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**Personality and ideology: A meta-analysis of the reliable, but
non-causal, association between Openness and conservatism**

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Abstract

Research over the last three decades reveals that Openness to Experience—a personality trait that captures interest in novelty, creativity, unconventionalism, and open-mindedness—correlates negatively with political conservatism. Here, we summarise this vast literature by meta-analysing 232 unique samples ($N = 575,691$) that examine the relationship between the Big Five and conservatism. Results reveal that the negative relationship between Openness to Experience and conservatism is nearly twice as big as the next strongest correlation between personality and ideology (namely, Conscientiousness and conservatism; $r_s = -.145$ and $.076$, respectively). The associations between traits and conservatism were, however, substantively smaller in non-WEIRD (vs WEIRD) countries. We conclude by reviewing recent longitudinal work demonstrating that Openness to Experience and conservatism are non-causally related. Collectively, our chapter shows that Openness to Experience is by far the strongest (negative) correlate of conservatism, but that there is little evidence to suggest that this association is causal.

Keywords: *personality, Big Five, Openness to Experience, conservatism, political ideology, meta-analysis*

**Personality and ideology: A meta-analysis of the reliable, but
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“Liberal and conservative have psychological meanings that are more enduring and universal than the specific political and social attitudes they influence.”

McCrae (1996, p. 325)

The vitriol present in contemporary political discourse, perhaps best exemplified by the contemptuous discussions between cross-partisans in the United States, highlights deep-seated differences between those on the political left and right. Although the specific issue positions advocated by parties at opposing ends of the political spectrum vary across both time and cultures, two central—and enduring—features capture the fundamental differences between liberals and conservatives: Attitudes toward (a) inequality and (b) social change (see Jost, 2006). Whereas liberals typically advocate for the reduction of inequality and promote social change, conservatives generally take the opposing positions by supporting policies that reinforce inequality and by defending the status quo. Given the distinct worldviews that seem to underlie these preferences, a burgeoning literature has developed to examine personality differences between those on the political left and those on the political right (e.g., Johnston et al., 2017).

In the current chapter, we provide a (necessarily brief) review of this vast literature on the association between personality and conservatism. We begin by introducing the Big Five model of personality and arguing that Openness to Experience—a personality trait reflecting interest in novelty, creativity, unconventionalism, and open-mindedness—is an especially potent correlate of variables relevant to the field of behavioural political science (namely, political attitudes and ideology). We then present a comprehensive meta-analysis of research

examining the associations between the Big Five and conservatism. After identifying some key methodological (i.e., type of personality measure) and contextual (i.e., WEIRD vs. non-WEIRD country) moderators of the relationship between the Big Five and ideology, we review recent longitudinal work that questions the prevailing assumption that personality precedes conservatism. Thus, the current chapter provides a meta-analytic summary of the extant literature on the relationship between personality and ideology, and also advances a nuanced argument about the highly robust, albeit non-causal, negative association between Openness to Experience and conservatism. To these ends, we turn to an overview of the literature on the Big Five and conservatism.

The Big Five and Political Ideology

Although many personality models have been proposed over the years including a 3-factor (Eysenck & Eysenck, 1985) and a 16-factor (Cattell et al., 1970) model, scholars now (mostly) agree that 5 (or perhaps 6; see Ashton & Lee, 2009) broad dimensions of personality capture the essential differences between people (Goldberg, 1990; McCrae & Costa, 1987). Specifically, Big Five theorists posit that personality consists of five dimensions: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (see Table 1). Although these general broad bandwidth traits can be distilled into more specific aspects (see DeYoung et al., 2007), most research examines associations between the Big Five traits and political attitudes (for an exception assessing the aspect-level correlates of conservatism, see Osborne et al., 2017). Accordingly, our chapter focuses on the Big Five correlates of political orientation.¹

Many studies demonstrate the utility of the Big Five in predicting political attitudes, particularly Openness to Experience (and, to a lesser extent, Conscientiousness). Specifically, because opposition to equality and resistance to change are enduring features of conservative

¹ We use political orientation, ideology, and conservatism interchangeably throughout this chapter.

Table 1. Conceptual overview of the Big Five and its lower-order aspects, as well as associations with conservatism.

