194]	0.239 [0.235]	0.221 [0.204]
Female = 1	–0.072 [0.094]				
Black = 1	–0.202 [0.146]				
Hispanic = 1	0.231 [0.273]				
Other (Native American, Asian, Mixed, Other) = 1	0.012 [0.363]				
Nonwhite = 1		–0.380 [0.151]**	–0.334 [0.151]**	–0.136 [0.170]	0.162 [0.145]
Age (Years)	0.105 [0.026]***	0.117 [0.018]***	0.104 [0.020]***	0.128 [0.022]***	–0.020 [0.019]
$Age^2/100$	–0.063 [0.025]**	–0.075 [0.015]***	–0.066 [0.017]***	–0.076 [0.019]***	0.017 [0.016]
Income (0-1, 1=Refused)	0.934 [0.346]***	0.402 [0.203]**	0.364 [0.218]*	0.981 [0.271]***	0.151 [0.213]
Income Refused	–0.182 [0.271]	–0.157 [0.173]	–0.005 [0.191]	–0.711 [0.234]***	–0.372 [0.193]*
Educ < HS	–0.470 [0.341]	–0.920 [0.262]***	–0.826 [0.248]***	–0.978 [0.255]***	–0.058 [0.250]
Educ=some college	–0.058 [0.188]	0.103 [0.145]	0.115 [0.145]	0.275 [0.170]	0.088 [0.146]
Educ=2 year college	–0.007 [0.204]	0.084 [0.140]	0.232 [0.146]	0.487 [0.173]***	0.117 [0.149]
Educ=College	0.223 [0.198]	0.188 [0.132]	0.269 [0.139]*	0.685 [0.166]***	0.245 [0.138]*
Educ=Post Grad	0.048 [0.213]	0.389 [0.133]***	0.460 [0.136]***	0.938 [0.166]***	0.049 [0.142]
Indicators for state?	Yes	No	No	No	No
Observations	2147	1924	1909	1909	1909
F-test: Big Five	0.041	0.034	0.021	0.002	0.117
Mean	2.429	1.591	1.009	1.611	0.666

Note: See text for coding details. Ordered logit coefficients with robust standard errors (clustered by state in CCAP models) in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Two-tailed tests.

statistically significant coefficients on Conscientiousness in the models presented in columns (1) and (2) of Table 2 suggest that the latter mechanism dominates. The marginal effects are also relatively large: A two-standard-deviation increase in this trait is associated with a 9.3 and 7.9% decrease in the likelihood a respondent is a high-turnout voter in the CCAP and CT samples, respectively.

The relationship between Agreeableness and turnout is inconsistent across samples. In the national CCAP sample of registered voters, we find that more Agreeable individuals are less likely to turn out to vote. However, in the CT sample including unregistered voters, the association is slightly positive, but statistically indistinguishable from 0. While we hesitate to infer too much from these differences given the variation in electoral environments across states, it does suggest that Agreeableness may have offsetting effects. For example, people high on this trait may be more likely to register to vote but, conditional on having done so, be less likely to vote than other registered voters. This would be consistent with the notion that Agreeable individuals seek to avoid the conflictual milieu of politics, but because they are also communal and prosocial in orientation, end up engaging in the collective (and nonconfrontational) act of registering to vote (an act which increases the likelihood of voting, thereby attenuating the negative relationship between this trait and turnout).

Reported Turnout and Overreporting Turnout. The CT Survey included items asking respondents whether they voted in the 2004 and 2006 general

TABLE 3 **Marginal Effects for Table 2 Results**

Data Source:	(1) CCAP	(2) CT Survey	(3) CT Survey
Measure:	General Election Turnout 2000-2006 (4 elections)		Overreport General Election Turnout 2004 and 2006 (2 elections)
Marginal Effect for Outcome: Column in Table 2:	Turned out in 3 or 4 (out of 4) Elections (1)	Turned out in 2, 3 or 4 (out of 4) Elections (2)	Overreported Voting in 1 or 2 (out of 2) Elections (5)
Baseline Probability	60.2%	46.7%	44.4%
Extraversion	7.5%	9.8%	–3.1%
Agreeableness	–7.0%	2.9%	–10.1%
Conscientiousness	–9.3%	–7.9%	7.0%
Emotional Stability	14.1%	8.9%	–6.0%
Openness	3.8%	–7.9%	6.0%
Income	18.0%	10.9%	4.3%
Education	8.7%	9.9%	13.7%

