



Is the Personal Always Political?

Education and Political Knowledge Strengthen the Relationship Between Openness and Conservatism

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Abstract: Research demonstrates that the negative relationship between Openness to Experience and conservatism is heightened among the informed. We extend this literature using national survey data (Study 1; $N = 13,203$) and data from students (Study 2; $N = 311$). As predicted, education – a correlate of political sophistication – strengthened the negative relationship between Openness and conservatism (Study 1). Study 2 employed a knowledge-based measure of political sophistication to show that the Openness \times Political Sophistication interaction was restricted to the Openness aspect of Openness. These studies demonstrate that knowledge helps people align their ideology with their personality, but that the Openness \times Political Sophistication interaction is specific to one aspect of Openness – nuances that are overlooked in the literature.

Keywords: openness, ideology, political sophistication, aspects, Big-Five, conservatism

Scholars have long-positied that political views reflect people's personalities. Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) theorized that childhood socialization and resultant personalities affected people's susceptibility to right-wing propaganda. Subsequent research demonstrates that conservatism positively correlates with lower-level traits including threat sensitivity (Oxley et al., 2008), uncertainty avoidance (Jost et al., 2007), and need for closure (Kemmelmeyer, 1997). Thus, political allegiances offer windows into our underlying personality.

The Big-Five

McCrae and Costa (1987) note that the covariation between the context-specific traits described above can be explained by five dimensions of personality: Openness to Experience (i.e., preference for novelty/change), Conscientiousness (i.e., self-discipline and preference for order), Extraversion (i.e., level of sociability), Agreeableness (i.e., readiness to cooperate with others), and Neuroticism (i.e., level of emotional instability). Notably, the Big-Five is hierarchically organized (DeYoung, Quilty, & Peterson, 2007), emerges across cultures (McCrae & Costa, 1997),

and predicts socially-relevant outcomes (Gosling, Rentfrow, & Swann, 2003).

The Big-Five's Openness is a particularly relevant correlate of ideology. To these ends, Jost (2006) argues that conservatism consists of core and peripheral features. Whereas peripheral features (e.g., specific issues) change over time, core features are essential to what it means to be conservative. Accordingly, Jost notes that acceptance of inequality and support for the status quo are the two core/defining features of conservatism. Because preference for novelty is incompatible with supporting the status quo, Openness should negatively correlate with conservatism.

Consistent with this intuition, Openness is the strongest correlate of political attitudes among the Big-Five (Sibley, Osborne, & Duckitt, 2012). Osborne and Sibley (2015) showed that Openness was the *only* Big-Five trait consistently (negatively) associated with various conservative issues including opposition to same-sex marriage and affirmative action, as well as support for corporal punishment. Others show that Openness is negatively associated with ideological conservatism (Gosling et al., 2003; Osborne & Sibley, 2012). Indeed, Sibley and colleagues'

(2012) meta-analysis found that the average relationship between Openness and ideology was (at least) nearly twice as big as the corresponding relationships between the remaining Big-Five traits and conservatism.

Political Sophistication

Though some traits resonate with political beliefs better than others, people's limited knowledge of politics – an understanding that should help one identify policies that best-meet her/his needs – has long-been known. Converse (1964) estimates that under 4% of the public conceptualizes politics in ideological terms and that nearly 40% cannot articulate meaningful differences between conservatives and liberals. Subsequent research demonstrates that the public's knowledgebase remains low (Bennett, 1996; Delli Carpini & Keeter, 1996; Galston, 2001; but see Popkin, 1994). This limited political awareness begs the question: How do people identify ideologies that resonate with their personality?

Recent studies show that the relationship between personality and conservatism is more complicated than first assumed. Specifically, political knowledge (Osborne & Sibley, 2012) and/or interest (Leone, Chirumbolo, & Desimoni, 2012) helps people identify policies that best-suit their needs. Osborne and Sibley (2015) showed that the negative relationship between Openness and conservative policy support was stronger for those high (vs. low) on political sophistication. These findings concur with Mutz (1993), who showed that political knowledge helped people connect their unemployment experiences with US presidential approval ratings.

Research Overview

We extend this tradition by assessing under-examined boundary conditions of the relationship between Openness and conservatism (Studies 1 and 2) and by taking an aspect-level (i.e., mid-level personality structures that constitute the Big-Five) approach toward this relationship (Study 2). Specifically, Study 1 examines the moderating effect of education on the Openness-conservatism association in a national sample of New Zealand adults. Study 2 extends these findings by assessing the specific aspects of Openness associated with ideology and by using a knowledge-based measure of political sophistication to examine the boundary conditions of this predicted relationship. As such, we present one of the most comprehensive assessments of

the limits to the Openness-conservatism association to date and are the first to demonstrate the generalizability of these findings across distinct measures of informedness, personality, and ideology.