Trait/Aspect	Cross-situational Tendencies	Association with Conservatism	Example Citation
Openness to Experience	Interest in novelty, intellectually curious and appreciative of the arts	–	Sibley et al. (2012)
Conscientiousness	Preference for order; hard-working; goal focused	+	Carney et al. (2008a)
Extraversion	Sociable and engaged with others	Null	Krieger et al. (2019)
Agreeableness	Cooperative (with ingroup members), forgiving, and kind	Countervailing	Osborne et al. (2013)
Neuroticism	Anxious and insecure; mindful of one's inclusion within the group	–	Bakker (2017)

beliefs (Jost, 2006), Openness to Experience—a trait that resonates with change and cultural diversity as manifested through unconventional attitudes, intellectual curiosity, and cognitive flexibility (see McCrae, 1996)—should correlate negatively with conservatism. Consistent with this reasoning, Openness to Experience correlates negatively with various conservative political attitudes including (a) issue positions (Fatke, 2017; Freitag & Rapp, 2015; Osborne & Sibley, 2015), (b) vote choice (Chirumbolo & Leone, 2010; Osborne & Sibley, 2012), (c) party identification (Gerber et al., 2012), and ideology (Furnham & Fenton-O'Creevy, 2018; Mondak, 2010). Notably, the negative association between Openness to Experience (and its associated aspects/facets) and conservatism replicates in many countries including Belgium (Van Hiel & Mervielde, 2004), Canada (Choma et al., 2009), Denmark (Bakker, 2017), Germany (Aichholzer et al., 2018; von Collani & Grumm, 2009), France (Bègue et al., 2015), and the United Kingdom (Swami, Chamorro-Premuzic, & Shafi, 2010), as well as Australia, Canada, The Netherlands, the United States, and many (many) other nations across the globe (Lee et al., 2018).

In a particularly illustrative set of studies, Carney and colleagues (2008a) investigated the associations that attitudinal and behavioural markers of personality had with self-reported political ideology. Openness to Experience was measured behaviourally via non-verbal cues including body orientation (Study 2) and the presence of diverse books, travel memorabilia, and CDs in participants' living space (Study 3), whereas conservatism was measured via self-report. Results revealed that these (and other) behavioural indices of Openness to Experience correlated negatively with conservatism (behavioural measures of Conscientiousness such as having a clean and ordered living space also correlated [positively] with conservatism). Self-report measures of the Big Five across six additional samples (Study 1) further revealed that Openness to Experience was the strongest (negative) correlate of conservatism, often being at least twice as strong a predictor of political orientation as the remaining four dimensions of

the Big Five.

Given the consistency of these results, researchers have begun to examine moderators of the relationship between the Big Five and political attitudes. Accordingly, the strength of the association between Openness to Experience and political orientation (partly) depends on various methodological, cultural, and individual-difference factors. For example, interest in, and knowledge of, politics appears to be a key pre-requisite in helping people to identify the political issues that best resonate with their personality (Desimoni & Leone, 2014; Osborne & Sibley, 2012, 2015). Indeed, Osborne and Sibley (2012) showed that Openness to Experience negatively correlated with the likelihood of voting for conservative political parties in both New Zealand (Study 1) and the United States (Study 2), but that these negative associations were particularly strong for those high (vs low) on political sophistication. A follow-up study demonstrated that education (i.e., a proxy for political knowledge) consistently strengthened the negative relationship between Openness to Experience and a range of conservative social and economic issue positions in New Zealand (Osborne & Sibley, 2015).

Other work has focused on methodological factors that condition the relationship between Openness to Experience and political attitudes. Although full-scale measures of the Big Five yield stronger—and more precise—estimates of the negative association between Openness to Experience and conservative political attitudes than do short-form measures (see Bakker & Leikes, 2018), convenience samples produce results comparable to those found in representative samples (Vitriol et al., 2019). Similarly, personality traits—including Openness to Experience—are powerful predictors of political attitudes amongst immigrant and non-immigrant populations (Vitriol et al., 2020). Finally, Fatke (2017) analysed data from the World Values Survey (WVS) and found that, although Openness to Experience correlated negatively with the endorsement of conservative social issues across 21 countries, this was particularly true in countries high (vs low) in democratization (as assessed by the

Freedom House Index).

In the most comprehensive examination of the Big Five correlates of conservatism to date, Sibley and colleagues (2012) meta-analysed 73 studies conducted across 10 countries that contained measures of personality and conservatism ($N = 71,895$). Results revealed that the (negative) correlation between Openness to Experience and conservatism was roughly twice as large as the next strongest (positive) correlation between Conscientiousness and conservatism (i.e., $r_s = -.180$ and $.098$, respectively). Moreover, the negative relationship between Openness to Experience and conservatism was *over six times stronger* in nations with low (vs high) systemic threat (as indexed by a combination of the number of intentional homicides per 100,000 people and the unemployment rate). A more recent meta-analysis of four representative samples from Germany similarly reveal that, although four out of the five Big Five traits correlate with conservatism (the association between Extraversion and conservatism was unreliable), Openness to Experience was the strongest (negative) correlate of conservatism (Krieger et al., 2019). In short, a robust literature demonstrates the utility of the Big Five—and, in particular, Openness to Experience—in predicting political attitudes across myriad contexts.

