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The Progressive Values Scale: Assessing the ideological schism on the Left

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Abstract

Progressivism has increasingly challenged traditional liberalism as the dominant influence within left-wing ideology. Across four studies, we developed a measure – the Progressive Values Scale (PVS) – that characterizes distinctly progressive values within the left-wing. In Study 1, left-wing participants evaluated divisive issues, with four scale factors emerging. In Study 2, we confirmed this factor structure and included a battery of personality and values measures to explore individual differences among those who maintain a progressive worldview. In Study 3, we achieved final confirmation of the factor structure and validated the ability of the PVS to assess a distinctly progressive perspective, insofar as progressives generated prototypical faces for Liberals and Conservatives that were markedly distinct from those generated by traditional liberals. In Study 4, we distinguished the PVS from measures of left-wing authoritarianism and demonstrated that it is a better predictor of progressive political preferences and social judgements.

Over the course of the 2016 US presidential campaign, Hillary Clinton was heavily favoured to win the election. Nevertheless, November 8th saw Donald Trump elected the 45th president of the United States. Soon after this outcome, The New York Times published 'The End of Identity Liberalism' by political scientist Mark Lilla (2016), who explained the election result in terms of a schism on the ideological Left. According to Lilla, American left-wing ideology was characterized by two diverging factions: *identity liberalism*, which emphasizes socio-cultural differences, and *pre-identity liberalism*, which emphasizes commonality across socio-cultural groups. By this characterisation, identity liberalism – often termed *progressivism* - primarily engages in activism expressing rebuke of perceived inequality. Identity liberals view governmental institutions as either ineffective in reducing inequality or compromised by their own histories of institutional prejudice, whereas pre-identity (i.e., traditional) liberals emphasize government as the most effective means of reducing inequality, seeking consensus-building among voting blocs. Rather than uniting the left-wing, Lilla described identity liberalism as a divisive element that was primarily responsible for Clinton's loss.

Over the past five years, progressivism has not faded from the political landscape. Rather, it has been called "the successor ideology" to traditional liberalism (Nwanevu, 2020). More generally, the division within the Left fully permeates American political discourse, with the factions variously referred to as 'Progressives vs. Liberals' (Young, 2019), 'Progressives vs. Moderates' (Kabaservice, 2019), or 'Lefties vs. Crazy Lefties' (Strassel, 2019) depending on the commentator's ideological orientation. Conflicts between these worldviews have had a profound impact on politics, academia, activism and popular culture, both within the US and throughout contemporary Western culture. Despite the dominance of this socio-cultural narrative, there is no psychological measure that captures the values and

attitudes characterizing distinctly progressive values within the Left. We address this gap with four studies aimed at 1) developing a scale that assesses and distinguishes progressivism within the ideological left and 2) exploring the association between progressive values and assessments of personality, beliefs and broader worldviews.

The Rise of Progressivism

The Origins of Progressivism

Theorists have argued that the features of identity politics, as we understand them today, can be traced to socio-cultural movements from the 19th century (Hobsbawm, 1996). At their inception, these movements were associated with ideological dimensions of the left *and* right insofar as they shared common features, namely, 1) advocacy for a specific social category (e.g., race, gender, sexual orientation) rather than broad social classes (e.g., 'working class' vs 'upper class'), 2) the rejection/avoidance of traditional institutions to realize these goals (e.g., legal bureaucracies), 3) the support of coercive means, such as social activism (e.g., Suffragettes advocating women's voting rights) or violence (e.g., Ku Klux Klan advocating white racial dominance). These strategies became formalized in the wake of the massive social changes that characterized the 1960s. With the gradual decline of authoritative institutions within academia and government, explicitly identity-based political strategies began to proliferate on both the left and right. Even into the 1990s, however, the notion that identity politics would become strongly associated with left-wing politics seemed remote. In *Identity Politics and the Left,* historian Eric Hobsbawm (1996) argued that the universalist tenants of liberalism are antithetical to identity politics to an extent that "the Left cannot base itself on identity politics." Yet 20 years later, identity liberalism has become a dominant force within Western societies. Far from heralding the end of identity liberalism, the years following Donald Trump's election saw progressive activists marshal the principles of identity politics to stage the largest and most impactful social movements of the 21st

century, perhaps best exemplified by the Black Lives Matter protests urging wholesale reforms to policing and the criminal justice system.

Conflict within the Left-Wing

Today, progressives battle with traditional liberals for influence within academics, politics and media. This struggle manifests itself across university campuses, where factions clash in influencing the dominant curriculum and academic culture. For example, progressives have emphasized restrictions on speech that could cause psychological harm to students and have advocated *deplatforming* speakers that qualify gender equality (e.g., Quinn, 2015). In contrast, traditional liberals have sought to ensure the freedom to express ideas and have argued for tolerance towards others' views that express different values. More generally, traditional liberals look to universal principles grounded in Enlightenment-era thought, while progressives evaluate these historically Western theorists as the products and perpetuators of institutionalized inequality (see Cobb, 2015).

These divergent left-wing views have been recapitulated within left-leaning media outlets, resulting in the resignations of senior editors judged to have undercut progressive protest movements by questioning tactics ("Stan Wischnowski resigns as The Philadelphia Inquirer's top editor;" McCoy, 2020) or publishing the opinions of conservative politicians ("James Bennet resigns as New York Times Opinion Editor;" Tracy, 2020). On social media, these clashes play out daily via 'Twitter wars' between those expressing traditional liberal feminist views and calls for the 'cancellation' of those deemed 'Trans-Exclusionary Radical Feminists' (e.g., "JK Rowling comes out as a TERF;" Ennis, 2019). Even electoral politics, thought to be a dead-end for identity politics, has seen a progressive surge. In the UK, the left-wing Labour party was, for a time, dominated by the activist group Momentum, whose self-described goal is "real progressive change" (Smith, 2015). In the US, the congressional Democratic caucus has seen mutual distain between the traditional liberal party establishment

and the progressive values espoused by *The Squad* (Hirschfeld Davis, 2019). At the time of writing, the respective New Democrat Coalition and Congressional Progressive Caucus remain at loggerheads over President Biden's legislative agenda (Weisman & Cochrane, 2021).

The Psychology of Progressivism

Discussions of this left-wing conflict are ubiquitous, and political scientists trace its origins and predict its future. Psychologists, however, have yet to develop constructs that operationally distinguish progressive values from traditional liberalism or associate the progressive worldview with broader psychological constructs. Currently, psychological research relevant to political divides and left-wing politics is primarily concerned with 1) distinctions between Liberals, broadly speaking, and Conservatives, and 2) distinctions within liberalism that represent ideological *extremism*, rather than divergent ideological content.

Divisions between Liberals and Conservatives

Studies into divergences between Liberals and Conservatives are perhaps best exemplified by Haidt's work within the moral foundations literature. Drawing from international samples, Haidt and colleagues argue that Liberals differ from Conservatives insofar as Liberals distinctly emphasize values related to equality and the reduction of harm (Graham et al., 2011). Subsequent commentary by Haidt and Lukianoff (2018) describe how these values are differentially applied by traditional and progressive liberals, particularly with regards to free speech and ideological tolerance on university campuses. However, no operationally defined psychological assessment has been derived from this critique.

Divisions between an Extreme and Moderate Left.

Studies that draw distinctions *within* the Left generally do so by drawing comparisons between the extremes of left-wing and right-wing commitments. This is rooted in Tetlock's

(1984) argument that extremes on the Left and Right are similarly lacking in integrative complexity relative to their moderate ideological counterparts. Described in terms of ideological symmetries (Crawford & Brandt, 2020), such research considers whether Liberals derogate ideological outgroup members to the same extent as Conservatives, despite the liberal emphasis on tolerance and acceptance. A complementary line of research has aimed to identify authoritarianism among left-wingers, insofar as liberals with extreme commitment may show similar degrees of deference to cultural authority and anti-democratic coercion as the more commonly assessed right-wing authoritarianism (Conway et al., 2018; Costello et al., 2022). While these research programs have demonstrated behavioural and psychological differences at the extremities of left-wing commitment, they do not focus on divergences representing different *kinds* of left-wing beliefs.

For example, Conway et al. (2018) pointedly conflate authoritarian and ideological content, adapting their Left-Wing Authoritarianism (LWA) scale from Altemeyer's (1998) right-wing counterpart by replacing conservative authorities with their ostensible left-wing counterparts (e.g., right-wing religiosity with left-wing ecological concerns). The resulting scale items were constructed in a manner that does not allow for distinctions between the progressive and traditionally liberal strains of left-wing ideology (e.g., "Our country will be great if we honor the ways of progressive thinking, do what the best liberal authorities tell us to do, and get rid of the religious and conservative "rotten apples" who are ruining everything."). More recently, Costello et al. (2022) took a data-driven approach to examine authoritarian extremes within the Left, identifying factors advocating for *Anti-hierarchical aggression*, *Anti-conventionalism* and *Top-down censorship*. Like Conway et al. (2018) however, this measure was not formulated to distinguish ideological types within the left-wing, and also conflates ideological and authoritarian content.

Indeed, it is likely that many Progressives share ideologically relevant sentiments expressed in both LWA measures, for example, "Progressive ways and liberal values show the best way of life" (Conway, et al, 2018) or "I hate being around non-progressive people" (Costello et al., 2022). However, progressives also often view the traditional liberal adherence to free expression as extreme, to the extent that it may harm individual identity groups (Cobb, 2015). As well, few would argue that progressive icons (e.g., Rep. Alexandria Ocasio-Cortez) or organizations (e.g., Black Lives Matter) advocate for the violent overthrow of the democratic order (e.g., item from Costello et al., 2022: "Political violence can be constructive when it serves the cause of social justice"). More generally, differences between progressives and traditional liberals are grounded in identity politics, which represents differences in *kind* from traditional liberalism, rather than *degree*. Any assessment that distinguishes these strains of liberalism must capture their distinct ideological content.

Division between Progressives and Traditional Liberals

To date, research that comes closest in this aim is *Hidden Tribes: A Study of America's Polarized Landscape* from the More in Common foundation, in conjunction with YouGov (Hawkins et al., 2018). This research presented US respondents with measures of core beliefs (e.g., Group Identity, Perceived Threat, Parenting Style and Authoritarian Disposition) assessed with questions regarding an array of political beliefs (e.g., censorship). The researchers identified seven distinct groups that cover the political spectrum. Of these groups, those representing the left-wing were termed Progressive Activists (8% of sample), Traditional Liberals (11%) and Passive Liberals (15%). Following additional interviews, Progressive Activists were characterized as "highly engaged, secular, cosmopolitan, angry," whereas Traditional Liberals were described as "open to compromise, rational, cautious." Importantly, all three left-wing groups displayed preferences that are markers of left-wing ideology. For example, these classifications shared an emphasis on the moral foundations of

'equality' and 'harm' (Graham et al., 2011) and a rejection of personal agency as the primary determinant of success (Schlenker et al., 2012). However, Progressive Activists' views differed markedly from the other left-wing groups on other issues. For example, most Traditional and Passive Liberals agreed that "Political Correctness is a problem" (approximately 70% and 80% respectively), while most Progressive Activists disagreed (70%). Similarly, most Traditional and Passive Liberals agreed that "Race should not be a factor in college admissions" (approximately 70% and 80% respectively), while most Progressive Activists disagreed (60%). Subsequent research by the More in Common foundation has identified similar left-wing schisms with the United Kingdom (Surridge, 2021) and France (Demoures et al., 2020).

The Current Research

Political scientists, cultural theorists, and emerging data point to a sharp division within the Left. While progressives and traditional liberals share core values, differences in how they weigh and implement these values have become a dominant cultural clash. Here, we report four studies that produce and validate a brief, quantitative measure distinguishing progressives within the ideological Left – an essential tool for psychologists exploring the implications of this divide. We build upon extant research exploring the progressive worldview with respect to broader values and personality traits that may or may not be shared with others on the Left.