Study 1

Study 1 assessed the relationship between Openness and conservatism in a national sample of adults. Because support for the status quo is a core feature of conservatism (Jost, 2006), Openness (i.e., a trait that captures interest in novelty/change; DeYoung et al., 2007; McCrae & Costa, 1987) should negatively correlate with conservatism. Education – a strong correlate of political sophistication (Bennett, 1996; Delli Carpini & Keeter, 1996) – should, however, help people identify policies that suit their personality. Indeed, education is a key facilitator of democratic competence (Dee, 2004; Nie, Junn, & Stehlik-Barry, 1996) and, as such, should provide voters with the information needed to ensure that their political stances satisfy their personality-based needs. Thus, we aim to identify an often-overlooked moderator of the relationship between Openness and conservatism.

Method

Participants

Data come from the New Zealand edition of Vote Compass – a nationwide online voting advice application that informs potential voters about where they stand on issues vis-à-vis parties seeking office (see Lees-Marshment et al., 2015). Participants who completed a preelection survey and noted they were willing to participate in a future study were invited to complete a postelection survey. Of the 15,211 who responded, 13,203¹ (86.8% of the sample) – a slight majority of whom were women ($N = 6,980$; 52.9%) – provided partial or complete responses to our variables of interest and were included in this study ($M_{\text{age}} = 49.85$, $SD = 16.87$). These participants identified as New Zealand European ($N = 11,135$; 84.3%), Asian ($N = 259$; 2.0%), Māori ($N = 580$; 4.4%), or Pacific Islander ($N = 114$; 0.9%). The remaining participants identified with another ethnicity ($N = 1,115$; 8.3%).

Measures

The Big-Five was assessed using Gosling and colleagues' (2003) Ten-Item Personality Inventory (TIPI). Each item

¹ Participants born before 1900 or after 1996 were excluded from this study over concerns about the validity of their response and informed consent, respectively. An additional 155 participants failed to indicate their highest level of education and were excluded from the study, given that education was a focal variable in our analyses. Inclusion of these participants does not, however, substantively alter our results.

Table 1. Descriptive statistics and bivariate correlations (Study 1). Values above the diagonal are Spearman, whereas those below the diagonal are Pearson, correlation coefficients

	1	2	3	4	5	6	7	8	9	10
1. Sex ^a	–	.025**	–.111***	.033***	–.149***	.062***	.073***	.109***	.191***	.095***
2. Minority ^b	.025**	–	–.124***	.020*	–.063***	.074***	–.019*	.041***	–.047***	–.018*
3. Age	–.109***	–.120***	–	–.120***	.200***	–.036***	.187***	–.013	.189***	–.143***
4. Education ^c	.028**	.019*	–.102***	–	–.213***	.112***	–.016 ⁺	.001	–.021*	.003
5. Conservatism	–.146***	–.064***	.201***	–.209***	–	–.166***	.143***	.041***	–.008	–.137***
6. Openness	.059***	.074***	–.037***	.111***	–.161***	–	.113***	.285***	.123***	–.153***
7. Conscientiousness	.069***	–.020*	.189***	–.012	.144***	.096***	–	.085***	.256***	–.349***
8. Extraversion	.108***	.042***	–.011	–.001	.039***	.291***	.075***	–	.030**	–.131***
9. Agreeableness	.194***	–.045***	.194***	–.022*	–.010	.119***	.245***	.033***	–	–.286***
10. Neuroticism	.099***	–.015 ⁺	–.161***	.000	–.139***	–.146***	–.342***	–.131***	–.276***	–
\bar{x}	.471	.157	.375	.478	.494	.708	.797	.524	.686	.281
SD	.499	.363	.198	.244	.272	.181	.184	.252	.189	.208
α	–	–	–	–	–	.412	.551	.708	.320	.604

Notes. ^aSex (0 = Man, 1 = Woman) and ^bminority (0 = No, 1 = Yes) were dummy-coded. ^cEducation ranged from 0 (No formal education) to 1 (Doctorate). ⁺ $p \leq .10$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$. All p -values are based on two-tailed tests. $N = 13,203$.

had participants indicate their agreement with a self-directed statement using a 1 (= *disagree strongly*) to 7 (= *agree strongly*) scale. Openness items included “Open to new experiences, complex” and “Conventional, uncreative” (reverse-coded; $\alpha = .411$). Conscientiousness items included “Dependable, self-disciplined” and “Disorganized, careless” (reverse-coded; $\alpha = .550$). Extraversion items included “Extroverted, enthusiastic” and “Reserved, quiet” (reverse-coded; $\alpha = .708$). Agreeableness items included “Sympathetic, warm” and “Critical, quarrelsome” (reverse-coded; $\alpha = .321$). Neuroticism items included “Anxious, easily upset” and “Calm, emotionally stable” (reverse-coded; $\alpha = .603$).

Education was assessed by asking participants to report their highest level of education. The ranked options (from lowest to highest) included the following:

- No formal education.
- 6th Form or school certificate.
- Secondary school or equivalent.
- Polytechnic/institute/wānanga degree.
- Bachelor’s degree.
- Postgraduate or honours degree.
- Master’s degree.
- Doctorate.

Notably, the ranked ordering of these levels of educational attainment corresponds with the rankings used by New Zealand’s Ministry of Education (2014).