Updated Meta-analysis of the Correlation

Between Openness to Experience and Conservatism

Although extant work demonstrates that Openness to Experience is the strongest Big Five correlate of conservatism, the most recent comprehensive meta-analytic investigation (i.e., Sibley et al., 2012) included data from 1996 and 2009. Since then, many more studies have examined the personality correlates of conservatism (e.g., see Klein et al., 2019; Krieger et al., 2019; Vitriol et al., 2019). Multiple substantive geo-political events have also occurred since 2009, including the rise of populism in Europe, the UK's withdrawal from the European Union, and the election of President Donald Trump in the United States—events that question

the assumption that conservatives inherently oppose social change (but see Azevedo et al., 2017). Finally, social scientists in general have been challenged for over-relying on samples from Western, educated, industrialized, rich and democratic (WEIRD) countries (Henrich et al., 2010)—a challenge that has been taken up by personality researchers in recent years (e.g., Alper & Yilmaz, 2019; Lee et al., 2018). Thus, it is necessary to investigate the personality correlates of conservatism in this highly dynamic socio-political context with more diverse samples. Accordingly, we update Sibley and colleagues' (2012) meta-analysis in the following section by incorporating studies from both WEIRD and non-WEIRD countries that were conducted between October 2009 and October 2020.

Literature search

We conducted an exhaustive literature search using multiple databases (i.e., Google Scholar, PsychInfo, Scopus, and Web of Science) to identify studies that included measures of the Big Five and political orientation. Our searches included combinations of these terms: *Big Five, five factor model, Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism, personality, political ideology, political orientation, political, liberal, and conservative*. Calls for published and unpublished data were also posted to the Society for Personality and Social Psychology (SPSP), Society of Australasian Social Psychologists (SASP), and International Society of Political Psychology (ISPP) listservs. Data were included in our meta-analysis if the study measured (a) one or more Big Five personality dimension *and* (b) used a single-item self-report measure of political orientation. To avoid recounting samples, individual studies based on large datasets like the American National Elections Studies (ANES), New Zealand Attitudes and Values Study (NZAVS), or WVS were excluded. Instead, we report the correlations obtained from the raw dataset (where possible).

Study Characteristics

In total, we identified 232 unique samples ($N = 575,691$), 73 (31.5%) of which were included in Sibley et al. (2012). In terms of sample characteristics, 40.1% were published, 33.2% were unpublished (including unpublished theses and cases where the samples were published, but the correlations were not reported), and 26.7% were obtained directly from large-scale national datasets (e.g., ANES, WVS, NZAVS). As for the sample populations, 117 (50.4%) were adult/community samples, 61 (26.3%) were undergraduate samples (including 6 mixed undergraduate/school samples), 48 (20.7%) were internet samples, and 6 (2.6%) were mixed undergraduate/community samples. The samples covered 70 nations, of which 86 (37.1%) were in North America (United States = 74, Canada = 10, and Mexico = 2), 23 (10.1%) in New Zealand, 18 (7.9%) in Germany, 11 (4.8%) in Belgium, 8 (3.5%) in the UK, and 4 (1.8%) in The Netherlands; the remaining 61 nations contributed 3 or fewer samples to the dataset. Four samples were internet studies that combined data from multiple nations and, as such, were unable to be coded into specific countries.

In terms of the personality measures (including short-form versions), 80 samples (34.5%) used the BFI, 49 (21.1%) used the TIPI, 39 (16.8%) used the HEXACO, 19 (8.1%) used the IPIP/Mini-IPIP, and 17 (7.3%) used the NEO-FFM/NEO-PI-R. Table S1 displays the sample and measure characteristics for each unique sample included in the meta-analysis (see OSF: <https://osf.io/65arj/>).

Results

Analytic approach

Consistent with Sibley et al. (2012), we followed the procedures outlined by Hedges and Olkin (1985) to meta-analyze the associations between the Big Five and conservatism. Bivariate correlations between each Big Five personality dimension and political orientation (conservatism) were z-score transformed, weighted by their inverse variance, and averaged before transforming them back to bivariate correlations. Weighted average effect sizes were

then estimated with a random-effects model, and moderating factors (study characteristics) were examined in a mixed-effects model.

Table 2. Meta-analytic averaged bivariate correlations between each Big-Five trait and political orientation.

	<i>r</i>	95% CI		<i>z</i> -test	<i>Q_t</i>	Studies	<i>N</i>
Openness	-.145	-.158	-.133	-22.86**	4119.46**	232	575,691
Conscientiousness	.076	.068	.084	18.96**	1255.91**	222	573,347
Extraversion	.005	-.003	.014	1.20	1552.92**	218	571,421
Agreeableness	-.032	-.041	-.023	-6.83**	1829.01**	222	573,167
Neuroticism	-.052	-.062	-.041	-9.79**	2408.31**	219	571,709

Note. Political orientation ranged from low (liberal) to high (conservative). *r*-values and associated confidence intervals were calculated assuming a random-effects model. *z*-tests reflect significance tests of weighted *r*-values, also assuming a random-effects model. The *Q_t* statistic reflects a test of the homogeneity of effect sizes, calculated assuming a fixed-effects model. * $p < .05$; ** $p < .01$.