Note: See text for details of marginal effects specifications. Table entries are proportional changes relative to baseline probability for two-standard-deviation increase in each item. For income this corresponds to a change from approximately $25,000/year to $100,000/year. For education this is a change from high school graduate to college graduate.

elections. In combination with the matched voter file records, these data allow us to assess whether personality is related to the overreporting of turnout. In columns (3) through (5) of Table 2 we examine this possibility by presenting ordered logit models for three outcomes: V*alidated Turnout Count* in both 2004 and 2006 (column 3), *Reported Turnout Count* in these two elections (column 4), and finally, *Overreport Turnout Count* in these two elections (column 5), which is the number of elections the respondent reported voting in that the voter rolls indicate she did not (we did not find any evidence that personality predicted the underreporting of turnout). Each measure ranges from 0 to 2, with average validated turnout equal to about 1 and average reported turnout about 1.6.

We begin by noting the similarity between the column (2) specification—validated turnout in the four general elections from 2000-2006—and the column (3) results—validated turnout in the two general elections in 2004 and 2006. Column (4) displays results for reported turnout. We focus, however, on the column (5) specification, which is the measure of overreporting of turnout. Here, we see several interesting associations, although only the coefficient on Agreeableness is statistically significant at conventional levels. Extraverts do not appear to misreport their turnout (the coefficient is negative but relatively small), but less Agreeable individuals are more likely to overreport voting. As the marginal effects shown in column (3) of Table 3 indicate, a two-standard-deviation increase in Agreeableness reduces the probability of overreporting turnout in one or two elections by 10.1%. The magnitude of this effect is comparable to a change in education (a variable found to be associated with overreporting turnout in previous work, Vavreck 2007) from high-school graduate to college graduate, which increases overreporting by 13.7%. The negative relationship between Agreeableness and overreporting may stem from the fact that Agreeable individuals tend to be modest and, thus, may be less inclined to represent (or remember) their behavior in an excessively favorable light.

Emotional Stability is also associated with being less likely to overreport turnout, although the coefficient is not statistically significant (p-value=.26, two-tailed test). This is consistent with the notion that Emotionally Stable people are not emotionally reactive and are therefore less likely to feel emotional urgings to provide socially acceptable responses. By contrast, Conscientiousness is positively associated with overreporting turnout, although again this coefficient falls short of statistical significance at conventional levels (p=.16, two-tailed test). This association, however, is consistent with the idea that Conscientious people are aware of social norms concerning turnout, but are unwilling to alter their real (rather than reported) behavior to achieve them. Last, we find that Openness is associated with

overreporting turnout, but the coefficient is both relatively small and not statistically significant.

Cumulatively, these findings add to the growing literature on which individual-level characteristics are most likely to incline individuals to misrepresent their political behavior (e.g., Vavreck 2007). Not all of these relationships reach conventional levels of statistical significance, but the magnitudes of the relationships are large, suggesting the value of using larger samples in future research. We note these findings suggest some caution about interpreting reported behavior measures.

Nonvoting Modes of Participation. Next we examine the relationships between Big Five traits and nonvoting forms of political participation. We begin by assessing the relationships between these traits and two summary measures of participation. The first summary measure is a (*national*) campaign *participation index*. This measure is coded slightly differently in the CCAP and CT surveys (see the online appendix for complete details). For the CCAP survey, the participatory acts were: donating to a candidate, wearing a button or sticker in support of a candidate, and attending a political rally. For each form of participation respondents were assigned a 1 if they reported that they engaged in the act "yesterday" in *either* the September or October wave of the survey. We then created an additive scale of the number of reported modes of participation (ranging from 0 to 3). (Because the scale was created based on whether a respondent did something "yesterday," we also include indicators for the day of week the respondent completed the September and October waves.) In the CT Survey, respondents were asked whether they had participated in a variety of ways in the previous two years. We focus on three measures of participation comparable to those used in the CCAP: donating to a candidate, volunteering for a candidate or party, and attending a political rally. Again, we created an additive index of the number of acts the respondent reported participating in (ranging from 0 to 3).