Conservatism was assessed using a 0 (left-wing) to 10 (right-wing) scale.

Covariates included age (open-ended), sex (male vs. female), and ethnicity (open-ended). Ethnicity was dummy-coded (minority vs. majority).

Results and Discussion

Table 1 displays descriptive statistics and bivariate correlations for the variables in this study. To put items on a common metric, responses were recoded to range from 0 to 1. Because being politically-informed should facilitate people’s ability to identify policies that best-suit their personality, we predicted that education – a correlate of political knowledge (Bennett, 1996; Delli Carpini & Keeter, 1996) – would moderate the relationship between Openness and conservatism. Accordingly, we entered our mean-centered and dummy-coded predictor variables, as well as our mean-centered predictor (i.e., Openness), into the first block of our regression. The second block added our predicted Openness \times Education interaction, as well as four 2-way interactions between each remaining Big-Five dimension and education as controls. Conservatism was then regressed onto our full model using a maximum likelihood (ML) estimation procedure.

Model 1 shows that women ($B = -0.061$, $SE = .005$, $p < .001$; $r^2_{\text{semi}} = .011$) and minorities ($B = -0.025$, $SE = .006$, $p < .001$; $r^2_{\text{semi}} = .001$) were less conservative than men and majority group members, respectively (see Table 2). Conversely, age was positively associated with conservatism ($B = 0.187$, $SE = .012$, $p < .001$; $r^2_{\text{semi}} = .017$). Moreover, Conscientiousness ($B = 0.167$, $SE = .013$, $p < .001$; $r^2_{\text{semi}} = .011$) and Extraversion ($B = 0.091$, $SE = .009$, $p < .001$; $r^2_{\text{semi}} = .006$) were positively, whereas Agreeableness ($B = -0.083$, $SE = .013$, $p < .001$; $r^2_{\text{semi}} = .003$) and Neuroticism ($B = -0.127$, $SE = .012$, $p < .001$; $r^2_{\text{semi}} = .007$) were negatively, associated with conservatism. Nevertheless, Openness ($B = -0.255$, $SE = .013$, $p < .001$; $r^2_{\text{semi}} = .026$)

Table 2. Multiple regression analyses predicting conservatism as a function of the Big-Five, education, and Openness \times Education

	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	β	r_{semi}	<i>B</i>	<i>SE</i>	β	r_{semi}
Constant	0.527	.003	–		0.527	.003	–	
Sex	–0.061	.005	–.112***	–.106	–0.061	.005	–.112***	–.106
Minority	–0.025	.006	–.034***	–.034	–0.025	.006	–.034***	–.033
Age	0.187	.012	.137***	.129	0.187	.012	.137***	.129
Education	–0.191	.009	–.171***	–.170	–0.191	.009	–.172***	–.170
Big-Five								
Openness	–0.255	.013	–.171***	–.160	–0.256	.013	–.171***	–.160
Conscientiousness	0.167	.013	.113***	.105	0.165	.013	.113***	.103
Extraversion	0.091	.009	.085***	.079	0.092	.009	.084***	.079
Agreeableness	–0.083	.013	–.058***	–.052	–0.083	.013	–.058***	–.052
Neuroticism	–0.127	.012	–.097***	–.086	–0.126	.012	–.096***	–.086
Interactions								
Openness \times Education					–0.152	.052	–.025**	–.024
Conscientiousness \times Education					–0.019	.053	–.003	–.003
Extraversion \times Education					0.015	.038	.003	.003
Agreeableness \times Education					–0.101	.051	–.017*	–.016
Neuroticism \times Education					0.042	.045	.005	.005
Model summary								
R^2_{adj}	0.143				0.144			
<i>F</i>	245.296***				159.122***			
ΔR^2					0.001			
ΔF					3.578**			

Notes. ^aSex (0 = Man, 1 = Woman) and ^bminority (0 = No, 1 = Yes) were dummy-coded. Variables in bold reflect the key associations of interest. * $p < .05$; *** $p \leq .001$. All p -values are based on two-tailed tests.

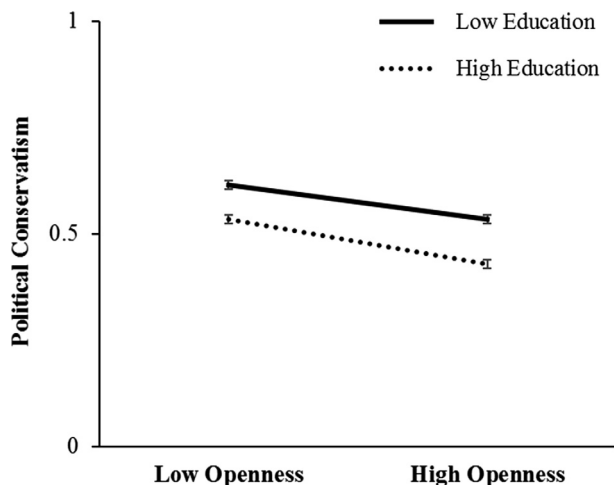


Figure 1. Openness \times Education predicting conservatism. Analyses control for participants' sex, ethnicity, and age, as well as the two-way interactions between education and each of the remaining Big-Five traits.

and education ($B = -0.191$, $SE = .009$, $p < .001$; $r^2_{\text{semi}} = .029$) had independent negative associations with conservatism.