Average correlations

Table 2 displays the average weighted correlations between the Big Five personality dimensions and political orientation (see Figure 1 for the caterpillar plot of each personality dimension). As shown here, Openness to Experience ($r_{\text{weighted}} = -.145, p < .01$), Neuroticism ($r_{\text{weighted}} = -.052, p < .01$) and Agreeableness ($r_{\text{weighted}} = -.032, p < .01$) correlated negatively, whereas Conscientiousness correlated positively ($r_{\text{weighted}} = .076, p < .01$), with conservatism. Extraversion was not reliably associated with political ideology ($r_{\text{weighted}} = .005, p = .23$). Thus, consistent with Sibley et al. (2012), Openness to Experience was the strongest personality correlate of conservatism (followed by Conscientiousness), whereas Neuroticism and Agreeableness weakly correlated with political orientation (Note: the correlation between Extraversion and conservatism was also unreliable in Sibley et al., 2012).

Mixed effects regressions of study characteristics

Although Table 2 shows that four of the five Big Five traits reliably correlated with conservatism, the corresponding *Q_t* statistics reveal that there was considerable variability in effect sizes across samples. As such, we contrast-coded the following study characteristics to

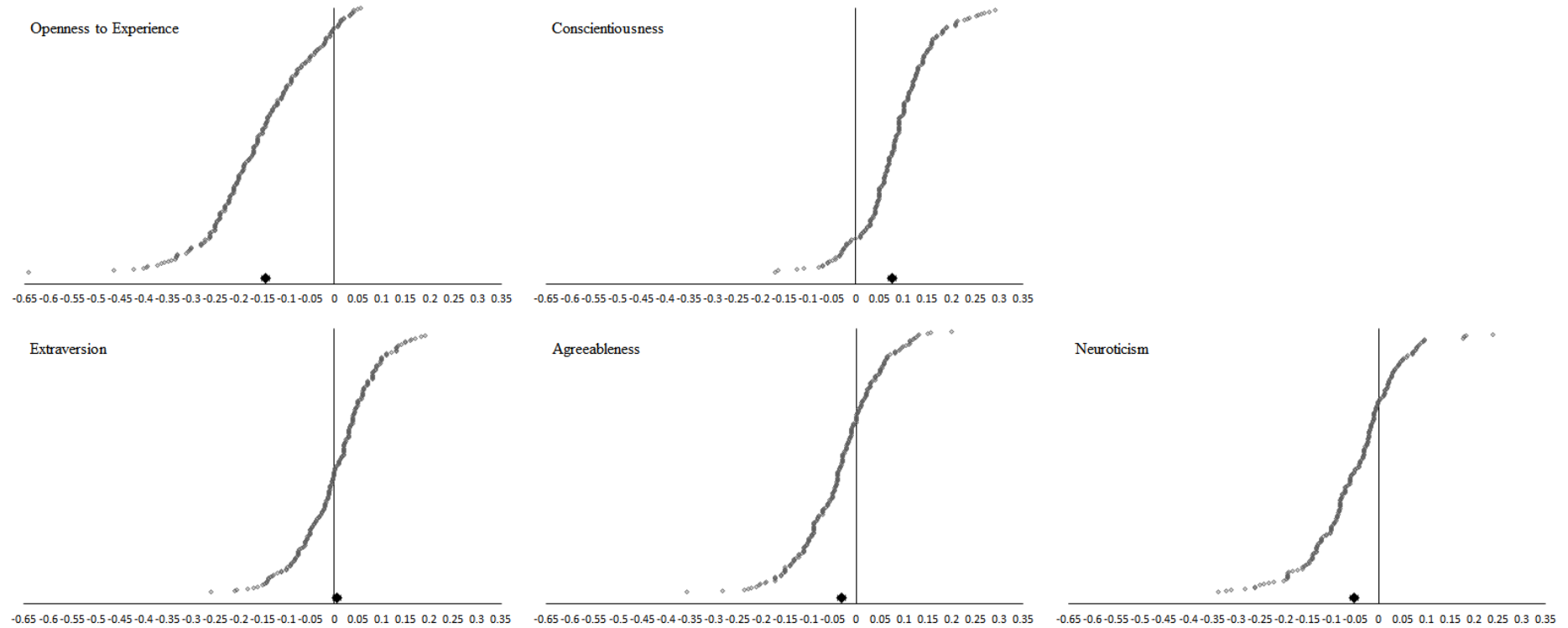


Figure 1. Caterpillar plots displaying the ordered magnitude of the correlation between each Big Five personality trait and conservatism across samples. Meta-analytic averages of the association between each Big Five trait and conservatism appear as solid dots adjacent to the respective x-axis.

predict the variability in the strength of the association between each of the Big Five traits and conservatism across samples: publication status, use of large-scale dataset, undergraduate sample, mixed/internet sample, personality measure (BFI, NEO, HEXACO, or TIPI), and country type (WEIRD or non-WEIRD). We also included year of publication (centred at 2012) to see if the strength of the association each Big Five trait has with conservatism has changed over time. All of these predictors were then simultaneously entered into five separate inverse variance mixed-effects weighted regression models to examine potential moderators of the relationship between the Big Five traits and political orientation.

