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Voters' personality traits in presidential elections

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Abstract

Personality measures of more than 6000 US electors on the Big Five Factors have been collected on the Web through a Web site designed to assess their personality. By means of structural equation modeling the impact of personality factors as well as of demographic variables, such as age and sex, on voting intentions on the forthcoming US presidential elections was investigated. Personality variables accounted for 16% of variance of voting intentions, while gender and age accounted for no more than 3%. High Agreeableness and Openness were predictive of intention to vote for Kerry, while all high Energy, Conscientiousness and Emotional Stability were predictive of intention to vote for Bush. Results are consistent with previous research conducted in a different country, using a different language.

Keywords: Big Five; Personality; Politics

1. Introduction

Politics has become individualized as the political choices that people make are becoming increasingly dependent upon voters' likes and dislikes and on judgmental heuristics (Popkin, 1991). Although ideology continues to play an important role in the political choices people make

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(Bobbio, 1996; Miller & Shanks, 1996), ideological divisions appear to be less salient than they were in the past (Giddens, 1998; Ricolfi, 2002). As opposing political parties and coalitions move toward more centrist positions, the personal characteristics of voters may come to play an increasingly important role in political choice (Caprara & Zimbardo, 2004). Indeed, previous research indicates that voters' personalities, including their traits, values, and moral preferences, may account for significant portions of variance in political judgments, more than commonly studied demographic and structural variables, such as education, gender and age (see Caprara & Zimbardo, 2004, for a review).

2. Voters' personality and political orientation

There is a long tradition of studies aimed at investigating the relationship among personality and political orientation. Apart from earlier studies which adopted a psychoanalytic perspective (e.g., Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950), more recent studies adopted a more quantitative approach mainly focused on examining individual differences between left-oriented/liberal electors, and right-oriented/conservative electors, investigating traits such as endurance, impulsivity, integrative complexity, negativity, order, restraint, self-control, tolerance of ambiguity (Costantini & Craik, 1980; Di Renzo, 1974; Elms, 1976; Milbrath, 1962; Sidanius, 1985; Tetlock, 1984).

A main limitation of these earlier studies was that they were conducted in the absence of a general framework of personality traits: accordingly, research focused on multiple individual constructs without being guided by an integrated conceptual vision (Caprara, Barbaranelli, & Zimbardo, 1999). In this regard, the Five Factor Model (FFM) of personality has provided a useful framework for demarcating and assessing individual differences in personality traits. Within this framework it is especially the work of McCrae on Openness to Experience that is worth noting. In his conceptualization this trait is characterized mainly by fantasy, love for aesthetics, openness to feelings and to actions, tolerance for ideas and values. As noted by the author "within Western societies, open individuals have an affinity for liberal, progressive, left-wing political views, whereas closed individuals prefer conservative, traditional, right-wing views" (McCrae, 1996, p. 325, see also Trapnell, 1994). In his review on the social consequences of Openness McCrae reports the results of several studies that attest for an "ample evidence that political conservatism is in fact related to psychological conservatism" (McCrae, 1996, p. 325) with low sensation seeking, behavioural rigidity, social conformity, conventionality in moral reasoning, as major psychological correlates of socio-political conservatism. While openness is likely to predispose individuals toward liberal political views, Closedness, the negative pole of Openness, may be related to authoritarianism, as suggested by findings of McCrae (1996) who reports a high negative correlation of NEO-PI Openness with an Authoritarianism scale derived from the California Psychological Inventory. Similarly, support on the relation between Openness and political orientation comes also from a recent meta-analysis (Jost, Glaser, Kruglanski, & Sulloway, 2003) where the effect size (r) of this relation was estimated from .28 to .35.

There is less accord on the other Big Five dimensions; McCrae (1996) argues that one cannot "find systematic differences in Neuroticism, Extraversion, or Conscientiousness among political groups ...The case is more complex with regard to Agreeableness that ... does affect political sentiments forming a factor .. called *Tender-mindedness*" (pp. 328–329) in combination with Openness.

Gosling, Rentfrow, and Swann (2003) found that Conscientiousness was negatively associated with liberalism, and positively associated with conservatism, although both correlations were small.