Model 2 shows that, as predicted, education moderated the relationship between Openness and conservatism

($B = -0.152$, $SE = .052$, $p = .004$; $r^2_{\text{semi}} = .001$). We therefore plotted this relationship at $\pm 1 SD$ from the mean of education. These analyses indicated that the relationship between Openness and conservatism was weaker for those low (vs. high) on education ($B = -0.219$, $SE = .018$, $p < .001$; $r^2_{\text{semi}} = .010$ vs. $B = -0.293$, $SE = .018$, $p < .001$; $r^2_{\text{semi}} = .020$, respectively; see Figure 1; $B_{\text{diff}} = 0.074$, $SE = .025$, $p = .004$). The only other reliable interaction was Agreeableness \times Education ($B = -0.101$, $SE = .051$, $p = .045$; $r_{\text{semi}} = -.016$). Given our sample size and absence of an a priori prediction, this unexpected interaction should be interpreted cautiously.

Study 2

Study 1 demonstrates that the relationship between Openness and conservatism is more complicated than is assumed by past research. Indeed, education strengthens the extent to which people's ideology corresponds with their personality. Thus, these results advance the extant literature by identifying an under-examined boundary condition to the relationship between personality and

ideology, and by using different measures of Openness (namely, the TIPI) and political sophistication (i.e., education). In doing so, we document a much-needed qualification to the literature on the personality correlates of political attitudes.

Though Study 1 provides a critical contribution to the literature, Study 2 addresses its limitations. Specifically, education is a proxy for political knowledge. Thus, Study 2 directly measures political sophistication. Also, the Big-Five is hierarchically organized and contains two lower-level aspects (DeYoung et al., 2007). Accordingly, Openness consists of aspects capturing mental acuity/cognitive engagement (Openness-Intellect) and imagination/fantasy (Openness-Openness).² Few studies, however, have assessed the associations between aspects and conservatism. Finally, research has yet to assess the possibility that political knowledge moderates the relationship between aspects of Openness and ideology. Study 2 addresses all of these oversights.

Although Openness consists of two aspects, only one should resonate with ideology. Specifically, Jost (2006) notes that support for the status quo is a key feature of conservatism. Because visualizing alternatives to the status quo requires creativity, Openness-Openness (i.e., the aspect underlying imagination), but not Openness-Intellect (i.e., the aspect underlying mental acuity; DeYoung et al., 2007), should predict conservatism. Thus, the Openness \times Political Sophistication interaction should be specific to Openness-Openness. Study 2 provides the first test of this hypothesis.

Though no research to date has directly tested this possibility, indirect support exists for our hypothesis that political sophistication will moderate the relationship between Openness-Openness and ideology. Specifically, Sibley and Duckitt (2016) showed that the distinct aspects of Openness differentially predict right-wing authoritarianism (RWA). Moreover, Leone and colleagues (2012) demonstrated that interest in politics moderated the relationship between Openness-Openness³ and RWA such that the relationship was particularly strong for those high on political interest. Notably, the moderating effect of political interest was specific to the correlation between Openness-Openness and RWA; political interest had no effect on the (nonsignificant) relationship between Intellect-Openness and RWA. Finally, Desimoni and Leone (2014) also showed that the relationship between Openness-Openness⁴ and RWA was

stronger for those high (vs. low) on political interest. Together, these results demonstrate that the relationship between the distinct aspects of Openness and ideology (in this case, RWA) is *selectively* moderated by political sophistication. Nevertheless, the extent to which political knowledge – a related, albeit distinct, form of sophistication (Luskin, 1990) – moderates the relationship between Openness-Openness and conservatism has yet to be examined. Study 2 addresses this critical oversight.

Method

Participants

Participants were undergraduates ($N = 311$) from a New Zealand university who completed this study as part of a course requirement ($M_{\text{age}} = 20.91$, $SD = 4.73$). Participants identified as New Zealand European ($N = 156$), Asian ($N = 84$), Māori ($N = 7$), or Pacific Nations ($N = 11$). The rest of participants identified with another ethnicity ($N = 53$).

