

## Opinion

# Thinking outside the ballot box

Thomas H. Costello <sup>1,2,3,\*,@</sup> Leor Zmigrod,<sup>4,5</sup> and Arber Tasimi<sup>1</sup>

**A deeply heterogeneous set of ideological cohorts have shaped the course of history. From anarchists and authoritarians to Zionists and Zapatistas, the expansive alphabet of politics demands an equally expansive psychological vocabulary to describe political belief systems. We propose that constructing such a vocabulary is best facilitated by decentering familiar models that emphasize psychological differences between leftists and rightists. Synthesizing recent developments in the fields of personality, political science, and psychopathology, we characterize individual variation in politics as high-dimensional, heterarchical, intrapersonally eclectic, and contextually shaped and activated. Developing a data-driven taxonomic model of political-psychological phenomena will help create a foundational base of knowledge within political psychology that is more rigorous, more replicable, and certainly richer to investigate.**

### Beyond left and right

A tidal wave of research has documented an ocean of differences between leftists and rightists. From neural structures [1] to basic cognitive processes [2] and from moral intuitions [3] to entertainment preferences [4], the left–right divide dominates how we investigate and understand the political mind (i.e., the psychological processes and mechanisms that influence a person’s political beliefs, attitudes, and behaviors).

The idea that psychological differences between leftists and rightists precipitate corresponding political differences has been with us for a long time. Over a century ago, for example, Emerson speculated that the division between left and right reflects an ‘irreconcilable antagonism [that] must have a correspondent depth of seat in the human constitution’ [5]. This core idea, that ‘left’ and ‘right’ reflect the poles of a meaningful and coherent dimension of psychological functioning (e.g., [6,7]), now regularly decorates the pages of major journals across the social sciences.

In this opinion piece, however, we draw upon recent insights highlighting the promise of embracing complexity and heterogeneity in behavioral science [8–11], particularly in the realm of political preferences [12–15], to argue that it is time to turn the tide and move beyond left and right. In so doing, we propose that developing an extensive, **heterarchical** (see *Glossary*) [16,98] taxonomy of ideological variation will promote a more comprehensive and practical understanding of the interplay between psychology and politics.

### People and their politics are complicated

Consider the following three individuals. The first is a card-carrying Democrat who supports the establishment. The second is an anarcho-primitivist who advocates a return to pre-industrial ways of life. And the third is a hardline communist.

What this example brings to light is a seemingly obvious point: political opinions are highly multi-dimensional and heterogeneous (*Box 1*) [13,17]. Yet standard theories and measures in political psychology do not capture the rich differences in the views sketched out earlier. For example, the

### Highlights

The traditional left–right spectrum oversimplifies political preferences, limiting our understanding of the intricate connections between psychology and politics.

Like other individual differences, political beliefs, attitudes, and behaviors are high-dimensional, vary within persons and between cultures, and are contextually shaped and activated.

Embracing heterogeneity and using bottom-up, data-driven methods may unlock a vault of explanatory power currently lost to imprecision and an overreliance on the left–right spectrum.

A unified, atheoretical model in political psychology, similar to Hierarchical Taxonomy of Psychopathology (HiTOP) in psychiatry, could help resolve issues stemming from the heterogeneity of political-psychological phenomena.


<sup>1</sup>Emory University, Department of Psychology, Atlanta, GA 30322, USA

<sup>2</sup>Massachusetts Institute of Technology, Sloan School of Management, Cambridge, MA 02142, USA

<sup>3</sup>University of Regina, Hill-Levene School of Business, Regina, Saskatchewan S4S 0A2, Canada

<sup>4</sup>University of Cambridge, Department of Psychology, Cambridge CB2 1TN, UK

<sup>5</sup>Wissenschaftskolleg zu Berlin, Institute for Advanced Study, Berlin 14193, Germany

\*Correspondence:  
[thcostello1@gmail.com](mailto:thcostello1@gmail.com) (T.H. Costello).  
 [@tomstello\\_](https://twitter.com/tomstello_)



### Box 1. Political attitudes as (unexceptional) individual differences

Political attitudes are a domain of individual differences. Yet, individual differences rarely manifest unidimensionally. Efforts to identify unifying features of individual difference domains (e.g., the 'p-factor' of psychopathology; the 'big one' of personality), which might be considered comparable with an overarching 'leftist versus conservative' axis, have not succeeded [71], with the notable exception of the g-factor of intelligence. Even g can only be clearly identified within populations sharing culture, time, and context and it is necessary to administer a heterogeneous array of well-validated cognitive tasks to assess g, such that any one task alone is inadequate [72]. One could certainly not assess a facet of intelligence, let alone the whole domain, with a single item (as is frequently done for political ideology, in which participants are simply asked how 'left-wing' or 'right-wing' they are on a seven-point scale) [72].

Thus, it would be remarkably aberrant if the vast, heterogeneous universe of political attitudes and ideologies meaningfully reduced to a single, psychologically coherent dimension (or even a handful of dimensions). If people inhabit one, organically ingrained location on the left–right spectrum, one which powerfully influences attitudes, preferences, and behaviors across political and nonpolitical domains, this would arguably render political attitudes the most exceptional individual difference variable in the history of psychology.

most common measure of **political ideology** simply asks participants to self-report how 'left-wing' or 'right-wing' they are on a Likert-type item [15]. All three individuals might identify themselves as 'extremely left-wing' on this scale, but what does it even mean to be 'left-wing' (or 'right-wing', for that matter)?