Our previous studies conducted in Italy within the framework of the Five Factor Model evidenced several important associations between personality and political orientation (Caprara et al., 1999, Caprara, Barbaranelli, & Zimbardo, 2002). Distinct personality profiles were found to be associated with preferences for either of two contemporary Italian political coalitions, namely the center-left's *Ulivo*, and the center-right's *Casa delle Libertá*. In particular, center-right voters scored higher than center-left voters on Energy/extraversion and Conscientiousness, but lower on Agreeableness and Openness. These findings, while according with other research outcomes that attest to a positive relation between Openness and liberal ideologies (Jost et al., 2003; McCrae, 1996; Van Hiel, Kossowska, & Mervielde, 2000), revealed significant relations also for three other Big Five factors. The relationships between voter personality traits and preferred political coalition were found across methods (questionnaire and adjectives list) and national elections (1996, 2001) and were independent of any apparent influences of age and gender, with voters diversities in traits mirroring to a considerable extent the primary aims of the two leading coalitions (Caprara, Barbaranelli, & Vicino, 1999; Caprara et al., 2002; Caprara, Schwartz, Capanna, Vecchione, & Barbaranelli, 2006; Caprara & Vecchione, 2006).

The aim of this study is to extend what has been previously found in Italy. In this regard, the current study examines the replicability of our previous findings (a) in a different country and language (US), (b) in a different kind of election (presidential elections). In the present research we examined the association between voters' personality traits, as conceptualized with respect to the FFM, and voting intentions in the 2004 US presidential election. Based on previous research we expected personality factors to be more strongly related to political choices than demographic variables, such as age and sex. In particular, we hypothesized that high scores on Energy and Conscientiousness would be related to the intention to support Bush and that high scores on Agreeableness and Openness would be related to the intention to support Kerry. Finally, we expected Emotional Stability would not be related to political orientations, being an irrelevant personality dimension in political preferences (see Caprara et al., 1999).

3. Method

3.1. Subjects and procedure

A set of 40 personality adjectives was administered to 6,094 American voters (79% males, 21% females). The data were collected on the Web through a Web site, which contains a variety of non-political Web studies about personality and relationships. The majority of participants (61%) reached the site through a given Web log, the remaining participants learned about the site through word of mouth, other Web logs, and the primary hosting site. Mean age of the sample was 37 (SD = 12). Considering ethnicity, 88% of participants were white, 10% were of other ethnicities, and 2% did not provide this information. Thirty-nine percent of the sample indicated the intention to vote for Bush, 53% for Kerry, 8% for neither candidate. For the statistical analyses conducted in this paper, only the 93% of participants who intended to vote for Kerry or for Bush was considered, so the analyses were based on a total of 5623 participants.

3.2. Measures

3.2.1. Personality

Each participant gave self-descriptions of their own personality using a list of 40 adjectives; the list includes 25 adjectives used in earlier studies (Caprara et al., 2002) and 15 additional adjective markers of the Big Five in American psycholexical studies, all measures of the Big Five. The adjective list included eight markers each of: *Energy/Extraversion* (happy, determined, dynamic, energetic, enterprising, active, dominant, resolute); *Agreeableness* (authentic, cordial, generous, loyal, sincere, unselfish, affectionate, friendly); *Conscientiousness* (reliable, constant, efficient, responsible, scrupulous, precise, conscientious, diligent); *Emotional Stability* (level-headed, optimistic, serene, self-confident, solid, relaxed, patient, calm), and *Openness* (sharp, creative, innovative, modern, original, imaginative, informed, up-to-date). For each factor, the first five markers were those used in our earlier studies, and the last three were those derived from the American psycholexical studies. These adjectives correspond to the most frequently used descriptors of human personality and are the most representative of each of the Big Five in the Italian lexicon (Caprara & Perugini, 1994). They overlap considerably with markers used in other languages (Ashton, Lee, & Goldberg, 2004; Peabody & DeRaad, 2002). The 40 five-factor model marker adjectives were presented in a random order for each participant. Each adjective was rated on how characteristic it was for describing one's own personality on a five-point scale (from 1 = "Not at all", to 5 = "very much").

3.2.2. Political orientation

We obtained a "proxy" variable of political orientation by asking participants which candidate they intended to vote for in the next presidential election (Bush, Kerry, neither).