Materials

Aspects of the Big-Five were assessed via DeYoung et al.'s (2007) Big-Five Aspects Scale. Each of the 10 aspects was measured using 10 items rated on a 1 (= *very inaccurate*) to 5 (= *very accurate*) scale. Example Openness-Intellect items were “I am quick to understand things” and “I learn things slowly” (reverse-coded; $\alpha = .81$). Example Openness-Openness items were “I need a creative outlet” and “I seldom daydream” (reverse-coded; $\alpha = .74$). Example Conscientious-Industriousness items were “I carry out my plans” and “I waste my time” (reverse-coded; $\alpha = .82$). Example Conscientious-Orderliness items were “I keep things tidy” and “I dislike routine” (reverse-coded; $\alpha = .81$). Example Extraversion-Enthusiasm items were “I laugh a lot” and “I keep others at a distance” (reverse-coded; $\alpha = .85$). Example Extraversion-Assertiveness items were “I take charge” and “I hold back my opinions” (reverse-coded; $\alpha = .89$). Example Agreeableness-Compassion items were “I feel others’ emotions” and “I take no time for others” (reverse-coded; $\alpha = .88$). Example Agreeableness-Politeness items were “I respect authority” and “I insult people” (reverse-coded; $\alpha = .80$). Example Neuroticism-Volatility

² We recognize debate exists over what to label these traits. Nevertheless, we use DeYoung and colleagues’ (2007) terminology because we employ their scale to assess the 10 aspects of the Big-Five.

³ Leone and colleagues (2012) referred to the Openness and Intellect aspects of Openness as Experiential and Cognitive Openness, respectively. In order to avoid confusion, we refer to these aspects in accordance with DeYoung and colleagues’ (2007) terminology given that we used their scale to assess these aspects.

⁴ Desimoni and Leone (2014) referred to the Openness-Openness aspect of Openness as Openness-Curiosity. We use DeYoung and colleagues’ (2007) terminology in order to maintain consistency with the measures employed in our study.

items were “I get angry easily” and “I am not easily annoyed” (reverse-coded; $\alpha = .88$). Example Neuroticism-Withdrawal items were “I worry about things” and “I seldom feel blue” (reverse-coded; $\alpha = .86$).

Political sophistication was assessed using 18 multiple-choice questions about politics. Items were as follows:

- (a) “Who is the current Prime Minister of Australia?”
- (b) “Which best describes a parliamentary ‘bill’?”
- (c) “Who is currently New Zealand’s Deputy Prime Minister?”
- (d) “Which of these persons is the current Minister of Finance for New Zealand?”
- (e) “How often are General Elections held in New Zealand?”
- (f) “Who is the Head of State in New Zealand?”
- (g) “How many seats are currently allocated to represent Māori electorates in parliament?”
- (h) “Who is the current mayor of Auckland?”
- (i) “Under MMP, party votes are used to allocate seats in parliament for all parties that cross the threshold. Which of the following does a party have to do to cross that threshold?”
- (j) “What does MMP stand for?”
- (k) “How many political parties are currently represented in parliament?”
- (l) “What percentage threshold of party votes does a party need to gain seats in parliament for their list candidates?”
- (m) “Which party won the second largest number of seats in Parliament at the 2011 election?”
- (n) “Under MMP, every voter has two votes. Who are these votes for?”
- (o) “Who is the current Prime Minister of the United Kingdom?”
- (p) “What is the current unemployment rate in New Zealand?”
- (q) “Who is the current Vice President of the United States of America?” and
- (r) “Who can vote in a General election in New Zealand?” ($\alpha = .764$).

Conservatism was assessed using a 1 (= *extremely liberal*) to 7 (= *extremely conservative*) scale.

Covariates including age⁵ (open-ended), sex (male vs. female), and ethnicity (open-ended) were assessed. Ethnicity was dummy-coded (minority vs. majority).

Results and Discussion

Table 3 displays descriptive statistics and bivariate correlations for the variables in this study. As in Study 1,

responses were recoded to range from 0 to 1. Because a core feature of conservatism is support for the status quo (Jost, 2006), we predicted that the relationship between Openness and conservatism would be confined to the Openness aspect that indexes imaginative thinking (namely, Openness-Openness). Thus, we entered our mean-centered and dummy-coded controls, as well as our mean-centered predictor (i.e., Openness-Openness), into the first block of our regression. In the second block, we added our hypothesized Openness-Openness \times Political Sophistication interaction, as well as nine 2-way interactions between each remaining Big-Five aspect and political sophistication as controls. We then regressed conservatism onto our full model using an ML estimation procedure.

As predicted, Model 1 shows that Openness-Openness was negatively associated with conservatism ($B = -0.222$, $SE = .091$, $p = .014$; $r^2_{\text{semi}} = .017$; see Table 4). Openness-Intellect, however, was unassociated with conservatism ($B = -0.136$, $SE = .097$, $p = .161$; $r^2_{\text{semi}} = .006$). Also, political sophistication was negatively associated with conservatism ($B = -0.157$, $SE = .063$, $p = .012$; $r^2_{\text{semi}} = .018$). No other variables were reliably associated with conservatism.

Model 2 provides a key test of our hypotheses. As expected, political sophistication moderated the relationship between Openness-Openness and conservatism ($B = -1.199$, $SE = .505$, $p = .017$; $r^2_{\text{semi}} = .016$). In contrast, political sophistication had no effect on the nonsignificant relationship between Openness-Intellect and ideology ($B = 0.054$, $SE = .540$, $p = .918$; $r^2_{\text{semi}} < .001$). Moreover, none of the remaining eight interactions between the other aspects and political sophistication were significant (i.e., $ps \geq .201$).