The second measure of participation we employ is a *local participation index*, which draws only on the CT survey, in which respondents were also asked about their participation in local politics in the past two years. Respondents were asked whether they had contacted a local official about a political matter, attended a meeting about a local issue, or spoken at a local meeting. We created an additive scale ranging from 0 to 3 based on these three measures.

Table 4 presents the results of our ordered logit analysis of the relationships between Big Five traits and each of the participation indices; marginal effects appear in Table 5. Consistent with our expectations, we find robust positive associations between Extraversion and both participation indices that are substantively large and statistically significant across specifications. In the CCAP, a two-standard-deviation increase in Extraversion is associated with a 45.3% increase in the likelihood that a respondent engaged in at least one of the three forms of campaign participation; in the CT sample this estimate is 32.8%. For the CT sample's local participation index the marginal effect is 26.5%. The magnitudes of these effects are comparable to similar increases in income (44.0, 34.5, 20.3%) and education (62.4, 41.9, 50.8%).

Also consistent with our expectations and with the findings from the turnout models, we find a uniformly positive relationship between Emotional Stability and participation (although this relationship falls short of conventional levels of statistical significance in the CT Survey models). The results also provide support for our expectation that individuals high on Openness would be drawn to the diversity of ideas encountered in interpersonal political interactions and therefore participate more frequently. Although the coefficient on this trait is not statistically significant for the *campaign participation index* outcome in the CT survey model, the sign is positive across all models and reaches conventional levels of statistical significance in the other two estimated models. The marginal effect of an increase in this trait is also relatively large, ranging from 9.4 to 29.4% across outcomes and datasets.

For the remaining two traits—Agreeableness and Conscientiousness—results differ across the two datasets (our findings regarding the relationship between Agreeableness and turnout were also inconsistent across datasets). In the CT survey we find a negative and significant or borderline statistically significant relationship between Agreeableness and both participation indices. This is consistent with our earlier hypotheses that Agreeable individuals will avoid political activities that draw them into potentially conflictual situations. We do not find this effect in the CCAP sample of registered voters for activities that took place "yesterday," however, where the estimated coefficient is near 0.

This pattern is reversed for Conscientiousness. We find positive, but not statistically significant, relationships between Conscientiousness and both forms of participation in the CT survey, but a negative and statistically significant relationship between this trait and participation in the CCAP sample. The magnitude of this effect in the CCAP sample is also relatively large—the marginal effect of a two-standard-deviation increase in Conscientiousness is to decrease the probability of reporting any participation by 20.2%. This finding is consistent with our expectation that Conscientious individuals are likely to devote their energies

TABLE 4 Nonvoting Political Participation: Indices

	(1)	(2)	(3)
	CCAP	CT Survey	
	Campaign Participation Index (0-3)	Campaign Participation Index (0-3)	Local Participation Index (0-3)
Extraversion (0-1)	1.044 [0.084]***	0.729 [0.187]***	0.804 [0.156]***
Agreeableness (0-1)	0.049 [0.233]	−0.331 [0.257]	−0.435 [0.226]*
Conscientiousness (0-1)	–0.566 [0.155]***	0.253 [0.286]	0.220 [0.243]
Emotional Stability (0-1)	0.262 [0.142]*	0.181 [0.242]	0.248 [0.192]
Openness (0-1)	0.838 [0.183]***	0.248 [0.238]	0.454 [0.195]**
Female = 1	0.063 [0.046]		
Black = 1	0.469 [0.095]***		
Hispanic = 1	0.233 [0.146]		
Other (Native American, Asian, Mixed, Other) = 1	0.178 [0.124]		
Non-White = 1		0.453 [0.160]***	0.133 [0.151]
Age (Years)	−0.015 [0.012]	0.060 [0.025]**	0.090 [0.021]***
$Age^2/100$	0.030 [0.011]***	−0.031 [0.021]	−0.074 [0.017]***
Income (0-1, 1=Refused)	0.992 [0.175]***	0.872 [0.249]***	0.699 [0.218]***
Income Refused	−0.559 [0.122]***	−0.845 [0.212]***	−0.527 [0.191]***
Educ < HS	0.211 [0.236]	−0.376 [0.358]	0.065 [0.265]
Educ=some college	0.454 [0.072]***	0.509 [0.185]***	0.378 [0.151]**
Educ=2 year college	0.319 [0.111]***	0.494 [0.187]***	0.643 [0.145]***
Educ=College	0.564 [0.081]***	0.671 [0.171]***	0.890 [0.143]***
Educ=Post Grad	0.740 [0.086]***	1.085 [0.164]***	0.903 [0.140]***
Indicators for state and day of week of surveys?	Yes	No	No
Observations	11362	1924	1924
F-test: Big Five	0.000	0.000	0.000
Mean	0.254	0.402	0.852