Table 3. Inverse variance mixed-effects weighted regression analyses examining the effects of study characteristics on the relationship between each Big Five trait and political ideology.

Study factor	<i>b</i>	<i>se</i>	<i>z-test</i>	<i>Model R²</i>
Openness to Experience				
Constant	-.174	.019	-9.37**	
Published ^a	.002	.015	0.11	
Large scale ^a	-.026	.017	-1.54	
Year ^b	-.003	.001	-2.25*	
Undergraduate sample ^a	-.044	.015	-2.82**	
Mixed/internet sample ^a	-.062	.023	-2.73**	
Country ^c	.116	.013	8.69**	
Used BFI ^a	.047	.015	3.21**	
Used NEO ^a	-.121	.026	-4.70**	
Used HEXACO ^a	.025	.026	.93	
Used TIPI ^a	.058	.016	3.68**	.44**
Conscientiousness				
Constant	.054	.015	3.49**	
Published ^a	-.000	.012	-.28	
Large scale ^a	.004	.013	.29	
Year ^b	.001	.001	.57	
Undergraduate sample ^a	.004	.013	.28	
Mixed/internet sample ^a	-.002	.019	-.09	
Country ^c	-.059	.010	-5.83**	
Used BFI ^a	-.029	.012	-2.47*	
Used NEO ^a	.013	.022	.60	
Used HEXACO ^a	-.013	.022	-.58	
Used TIPI ^a	-.034	.012	-2.76**	.26**
Extraversion				
Constant	.043	.015	2.82**	
Published ^a	.012	.012	.98	
Large scale ^a	-.021	.013	-1.66	
Year ^b	.001	.001	1.22	
Undergraduate sample ^a	-.039	.013	-2.99**	

Mixed/internet sample ^a	-.032	.019	-1.73	
Country ^c	-.007	.010	-.68	
Used BFI ^a	.021	.011	1.88	
Used NEO ^a	.049	.022	2.24*	
Used HEXACO ^a	.099	.021	4.68**	
Used TIPI ^a	.023	.012	1.99*	.31**
Agreeableness				
Constant	-.020	.017	-1.22	
Published ^a	.005	.013	.38	
Large scale ^a	-.005	.015	-.34	
Year ^b	-.003	.001	-2.33*	
Undergraduate sample ^a	.037	.014	2.55**	
Mixed/internet sample ^a	-.032	.021	-1.53	
Country ^c	.034	.011	2.95**	
Used BFI ^a	.049	.013	3.84**	
Used NEO ^a	-.077	.024	-3.24**	
Used HEXACO ^a	-.033	.024	-1.41	
Used TIPI ^a	.067	.014	4.90**	.37**
Neuroticism				
Constant	-.074	.017	-4.43**	
Published ^a	.006	.013	.42	
Large scale ^a	-.009	.015	-.64	
Year ^b	-.002	.001	-1.54	
Undergraduate sample ^a	.032	.014	2.24*	
Mixed/internet sample ^a	-.041	.020	-2.02*	
Country ^c	.062	.011	5.51**	
Used BFI ^a	-.022	.013	-1.69	
Used NEO ^a	-.019	.024	-.80	
Used HEXACO ^a	-.067	.023	-2.84**	
Used TIPI ^a	-.014	.014	-1.02	.36**

^aContrast-coded (-.50 = no; .5 = yes).

^bCentred at 2012.

^cContrast-coded (-.50 = WEIRD, .50 = non-weird).

Note. Political orientation ranged from low (liberal) to high (conservative). *b* refers to the unstandardized regression coefficient in Fischerized (z_r) effect size units, *se* refers to the standard error of *b*. All effects were calculated using an inverse variance weighted regression analysis assuming a mixed-effects model. * $p < .05$, ** $p < .01$.