3.3. Statistical analyses

We first conducted a series of exploratory and confirmatory factor analyses aimed at ascertaining the dimensionality of the set of used adjectives. This analysis seemed necessary due to the use of a new language (English), and a new procedure for administering the items (Web based questionnaire). Then, the differential impact of personality factors and demographic characteristics (gender and age) on political orientation was examined within the Structural Equation Modeling framework (SEM, see Bollen, 1989), using political orientation as a dichotomous dependent variable (vote for Bush vs. vote for Kerry), and personality factors (gender and age) as predictors. In these analyses, gender and age were taken into account because of their expected relationship with political orientation, and also with personality (e.g. Box-Steffensmeier, De Boef, & Lin, 2004; Franklin, 1992; Kaufmann & Petrocik, 1999).

3.4. Results

3.4.1. Exploratory factor analyses

A series of Exploratory Factor Analyses was performed to ascertain that the expected 5-factor solution actually emerged. These analyses were conducted using robust maximum likelihood estimation procedures from the MPLUS exploratory factor analysis program (MLMV, Muthén &

Muthén, 1998). This method gives stable results also in presence of violation of normality and gives two important fit indices that were used to evaluate the goodness of fit of the different solutions.

Among all solutions, the 5-factor solution best balanced good fit with parsimony. In fact, the big improvement in the model's fit was when passing from a 4-factor to a 5-factor solution, while the fit slightly improved when considering the solutions from 6 to 10 factors. The five factor solution substantially replicated the five hypothesized factors. However, some of the adjectives presented their higher loading on a factor other than the predicted one. In order to obtain a more refined and clear-cut solution, the more *factorially* valid adjectives for each one of the factors were selected. In particular, we selected those adjectives who showed a *loading higher* than |.40| on the intended factor, but also a ratio higher than 2 among the primary loading and the highest secondary loading (i.e., the primary loading was two times the highest secondary loading).

The final 25 adjectives based solution showed a significant chi-square of 2771 with 185 degrees of freedom, a fairly low RMSEA of .05, and very low SRMR of .03. The RMSEA offers a means to evaluate a model in a manner that is less influenced by sample size than the more commonly used chi-square index (Steiger, 1990; see also Browne & Cudek, 1993). Values of the RMSEA lower than .05 reflects an acceptable error of approximation. The SRMR is an absolute index of the discrepancy between reproduced and observed correlations. Hu and Bentler (1998, 1999) suggest a cut-off criterion of .08, with higher values indicating poorer fit to the empirical data, and values lower than .05 indicating an excellent fit. The five factors explained about 41% of the 25 adjectives' total variance. After a Promax oblique rotation factor 1 was loaded by Energy/Extraversion adjectives and explained 8.48% of variance; factor 2 was loaded by Openness adjectives and explained 6.70% of variance; factor 3 was loaded by Emotional Stability adjectives and explained 9.1% of variance; factor 4 was loaded by Conscientiousness adjectives and explained 9.60% of variance; factor 5 was loaded by Agreeableness adjectives and explained 7.3% of variance. The five factors were moderately correlated, with an average correlation of .25 (SD = .12). Among the final 25 adjectives, 13 came from the 25 used in our previous studies, and 12 came from the 15 additional markers from the American psycholexical studies.

All adjectives in the factor patterns showed a *primary* loading higher than about .40, with no *secondary* loading higher than .25, with only two exceptions regarding the primary loading of the Openness adjective "Innovative", being .39, and the secondary loading of the Emotional Stability adjective "Level-headed", being .33. We decided to include also those marginally good markers since none of the excluded ones was better, and since we wanted at least 5 items per factor in order to have a more reliable factor score. The internal validity of the factors identified in the previous analysis was further investigated by correlating factor scores derived from the exploratory factor analyses and theoretical "a priori" scores derived by the sum of the 5 adjectives defining each Big Five. This procedure has been developed by Cattell and Tsujioka (1964), who defined the resulting set of coefficients "scale validity" coefficients. The hypothesized five-factors matched almost totally with the empirical factors derived from the Exploratory Factor Analysis, being the scale validity coefficients equal to: .97 for Energy, Agreeableness, and Conscientiousness, .98 for Emotional Stability, and .95 for Openness.