Study 1 drew from political science, cultural commentary and current events to present participants with items that, we believed, represent issues that distinguish progressives from others on the Left. Exploratory analyses confirmed this prediction, identifying four factors. Study 2 confirmed the factor structure of the Progressive Values Scale (PVS) and tested whether those espousing progressive worldviews would display unique sets of personality traits and values. Study 3 provided a final confirmation of the

factor structure and validated the scale by showing it could distinguish different perspectives on ideological ingroups and outgroups. Using a 'reverse correlation' assessment of implicit perceptions (Brinkman, Todorov & Dotsch, 2017), we showed that those deemed relatively progressive on the PVS generated different prototypical images of Conservative and Liberal faces when compared with those deemed relatively traditionally liberal. Finally, Study 4 further validated the scale by demonstrating predicted relationships with related constructs (e.g., neo-liberalism, political correctness) and showing that the PVS is a better predictor of support for progressive political figures and judgments when compared to measures of left-wing authoritarianism.

Study 1: Development of the Progressive Values Scale

Method

Participants

We collected responses from 226 US participants via Prolific. To ensure that we captured a complete range of left-wing respondents, we pre-selected participants who had previously self-identified as "Moderate" or "Left Wing." To exclude responses from generally right-wing respondents, we excluded anyone who reported their political orientation as right-leaning (i.e., those scoring three or lower on a scale ranging from 1 = *relatively Right Wing* to 7 = *relatively Left Wing*). Aiming to retain only left-wing participants, we then had participants select a primary ideological orientation (*Progressive*, *Liberal*, *Libertarian*, *Conservative*) and included only those who identified as "Progressive" or "Liberal". In addition, we excluded participants who failed more than one of the four attention checks embedded within the questionnaire (e.g., *I will select "Strongly Agree" to show that I am attending to this survey*). The final sample included 182 participants (113 females, 65 males, four transgender), and was strongly left-wing ($M = 5.78$, $SD = 1.01$) with 147 self-identified liberals and 35 self-identified progressives. Their age range was 18-67 (*M*

= 34.65, *SD* = 11.50). Most participants were white (*n* = 132), educated to college-level or beyond (*n* = 121), working full-time (*n* = 92) or part-time (*n* = 48), and earning less than $50000 per year (*n* = 143).

The obtained sample size is in line with suggestions that factor analysis is appropriate with samples of around 200 (Cattell, 1978), or even as low as 100 (Gorsuch, 1983). Good factor recovery with similar sample sizes to ours can be obtained even when communalities are low, assuming a relatively low number of factors and several items per factor (MacCallum et al., 1999).

Measures and Procedure

Demographics. Participants completed the demographics followed by the left-wing values items displayed in a randomized order. Finally, participants answered questions about their political identities.

Left-wing Divisions. We began by generating 78 items that could face-validly assess the left-wing divisions primarily described within political science and contemporary social commentary. See Supplemental Materials A for these items. Fourteen items assessed the extent to which personal identity is understood as central to social interactions (e.g., *It's hard to listen to people's opinions on someone's social identity when they clearly haven't had a similar experience.*). Fifteen items addressed the extent to which institutions should mandate diversity (e.g., *Maintaining diversity quotas is a good way of ensuring that institutions don't revert to discrimination.*). Ten items assessed the extent to which public speech should be censored if it results in someone else's discomfort (e.g., *One should be protected from emotional harm in educational and workplace settings.*). Eight items assessed the extent to which present-day inequality should be primarily addressed on the basis of historical injustices (e.g., *The power structures of the past are the primary cause of injustice in the present*.). Seven items assessed a degree of trust in government institutions to facilitate social

justice (e.g., *The laws currently in place are not enough to overturn ongoing injustice.*). Five

items assessed the acceptability of an ethnic majority adopting cultural creations associated

with ethnic minorities (e.g., *Taking on the culture of minority groups (music, fashion) is an*

act of entitlement). Finally, 19 items assessed the extent to which public shaming and social

rejection are acceptable means of facilitating social justice (e.g., *Using social media*

platforms to publicly reprimand those who hold dangerous opinions is an effective means of

ensuring social progress.). Participants reported their (dis)agreement with the statements on a

scale from 1 (*strongly disagree*) to 7 (*strongly agree*). All materials, datasets, and syntax files

across studies are available at:

https://osf.io/m2ztr/?view_only=abcd748c4eef4a06a006e9177b21dc9c

Results

Determining the Factor Structure of the PVS

First, we tested whether we were capturing ways of thinking that distinguish

progressives and traditional liberals. We initially constructed the items around issues

pertaining to persuasion, equality, identity, free speech, historical determinism, activism, and

cultural appropriation, but we were open to obtaining fewer factors that corresponded to more

general tendencies.

Second, we inspected inter-item correlations and response distributions. There were

no signs of multicollinearity, $|r\text{s}| < .80$, but several items were weakly correlated, $|r\text{s}| < .30$,

with other items. This is perhaps unsurprising, as our items were designed to capture a

diverse range of beliefs and values, and heterogeneity is expected even among ideologically

similar groups (Van Hiel, 2012). Nevertheless, aiming to derive cohesive factors, we only

retained items with moderate to high correlations ($|r\text{s}| > .30$) with at least 5 other items; as a

consequence, 23 items were dropped.[1] We also excluded 10 items for severe departures from

normality, particularly where responses were heavily skewed.[2]

We used principal-axis factor analysis (PFA) with oblique, direct oblimin rotation

(delta = 0). By inspecting the scree plot (Costello & Osborne, 2005), we could justify

extracting either 1, 4, or 6 factors, so we ran a parallel analysis (Horn, 1965). Specifically, we

estimated eigenvalues based on 1000 generated datasets created from permutations of the

original data that preserve the distributions of the original variables. This provides an

estimation of the size of eigenvalues that would be obtained purely due to sampling error,

while accounting for any non-normality in the original data. We compared the original data to

eigenvalues in the 95th percentile (Turner, 1998), suggesting extraction of up to 6 factors.

However, the 6-factor solution was less robust when inspecting factor loadings (i.e., two

factors had a majority of items with very high cross-loadings). There was also substantially

clearer evidence for a 4-factor solution, with eigenvalues of 12.57, 3.02, 2.62, and 2.08,

accounting for 45.09% of common variance. For each factor, we retained items with an

absolute primary loading of .40 or higher that also did not have any absolute secondary

loadings above .30 (Costello & Osborne, 2005). Additionally, to construct distinct factors, we

required that the absolute difference between the primary and secondary loadings be .20 or

higher. An additional five items were excluded for having inter-item correlations below .30

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[1] Using more stringent inclusion criteria requiring $|r\text{s}| > .30$ with at least 10 and 20 other

items, respectively, yielded a similar factor structure.

[2] In the final selection, the Kaiser-Meyer-Olkin (KMO) of .87 (Kaiser & Rice, 1974) and a

significant Bartlett's test of sphericity, $\chi 2(990) = 4074.25$, $p < .001$, suggested that it is appropriate to

proceed with factor extraction (Carpenter, 2018).

with half or more of the other items on their factor. All items and factor loadings, alongside the scree plot and parallel analysis are shown in Supplemental Materials A.

Items loading onto Factor 1 described the critical importance of promoting equality through imposing immediate changes to increase diversity (e.g., *Maintaining diversity quotas is a good way of ensuring that institutions don't revert to discrimination*). Factor 2 contained items expressing a desire to promote equality incrementally for the long-term (e.g., *Rehashing past injustices distracts from achieving justice in the present and future*) and through existing institutions (*Most meaningful change in terms of equal representation has been achieved through the work of already existing social institutions*). Factor 3 admonished against the appropriation of cultural identities (e.g., *Taking on the culture of minority groups (music, fashion) is an act of entitlement*) and included a negative loading item about endorsing the free expression of cultural ideas (*People should be permitted to adopt whatever cultural characteristics that appeal to them (music, fashion), regardless of status inequalities*). One item (*It is not possible for whites to experience racism*) also loaded negatively onto factor 3 but did not fit conceptually with the other items so was removed. Factor 4 contained items relating to persuasion and highlighted a willingness to publicly censure those perceived to hold discriminatory views (e.g., *Making some people feel ashamed about their views is a small price to pay when fighting against historical injustice*). We labelled these four factors as *F1: Mandated Diversity* (PVS-MD; 6 items, α = .81), *F2: Recourse to Existing Institutions* (PVS-REI; 6 items, α = .77), *F3: Cultural Appropriation Concerns* (PVS- CAC; 3 items, α = .84), and *F4: Public Censure* (PVS-PC; 4 items, α = .75).

The four factors were weakly to moderately correlated: *r*s from |.34| to |.46|, all *p* <.001. PVS-MD, PVS-CAC, and PVS-PC were all positively related to one another, seemingly mapping onto concerns more relevant to progressives. Conversely, PVS-REI was negatively related to these three factors and seemed more indicative of traditional liberalism.

When calculating the total scale score, this factor is reversed. As shown in Table 1, correlations among PVS factors were comparable between Studies 1 and 2 and between Studies 3 and 4.[3]

Finally, we explored association between the PVS and age and gender. As shown in Table 1, across all four studies, women scored significantly higher on the PVS, while there was a less consistent relationship with age – older people scored significantly lower on the PVS in Studies 2 and 4.

Discussion

Study 1 aimed to establish a measure that would reliably capture and distinguish progressive beliefs within the ideological Left. We presented a sample of left-leaning participants with items that typically distinguish progressive from traditionally liberal worldviews. Following PFA, four distinct factors emerged. PVS-MD, PVS-CAC, and PVS-PC comprised items drawn from our a priori categories relevant to institutionally mandated diversity, cultural appropriation and public shaming. PVS-REI combined several of our a priori categories consisting of items that either advocated for equality through existing institutions or derogated alternate approaches. When considering the existing characterization of a distinctly progressive worldview, three factors appear to face-validly conform with

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[3] In Studies 3 and 4 correlations were generally weaker than in Studies 1 and 2, presumably because, in the former, items were presented within their factors, on separate survey pages, whereas in the latter items from different factors were presented in a scrambled order on the same survey page.

progressive values (PVS-MD, PVS-CAC) and tactics (PVS-PC), while an inversely

correlated factor represents traditional liberal values (PVS-REI).

Study 2: Individual Differences in Promoting Progressive Values

Study 2 sought to replicate this factor structure. While gender and age share links with

PVS scores (see above), Study 2 expanded this preliminary characterization by conducting

the first empirical investigation into *what kinds of people* generally advocate the values these

factors represent. Are there aspects of personality, core values and self-understating that are

uniquely associated with progressive views?

Method

Participants

We aimed at collecting data from 250 participants, based on Schönbrodt and

Perugini's (2013) conclusion that correlations stabilize at that sample size. To compensate for

potential data loss, we recruited 312 US participants on Prolific. The same selection criteria

as in Study 1 were applied. The final sample included 250 participants (144 females, 103

males, three self-reported other), and was clearly left-wing ($M = 5.84$, $SD = 0.96$) with 207

self-identified "Liberal" and 43 self-identified "Progressive". Participants' age range was 18-

73 ($M = 32.74$, $SD = 11.17$). Most participants were white ($n = 182$), educated to college-

level or beyond ($n = 147$), working full-time ($n = 126$), and earning less than $50000 per year

($n = 172$).

Measures and Procedure

All participants completed the final PVS from Study 1. Participants also completed a

battery of questionnaires assessing core psychological constructs (for descriptions, see

Supplemental Materials B, Table S2). Many are broadly relevant to several psychological

disciplines (e.g., personality, attachment, self-esteem). Others we judged as relevant to

maintaining ideologies (e.g., meaning, moral foundations) and expressing them (e.g.,

empathy, self-deception). We assessed personality with the short version (Lang et al., 2011) of the five-factor model of personality (Costa & McCrae, 1992), the nature of social interactions with an abbreviated assessment (Attachment Style Questionnaire; Van Oudenhoven et al., 2003) of adult attachment style (Bartholomew & Horowitz, 1991) and empathic concern (Interpersonal Reactivity Index; Davis, 1983). We assessed moral and personal values with the Moral Foundations Questionnaire (Graham et al., 2011) and a short version (Lindeman & Verkasalo, 2005) of the Schwartz Values Survey (Schwartz, 1992). We assessed self-understanding with the Self-Liking/Self-Competence Scale (Tafarodi & Swann, 1995) and the Self-Deceptive Denial Scale (Paulhus, 2002). We assessed broader perceptions of personal agency and societal worth with the Free Will vs. Determinism scale (Paulhus & Carey, 2011), the Multidimensional Meaning in Life Scale (Costin & Vignoles, 2020) and Anomie Scale (Teymoori et al., 2016). Attitudes towards political outgroups were assessed with a measure assessing the avoidance of outgroups (Williams & Eberhardt, 2008), the Lay Theory of Biopolitics Scale (Suhay et al., 2017), which assesses the extent to which political beliefs are deemed to be biologically determined, and a modified version of the Ascent of Man measure (Kteily et al., 2015), which assesses the extent to which ideological outgroups are dehumanized.