As shown in Table 3, country type was the most reliable moderator of the relationship between each Big Five trait and conservatism. Specifically, the correlations between political orientation and each personality trait (except Extraversion) were noticeably weaker in non-WEIRD (vs. WEIRD) countries. For example, holding everything else constant, the negative correlation between Openness to Experience and conservatism was 0.116 smaller in non-WEIRD (vs WEIRD) countries. Conversely, there was no evidence of a *file drawer* problem,

as publication status was unassociated with any of the effect sizes. Still, echoing concerns about the field's over-reliance on undergraduate samples (see Henry, 2008; Sears, 1986), the use of undergraduate samples strengthened the negative association between Openness to Experience and conservatism (but weakened the relationships Neuroticism, Agreeableness, and Extraversion had with political orientation). Moreover, the major personality measures had varying effects on correlation size across personality traits. For example, although the NEO tended to detect stronger negative associations between Openness to Experience and conservatism, its impact on the relationship between Conscientiousness and conservatism was negligible. Finally, year of publication appeared to strengthen the negative relationships Openness to Experience and Agreeableness had with conservatism.

Openness and Conservatism Correlate, But is it Causal?

As revealed in the previous section, the negative correlation between Openness to Experience and conservatism is indisputable (although the association is much weaker in non-WEIRD vs WEIRD samples). Accordingly, numerous scholars—ourselves included—have assumed that Openness to Experience predisposes people to conservatism in adulthood (e.g., see Osborne & Sibley, 2015). And there is good reason to assume personality *precedes* political attitudes. Block and Block (2006) found that individual differences first assessed in preschool children predicted political attitudes 20 years later. Fraley and colleagues (2012) similarly demonstrated that behavioural measures of fear at 54 months correlated positively with conservatism at 18 years. Other longitudinal studies employing traditional cross-lagged panel models (CLPMs) also show that Openness to Experience has a negative cross-lagged effect on conservatism. For example, Perry and Sibley (2012) found in a sample of students that Openness to Experience predicted decreases in Right-wing Authoritarianism and Social Dominance Orientation—two ideological attitudes that constitute the foundations of social and economic conservatism, respectively (see Claessens et al., 2020)—nine months later.

Together, these findings suggest that personality predisposes people to adopt particularly political views.

But what if personality and ideology are nevertheless *non-causally* related? That is, could the robust negative correlation between Openness to Experience and conservatism be explained away by an unmeasured “third variable” and/or previous longitudinal work that confounds distinct processes? We address this possibility in the remainder of our chapter by first reviewing the literature on the genetic underpinnings of political beliefs. We then discuss some of our own recent longitudinal work examining the temporal ordering of the association between personality and ideology. We conclude with brief caveats and suggestions for future research.

Genes and Politics

Perhaps the biggest “fly in the ointment” over the assumption that personality *causes* political ideology comes from the burgeoning literature on the heritability of political beliefs. To these ends, a number of studies over the last decade and a half reveal that genes contribute substantially to a number of political attitudes (for a review, see McDermott, 2021). In one of the first studies on the topic, Alford and colleagues (2005) assessed the correlations between monozygotic and dizygotic twins across items on the Wilson-Patterson scale (i.e., a policy-based measure of political ideology). Results showed that the polychoric correlations between monozygotic twins were consistently stronger than the same correlations between dizygotic twins, suggesting that political ideologies are partly heritable. Funk and colleagues (2013) also showed that the correlation between twins for responses to a self-placement measure of conservatism was over twice as strong for monozygotic than for dizygotic twins, indicating a strong genetic component to conservatism.

In a particularly influential study, Verhulst and colleagues (2012) examined data from a twin registry collected in the late 1980s in Virginia. Participants completed a policy-based

measure of conservatism comprised of attitudes toward social, economic, and military issues, as well as Eysenck's Personality Questionnaire (Eysenck & Eysenck, 1985)—a three-factor model of personality that later informed the Big Five (but confounds Openness to Experience, Agreeableness, and Conscientiousness in a single factor). A Cholesky decomposition—an analytic approach that enables researchers to partition the covariances between personality and ideology into common genetics and shared environments—revealed that shared genes explain most of the covariance between political attitudes and personality. That is, personality and political attitudes correlate *because* they have a common genetic basis. These (and other) studies raise concerns about the assumption that personality temporally precedes political views by demonstrating that political attitudes are (at least partly) heritable.

Resolving Discrepancies with Longitudinal Studies

What, then, do we make of the discrepancy between past longitudinal studies showing that personality temporally precedes ideology and research showing that the association may be rooted in a common genetic factor? Although the two findings are not mutually exclusive (i.e., personality can precede political conservatism and still have a common genetic basis), methodological limitations to correlational data may account for some of the debate. Notably, CLPMs—the (previous) gold standard in the longitudinal modelling of variables that do not readily lend themselves to experimental investigation—have come under fire for confounding between-person (i.e., rank-order) stability and within-person change (see Berry & Willoughby, 2017; Hamaker et al., 2015). Specifically, between-person stability in a person's rank-order position on a given construct could mask within-person change (e.g., a 1-unit increase in conservatism would be undetected if everyone in the sample experienced the same 1-unit increase, thereby preserving the rank-order of the sample). To address this confound, scholars have called for the use of Random-Intercepts CLPMs (RI-CLPMs)—an analytic approach that partitions the variance of longitudinal data into between-person and within-

person components, thereby allowing researchers to focus on within-person change (see Satherley et al., in press, for an example investigating the ideological antecedents to political party support).