Note: CCAP Campaign Participation Index includes three items: donated to a candidate, wore a button, and attended a rally; CT Survey Campaign Participation Index includes three items: donated to a candidate, volunteered, and attended a rally; CT Survey Local Participation Index includes three items: contacted a local official, attended a local meeting, and spoke at a local meeting. See text for coding details. See online appendix for item question wording. Ordered logit coefficients with robust standard errors (clustered by state in CCAP models) in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. Two-tailed tests.

to activities other than participation in national politics. What accounts for the different results in the CT and CCAP samples? As before, it may simply be due to the fact that the CCAP sample is restricted to registered voters, or because the CT sample is restricted to Connecticut residents. In light of the evidence presented above about the positive relationship between Conscientiousness and overreporting turnout, however, another possibility is that in the CT sample, where respondents were asked to recollect about participation over the previous two years, Conscientious people were more likely to misreport their behavior than Conscientious respondents in the CCAP who were asked about their behavior yesterday (for which norms would seem much weaker).

Above we also discussed how the relationship between personality and participation may depend on the level of interpersonal interaction and conflict associated with various forms of participation. Using the individual participation items from the CT Survey, we report in the online appendix the relationship between personality and different forms of participation. Briefly, we find that Extraversion is consistently associated with higher levels of participation across all of the outcomes, but, as predicted, this relationship is particularly pronounced for forms of participation that involve interacting with others, such as attending a rally (also see Mondak et al. 2010). We also find support for our expectation that the negative association between Agreeableness and participation would be strongest for forms of participation that are likely to involve conflict. For example, we find that Agreeableness is unrelated to attending a local meeting, but that there is a strong negative and statistically significant relationship

TABLE 5 Marginal Effects for Table 4 Results

	(1)	(2)	(3)
Data Source:	**CCAP**	**CT Survey**	**CT Survey**
Measure:	**Campaign Participation Index (0-3)**		**Local Participation Index (0-3)**
Marginal Effect for Outcome:	**>0**		**>0**
Column in Table 4:	**(1)**	**(2)**	**(3)**
Baseline Probability	10.9%	22.5%	42.8%
Extraversion	45.3%	32.8%	26.5%
Agreeableness	1.7%	–10.7%	–10.4%
Conscientiousness	–20.2%	7.6%	4.9%
Emotional Stability	10.6%	6.7%	6.7%
Openness	29.4%	9.4%	12.7%
Income	44.0%	34.5%	20.3%
Education	62.4%	41.9%	50.8%

Note: See text for details of marginal effects specifications. Table entries are proportional changes relative to baseline probability for two-standard-deviation increase in each item. For income this corresponds to a change from approximately $25,000/year to $100,000/year. For education this is a change from high school graduate to college graduate.

between this trait and more conflictual forms of participation, such as speaking at a local meeting. These findings, which we elaborate on in the online appendix, suggest the value of theorizing about the essential characteristics of participatory acts in order to more fully understand the relations between personality and political behavior.

Discussion

The results presented here demonstrate that there are statistically significant and behaviorally important relationships between personality traits and key measures of political participation. Our analysis indicates that Extraversion and Emotional Stability are associated with higher levels of participation in a broad range of political activities. In many cases the magnitudes of these associations are comparable to those for canonical predictors of participation such as education and income. We also find that the relationships between other Big Five traits and participation vary across modes of participation. For example, although Agreeableness is associated with lower levels of participation across a variety of participatory acts, this negative relationship is most pronounced for modes of participation likely to involve conflict (e.g., speaking at a local meeting).