To visualize the specificity of our predicted interaction, we plotted the relationship between both aspects of Openness and conservatism at ± 1 SD from the mean of political sophistication. As predicted, Figure 2A shows that Openness-Openness had a noticeably stronger relationship with conservatism at high ($B = -0.444$, $SE = .131$, $p = .001$; $r^2_{\text{semi}} = .032$), relative to low ($B = 0.032$, $SE = .139$, $p = .821$; $r^2_{\text{semi}} < .001$), levels of political sophistication ($B_{\text{diff}} = 0.476$, $SE = .201$, $p = .018$). Also consistent with our predictions, the moderating effect of political sophistication was specific to the Openness-Openness aspect of Openness (see Figure 2B). Indeed, the (nonsignificant) relationship between Openness-Intellect and ideology was unaffected by political sophistication (low sophistication: $B = -0.197$, $SE = .139$, $p = .158$; $r^2_{\text{semi}} = .005$ vs. high sophistication: $B = -0.175$, $SE = .145$, $p = .228$; $r^2_{\text{semi}} = .004$; $B_{\text{diff}} = -0.021$, $SE = .206$, $p = .918$).

⁵ To ensure that results from Study 1 and Study 2 were comparable, age was recoded to range from 0 (18) to 1 (103).

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Table 3. Descriptive statistics and bivariate correlations (Study 2). Values above the diagonal are Spearman, whereas those below the diagonal are Pearson, correlation coefficients.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Sex ^a	–	–.114*	–.105 [†]	–.113*	.004	–.154**	–.084	.214***	.253***	.136*	–.069	.245***	.274***	.164**	.035
2. Minority ^b	–.114*	–	.112*	–.199***	–.006	–.145*	.011	–.064	.063	–.145*	–.037	–.111*	–.012	–.007	–.003
3. Age	.060	–.012	–	–.007	–.057	–.018	.053	–.027	–.040	.063	.070	–.064	–.071	.045	–.053
4. Sophistication	–.110 [†]	–.205***	.130*	–	–.202***	.234***	.063	–.059	–.008	–.139*	.039	–.004	–.011	.052	.105 [†]
5. Conservatism	–.004	–.011	–.101 [†]	–.166**	–	–.132*	–.197***	.095 [†]	.060	–.008	–.022	–.045	.030	.001	–.058
Openness															
6. Intellect	–.131*	–.133*	.031	.235***	–.111 [†]	–	.348***	.307***	.000	.064	.483***	.134*	–.186**	–.100 [†]	–.224***
7. Openness	–.093	.008	.031	.059	–.182***	.377***	–	–.012	–.024	.099 [†]	.197***	.268***	–.010	.014	.062
Conscientiousness															
8. Industriousness	.235***	–.076	.144*	–.047	.106 [†]	.302***	.016	–	.400***	.180**	.325***	.148**	.184**	–.228***	–.424***
9. Orderliness	.237***	.036	.050	–.022	.091	.030	–.029	.412**	–	–.071	.029	.086	.181**	.082	.079
Extraversion															
10. Enthusiasm	.126*	–.141*	.028	–.131*	–.016	.044	.103 [†]	.228***	–.092	–	.388***	.341***	.099 [†]	–.120*	–.325***
11. Assertiveness	–.076	–.024	.072	.014	–.006	.486***	.204**	.332***	.026	.409***	–	.049	–.396***	–.015	–.431***
Agreeableness															
12. Compassion	.206***	–.103 [†]	.080	.002	–.026	.078	.243***	.178**	.040	.384***	.050	–	.423***	–.021	.030
13. Politeness	.294***	–.017	.113*	–.031	.028	–.229***	–.003	.192**	.176**	.126*	–.413***	.512***	–	–.231***	.024
Neuroticism															
14. Volatility	.166**	.000	–.036	.044	–.003	–.061	–.017	–.237***	.056	–.136*	–.019	–.094 [†]	–.234***	–	.535***
15. Withdrawal	.032	–.001	–.093	.112*	–.052	–.191**	.050	–.433***	.040	–.330***	–.449***	.007	.079	.540***	–
\bar{x}	0.801	0.498	0.034	0.420	0.417	0.639	0.698	0.538	0.560	0.654	0.567	0.811	0.690	0.474	0.474
SD	0.401	0.501	0.056	0.199	0.212	0.159	0.144	0.162	0.165	0.173	0.187	0.145	0.160	0.195	0.194
α	–	–	–	.764	–	.814	.742	.823	.805	.853	.893	.882	.800	.882	.858

Notes. ^aSex (0 = Male, 1 = Female) and ^bminority (0 = No, 1 = Yes) were dummy-coded. [†]p ≤ .10; *p ≤ .05; **p ≤ .01; ***p ≤ .001. All p-values are based on two-tailed tests. N = 13,203.