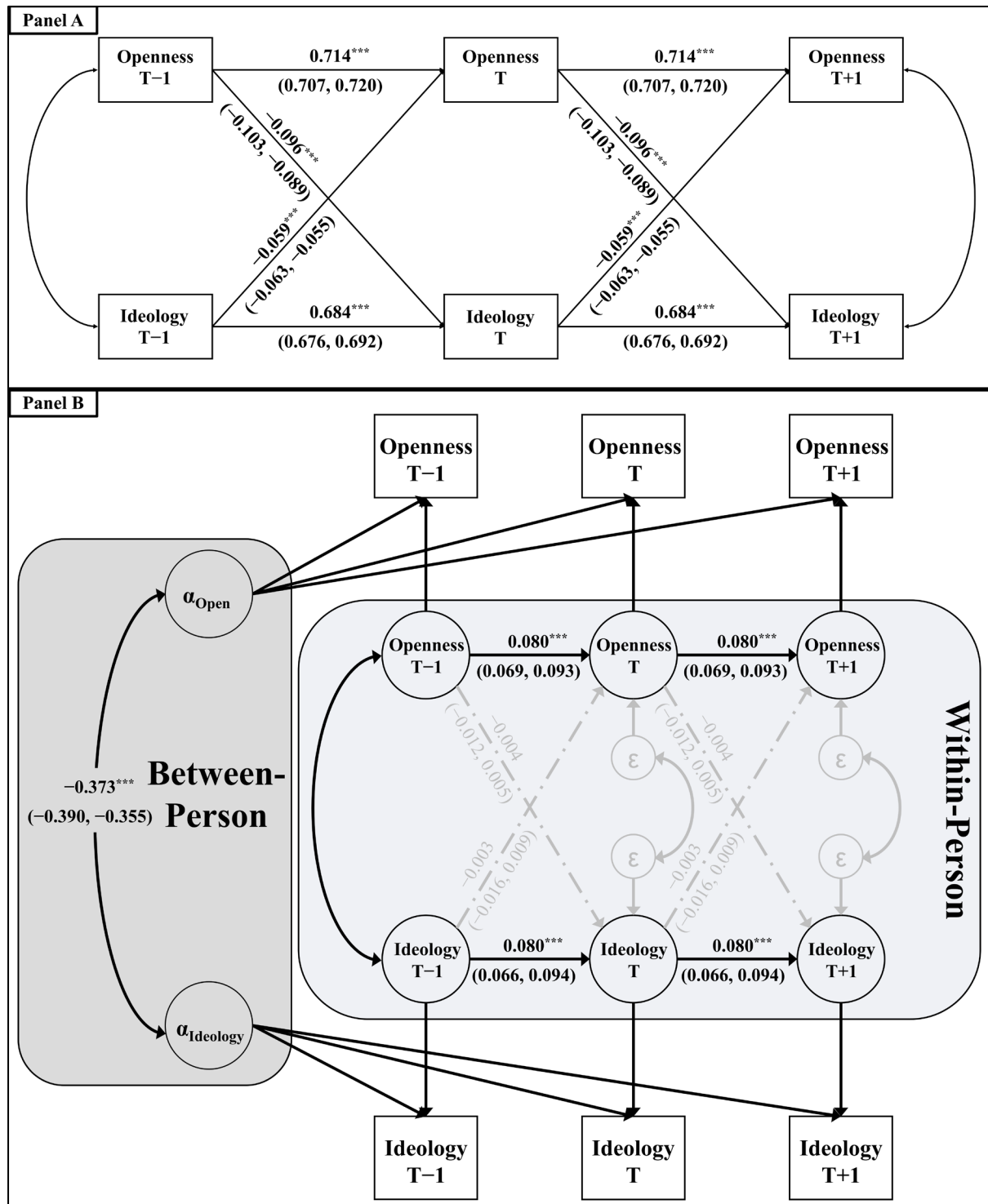


Figure 2. Cross-lagged panel model (panel A) and random-intercepts cross-lagged panel model (panel B) of the associations between Openness to Experience and political ideology (conservatism). Figure adapted from Osborne and Sibley (2020).

To address these issues, Osborne and Sibley (2020) analysed nine annual waves of longitudinal panel data from the NZAVS—a longitudinal study comprised of a nation-wide random sample of adults ($N = 17,207$). Starting in 2009 (i.e., Time 1), participants completed a short-form measure of the Big Five (namely, the mini-IPIP; see Donnellan et al., 2006) and three measures of conservatism (namely, liberal vs conservative self-identification, left-wing vs right-wing self-placement, and support for the main centre-right political party, National), as well as a host of measures outside the scope of this review. Participants were included in the analyses if they provided partial or complete responses to three or more waves of the study. Notably, 1,830 participants completed all nine annual waves.