Finally, we devised a measure of 'Epistemic Privilege' – the extent to which one believes they understand ideological outgroups more than these outgroups understand them. We constructed this measure by asking participants the extent to which they believed that they understood the beliefs and motivations of left-wing groups (e.g., "Social Justice Activists) and right-wing groups (e.g., "The Alt-Right"), and the extent to which participants believed their personal beliefs and values were understood by these groups (1 = *not at all; 100 = very much*).

After collapsing assessments of the groups across the left and right wing, a difference score was calculated with higher scores indicative of the extent to which participants believed they held a privileged perspective, i.e., 'I understand them better than they understand me.'

Results

Confirming the Factor Structure of the PVS

To test the 4-factor solution obtained in Study 1, we ran a confirmatory factor analysis (CFA) on the PVS, using full maximum likelihood estimation. We used the following criteria for judging the global model fit: (1) root mean square error of approximation (RMSEA) values close to .06 or below, (2) standardized root mean square residual (SRMR) close to .08 or below, and (3) comparative fit index (CFI) values of .90 or greater (Brown, 2015). χ^2 was used when comparing nested models, but not to assess global fit, due to its documented shortcomings (Brown, 2015). We also tested local fit based on absolute standardized factor loadings ($< .40$) and high secondary loadings (absolute estimated standardized loadings $> .30$), which led to the removal of 5 items.

The final model (see Table 2), showed good fit: χ^2 (71) = 165.670, $p < .001$; CFI = .917; RMSEA = .073 (90% CI [.059, .088]); SRMR = .050. Three factors showed strong internal reliability: F1 (α = .81), F3 (α = .86), and F4 (α = .68). While F2 showed lower reliability in this study (α = .61), no item removals would have substantially improved the Cronbach's alpha.

Given the issues with factor reliability and the relatively high negative correlations between F2 and the other factors (as high as r = -.50 with F1), we tested whether a 3-factor model would better fit the data. We conducted a nested-model comparison between the 4-factor model and all 3-factor models that could be created by collapsing any pair of two factors into a single factor. All 3-factor models fit the data significantly worse, all $\Delta\chi^2(3) >$

35.44, ps <.001, suggesting that the 4-factor model best captures distinct experiences on the political left.

PVS Associations with Other Constructs

Correlations between PVS factors and the other psychological constructs are presented in Table 3. As we were unsure how the PVS (and its factors) would relate to all of the constructs, we applied a Bonferroni correction. Considering these families of five tests, the alpha level for judging significance was set at .01; allowing us to detect medium or higher correlations between our variables (Cohen, 1992). See Supplemental Materials C for a summary of these results.

Discussion

Study 2 confirmed Study 1's factor structure and further refined PVS item selection. We also tested how the PVS and its factors relate to core psychological traits and worldviews. The aggregated PVS was strongly associated with left-wing moral foundations (e.g., harm and equality) and a deemphasis of free-will, combined with an open and empathic bearing and a universalist approach to values. However, the PVS was also associated with a sense of epistemic privilege, and uniquely emphasized left-wing humanity. It was also noteworthy that the PVS was negatively associated with personal security concerns, given the explicit emphasis on harm as a moral foundation.

PVS-MD, PVS-CAC and PVS-PC individually described concerns more commonly associated with progressives. PVS-MD was associated with other-focused orientations such as being agreeable and avoiding harm to others, but also being motivated to present oneself in a positive light. PVS-CAC was more strongly associated with anxious tendencies such as neuroticism and experiencing more personal distress in stressful situations as well as a tendency to avoid those with diverging worldviews. PVS-PC was associated with feeling that

one has a privileged understanding of the political right, while also having a more negative view of oneself.

In contrast, endorsing PVS-REI reflected traditional liberal alignments with relatively conservative positions (Hawkins et al., 2018). PVS-REI was associated with a more conservative moral profile as judgments were less based on individualizing moral foundations (harm and fairness) and more on binding moral foundations (ingroup, authority, purity; Graham et al., 2011). Additionally, this factor was associated with perceptions of societal moral decline and beliefs that events and people in the world are less influenced by personal choice (echoing findings that liberalism is associated with believing that political orientations are biologically determined; Suhay et al., 2017). PVS-REI was similar to conservative tendencies through its positive association with free will beliefs and fatalistic determinism (Paulhus & Carey, 2011), but different to conservatism as PVS-REI was positively related to beliefs in scientific determinism.

Study 3: Do Progressives and Traditional Liberals Differently Represent Themselves and Others?

As noted above, we slightly altered the PVS in Study 2 to maximise global fit. Therefore, our first aim with a pre-registered Study 3 was to confirm our final item selection with a larger US sample. We also included reverse-worded versions to test whether we could reproduce the previously obtained factor structure; a balanced set of positive-worded and reverse-worded items would help control for response method biases (see Schriesheim et al., 1991). Our second aim was to provide initial external scale validation by demonstrating that progressives make distinct socio-political judgments. Specifically, we conducted a pre-registered experiment whereby those assessed as relatively progressive or traditional liberal generated prototypical faces for a relevant ingroup (Liberals) and outgroup (Conservatives),

with the expectation that progressives and traditional liberals would generate distinguishable images of 'themselves' and 'others'.

How progressives, in particular, visualize ideological outgroups is of specific interest given prior research suggesting that 'Progressive Activists' report a stronger endorsement of tolerance for others' views relative to all other ideological 'tribes', even Established Liberals (Surridge, 2021). However, progressives, as assessed by the PVS, appear to distinguish themselves from traditional liberals in large part due to their relative lack of tolerance for ideological transgressions. While left-wingers have been shown to derogate ideological out-groups (Frimer et al., 2017), we expected progressives to be especially negative in the mental representation they implicitly maintain for certain outgroups, relative to how they represent their own general ingroup.

Study 3 assessed these potentially divergent representations using the *reverse correlation* paradigm (Dotsch et al., 2008). The task involves one sample of participants selecting images of faces that they judge to be typical of a group category member (e.g., conservatives). These individual faces are then averaged across generators, producing a single face indicative of their protopypical image of that category. This facial image is then evaluated by another sample of participants, unaware of how the face was generated. The result is a 'double-blind' assessment of implicit mental representation, whereby *generators* produce prototypical faces by projecting their biases onto randomly distorted images that have no inherent properties. In turn, *raters* evaluate qualities of these prototypes without knowing what the faces were intended to represent (Brinkman et al., 2017). These subsequent evaluations have been shown to betray the biases of the sample that generated the prototype faces. For example, Dutch participants generated prototypical Moroccan faces whose negative attributes varied in relation to the racial biases of the generators (Dotsch et al., 2008).

If the PVS distinguishes between those relatively progressive or traditional liberal, these individuals should generate prototype faces of relevant socio-political categories that are distinguishable on a range of outcomes. In Study 3, left-wing participants categorized randomly distorted instantiations of a target face as either representative of an ingroup (Liberal) or outgroup (Conservative). Specifically, we turned to a left-wing sample that lies at the forefront of the split between progressives and traditional liberals: UK university students. In recent years, UK university campuses have been roiled by debate over the freedom to express views that are deemed harmful, and the application of sanction against those deemed to transgress progressive mores (Bradshaw, 2021).

Against this backdrop, we expected left-wing university students to generate distinct prototypes of Liberal and Conservative faces, differing along an array of external qualities (e.g., attractiveness), internal qualities (e.g., intelligence, work ethic), and non-valenced dimensions (e.g., masculinity/femininity, age). We expected our left-wing sample to manifest a general ingroup bias by generating Liberal faces that would be judged more positively relative to Conservative faces. More importantly, as a direct test of the PVS' ability to distinguish progressives from traditional liberals, we expected progressives to generate especially negative representations of Conservatives, in spite of their declarations of tolerance (Surridge, 2021).

Method

Participants

For the image-generation phase, 120 Cardiff University undergraduates participated for course credit. To ensure a wholly left-wing cohort, participants were excluded if they did not self-categorize as either "Liberal" or "Progressive" (vs. "Libertarian" or "Conservative"). Ninety-five participants (80 females, 13 males, 2 self-reported other), aged 18-28 (M = 19.36, SD = 1.36) fulfilled this criterion.

For the image-rating phase and confirmatory factor analysis of the PVS, we recruited a sample of 702 US participants via Prolific. Our image-rating sample, excluding those who failed one or more of two attention checks, was 661 (288 female, 370 male, three self-reported other), mean age: 34.18 years (SD = 10.17), mean political orientation: 3.46 (SD = 1.86). Most participants were white (n = 442), educated to a college level or higher (n = 611), working full-time (n = 407), and 328 participants earned less than $50000.

For our confirmatory factor analysis sample, we applied the same selection criteria as in Studies 1-2, removing any right-wing participants and including only those identifying as "Progressive" or "Traditional Liberal". We assessed political categorization with a more specified description of each perspective with the aim of aiding a more accurate self-categorization, (e.g., "Progressive: e.g., Politician: Rep. Alexandria Ocasio-Cortez (D – NY); Publication: Mother Jones Priority; Issues: racial equality/Critical Race Theory, defunding police, abolishing Immigration and Customs Enforcement (I.C.E)" - see Table 7).

As an additional criterion, we only used participants who self-identified "Moderate" or "Left Wing" to match the pre-selection criterion from Studies 1 and 2.[4] Finally, we excluded participants based on failing one or more of the two attention checks.[5] This subset

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[4] This criterion was not pre-registered and, as such, we also conducted a CFA without that exclusion criterion. This led to one additional case being retained who identified as "Right-wing". This model showed no substantive differences in terms of global or local fit compared to the model reported in the paper.

[5] In the pre-registration, we reported that participants would be excluded if they failed more than one of four attention checks. However, due to the short length of the survey, we

of the sample included 369 participants who were left-wing ($M = 5.72$, $SD = 1.09$), with 201

self-identified as "Traditional Liberal" and 168 self-identified "Progressive", predominantly

female (198 females, 168 males, 3 self-reported other), and aged between 19-74 ($M = 32.69$,

$SD = 10.22$). Most participants were white ($n = 233$), educated to college-level or beyond ($n = 231$), working full-time ($n = 191$), and earning less than \$50000 per year ($n = 213$).

Measures and Procedure: Confirmatory Factor Analysis

As described in the pre-registration

(https://osf.io/4zpju/?view_only=2489441074944eeb899ba68b952e4e02), all participants

completed the PVS items from Study 2. For secondary analysis, we included additional

reverse-worded items for each factor, aiming to test whether this extended version of the PVS

would remain a viable measure. Results regarding these items are reported in Supplemental

Materials D.

Measures and Procedure: Image-generation and Image-rating Phase

Participants completed the study online using Qualtrics and Pavlovia. Following a

brief demographics questionnaire, participants indicated their general political affiliation

(Conservative, Liberal, Libertarian, Progressive) and completed the PVS.

The generators then completed the reverse correlation task. The stimulus used for the

base image was a male neutral face from the Karolinska Directed Emotional Faces

(Lundqvist & Litton, 1998). The noise-altered stimuli were generated using the R package

rcicr 0.3.0 (Dotsch, 2015). This process superimposes mathematically inverse noise patterns

on the base face, generating pairs of stimuli (see Figure 1).

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ended up including only two attention checks, so we adjusted the exclusion criterion

accordingly.