The results, in concert with the theoretical framework we propose, suggest that examinations of the reationships between personality traits and participation must carefully consider the essential characteristics of different modes of participation. Speaking at a local meeting, by its nature, involves social interaction and a potential for conflict, while writing a check to a political candidate does not. Beyond these differences, however, the meaning of participation may also vary across contexts (see Gerber et al. 2010). Promising evidence of this sort of contingent relationship between personality and context is provided by Mondak and his colleagues (2010), who find that Conscientious individuals are more likely to participate when they believe it is important to be involved in election campaigns.

While many of our findings are consistent with the prior literature on the associations between Big Five personality traits and political participation in the United States, others are not. For Extraversion and Openness, our findings are largely consistent with those reported by Mondak and his colleagues, although our data reveal a positive and statistically significant association between Extraversion and turnout (including validated turnout) whereas previous work does not (although the coefficient is uniformly positive). Our findings for Agreeableness and Conscientiousness are also largely consistent with prior work, as they demonstrate that, for these traits in particular, the type of participatory act matters a great deal for whether an individual participates. The findings we report about Emotional Stability are the

most inconsistent with prior work. Most notably, we find strong positive relationships between Emotional Stability and turnout (both validated and reported) and donating money to a political candidate, while Mondak et al. (2010) find negative associations. One potential source of the inconsistent findings may be the different batteries used to measure the Big Five traits, which may measure more or less specific aspects (or, "facets") of each trait. While an advantage of the battery we use is that it has been validated against more extensive batteries, analysis using batteries capable of measuring the facets of the Big Five may help to explain some of the differences between our results and previous work. The apparent inconsistencies in findings across studies and different samples may also reflect a failure to identify differences both in what various modes of participation entail and contextual factors, a promising area for subsequent work. Overall, however, there are many areas of agreement about the relationship between personality and political participation.

Our findings provide further evidence that individual-level differences in personality affect political behavior. This influence of the core, broad aspects of individuality on participation, and the robustness of personality effects on behavior in many other domains of life, suggests the value of integrating models of political behavior with models of human decision making. Politics, by this account, is just one domain in which individual-level differences shape how we behave. Models of participation would benefit from attention to sources of those differences that originate in events earlier in the "funnel of causality" than has traditionally been considered.

The associations we find between Big Five traits and political participation may also have significant consequences for the process of representation. Previous work has identified a number of important relationships between these traits and political attitudes. For example, Conscientiousness is consistently found to be associated with conservatism. We find that individuals high on this trait are also less likely to turn out to vote. Other work finds that Extraversion and Emotional Stability—traits we find are associated with higher levels of political participation—are associated with holding conservative economic policy attitudes (Gerber et al. 2010). These dynamics suggest that political participation may attract individuals with distinctive political attitudes, creating a politically engaged citizenry whose views are not representative of the broader public. More detailed analysis examining differences in two activities as measured using the CT Survey, voting and speaking at a local meeting, appears in the online appendix and allows us to compare the effects of personality on these forms of participation with their corresponding effects on attitudes as reported in prior research (Gerber et al. 2010). In particular, given that Emotional Stability is associated with holding conservative economic views and a variety of forms of political participation, our results suggest that conservative economic preferences may be overrepresented on Election Day and at local meetings.

As is the case with all research, the present study has its shortcomings. Perhaps its most significant limitation is that the outcomes we examine occurred during a fairly narrow window of time. It is possible that some unmeasured contextual variable correlated with personality and the various dependent variables produced spurious correlations. Thus, extending our work to other electoral contexts is warranted. A related difficulty is the hazard to inference posed by measurement error. We are able to address any reporting error concerns directly in our analysis of turnout by using validated measures. However, we also found suggestive relationships between Big Five traits and the likelihood of overreporting turnout. This suggests that our estimates of the associations between personality traits and other forms of participation may be somewhat biased. Additionally, regression analysis does not demonstrate a causal relationship between variables. We have elected to interpret the demonstrated link between personality and political participation as evidence that having a certain personality type has an effect on the individual's political activity. From this we posit that if a person's personality was somehow changed then, holding other factors fixed, she would behave differently. It is difficult to imagine an experimental manipulation of personality, and so of necessity we rely on statistical associations. The direction of causality is a generic concern, but in this context there is no evidence that causality flows in the opposite direction from that hypothesized.

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