The internal consistency of the solution was corroborated by factor scores determinacy coefficients (see Muthén & Muthén, 1998) that give a measure of factor internal consistency (or factor reliability): Coefficients of .70 or better are indicators of stable factors (Tabachnick & Fidell,

1989). In our study these coefficients were .91 for Energy/Extraversion, .89 for Agreeableness, .91 for Conscientiousness, .92 for Emotional Stability and .85 for Openness. Cronbach's alpha coefficients were lower but still adequate being .76 for Energy/Extraversion, .71 for Agreeableness, .78 for Conscientiousness, .78 for Emotional Stability and .65 for Openness.

3.5. Impact of personality and demographic variables on voting intentions

With the aim of estimating the differential impact of personality factors and socio-demographic variables, a series of structural equation models was conducted considering which candidate the person intended to vote for as the main dependent variable. In a first model (henceforth referred to as the *complete* model) the five personality factors, gender, and age were considered as predictors of voting intentions (0 = Bush, 1 = Kerry). In a second model (henceforth the *personality* model) only personality factors were considered as predictors of voting intentions. A final model (henceforth the *demographic* model) considered only gender and age as predictors of voting intentions.

In these analyses the EFA solution presented previously was used as a basis for defining the five personality factors. In particular, the measurement part of the structural model was defined using the so called "unrestricted factor analysis" approach developed by Jöreskog (1979). In this approach the variances of the latent factors are fixed to 1 and the factor covariances are freely estimated. Moreover, for each factor, a *marker* variable is chosen that one expects to have the highest loading on that factor. The loading of that marker variable on the target factor is freely estimated and its loading on all the remaining factors are set to zero. Finally, all the remaining loadings are freely estimated. In the structural part of the model, effects of the personality factors and of the demographic variables on the voting intentions were specified. The main advantage of using the structural equation modeling framework is that personality traits are directly modeled as reliable latent factors in the structural model relating personality to voting intention, while measurement error is confined in the measurement model linking each observed variable to the latent factors. Since the dependent variable was dichotomous, adequate parameters estimates were derived using the WLSMV estimators of the MPLUS program (Muthén, 1978).

Table 1 summarizes the results of the three models. In the *complete* model, the seven variables considered explained about 18% of variance of voting intentions. All independent variables exerted a significant influence on voting intentions. However, the impact of the five personality latent variables seemed to be much higher than the impact of the two observed demographic variables. The next two models helped in clarifying the differential impact of the two sets of variables considered. In the *personality* model, the percentage of variance explained by the independent variables decreased marginally to 16% when age and gender were taken out of the array of predictors. In the *demographic* model the decrease in percentage of explained variance was dramatic, since gender and age accounted only for 3% of voting intentions. One may question whether the results obtained with the structural models would be obtained using the more traditional approach of logistic regression analysis. To this aim we compared the results obtained from logistic regressions with those of the structural models reported in Table 1. The results showed that demographic variables explain for no more than the 3% of voting intentions variance, no matter for the method of analysis used. In fact, gender and age are measured with minimal measurement error, so they do not benefit from SEM as personality variables do. On the other hand,

Table 1
Parameter estimates and fit indexes for the structural equation models predicting voting intentions (1 = Kerry, 0 = Bush)

Variables	Complete	Personality	Demographic
Energy	−.48 (.047)	−.49 (.049)	–
Agreeableness	.59 (.066)	.70 (.069)	–
Conscientiousness	−.24 (.037)	−.26 (.037)	–
Emotional Stability	−.22 (.042)	−.27 (.044)	–
Openness	.61 (.062)	.57 (.063)	–
Gender (1 = male, 0 = female)	−.11 (.017)	–	−.09 (.017)
Age	−.10 (.017)	–	−.16 (.016)
R^2	.18	.16	.03
χ^2(df)	3685 (242)	4048 (247)	4318 (250)
RMSEA	.050	.052	.054
CFI	.90	.89	.88
SRMR	.030	.032	.037

Note. All parameters come from the unstandardized solution. Standard errors are within parentheses. All coefficients are statistically significant ($p < .05$ or below).

using a methodology that acknowledges the fact that personality measures are fallible dramatically increase the percentage of variance explained by personality, that goes from 7% to 16%.