Table 4. Multiple regression analyses predicting conservatism as a function of the aspects of the Big-Five, political sophistication, and Openness-Openness \times Political Sophistication

	Model 1				Model 2			
	<i>B</i>	<i>SE</i>	β	<i>r</i> _{semi}	<i>B</i>	<i>SE</i>	β	<i>r</i> _{semi}
Constant	0.475	.033	–		0.482	.033	–	
Sex ^a	–0.055	.033	–.103 ⁺	–.089	–0.056	.033	–.105 ⁺	–.088
Minority ^b	–0.027	.024	–.065	–.061	–0.032	.024	–.075	–.070
Age	–0.383	.213	–.101 ⁺	–.097	–0.448	.216	–.118*	–.109
Sophistication	–0.157	.063	–.147*	–.135	–0.155	.063	–.145*	–.130
<i>Big-Five</i>								
Openness								
Intellect	–0.136	.097	–.102	–.076	–0.186	.098	–.139⁺	–.100
Openness	–0.222	.091	–.151*	–.132	–0.206	.090	–.140*	–.120
<i>Conscientiousness</i>								
Industriousness	0.171	.100	.131 ⁺	.092	0.165 ⁺	.099	.126 ⁺	.088
Orderliness	0.056	.082	.044	.037	0.042	.080	.033	.027
<i>Extraversion</i>								
Enthusiasm	–0.098	.087	–.080	–.061	–0.126	.088	–.103	–.076
Assertiveness	0.080	.100	.071	.043	0.117	.099	.103	.062
<i>Agreeableness</i>								
Compassion	0.035	.106	.024	.018	0.033	.104	.023	.017
Politeness	0.066	.112	.050	.032	0.077	.110	.058	.037
<i>Neuroticism</i>								
Volatility	0.062	.079	.056	.042	0.042	.078	.039	.028
Withdrawal	–0.032	.095	–.028	–.018	–0.019	.094	–.016	–.010
<i>Interactions</i>								
Openness \times Sophistication								
Intellect \times Sophistication					0.054	.520	.008	.005
Openness \times Sophistication					–1.199	.505	–.149*	–.125
<i>Conscientiousness \times Sophistication</i>								
Industriousness \times Sophistication					0.567	.589	.090	.051
Orderliness \times Sophistication					0.085	.432	.014	.010
<i>Extraversion \times Sophistication</i>								
Enthusiasm \times Sophistication					–0.230	.426	–.038	–.028
Assertiveness \times Sophistication					–0.392	.525	–.073	–.039
<i>Agreeableness \times Sophistication</i>								
Compassion \times Sophistication					0.519	.608	.063	.045
Politeness \times Sophistication					–0.025	.589	–.004	–.002
<i>Neuroticism \times Sophistication</i>								
Volatility \times Sophistication					0.221	.381	.041	.031
Withdrawal \times Sophistication					–0.612	.479	–.110	–.067
<i>Model summary</i>								
<i>R</i> ² _{adj}	.053				.066			
<i>F</i>	2.232**				1.917**			
ΔR^2					.043			
ΔF					1.430			

Notes. ^aSex (0 = Man, 1 = Woman) and ^bminority (0 = No, 1 = Yes) were dummy-coded. Variables in bold reflect the key associations of interest. ⁺ $p \leq .10$; * $p < .05$; ** $p \leq .01$. All p -values are based on two-tailed tests.

General Discussion

The current research showed that the relationship between Openness and Experience and conservatism is more

nuanced than previously assumed. Specifically, political knowledge helps people identify the ideologies that best-suit their personality. Whereas some have noted the conditional nature of this relationship (e.g., Leone et al., 2012;