Figure 1

The base image used in a reverse-correlation task and two examples of the stimuli presented to participants
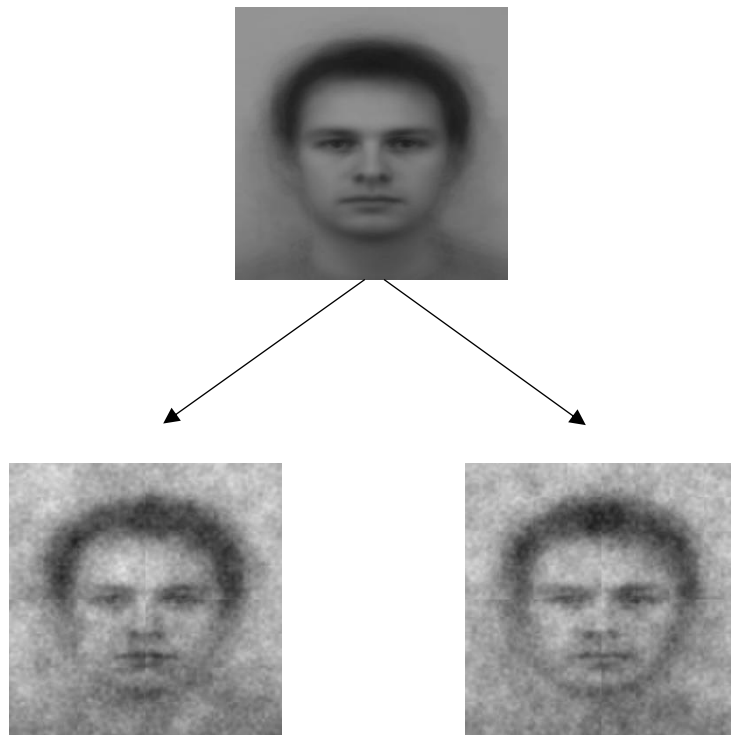
Participants were randomly assigned to either the Liberal or Conservative condition. Across 505 trials (with a break every 101 trials), they were presented pairs of faces side-by-side and asked to select the face that best reflects their mental representation of a Liberal or Conservative (depending on condition). Responses were provided by pressing the 'C' or 'N' computer keys, at which point the next pair of faces appeared.

Based on a median split of their overall PVS score, participants were divided into those relatively progressive versus those relatively traditionally liberal. Using the rcicr 0.3.4.1 package (Dotsch, 2015), average Liberal and Conservative faces were created by

superimposing the average of the noise patterns of all selected faces across all participants

onto the base face. This resulted in four average faces: Liberal and Conservative generated by

progressives, and Liberal and Conservative faces generated traditional liberals (see Figure 2).

Figure 2

From Left to Right: Conservative face generated by Progressives, Conservative face
generated by Traditional Liberals, Liberal Face Generated by Progressives, Liberal faces
generated by Traditional Liberals.

Raters were randomly presented each of the four faces and evaluated them on the

following dimensions: youth, gender, attractiveness, intelligence, likeability, warmth,

competence, morality, work ethic, and political outlook (all on 7-point scales). Based on

visual inspection of the average faces (in particular, the Conservative face generated by

progressives), we included an additional exploratory item assessing the extent to which the

face appeared evolved.

Results

Confirming the Factor Structure of the PVS

We conducted a CFA with full maximum likelihood estimation to confirm the PVS 4-

factor model. The model showed good global fit that was comparable to the final model

obtained in Study 2, χ^2 (71) = 211.736, $p < .001$; CFI = .914; RMSEA = .073 (90% CI [.062,

.085]); SRMR = .067. As shown in Table 2, factor loadings were comparable to those

obtained in Study 2. In contrast, the extended model with reverse-worded items showed poor

global fit, χ^2 (344) = 1616.423, $p < .001$; CFI = .700; RMSEA = .100 (90% CI [.95, .105]);

SRMR = .094. After inspecting factor loadings and exploring alternative factor solutions, we

concluded that the poor fit is likely due to the newly added reverse-worded items failing to

accurately capture the intended meaning of the factors. Hence, these items were abandoned.

Details about this model and the added reverse-worded items are in Supplemental Materials

D.

Comparing Judgements of Conservative and Liberal Faces Generated by Progressives

and Traditional Liberals

Following from our pre-registration, we tested whether our left-wing sample would

manifest ingroup bias by generating Liberal faces that would be judged more positively on

seven valenced attributes (e.g., intelligence) relative to Conservative faces, and whether those

deemed to be relatively progressive would generate especially negative portrayals of

Conservative faces relative to traditional liberals. We also compared generated faces in terms

of three relative qualities (e.g., femininity). First, we examined whether face type affected

participants' judgements on each attribute by conducting within-participant one-way

ANOVAs with two planned contrasts. The first contrast compared the Liberal faces

(generated by both progressives and traditional liberals) with the Conservative faces

(generated by both progressives and traditional liberals). The second contrast compared

participants' judgements of the Conservative face generated by progressives with the

Conservative face generated by traditional liberals. (See Table 4 for descriptive scores for

each face).

As expected, we found a main effect of face (see Supplemental Materials E, Table

S4). Supporting our preregistered hypotheses, the planned contrasts revealed that the Liberal

faces (generated by both progressives and traditional liberals) were rated significantly more

positively on every valenced attribute relative to Conservative faces (generated by both

progressives and traditional liberals), including being judged as more highly evolved. As

well, Liberal faces were judged as significantly more left-wing, feminine and younger than

the Conservative faces (see Table 4).

The second planned contrast revealed that participants rated the Conservative face

generated by progressives significantly more negatively than the Conservative face generated

by traditional liberals on all attributes (except for morality), including being judged as less

evolved. We also found that the Conservative face generated by progressives was judged to

be significantly older than the Conservative face generated by traditional liberals (see Table

4).

In addition to testing for relative differences between faces, we also tested exploratory

hypotheses of absolute differences on traits, i.e., the extent to which ratings of progressive

and traditional liberal-generated Conservative and Liberal faces would be seen as actively

manifesting a given attribute or trait. To achieve this, we estimated a series of one-sample t-

tests and tested whether participants' judgement scores were significantly different from 4

(the scale midpoint). The results are presented in Table 4. Full analyses can be found in

Supplemental Materials E, Table S5.

Discussion

Study 3 successfully confirmed the PVS item selection from Studies 1 and 2. More

importantly, this study tested whether progressives and traditional liberals perceive relevant

aspects of reality in meaningfully different ways. In keeping with our preregistered

hypotheses, Study 3 provides powerful evidence that progressives and traditional liberals

generated different mental representations of the faces of a political outgroup. We found that

the Conservative faces generated by the left-wing sample were rated more negatively when

compared to their generated ingroup image (i.e., a Liberal face). These findings are in

keeping with other work showing that left-wingers, in general, derogate those with opposing

views (e.g., Frimer et al., 2017). It is also interesting that left-wingers generated Conservative

faces that were 'correctly' identified as relatively right-wing, consistent with research

showing that left and right-wing political preferences can be accurately determined from facial images (Samochowiec et al., 2010).

More importantly, progressives demonstrated a particularly negative bias against Conservatives relative to traditional liberals. This is apparent from the visual inspection of Figure 2 and is borne out by ratings showing that progressives' representation of a Conservative is perceived as less intelligent, likeable, warm, competent, attractive, hardworking and evolved. These distinctions carry over into the absolute ratings of Conservative and Liberal faces. While progressives' representation of a Conservative was judged as actively unintelligent and lazy, traditional liberals did not portray Conservatives in this manner.

Study 4: Discriminant, External and Convergent Validity of the PVS

In a pre-registered Study 4, we first aimed to again confirm the PVS' factor structure. A further aim was to establish scale construct validity. We have argued that the split between progressivism and traditional liberalism is more of ideological kind than extremist degree. If we are to show that the PVS is not merely a measure of left-wing extremism, it must be shown as distinct from measures that assess a willingness to overthrow democratic and institutional norms, achieved through submission to a totalizing governmental regime and the advocacy of coercive physical violence.

While neither progressives nor traditional liberals advocate these extreme measures, recent work has focused on those on the Left who do. Once treated as the "Loch Ness Monster" of political psychology (Conway et al., 2018), left-wing authoritarianism (LWA) has received increased attention, and two recent measures have considered the construct from distinct methodological approaches. Nevertheless, as noted earlier, both measures can be said to confound authoritarian and ideological content, as they make explicit reference to progressive views that non-authoritarian progressives would presumably maintain (to some

extent). As such, we would expect meaningful overlap between the PVS and both LWA measures. However, if progressivism is to be understood as distinct from the extremism assessed with the LWA measures, the PVS should not share more than half of its variance with the LWA measures. Moreover, in an effort to further tease apart these measures, we compared all three to measures of preferences for social dominance (Ho et al., 2015), power, and conformity (Lindeman & Verkasalo, 2005), with the expectation that both authoritarianism measures would be positively correlated with these face-validly related constructs. Given that the PVS is not itself a measure of authoritarian extremes, we expected it to be negatively correlated with these same authoritarian constructs.

Study 4 also examined the external validity of the PVS by whether it would predict qualitatively different judgements regarding social issues and preferences indicative of progressive vs. traditionally liberal left-wing values. Participants reported relative preferences for manifestly or self-proclaimed progressive (vs. traditionally liberal) politicians (e.g., Alexandria Ocasio-Cortez vs. Nancy Pelosi), publications (e.g., Mother Jones vs The Atlantic), advocacy groups (e.g., Black Lives Matter vs. the American Civil Liberties Union), political coalitions (e.g., Congressional Progressive Caucus vs. New Democrat Coalition) and self-categorizations (i.e., Progressive vs. Traditionally Liberal). We also drew from news events in presenting scenarios representing issues at the heart of this split within the Left (e.g., veneration of morally questionable historical figures, 'cancellation' of those expressing insensitive views). To further explore the discriminant validity of the PVS, we specifically examined the extent to which the PVS is the superior predictor of these common progressive beliefs and behaviors relative to the LWA measures. Given the explicitly progressive ideological content of the LWA scales, we expected these measures to predict relatively progressive judgments. However, we used hierarchical regression models to test the prediction that the PVS would significantly add to the predictive power beyond LWA.

Finally, we expected the PVS to be associated with an assessment of collective action advocacy (Tropp et al., 2021). Given the progressive emphasis on government intervention to alleviate inequality, we expected the PVS to be negatively associated with a measure of 'neo-liberalism' that decries affirmative action and advocates for capitalist solutions for outcome inequality (Bay-Cheng et al., 2015). Finally, given the progressive sanction of perceived cultural appropriation and emphasis on public censure, we expected the PVS to be positively correlated with an assessment of political correctness (Strauts & Blanton, 2015).

Method

Participants

We recruited 450 participants from Prolific who self-identified as "Moderate" or "Left Wing" (like Studies 1-2). Using the same criteria as in Studies 1-3, we removed right-wing participants, including only those identifying as "Progressive" or "Traditionally Liberal", and excluded participants who failed more than one of the questionnaire's four attention checks. The final sample included 377 participants who were left-wing ($M = 5.98$, $SD = 0.96$), with 144 self-identified "Traditional Liberal" and 233 self-identified "Progressive", predominantly female (319 females, 43 males, 14 transgender/non-binary, 1 self-reported other) and aged between 18-60 years ($M = 25.36$, $SD = 7.14$). The participants were mostly white ($n = 250$), educated to college-level or beyond ($n = 194$), working full-time ($n = 147$), and earning less than $50000 per year ($n = 271$).

Measures and Procedure

As described in the pre-registration (https://osf.io/xqpn2/?view_only=d789df73015c44519a138016e165f9a8), all participants completed the final PVS items, as well as other measures that would allow us to separate the PVS from similar measures in the literature as well as testing its associations with theoretically related constructs (for descriptions, see Supplemental Materials B, Table S7).

These included two measures of LWA (Conway et al., 2018; Costello et al., 2022), and measures of social dominance (Ho et al., 2015), personal values (Lindeman & Verkasalo, 2005), neo-liberal beliefs (Bay-Cheng et al., 2015), political correctness (Strauts & Blanton, 2015), and collective action (Tropp et al., 2021). To assess concrete political preferences, we created six face-valid items related to politicians, publications, social advocacy and political coalition. To assess relevant social political judgments, we developed eight scenarios inspired by news sources, describing situations designed to be relevant for PVS dimensions.

Results

Confirming the PVS Factor Structure

We tested the 4-factor PVS using a CFA with full maximum likelihood estimation, finding that the model showed good global fit that was comparable to results from Studies 2 and 3, χ^2 (71) = 204.097, $p < .001$; CFI = .914; RMSEA = .071 (90% CI [.059, .082]); SRMR = .060.

Separating PVS From Measures of Left-Wing Authoritarianism

Consistent with our pre-registration, the PVS shared a substantial proportion of variance with LWA measures. PVS was correlated with Costello LWA, $r = .59$, 95% CI [.52, .65], $p < .001$, and with Conway LWA, $r = .47$, 95% CI [.39, .55], $p < .001$; sharing 34.8% and 22.1% of variance with the measures. However, as less than half of the variance was shared, we considered it unlikely that PVS and LWA scales measure the same underlying construct. For exploratory purposes, we also computed correlations between each of the four PVS factors and the three Costello LWA factors, finding that the highest correlation was between PVS total score and the anti-conventionalism factor of Costello's LWA measure, $r = .60$, 95% CI [.53, .66], $p < .001$ (for details see Supplemental Materials F, Table S6).