Considering parameter estimates, Agreeableness and Openness showed a positive impact on voting intentions, while all Energy, Conscientiousness, Emotional Stability, gender and age showed a negative impact. Participants who showed a higher probability to vote for Kerry were high in Agreeableness and Openness, low in Energy, Conscientiousness, Emotional Stability, were female and younger. Similarly, participants who showed a higher probability to vote for Bush were low in Agreeableness and Openness, high in Energy, Conscientiousness, Emotional Stability, were male and older.

4. Discussion

Across a large, diverse sample of American voters, distinct personality profiles were predicted and found to be associated with preferences for either of two presidential candidates. Higher scores on Energy and Conscientiousness and lower scores on Agreeableness and Openness were associated with the intention to endorse the platform of a Republican candidate. Exactly the opposite personality profile characterized those citizens who preferred the Democratic candidate. Emotional Stability played a marginal role in political preference, as we had expected given its irrelevance to any aspect of the ideology, leadership style, or party platforms. The relationships between personality traits and voting intentions were independent of any apparent influences of age and gender, when they were introduced as predictors in the structural equation modeling.

These results corroborate previous research based on different subjects, times, and languages. Pro-Bush voters and pro-Kerry voters showed the same pattern of personality traits we found among center-right and center left Italian electors, namely among electors of center-right pro

Berlusconi's coalition and center-left pro-Prodi's coalition. This is noteworthy if one considers the diversities of the two cultural and political systems.

Although the assessment instrument was a mix of translated Italian personality descriptors and adjectives from the American psycholexical studies, the resulting factor solution further attests to the generalizability of the Big Five factors. Although Italian center-right electors cannot be directly matched to US electors pro-Bush, as Italian center-left electors cannot be directly matched to US electors pro-Kerry, similar differences between the former and the latter corroborate the reasoning set in premise and our expectations.

A feature of this study that represents a novel contribution in comparison to our previous ones is the use of structural equation modeling: especially the use of reliable latent variables strengthens the validity of our results by reducing the unexplained variance due to measurement error, and almost doubling the percentage of variance explained by personality variables. In fact, the more traditional logistic regression analysis does not control for the effect due to the unreliability of personality scores on parameters estimates and explained variance. It is well known (e.g., Pedhazur, 1997) that one assumption of regression is that predictors be perfectly reliable (i.e., they must be measured without error). It is also well known that measures of psychological constructs are far from being perfectly reliable. A better estimate of "true" reliable scores is obtainable from Structural Modeling. When in our models reliable latent variable scores were directly modeled as predictors of voting intentions within the framework of Structural Equation Modeling, the percentage of voting intention variance explained by personality almost doubled in comparison to what is found when using the usual logistic regression.

A limitation of this study may derive from the relative paucity of the demographic variables considered: in fact only gender, ethnicity and age were recorded for each participant, but only gender and age resulted in enough variability to be included in the models as predictors of voting intentions. Other variables, such as income, location (rural vs. urban), education, religiosity and ideology, would probably have increased the percentage of variance explained by demographics. Although these variables are barely correlated with the Big Five personality factors, one can't say whether their inclusion would not decrease the percentage of variance explained by personality; surely, it would certainly increase the *total* percentage of variance explained by the model. Moreover, a comparison with actual voter demographics confirm that our sample is not representative in terms of coverage of the population. In the presidential election of 2004, for example, 46% of American voters were males (vs. 79% of the participants to the current study), 66% were 40 or older (vs. 60%), and 77% were White (vs. 88%).[1] However, as demonstrated by previous research, when data was collected through the Web, controlling for standard demographic variables gives similar results to those obtained using representative samples (see Berrens, Bohara, Jenkins-Smith, Silva, & Weimer, 2003).

Our research is based on a relatively simple model in which voter personality traits and political preferences are correlated. One can only guess the extent to which personality traits may orient towards political choices or the extent to which political ideologies and programs and leaders' personality may shape personalities of followers. In reality we are aware that multi-causal, feedback

[1] Data were from the 2004 National Election Pool.

models are needed to begin to capture the dynamic interaction among the key variables and catalytic processes operating in the contemporary political arena of democratic countries. Future researchers can add knowledge of these complex transactions by taking into account how voters' sense of identity and concerns for presenting a desirable image operate in concert to motivate their political preferences while being affected in turn by them.

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