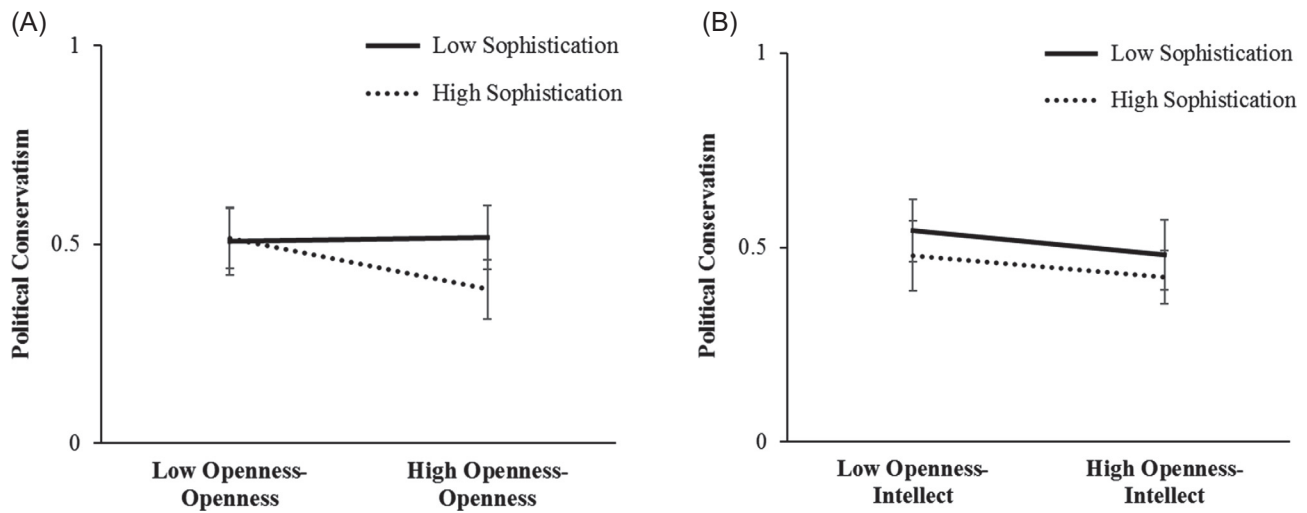


Figure 2. Openness-Openness \times Political Sophistication (A) and Openness-Intellect \times Political Sophistication (B) predicting conservatism. Analyses control for participants' age, sex (male vs. female), and ethnicity (minority vs. majority), as well as the two-way interactions between political sophistication and each of the remaining aspects of the Big-Five.

Osborne & Sibley, 2012, 2015), we further this tradition by demonstrating that the moderating effect of political sophistication extends to education (Study 1) and is specific to one aspect of Openness (i.e., Openness-Openness; Study 2). Thus, we identify a previously-unknown qualification to the relationship between personality and politics.

Though our results supported our hypotheses, the reliability of our Openness measure in Study 1 was low – a limitation that could attenuate the relationship between Openness and conservatism. The reliability of our measure was, however, comparable to past research using the TIPI (see Gosling et al., 2003). Moreover, our standardized regression coefficient for the relationship between Openness and conservatism was virtually identical to the corresponding relationship identified in Sibley and colleagues' (2012) meta-analysis (i.e., $\beta = .171$ vs. $r = .18$, respectively). We advance the field, however, by showing that political sophistication strengthens the relationship between Openness and conservatism.

We should also note that Study 1 used a proxy for political sophistication. There are, however, reasons to be confident in our results. Indeed, education and political sophistication are strongly correlated (Bennett, 1996; Delli Carpini & Keeter, 1996). Also, Study 2 offers an elegant replication – and extension – of Study 1's results using a knowledge-based measure of political sophistication. These cross-study consistencies show the generalizability of our results and combat the field's replication crisis (see Asendorpf et al., 2013; Open Science Collaboration, 2015).

Finally, we should note that selection biases could have affected the results produced in Study 1. Specifically, because Vote Compass was an explicitly political survey aimed at informing the public about how closely their issue

positions matched the positions taken by New Zealand's major political parties (see Lees-Marshment et al., 2015), our participants were likely more interested in politics than the general public. Such a selection bias would, however, make it *more* (not less) difficult to identify the moderating effects of education on the relationship between Openness and conservatism. Indeed, as we show here, education facilitates people's ability to identify the policies that best suit their personalities (also see Osborne & Sibley, 2012, 2015). As such, the results produced in Study 1 likely provide a conservative estimate of the extent to which education moderates the relationship between Openness and conservatism.

Future Research

Though we identify the specific aspects of personality associated with conservatism, more research is needed. Specifically, ideology can be seen as either self-identification or a coherent belief structure (see Jost, 2006). Whereas most studies show that Openness is the main trait associated with this former operationalization, Conscientiousness (a trait marked by orderliness) may be a better predictor of this latter definition. That is, Openness may predict the left-right direction of people's ideology, whereas Conscientiousness may predict the consistency with which they hold these views. Although research has yet to examine this possibility, identifying when other traits will manifest in the political arena is an important direction for future study.

Another direction for future research is to identify whether Openness affects ideology, or if ideology shapes

Openness. Although there is a genetic component to the Big-Five (see Jang, Livesley, & Vernon, 1996), the extent to which traits precede political attitudes is questionable. Indeed, recent findings question the temporal sequence of the models implied in the current research (Verhulst, Hatemi, & Martin, 2010). Longitudinal studies that allow one to assess alternative causal directions of these relationships are needed.

Finally, we should note that one facet (i.e., a subcomponent of an aspect) of Openness was developed to capture preference for conservative values (Costa & McCrae, 1995). Thus, the relationship between Openness and conservatism may be tautological.⁶ Though this may explain why Openness is the strongest personality correlate of political ideology (see Sibley et al., 2012), it cannot account for the fact that education (Study 1) and political knowledge (Study 2) – two components of political sophistication – moderate this relationship. Indeed, it is difficult to maintain that Openness and conservatism are one-in-the-same when the relationship between constructs critically depends on an additional variable. Nevertheless, future work should aim to establish the conceptual independence of these two constructs.

Conclusions

We examined the boundary conditions of the relationship between Openness and conservatism. Because political knowledge should help people identify which policies best-suit their personality, we predicted that the relationship between personality and ideology would vary by political sophistication. Accordingly, we showed that the relationship between Openness and conservatism was stronger for those high (vs. low) on education (Study 1) and political knowledge (Study 2). Moreover, the moderating effect of political sophistication was confined to the Openness aspect of Openness (Study 2). These studies demonstrate that personality shapes political leanings, but particularly for the informed.

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⁶ We would like to thank an anonymous reviewer for making this point.

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