We then compared patterns of correlations of PVS and LWA with measures of dominance and personal values (see Table 5). Contrary to the pattern anticipated in our pre-

registration, PVS, Conway LWA and Costello LWA were all negatively related to dominance and conformity values; only Conway LWS was significantly negatively related to power. In exploring relationships between the Costello factors and social dominance we found that social dominance was not significantly related to non-hierarchical aggression, $r = .02$, 95% CI [-.08, .12] $p = .724$, but it was negatively related to anti-conventionalism, $r = -.28$, 95% CI [-.37, -.19] $p < .001$, and top-down censorship, $r = -.18$, 95% CI [-.28, -.08] $p < .001$. We also explored associations with the other Schwartz values and found that all three measures were significantly related to universalism. Nevertheless, we found that those high on the PVS and Conway LWA tended to score lower on traditionalism, but this was not the case for those scoring high on Costello LWA. Instead, Costello LWA was the only one positively related to hedonism.

PVS Prediction of Progressive vs. Traditionally Liberal Judgments

Next, we tested whether the PVS would predict progressive vs. traditionally liberal judgments, and do so to a greater extent than both measures of LWA. As seen in Table 6, the manifestly progressive PVS factors (PVS-MD,CAC,PC) were positively associated with more progressive political scenario judgements. Conversely, the manifestly traditional liberal factor (PVS-REI) was inversely associated with these preferences.

We then created a series of hierarchical models with each political judgement as an outcome and an LWA measure as the only predictor at Step 1, with both LWA and the PVS as predictors at Step 2. This allowed us to test whether the PVS explained additional variance in political judgments beyond that accounted for LWA alone. We created two sets of hierarchical models: one with Conway LWA and the other with Costello LWA. As shown in Table 7, across both sets of hierarchical models, having both PVS and LWA as predictors explained significantly more variance in 12 out of the 14 political judgments, compared to a model with just the LWA measure. Both LWA measures predicted self-categorising as

progressive as opposed to traditionally liberal, but, in both cases, PVS predicted progressive self-categorisation over and above the LWA measure.

To supplement results from the hierarchical models, we also ran dominance analyses on models where both LWA measures and the PVS measure were simultaneous predictors of each political judgement. Dominance analysis allows establishing the relative importance of one predictor over another across all possible subsets of predictors included in the model (Budescu, 1993). For instance, dominance analysis allows us to test whether the PVS is more predictive than Conway LWA either when included in a model by itself or in the presence of Costello LWA, while circumventing issues associated with making these judgments when predictors are correlated. To produce a measure of generalizability, we obtained bootstrap samples with 1000 replications and compared how many times the same pattern of dominance from our sample was obtained in the bootstrap samples (Azen & Budescu, 2003). This was calculated using the R *dominanceanalysis* package (Navarette, 2020) which produces a reproducibility value specifying the percentage of bootstrap samples that reproduced our obtained pattern of dominance. As shown in Table 8, PVS completely dominated both LWA measures in predicting nine out of 15 political judgements, including self-categorization as progressive (vs. traditionally liberal) and, in seven of these, this pattern of dominance was reproduced in over 81.3% of bootstrapped samples.

Associations Between PVS Factors and Theoretically-Related Constructs

As shown in Table 9, all PVS facets were significantly related to neoliberalism, collective action, and political correctness. To explore whether PVS factors are distinctly related to these outcomes independently of the other three, we conducted multiple regressions with all PVS factors included as simultaneous predictors. Table 10 shows that PVS-MD remained significantly associated with all outcomes while controlling for the other factors, and was a particularly strong predictor of collective action. PVS-REI also remained a

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significant predictor of all outcomes, being a particularly strong positive predictor of neoliberalism beliefs. PVS-CAC remained uniformly associated with all outcomes when the other three variables were controlled for. Finally, for the key comparison as specified in the pre-registration, PVS-PC was associated with the political correctness factors. As expected, being emotionally upset by the use of language considered inappropriate or offensive as well as one's tendency to correct such language were tendencies related to one's willingness to publicly censure morally questionable views.

Discussion

Study 4 offers further evidence of discriminant, external and convergent validity of the PVS. After again confirming the PVS' factor structure, we found strong support for our pre-registered hypotheses. While sharing an expected overlap with two measures of LWA, the PVS shared 35% and 22% variance with these scales, respectively. With less than 50% shared variance, the PVS cannot be understood to assess the same latent construct as LWA. While we were surprised that the PVS and LWA constructs did not show an inverse pattern of correlations with other measures of face-valid authoritarian tendencies (social dominance, power and conformity values), this is due to *all three* measures sharing a negative correlation with these constructs.

When examining the PVS' ability to predict qualitatively distinct progressive vs. traditionally liberal socio-political judgments, the PVS factors were associated with relevant preferences. Moreover, PVS-REI was inversely associated with these progressive preferences, relative to the manifestly progressive factors, providing further validation that the PVS is able to distinguish progressive and traditionally liberal dispositions. When comparing the predictive power of the PVS to both LWA measures, all three emerged as strong, consistent predictors of progressive views. However, in almost all hierarchical models, including the PVS significantly enhanced predictive power. For example, while

LWA might predict a preference for "Progressive" (versus "Traditional Liberal") self-categorization, PVS was the more important predictor. This is especially noteworthy insofar as both LWA measures repeatedly and explicitly use the term "Progressive," while the PVS does not.

Finally, we found that the PVS was positively associated with assessments of collective action and political correctness, along with the individual factors PVS-MD, PVS-CAC and PVS-PC. Moreover, these factors and the overall PVS demonstrated the expected negative association with neo-liberal beliefs. However, PVS-REI was strongly positively associated with neoliberalism, presenting additional validation that this factor assesses a distinct and opposing left-wing dimension in relation to the other actively progressive factors.

General Discussion

Efforts to understand the Left must acknowledge and assess distinctly progressive values. Assessments of single ideological dimensions (e.g., status inequality, Kay & Jost, 2003), tactics (ideological discrimination, Crawford & Brandt, 2020) or relative extremity (e.g., LWA, Conway et al., 2018; Costello et al., 2022) do not capture differences in *kind* within the broader left-wing. Across four studies, we have taken fundamental new steps in distinguishing progressives from the remainder of the political Left.

In Study 1, we drew from political science, cultural commentary and current events to assemble an array of values and beliefs that would potentially constitute a progressive worldview and distinguish this perspective from traditional liberal values. Exploratory factor analysis supported our predictions, producing factors that closely corresponded to the current understanding and manifestations of progressivism. PVS-MD captures the progressive impatience with the pace of social change with regards to diversity, advocating top-down programs mandating these outcomes. PVS-CAC manifests concerns that adopting the cultural identity of minority groups displays an unacceptable power inequity and a sense of

entitlement that is believed to characterize the majority cultural group. PVS-PC represents inclinations towards "cancel culture," advocating for the public shaming and censure of those who display perceived discrimination. Finally, PVS-REI constitutes the lone manifestation of actively advocated traditionally liberal beliefs, primarily as a repudiation of identity politics as the driver of left-wing ideology. In Studies 2-4, confirmatory factor analysis supported this four-factor model, distinguishing progressives from more traditional liberals and manifesting the split that characterizes the Left.

We also assessed individual differences that may be associated with progressive views. These findings offer an intuitive (and surprising) portrait of those that emphasize aspects of the progressive worldview. For example, it may not be surprising that those who advocate for mandating diversity (PVS-MD) would be characterized by empathy, benevolence and a belief in universal principles. However, it may or may not be surprising that these advocates are also uniquely self-deceiving in their perceived moral virtue. Similarly, it may be intuitive that those most likely to advocate public punishment for ideological transgressions (PVS-PC) would be those relatively assured of their superior understanding of others, along with doubts about their own self-worth and sense of mattering. However, it may be less intuitive that these advocates also see themselves as relatively empathic and open to experience (unless they feel more empathetic and open towards those deemed the target of harmful or offensive speech). We look forward to research that replicates or refines these findings, and we anticipate that the PVS makes this possible.

Study 3 offered important construct validation, with progressive or traditionally liberal UK university students generating facial portrayals of Conservatives that were judged to be generally less flattering, with an especially unflattering portrait offered by progressives. Moreover, exploratory analyses showed that in terms of certain traits (intelligence, competence), the more traditionally liberal did not join progressives in their negative

portrayal. Finally, Study 4 offered strong evidence of discriminant, external and convergent validity. The PVS did not substantially overlap with measures of left-wing extremism (i.e., LWA). It consistently predicted qualitatively different progressive vs. traditionally liberal socio-political judgments and did so as a distinct and superior predictor relative to both measures of LWA. The PVS, and its subscales, also correlated with relevant measured constructs in a manner that was expected (e.g., positive correlation between PVS political activism and negative correlation with PVS and neoliberalism, which shared a positive correlation with PVS-REI).

Limitations and Future Directions

We perceive two main limitations of this research. First, our distinction between progressives and traditional liberals does not capture all potentially distinct left-wing 'tribes' (e.g., Hawkins et al., 2018), which may account for low to moderate correlations with our political self-categorization items, especially as we defined them (e.g., those scoring as relatively progressive on the PVS may nevertheless have not supported 'defunding the police' and avoided the 'Progressive' categorization accordingly). Nevertheless, we have demonstrated that the broad split reliably assessed with the PVS allows for meaningful and important distinctions within left-wing judgments and perspectives.

Second, and more broadly, cultural and political differences might impact how the PVS relates to political orientation and to individual differences in non-US or UK populations. Political experts tend to use the terms "left-right" to describe the main political conflict within their countries, and these terms predominantly refer to divisions on issues of economic and class conflict. As PVS items mainly focus on issues of equality and personal freedoms, they could be adapted to other cultural contexts, by, for example, changing reference to affirmative action to the more general term, "diversity quotas," as is used in PVS-MD. In addition, identifying as politically left-wing could be associated with different

sets of personal values depending on the liberal, religious and democratic profile of a country (Piurko et al., 2011). By extension, our factors might also show different cross-cultural patterns of association.

Finally, we have argued that the split assessed by the PVS is best understood as one of ideological kind, rather than degree. Nevertheless, it is also possible for ideologies to differ in kind *and* degree. In Study 3 we found that progressives derogate conservatives to a greater extent than traditional liberals, which could be interpreted as progressive 'extremism'. However, there are likely shared ideological outgroups that traditional liberals may derogate to a greater extent (e.g., Anarchists). We look forward to future research exploring these possibilities.

Conclusion

Four years ago, the New York Times reader feedback on Mark Lilla's analysis quickly topped 2000 comments, and the perspectives were predictably split. One top-recommended comment stated that "This article is insulting to people who are not cisgendered, heterosexual white men", whereas another noted "I agree with everything here. But the top recommended comment said 'It's hogwash'. And that's why Trump won." (Lilla, 2016). Now, after another US presidential election, these same left-wing factions continue to vie for dominance across the West. Over the course of four studies, we have established and applied a tool for distinctly assessing progressive values that will aid in the exploration of this enduring split within the Left.