Results from the traditional CLPM revealed high levels of stability in Openness to Experience and the three measures of conservatism (see Figure 2, Panel A, for the results focusing on conservatism). Also, Openness to Experience predicted annual decreases in conservatism, right-wing self-placement, and National Party support. Although each of the reciprocal associations were also reliable, the cross-lagged effects of Openness to Experience on all three conservatism measures were larger, implying that personality predisposes one to adopt certain political beliefs. Looking solely at these results supports much of the prevailing wisdom in the literature: Personality appears to temporally precede political ideology.

What about when one accounts for the confounding of between-person stability and within-person change by using an RI-CLPM? To begin, Osborne and Sibley (2020) found a moderate-sized correlation between the random intercepts of Openness to Experience and conservatism over the nine annual assessments ($b = -0.373$, BC 95% CI = $[-0.390, -0.355]$; $p < .001$; see Figure 1b). These results demonstrate that those who were high on Openness to Experience also tended to be low on conservatism over the nine consecutive assessments. As for the within-person components of the model, the autoregressive associations showed that changes in Openness to Experience and conservatism persisted the following year (i.e., an

increase in conservatism one year resulted in an increase in conservatism the next year). After accounting for the rank-order stability of both constructs, neither Openness to Experience predicted changes in conservatism, nor did conservatism predict changes in Openness to Experience. That is, there is no evidence of a causal association between personality and ideology after adjusting for key methodological artefacts (i.e., the confounding of between-person stability and within-person change present in traditional CLPMs). Importantly, these results replicated across the other two measures of conservatism. Coupled with the literature on the overlapping genetic roots of personality and political attitudes, these results question the predominant assumption that Openness to Experience precedes conservatism.

Caveats and Future Directions

Although recent genetic (Verhulst, Eaves, et al., 2012; Verhulst et al., 2010) and longitudinal (Osborne & Sibley, 2020) data question the assumed temporal precedence of Openness to Experience found in much of the literature on personality and political beliefs, there are a few caveats to note. First and foremost, Osborne and Sibley (2020) examined the longitudinal associations between Openness to Experience and conservatism among adults. Because political socialisation begins in early adolescence (e.g., see Sears & Valentino, 1997; Valentino & Sears, 1998) and even before (Ruffman et al., 2020), the aetiology of the personality-ideology association may emerge prior to our assessments. That is, personality may affect young children's political views, but, once these perspectives are established, the causal association becomes unnoticeable in adults. Consistent with this perspective, research suggests that the heritable component of political attitudes is undetectable until at least early adulthood (i.e., early 20s; Hatemi et al., 2009). Thus, future longitudinal work should recruit younger samples in order to investigate the possibility that personality is a "first cause" that sets to motion the formation of political attitudes in childhood, but, after the initial spark, the temporal precedence of personality becomes indiscernible.

Future research on the personality correlates of ideology should also investigate the possibility that personality traits correlate differently with social and economic conservatism, particularly outside the United States. Indeed, Malka and colleagues (2019) reveal that, contrary to the prevailing assumption in the literature, cultural and economic conservatism correlate *negatively* with each other in most countries. Accordingly, they argue that, rather than being organised along a left-right dimension, political ideology is best-conceptualised along a dimension ranging from protection to freedom. Consistent with this perspective, a number of studies show that Openness to Experience correlates negatively with cultural, but not economic, conservatism (e.g., Bakker & Leidesma, 2018; Fatke, 2017). Future meta-analyses will need to examine the reliability of these findings, as well as to identify critical methodological and contextual moderators of these associations.

Conclusions

Individual differences have long-been thought to underlie distinct political beliefs. The current chapter reviewed this literature and argued that, of the traits that correlate with political views, Openness to Experience is the strongest (negative) correlate of conservatism. Consistent with this intuition, we provide updated meta-analytic evidence demonstrating that Openness to Experience correlates negatively with conservatism. Moreover, this association is nearly twice as strong as the next strongest correlate (i.e., Conscientiousness), although the relationships most Big Five traits have with conservatism are notably smaller in non-WEIRD (vs WEIRD) countries. While many (including ourselves) have assumed that results such as these imply that personality precedes ideology, the second half of our chapter argues that this association is non-causal. Specifically, we review (recent) work showing that the correlation between personality and conservatism occurs via (a) a shared genetic component (Verhulst, Eaves, et al., 2012; Verhulst, Hatemi, et al., 2012) and (b) the confounding of between-person stability and within-person change (Osborne & Sibley, 2020). Collectively, these data imply

that Openness to Experience is significantly, but non-causally, inversely associated with political conservatism.

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