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Table 1

Descriptive Statistics for PVS Factors and Zero-Order Correlations with Demographic Variables and Political Identification Across Studies 1-4

Scales	*M (SD)*	PVS-MD	PVS-REI	PVS-CAC	PVS-PC	Age	Gender (0 = male, 1 = female)	Political identification (0 = Liberal, 1 = Progressive)[b]
				Study 1				
PVS-MD	4.48 (1.09)	-				.12 [-.03, .26]	.20** [.06, .34]	.10 [-.05, .24]
PVS-REI	3.96 (1.00)	-.37*** [-.49, -.24]	-			-.05 [-.19, .10]	-.07 [-.22, .08]	-.18* [-.31, -.03]
PVS-CAC	3.32 (1.44)	.46*** [.33, .57]	-.37*** [-.49, -.24]	-		-.15* [-.29, -.00]	.34*** [.20, .46]	.15* [.01, .29]
PVS-PC	4.73 (1.10)	.46*** [.34, .57]	-.35*** [-.47, -.21]	.39*** [.26, .50]	-	-.15* [-.29, -.01]	.00 [-.15, .15]	-.01 [-.15, .14]
PVS [a]	4.25 (0.83)	.80*** [.74, .85]	-.73*** [-.79, -.65]	.70*** [.62, .77]	.72*** [.64, .78]	-.06 [-.21, .08]	.20** [.05, .33]	.14 [-.00, .28]
				Study 2				
PVS-MD	4.48 (1.17)	-				-.01 [-.13, .12]	.15* [.03, .27]	.18** [.05, .29]
PVS-REI	3.69 (0.99)	-.50*** [-.59, -.40]	-			-.02 [-.15, .10]	-.25*** [-.36, -.12]	-.16* [-.28, -.04]
PVS-CAC	3.54 (1.53)	.39*** [.28, .49]	-.41*** [-.51, -.30]	-		-.20** [-.32, -.08]	.27*** [.15, .38]	.08 [-.04, .20]
PVS-PC	4.85 (1.12)	.28*** [.17, .39]	-.27*** [-.38, -.15]	.36*** [.25, .47]	-	-.23*** [-.34, -.10]	-.11 [-.23, .02]	.07 [-.06, .19]
PVS [a]	4.30 (0.88)	.74*** [.67, .79]	-.71*** [-.77, -.65]	.80*** [.75, .84]	.65*** [.57, .71]	-.15* [-.27, -.03]	.20** [.08, .32]	.16* [.04, .28]
				Study 3				
PVS-MD	4.72 (1.18)	-				.06 [-.04, .16]	.16** [.06, .25]	.16** [.06, .26]
PVS-REI	3.49 (1.32)	-.06 [-.16, .04]	-			.07 [-.03, .17]	-.26*** [-.35, -.17]	-.37*** [-.46, -.28]
PVS-CAC	3.56 (1.44)	.23*** [.14, .33]	-.27*** [-.36, -.18]	-		-.15** [-.24, -.05]	.25*** [.16, .34]	.31*** [.21, .39]
PVS-PC	4.77 (1.19)	.21*** [.11, .30]	-.12* [-.22, -.02]	.22*** [.12, .31]	-	.00 [-.10, .10]	-.08 [-.18, .02]	.18*** [.08, .28]
PVS [a]	3.78 (0.77)	.61*** [.54, .67]	-.64*** [-.69, -.58]	.68*** [.63, .73]	.55** [.48, .62]	-.07 [-.17, .03]	.26*** [.17, .35]	.42** [.34, .50]
				Study 4				
PVS-MD	4.94 (0.99)	-				.05 [-.05, .15]	.02 [-.09, .12]	.18*** [.08, .27]
PVS-REI	3.15 (1.16)	-.13** [-.23, -.03]	-			.24*** [.14, .33]	-.39*** [-.47, -.29]	-.33*** [-.41, -.23]
PVS-CAC	4.51 (1.50)	.32*** [.22, .41]	-.33*** [-.41, -.23]	-		-.16** [-.26, -.06]	.20*** [.10, .30]	.28*** [.19, .37]
PVS-PC	4.99	.39***	-.06	.24***	-	-.01	-.47***	.12*

Scales	M (SD)	PVS-MD	PVS-REI	PVS-CAC	PVS-PC	Age	Gender (0 = male, 1 = female)	Political identification (0 = Liberal, 1 = Progressive)[b]
PVS [a]	(1.18) 4.83 (0.79)	[.30, .47] .67*** [.61, .73]	[-.16, .04] -.62*** [-.68, -.56]	[.14, .33] .74*** [.69, .78]	.59*** [.52, .65]	[-.12, .09] -.17*** [-.27, -.07]	[-.55, -.39] .25*** [.15, .34]	[.02, .22] .36*** [.26, .44]

Note. *M* and *SD* represent mean and standard deviation. Values in square brackets indicate the 95% confidence interval. PVS-MD = Mandated Diversity factor, PVS-REI = Recourse to Existing Institutions factor, PVS-CAC = Cultural Appropriation Concerns factor, PVS-PC = Public Censure factor. *p < .05, **p < .01, ***p < .001

[a] Calculated from averaging items across all PVS factors (PVS-REI items were reverse-coded)

[b] For Studies 1 and 2, participants selected their political identity without further context (e.g., liberal, progressive), whereas for Studies 3 and 4, participants were given a description of each identity label (e.g., "Progressive: e.g., Politician: Rep. Alexandria Ocasio-Cortez (D – NY), Publication: Mother Jones Priority Issues: racial equality/Critical Race Theory, defunding police, abolishing Immigration and Customs Enforcement (I.C.E).")

Table 2

Standardized Factor Loadings for the Progressive Values Scale Items in Confirmatory Factor Analyses Across Studies 2-4

Factor and Items	Study 2		Study 3		Study 4	
	α	Loading	α	Loading	α	Loading
F1 Mandated diversity (4 items)	.81		.80		.72	
Institutions that don't employ affirmative action initiatives contribute to the oppression that minority groups face daily.		.79		.79		.70
Maintaining diversity quotas is a good way of ensuring that institutions don't revert to discrimination.		.74		.57		.61
It may be the case that affirmative action will always be needed.		.69		.82		.73
There are no downsides to affirmative action practices in the educational or employment sector.		.64		.64		.50
F2 Recourse to existing institutions (4 items)	.61		.79		.71	
Rehashing past injustices distracts from achieving justice in the present and future.		.68		.73		.70
Most meaningful change in terms of equal representation has been achieved through the work of already existing social institutions.		.46		.69		.47
It might feel good to express a social identity, but it does little to achieve social equality.		.54		.70		.68
Most progress has been made by ignoring social identity and appealing to our shared experiences.		.40		.69		.62
F3 Cultural appropriation concerns (3 items)	.86		.78		.83	
People should be permitted to adopt whatever cultural characteristics that appeal to them (music, fashion), regardless of status inequalities.[a]		.81		.59		.68
If you're part of a historical majority, it's disrespectful to adopt the customs and cultures of minority groups.		.81		.88		.83
Taking on the culture of minority groups (music, fashion) is an act of entitlement.		.84		.77		.86
F4 Public censure (3 items)	.68		.72		.72	
Those who have crossed a moral line can better understand the magnitude of their mistake if it is pointed out publicly		.59		.59		.58
Making some people feel ashamed about their views is a small price to pay when fighting against historical injustice.		.67		.77		.75
Those who express bigoted views should be exposed and deserve the backlash that follows.		.70		.69		.72

[a] Item is reverse-coded

Table 3

Zero-Order Correlations Between the Four PVS Factors and Other Psychological Traits and Tendencies in Study 2

	PVS-MD	PVS-REI	PVS-CAC	PVS-PC	PVS[a]
Big Five personality traits					
Neuroticism	.00	-.10	.18*	.12	.15
	[-.12, .12]	[-.22, .02]	[.06, .30]	[.00, .24]	[.03, .27]
Extraversion	.01	.01	-.05	-.13	-.06
	[-.11, .14]	[-.12, .13]	[-.17, .08]	[-.25, -.01]	[-.18, .07]
Openness to experience	.12	-.10	.13	.23**	.20*
	[-.00, .24]	[-.22, .02]	[.01, .25]	[.10, .34]	[.08, .31]
Agreeableness	.25**	-.06	-.06	-.07	.05
	[.13, .36]	[-.19, .06]	[-.19, .06]	[-.19, .06]	[-.07, .18]
Conscientiousness	.05	.03	-.02	-.15	-.05
	[-.08, .17]	[-.09, .16]	[-.14, .11]	[-.27, -.02]	[-.17, .08]
Moral foundations					
Harm	.28**	-.25**	.15	.10	.26**
	[.17, .39]	[-.36, -.13]	[.02, .27]	[-.02, .22]	[.14, .37]
Fairness	.31**	-.32**	.22**	.35**	.40**
	[.19, .42]	[-.43, -.20]	[.10, .34]	[.23, .45]	[.29, .50]
Ingroup	-.06	.29**	-.14	-.18*	-.22**
	[-.19, .06]	[.18, .40]	[-.26, -.01]	[-.30, -.06]	[-.34, -.10]
Authority	-.14	.35**	-.15	-.27**	-.30**
	[-.26, -.01]	[.24, .46]	[-.27, -.03]	[-.38, -.15]	[-.41, -.18]
Purity	-.07	.27**	-.08	-.19*	-.20*
	[-.19, .05]	[.15, .38]	[-.20, .04]	[-.31, -.07]	[-.31, -.07]
Attachment style					
Secure	.11	.02	-.01	-.04	.01
	[-.02, .23]	[-.10, .14]	[-.13, .12]	[-.17, .08]	[-.11, .14]
Preoccupied	-.10	.16	.08	.14	.00
	[-.22, .03]	[.03, .28]	[-.04, .20]	[.02, .26]	[-.12, .13]
Dismissive	.08	-.05	.09	.15	.13
	[-.05, .20]	[-.17, .07]	[-.03, .21]	[.02, .27]	[.00, .25]
Fearful	-.11	.16	.10	.06	-.02
	[-.23, .01]	[.04, .28]	[-.02, .22]	[-.06, .19]	[-.14, .11]
Interpersonal reactivity					
Fantasy	.12	-.17*	.09	.14	.17*
	[-.01, .24]	[-.29, -.05]	[-.04, .21]	[.02, .26]	[.05, .29]
Perspective taking	.13	.03	-.11	-.01	-.02
	[.00, .25]	[-.10, .15]	[-.23, .01]	[-.13, .12]	[-.14, .11]
Empathetic concern	.34**	-.29**	.09	.05	.25**
	[.23, .45]	[-.40, -.17]	[-.03, .21]	[-.07, .17]	[.13, .36]
Personal distress	.08	.01	.17*	.07	.12
	[-.04, .21]	[-.11, .13]	[.04, .29]	[-.06, .19]	[-.01, .24]
Basic values					
Power	-.10	.15	.00	.08	-.05
	[-.22, .03]	[.03, .27]	[-.12, .12]	[-.05, .20]	[-.17, .07]

	PVS-MD	PVS-REI	PVS-CAC	PVS-PC	PVS[a]
Achievement	-.04	.06	.05	.06	.01
	[-.16, .09]	[-.06, .18]	[-.07, .17]	[-.07, .18]	[-.11, .14]
Hedonism	.00	.04	.02	.02	.00
	[-.12, .12]	[-.09, .16]	[-.10, .14]	[-.11, .14]	[-.12, .13]
Stimulation	.05	-.00	.10	.07	.08
	[-.08, .17]	[-.13, .12]	[-.03, .22]	[-.05, .20]	[-.04, .20]
Self-Direction	.11	-.08	.10	.12	.14
	[-.02, .23]	[-.20, .05]	[-.02, .22]	[-.00, .24]	[.02, .26]
Universalism	.32**	-.29**	.19*	.18*	.33**
	[.20, .43]	[-.40, -.17]	[.07, .31]	[.05, .29]	[.21, .43]
Benevolence	.20*	-.19*	.11	.01	.17*
	[.08, .32]	[-.31, -.07]	[-.01, .23]	[-.11, .14]	[.05, .29]
Traditionalism	-.06	.19*	-.01	-.21*	-.14
	[-.18, .07]	[.06, .30]	[-.13, .12]	[-.33, -.09]	[-.26, -.02]
Conformity	.03	.17*	-.11	-.24**	-.16
	[-.09, .16]	[.04, .28]	[-.23, .01]	[-.35, -.12]	[-.28, -.04]
Security	-.08	.21*	-.13	-.15	-.19*
	[-.20, .04]	[.09, .33]	[-.25, -.00]	[-.27, -.02]	[-.30, -.07]
Free will and determinism beliefs					
Fatalistic determinism	-.08	.25**	.06	-.15	-.12
	[-.20, .05]	[.13, .36]	[-.07, .18]	[-.27, -.02]	[-.24, .01]
Scientific determinism	-.12	.19*	.11	.15	.01
	[-.24, .01]	[.06, .30]	[-.01, .23]	[.02, .27]	[-.12, .13]
Unpredictability	.01	.10	-.02	.03	-.02
	[-.11, .14]	[-.02, .22]	[-.15, .10]	[-.09, .16]	[-.15, .10]
Free will	-.21*	.32**	-.25**	-.24**	-.35**
	[-.33, -.09]	[.21, .43]	[-.37, -.13]	[-.35, -.12]	[-.45, -.23]
Anomie					
Breakdown in social fabric	-.16	.18*	-.00	.09	-.08
	[-.28, -.03]	[.06, .30]	[-.13, .12]	[-.04, .21]	[-.20, .05]
Breakdown in leadership	.02	-.09	.08	.12	.11
	[-.10, .15]	[-.21, .03]	[-.04, .20]	[-.01, .24]	[-.02, .23]
Meaning in life dimensions					
Coherence	.16	-.12	.01	-.08	.07
	[.04, .28]	[-.24, .00]	[-.12, .13]	[-.20, .04]	[-.06, .19]
Purpose	.08	-.15	.05	-.08	.06
	[-.04, .20]	[-.26, -.02]	[-.08, .17]	[-.20, .05]	[-.06, .19]
Mattering	.12	-.00	.02	-.23**	-.02
	[-.00, .24]	[-.13, .12]	[-.10, .14]	[-.35, -.11]	[-.15, .10]
Overall MIL	.14	-.09	.02	-.22**	.01
	[.02, .26]	[-.21, .03]	[-.11, .14]	[-.33, -.10]	[-.11, .13]
Epistemic Privilege					
Understanding left	-.08	-.09	-.04	.07	.00
	[-.20, .04]	[-.21, .04]	[-.16, .09]	[-.05, .19]	[-.12, .13]
Understanding right	.12		.14	.29**	.27**
	[-.01, .24]	[-.38, -.15]	[.02, .26]	[.17, .40]	[.15, .38]
Dehumanization					
Humanity of left	.09	-.18*	.10	.13	.16*

	PVS-MD	PVS-REI	PVS-CAC	PVS-PC	PVS[a]
	[-.03, .21]	[-.30, -.06]	[-.03, .22]	[.00, .25]	[.04, .28]
Humanity of right	-.04	-.08	-.00	-.03	.00
	[-.17, .08]	[-.20, .04]	[-.13, .12]	[-.15, .10]	[-.12, .12]
Self-liking and self-competence					
Self-liking	.04	-.03	-.11	-.18*	-.08
	[-.08, .16]	[-.16, .09]	[-.23, .01]	[-.30, -.06]	[-.20, .04]
Self-competence	-.01	.06	-.09	-.23**	-.13
	[-.14, .11]	[-.07, .18]	[-.21, .03]	[-.34, -.11]	[-.25, -.01]
Lay biopolitics	-.11	.19*	.01	-.01	-.09
	[-.24, .01]	[.06, .30]	[-.11, .13]	[-.14, .11]	[-.21, .03]
Avoidance of ideological outgroups	.01	.03	.19*	.13	.12
	[-.12, .13]	[-.10, .15]	[.07, .31]	[.01, .25]	[-.01, .24]
Self-deceptive denial	.23**	-.17*	.08	-.15	.11
	[.10, .34]	[-.28, -.04]	[-.05, .20]	[-.27, -.03]	[-.02, .23]

Note. *$p < .01$, **$p < .001$; PVS-MD = Mandated Diversity factor, PVS-REI = Recourse to Existing Institutions factor, PVS-CAC = Cultural Appropriation Concerns factor, PVS-PC = Public Censure factor.

[a] Calculated from averaging items across all PVS factors (PVS-REI items were reverse-coded)

Table 4

Absolute Trait Ratings and Contrast Analyses in Study 3

	Absolute Trait Ratings For Each Face		**Contrast Analysis**							
	Contrast 1	Contrast 2	Conservative Face Liberals		Conservative Face Progressives		Liberal Face Traditional Liberals		Liberal Face Progressives	
	Cohen's dz [95% CI]		*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Intelligent	0.49 [0.41, 0.57]**	0.23 [0.15, 0.30]**	4.02	1.40	3.70**	1.49	4.42**	1.33	4.45**	1.31
Likeable	0.75 [0.67, 0.84]**	0.20 [0.12, 0.28]**	3.51**	1.46	3.24**	1.48	4.28**	1.38	4.47**	1.39
Warm	0.82 [0.73, 0.91]**	0.15 [0.07, 0.23]**	3.19**	1.49	2.99**	1.49	4.20**	1.41	4.32**	1.50
Competent	0.44 [0.36, 0.52]**	0.14 [0.06, 0.21]**	3.97	1.35	3.77**	1.44	4.37**	1.30	4.37**	1.25
Attractive	0.74 [0.66, 0.83]**	0.40 [0.32, 0.48]**	3.24**	1.56	2.67**	1.51	3.72**	1.49	4.15**	1.55
Moral	0.48 [0.40, 0.56]**	0.01 [-0.06, 0.09]	3.79**	1.28	3.77**	1.29	4.26**	1.22	4.34**	1.21
Hard-working	0.15 [0.07, 0.23]**	0.09 [0.01, 0.16]*	4.25**	1.33	4.12*	1.45	4.40**	1.29	4.32**	1.17
Left-wing	0.48 [0.40, 0.56]**	0.01 [-0.06, 0.09]	3.33**	1.33	3.35**	1.41	3.96	1.27	4.03	1.26
Feminine	0.83 [0.75, 0.92]**	0.05 [0.02, 0.13]	2.27**	1.40	2.20**	1.43	2.87**	1.59	4.22**	1.87
Young	1.21 [1.11, 1.31]**	0.56 [0.48, 0.64]**	3.50**	1.36	2.69**	1.31	4.26**	1.39	5.20**	1.36
Evolved	0.64 [0.55, 0.72]**	0.42 [0.34, 0.50]**	-	-	-	-	-	-	-	-

Note: Absolute Trait Ratings for Each Face (difference from 4): *p <.05, **p<.001
Contrast Analysis: *p <.05, **p<.01

Table 5

Comparison of Zero-Order Correlations Between the Progressive Values Scale (PVS) and Left-Wing Authoritarianism (LWA) with Dominance and Personal Values in Study 4

	PVS Total	Conway LWA	Costello LWA
SDO – Dominance	-.34***	-.37***	-.17*
	[-.43, -.25]	[-.45, -.28]	[-.26, -.07]
SSVS1 - Power	-.15	-.16*	-.01
	[-.25, -.05]	[-.26, -.06]	[-.11, .09]
SSVS2 - Achievement	-.11	.04	-.04
	[-.21, -.01]	[-.14, .07]	[-.14, .06]
SSVS3 - Hedonism	.04	.07	.18*
	[-.06, .14]	[-.03, .17]	[.08, .27]
SSVS4- Stimulation	.04	.07	.15
	[-.06, .14]	[-.03, .17]	[.05, .25]
SSVS5 - Self-Direction	.11	.14	.08
	[.01, .21]	[.04, .23]	[-.02, .18]
SSVS6 - Universalism	.28***	.26***	.27***
	[.18, .37]	[.16, .35]	[.17, .36]
SSVS7 - Benevolence	.09	.19**	.14
	[-.02, .19]	[.09, .29]	[.04, .24]
SSVS8 - Traditionalism	-.22***	-.31***	-.11
	[-.31, -.12]	[-.40, -.21]	[-.21, -.01]
SSVS9 - Conformity	-.34***	-.39***	-.25***
	[-.43, -.25]	[-.47, -.30]	[-.34, -.15]
SSVS10 - Security	-.15	-.11	-.03
	[-.25, -.05]	[-.21, -.01]	[-.13, .07]

Note. SSVS: Short Schwartz Values Survey. All *p*-values were adjusted for multiple comparisons using the Holm method (Holm, 1979). Here, we defined three families of tests: for all correlations with PVS, Conway LWA and Costello LWA, respectively. **p < .05, ** p < .01, *** p < .001*

Table 6

Means, standard deviations, and correlations with confidence intervals for PVS factors and political preferences and identification in Study 4

Variable	PVS Total	PVS-MD	PVS-REI	PVS-CAC	PVS-PC
Scenario1	.43***	.32***	-.36***	.29***	.16
	[.35, .51]	[.22, .40]	[-.44, -.27]	[.19, .38]	[.06, .25]
Scenario2	.50***	.27***	-.36***	.42***	.25***
	[.42, .57]	[.17, .36]	[-.45, -.27]	[.33, .50]	[.15, .34]
Scenario3	.51***	.26***	-.46***	.34***	.27***
	[.43, .58]	[.16, .35]	[-.54, -.38]	[.24, .42]	[.17, .36]
Scenario4	.36***	.31***	-.11	.30***	.23***
	[.26, .44]	[.21, .40]	[-.21, -.01]	[.21, .39]	[.13, .32]
Scenario5	.54***	.35***	-.40***	.46***	.19*
	[.47, .61]	[.26, .44]	[-.48, -.31]	[.38, .54]	[.09, .28]
Scenario6	.43***	.26***	-.26***	.41***	.18*
	[.34, .51]	[.16, .35]	[-.35, -.16]	[.32, .49]	[.08, .28]
Scenario7	.13	.16	-.03	.06	.11
	[.02, .22]	[.06, .25]	[-.13, .08]	[-.04, .16]	[.01, .21]
Scenario8	.48***	.23***	-.40***	.33***	.28***
	[.40, .56]	[.13, .33]	[-.49, -.32]	[.24, .42]	[.19, .38]
Scenario_average	.69***	.45***	-.48***	.53***	.34***
	[.64, .74]	[.37, .53]	[-.55, -.40]	[.45, .60]	[.25, .43]
Pelosi vs. Ocasio-Cortez	.39***	.17*	-.38***	.25***	.19*
	[.30, .47]	[.07, .27]	[-.47, -.29]	[.15, .34]	[.10, .29]
Biden vs. Sanders	.35***	.11	-.38***	.25***	.14
	[.26, .43]	[.01, .21]	[-.47, -.29]	[.15, .34]	[.04, .24]
Obama vs. Ilhan Omar	.38***	.14	-.31***	.38***	.13
	[.29, .46]	[.04, .24]	[-.40, -.22]	[.29, .46]	[.03, .23]
Coalition: NDC vs. CPC	.21**	.08	-.28***	.13	.05
	[.11, .31]	[-.02, .18]	[-.37, -.18]	[.03, .23]	[-.06, .15]
Atlantic vs. Huff Post	.17*	.13	-.13	.12	.05
	[.07, .26]	[.03, .23]	[-.23, -.03]	[.02, .22]	[-.06, .15]
Civil Liberties vs. BLM	.50***	.28***	-.41***	.34***	.25***
	[.42, .57]	[.18, .37]	[-.49, -.33]	[.25, .43]	[.15, .34]
Traditional Liberal Vs. Progressive	.36***	.18*	-.33***	.28***	.12
	[.26, .44]	[.08, .27]	[-.41, -.23]	[.19, .37]	[.02, .22]

Note: NDC: New Democrat Coalition; CPC: Congressional Progressive Caucus; Civil Liberties: American Civil Liberties Union; BLM: Black Lives Matter; All *p*-values were adjusted for multiple comparisons using the Holm method (Holm, 1979). Here, we defined five families of tests for all correlations with the total score and each PVS factor, respectively. *$p < .05$, ** $p < .01$, *** $p < .001$

Table 7

Hierarchical Regressions Comparing a Model with Just a LWA (Left Wing Authoritarianism) Measure (Model 1) to a Model with Both LWA and PVS as Simultaneous Predictors (Model 2) of Political Preferences and Political Identification in Study 4

Outcome	LWA Measure	Model	R^2	Predictors					
				LWA			PVS Total		
				b	β [95% CI]	*p*	*b*	β [95% CI]	*p*
Scenario 1	Conway	1	.09	.62	.31 [.21, .40]	<.001	-	-	-
		2	.20[a]	.27	.13 [.03, .24]	.012	.73	.37 [.27. .48]	<.001
	Costello	1	.07	.49	.27 [.17, .37]	<.001	-	-	-
		2	.19[a]	.03	.02 [-.10, .13]	.776	.83	.43 [.31, .54]	<.001
Scenario 2	Conway	1	.12	.57	.34 [.25, .44]	<.001	-	-	-
		2	.26[a]	.23	.14 [.04, .24]	.006	.70	.43[.34, .53]	<.001
	Costello	1	.12	.53	.35 [.25, .44]	<.001	-	-	-
		2	.25[a]	.12	.08 [-.03, .19]	.145	.73	.45 [.34, .56]	<.001
Scenario 3	Conway	1	.12	.58	.35 [.26, .45]	<.001	-	-	-
		2	.28[a]	.24	.15 [.05, .24]	.004	.70	.44 [.34, .54]	<.001
	Costello	1	.12	.52	.35 [.26, .45]	<.001	-	-	-
		2	.26[a]	.11	.08 [-.03, .18]	.164	.73	.46 [.36, .57]	<.001
Scenario 4	Conway	1	.06	.51	.24 [.14, .33]	<.001	-	-	-
		2	.13[a]	.19	.09 [-.02, .19]	.111	.66	.31 [.21, .42]	<.001
	Costello	1	.26	1.01	.51 [.42, .60]	<.001	-	-	-
		2	.27	.91	.46 [.35, .57]	<.001	.18	.08 [-.02, .19]	.124
Scenario 5	Conway	1	.05	.40	.23 [.13, .33]	<.001	-	-	-
		2	.30[a]	-.06	-.03 [-.13, .06]	.503	.95	.56 [.46, .66]	<.001
	Costello	1	.12	.56	.35 [.25, .44]	<.001	-	-	-
		2	.30[a]	.07	.04 [-.06, .15]	.405	.88	.52 [.41, .62]	<.001
Scenario 6	Conway	1	.03	.36	.17 [.07, .27]	<.001	-	-	-
		2	.18[a]	-.08	-.04 [-.14, .07]	.483	.90	.44 [.34, .55]	<.001

	Costello	1	.09	.58	.30 [.21, .40]	<.001	-	-	-
		2	.19[a]	.15	.08 [-.03, .16]	.847	.77	.38 [.27, .49]	<.001
Scenario 7	Conway	1	.00	-.01	-.01 [-.11, .10]	.909	-	-	-
		2	.02[b]	-.16	-.08 [-.20, .03]	.150	.30	.17 [.05, .28]	.005
	Costello	1	.05	.38	.22 [.12, .32]	<.001	-	-	-
		2	.05	.39	.23 [.10, .35]	<.001	-.01	-.01 [-.13, .12]	.905
Scenario 8	Conway	1	.22	.73	.47 [.38, .56]	<.001	-	-	-
		2	.31[a]	.49	.26 [.15, .36]	<.001	.50	.33 [.22, .44]	<.001
	Costello	1	.21	.64	.45 [.36, .54]	<.001	-	-	-
		2	.28[a]	.37	.26 [.15, .36]	<.001	.50	.33 [.22, .44]	<.001
Scenario - Average	Conway	1	.19	.48	.43 [.34, .52]	<.001	-	-	-
		2	.50[a]	.15	.14 [.05, .22]	.002	.67	.63 [.55, .71]	<.001
	Costello	1	.34	.59	.59 [.50, 67]	<.001	-	-	-
		2	.53[a]	.27	.27 [.19, .36]	<.001	.57	.53 [.45, .62]	<.001
Pelosi vs. Ocasio-Cortez	Conway	1	.16	.83	.40 [.30, .49]	<.001	-	-	-
		2	.21[a]	.58	.32 [.22, .41]	<.001	.53	.33 [.24, .43]	<.001
	Costello	1	.14	.71	.37 [.28, .47]	<.001	-	-	-
		2	.18[a]	.42	.22 [.10, .33]	<.001	.53	.26 [.15, .37]	<.001
Biden vs. Sanders	Conway	1	.16	.98	.40 [.31, .50]	<.001	-	-	-
		2	.19[a]	.75	.31 [.20, .41]	<.001	.48	.21 [.10, .31]	<.001
	Costello	1	.17	.92	.41 [.32, .51]	<.001	-	-	-
		2	.19[b]	.71	.32 [.21, .43]	<.001	.38	.16 [.05, .27]	.006
Obama vs. Ilhan Omar	Conway	1	.13	.94	.35 [.26, .45]	<.001	-	-	-
		2	.18[a]	.60	.22 [.12, .33]	<.001	.71	.27 [.17, .38]	<.001
	Costello	1	.13	.89	.37 [.27, .46]	<.001	-	-	-
		2	.18[a]	.53	.22 [.10, .33]	<.001	.65	.25 [.14, .37]	<.001
Coalition: NDC vs. CPC	Conway	1	.08	.72	.28 [.18, .37]	<.001	-	-	-
		2	.09	.59	.23 [.12, .34]	<.001	.27	.11 [.00, .22]	.057
	Costello	1	.03	.44	.18 [.08, .28]	<.001	-	-	-
		2	.05[c]	.21	.09 [-.03, .21]	.149	.40	.16 [.04, .28]	.011
Atlantic vs. Huff Post	Conway	1	.07	.49	.26 [.16, .36]	<.001	-	-	-
		2	.07	.44	.23 [.12, .34]	<.001	.11	.06 [-.05, .17]	.313

	Costello	1	.01	.21	.12 [.02, .22]	.022	-	-	-
		2	.05[c]	.05	.03 [-.09, .16]	.622	.27	.15 [.02, .27]	.020
Civil Liberties vs. BLM	Conway	1	.11	.73	.34 [.24, .43]	<.001	-	-	-
		2	.26[a]	.29	.13 [.03, .23]	.009	.91	.43 [.33, .53]	<.001
	Costello	1	.17	.81	.41 [.32, .50]	<.001	-	-	-
		2	.27[a]	.35	.18 [.07, .29]	.001	.82	.39 [.28, .50]	<.001
Traditional Liberal Vs. Progressive	Conway	1	468.08[c]	.86[d]	2.36 [1.74, 3.25][e]	<.001	-	-	-
		2	442.30[c, a]	.49[d]	1.63 [1.17, 2.32][e]	.004	.86[c]	2.36 [1.68, 3.39][d]	<.001
	Costello	1	461.37[c]	.87[d]	2.39 [1.80, 3.24][e]	<.001	-	-	-
		2	442.86[c, a]	.48[d]	2.21 [1.46, 2.28][e]	.006	.79[c]	2.21 [1.53, 3.26][d]	<.001

Note: NDC: New Democrat Coalition; CPC: Congressional Progressive Caucus; Civil Liberties: American Civil Liberties Union; BLM: Black Lives Matter; Robust estimates were reported when these substantially differed from their non-robust counterparts. [a] Model 2 was significantly better than Model 1 at $p <.001$. [b] Model 2 was significantly better than Model 1 at $p <.01$. [c] Model 2 was significantly better than Model 1 at $p <.05$. [c] Residual deviance [d] Log odds ratio. [e] Odds ratio

Table 8

Dominance Analysis of PVS Over LWA Measures Expressed as Dij Values in the Sample (1 = PVS dominates a LWA measure, 0 = LWA measure dominates PVS, 0.5 = no dominance can be established), and Their Means (Dij), Standard Errors, Probabilities, and Reproducibility Over 1000 Bootstrap Samples in Study 4

	j	Sample D_{ij}	$\overline{D_{ij}}$	$SE(D_{ij})$	P_{ij}	P_{ji}	$P_{no\text{-}ij}$	Reproducibility
Scenario 1	LWA Conway	1	.987	.114	.986	.013	.001	.986
	LWA Costello	1	1	0	1	0	0	1
Scenario 2	LWA Conway	1	1	0	1	0	0	1
	LWA Costello	1	1	0	1	0	0	1
Scenario 3	LWA Conway	1	1	0	1	0	0	1
	LWA Costello	1	1	0	1	0	0	1
Scenario 4	LWA Conway	.50	.608	.221	.229	.013	.758	.758
	LWA Costello	0	.001	.032	.001	.999	0	.999
Scenario 5	LWA Conway	1	1	0	1	0	0	1
	LWA Costello	1	1	0	1	0	0	1
Scenario 6	LWA Conway	1	1	0	1	0	0	1
	LWA Costello	1	.992	.083	.990	.006	.004	.99
Scenario 7	LWA Conway	.50	.455	.155	.007	.097	.896	.896
	LWA Costello	0	.016	.100	.005	.974	.021	.974
Scenario 8	LWA Conway	1	.527	.480	.490	.435	.075	.490
	LWA Costello	1	.832	.283	.711	.048	.241	.711
Scenario - Average	LWA Conway	1	1	0	1	0	0	1
	LWA Costello	1	.999	.022	.998	0	.002	.998

			P_{ij}		P_{ji}		P_{no-ij}	
Pelosi vs. Ocasio-Cortez	LWA Conway	0.5	.465	.477	.422	.492	.086	.086
	LWA Costello	1	.772	.343	.656	.111	.233	.656
Biden vs. Sanders	LWA Conway	0	.150	.332	.115	.815	.070	.815
	LWA Costello	0	.201	.320	.084	.683	.233	.683
Obama vs. Ilhan Omar	LWA Conway	1	.734	.425	.704	.236	.060	.704
	LWA Costello	1	.749	.351	.619	.121	.260	.619
Coalition: NDC vs. CPC	LWA Conway	0	.104	.302	.100	.893	.007	.893
	LWA Costello	1	.794	.313	.662	.075	.263	.662
Atlantic vs. Huff Post	LWA Conway	0	.048	.210	.045	.950	.005	.950
	LWA Costello	0.5	.657	.315	.405	.091	.504	.504
Civil Liberties vs. BLM	LWA Conway	1	1	0	1	0	0	1
	LWA Costello	1	.977	.136	.969	.015	.016	.969
Traditional Liberal Vs.	LWA Conway	1	.910	.275	.899	.078	.023	.899
Progressive	LWA Costello	1	.858	.316	.813	.098	.089	.813

Note: P_{ij} = probability that Dij is 1, P_{ji} = probability that Dij is 0, P_{no-ij} = probability that Dij is 0.5; NDC: New Democrat Coalition; CPC: Congressional Progressive Caucus; Civil Liberties: American Civil Liberties Union; BLM: Black Lives Matter;

Table 9

Comparison of Zero-Order Correlations Between the Progressive Values Scale (PVS) Total Scores and Factor Scores with Neoliberalism Beliefs, Collective Action, and Political Correctness (PC) in Study 4

	PVS Total	PVS - MD	PVS – REI	PVS – CAC	PVS - PC
Neoliberalism Beliefs	-.59***	-.25***	.62***	-.48***	-.15**
	[-.66, -.52]	[-.34, -.15]	[.55, .67]	[-.55, -.40]	[-.24, -.05]
Collective action	.47***	.33***	-.30***	.40***	.18***
	[.39, .55]	[.24, .42]	[-.39, .21]	[.31, .48]	[.09, .28]
PC - Emotion	.40***	.27***	-.20***	.30***	.30***
	[.32, .49]	[.17, .36]	[-.30, -.10]	[.21, .39]	[.21, .39]
PC - Activism	.46***	.32***	-.25***	.39***	.25***
	[.38, .54]	[.23, .41]	[-.34, -.15]	[.30, .48]	[.15, .34]

Note. All *p*-values were adjusted for multiple comparisons using the Holm method (Holm, 1979). Here, we defined five families of tests for all correlations with the total score and each PVS factor, respectively. ** $p < .01$, *** $p < .001$; PVS-MD = Mandated Diversity factor, PVS-REI = Recourse to Existing Institutions factor, PVS-CAC = Cultural Appropriation Concerns factor, PVS-PC = Public Censure factor.

Table 10

Progressive Values Scale Factor Scores as Simultaneous Predictors of Neoliberalism Beliefs, Collective Action, and Political Correctness in Study 4

Predictors	Neoliberalism Beliefs			Collective action			PC - Emotion			PC - Activism		
	b	β [95% CI]	*p*	*b*	β [95% CI]	*p*	*b*	β [95% CI]	*p*	*b*	β [95% CI]	*p*
PVS-MD	-.06	-.09 [-.17, -.01]	.036	.30	.21 [.11, .31]	<.001	.14	.12 [.01, .22]	.030	.23	.18 [.08, .28]	<.001
PVS-REI	.31	.51 [.43, .59]	<.001	-.23	-.19 [-.28, -.09]	<.001	-.12	-.11 [-.21, -.02]	.020	-.14	-.13 [-.23, -.04]	.007
PVS-CAC	-.13	-.28 [-.37, -.20]	<.001	.25	.26 [.16, .36]	<.001	.14	.18 [.07, .28]	<.001	.22	.27 [.17, .37]	<.001
PVS-PC	-.01	-.01 [-.09, .07]	.808	.03	.02 [-.07, .12]	.622	.22	.21 [.11, .31]	<.001	.11	.11 [.01, .20]	.037

Note: PC: Political Correctness; PVS-MD = Mandated Diversity factor, PVS-REI = Recourse to Existing Institutions factor, PVS-CAC = Cultural Appropriation Concerns factor, PVS-PC = Public Censure factor.