To understand this question, we can look to a perspective widely held by scientists, journalists, and members of the public: political opinions are organized along a left versus right continuum, with the left pole broadly reflecting change, individualism, and egalitarianism and the right pole reflecting stability, authority, and hierarchy [18,19]. People who systematically prefer opinions consistent with the left pole are considered leftists, whereas those who systematically prefer opinions consistent with the right pole are conservatives.

But as appealing as this left–right account may be, there are several problems with treating political ideology dichotomously. First, political opinions are heterogeneous within and across most people, places, and times [20]. Second, the left–right continuum can be decomposed into at least two distinct dimensions that are uncorrelated, on average, and moored in separate networks of psychological processes [21]. Third, although personality traits often become most apparent when strong external cues are absent, **ideological asymmetries** in cognition, motivation, and behavior are most evident when individuals are under strong social and environmental pressures to conform to left- or right-wing beliefs [22,23]. Fourth, people differ along many broad political-ideological dimensions not encompassed by, and more psychologically relevant than, the left–right dimension [13,17]. Finally, common methodological practices, measurement strategies, and theoretical assumptions have obscured the complex topography of political ideology by embellishing the nature and magnitude of psychological differences between self-identified leftists and rightists [15,24–26].

These points, which we build out later, allow for the possibilities that political opinions are highly heterogeneous; that the left–right spectrum is both culturally specific and one of many heuristically useful organizations of political individual differences; and that **bottom-up, data-driven approaches** may serve to optimize the accumulation and communication of knowledge about the political mind.

#### The left–right spectrum is too simplistic

The conventional psychological model of ideology suggests that traits play a significant role in shaping people's political opinions along the left–right spectrum and that conservative (vs. leftist) political opinions will be relatively interdependent (as evidenced by high pairwise intercorrelations) across people, places, and times [18,27]. However, people who identify as 'leftist' or 'conservative' may often support their own, eclectic mix of issues for their own, dynamic reasons [20,28–30].

### Glossary

**Belief constraint:** the degree to which one's belief system is consistent and coherent along the left–right axis, such that knowing one or two of someone's political opinions allows you to predict their other opinions with great accuracy.

**Bottom-up, data-driven approach:** scientific approaches that are theoretically agnostic, emphasize freedom of exploration over hypothesis testing, and glean information from highly quantifiable sets of information about human behavior.

**Economic conservatism:** a cluster of beliefs rooted in preferences for competition (vs. collaboration) and economic self-interest (vs. egalitarianism). In contemporary Western democracies, economic conservatism predicts stances on taxes, the social safety net, business regulations, unions, and debt forgiveness.

**General taxonomy:** a descriptive, standardized model of overarching domains for a subject matter within which highly complex phenomena can be understood.

**Heterarchical:** systems that are interdependent across levels of organization and exist on a spectrum between networks and hierarchies. Elements within the system have the potential to be dynamically ordered depending on various criteria or contexts.

**Ideological asymmetries:** differences or disparities between individuals and/or groups that correspond with differences or disparities in their placement on the left–right political spectrum.

**Network analysis:** the elements within a system or network are represented as nodes and the connections between them are represented as edges or links. These nodes and edges can be used to represent how the different elements are connected to one another and how these connections influence the behavior of the system.

**Nomothetic:** a research approach that aims to identify general laws or principles that can explain and predict behavior across people. It is often contrasted with idiographic, which refers to a research approach that focuses on the unique characteristics and experiences of individuals or specific cases.

**Political ideology:** a set of ideas and principles that guide the way a person understands and interprets politics and the systems that shape society.

**Social conservatism:** a cluster of beliefs rooted in preferences for traditional

Indeed, researchers have recently begun to quantitatively illustrate the value of person-centered investigations for studying political preferences, which offer to clarify the degree of heterogeneity masked by purely **nomothetic** approaches. One recent study, for instance, modeled individuals' political belief systems within and between participants, finding that internal networks of left–right opinions vary considerably from person-to-person and are not systematically correlated with corresponding between-person intercorrelations (average  $r$  of 0.04) [31]. Between-person correlations amongst opinions in this investigation followed the conventional left–right alignment and were substantially larger than, and occasionally directionally opposite to, their corresponding within-person correlations. These findings allow for the possibility that the cross-sectional and longitudinal designs used in hundreds of studies to corroborate left–right psychological asymmetries (e.g., in motivations, traits) predominantly capture between-person divisions within a society at a given time and place and do not bear on why individual people adopt particular (sets of) beliefs [32]. Indeed, a recent nine-wave longitudinal examination of the widely-recognized relation between trait openness and conservatism, which was the first to use methods that can disaggregate between- and within-person variance, found no evidence that openness precedes, let alone causes, ideology, or vice versa [33].

Concordantly, a prominent strain of thinking within political science has provided good evidence to suggest that, even when assessed between persons, left versus right **belief constraint** is absent from large swathes of the population [34,35]. Relatedly, recent studies using **network analysis**, which describes the covariance among a system of indicators as a network of interactive nodes, seem to further call the psychological coherence of leftist versus conservative policy preferences into question. For instance, symbolic elements of political phenomena (e.g., thinking of oneself as 'left-wing' or 'conservative'), which reflect one's political identity, have a more central role in left–right belief systems than do policy preferences (e.g., preferring lower taxes or policing reforms) [36]. Moreover, the organization of belief networks adapts to environmental information heterogeneously across electoral cycles and groups of individuals [37]. This dearth of left–right statistical coherence in varied contexts is consistent with the possibility that cultural-environmental forces, rather than dispositional forces (e.g., personality traits), are what (if anything) systematically organizes certain people's political opinions along the left–right spectrum, leading to outsized heterogeneity in dispositional predictors of left-right ideology across people, places, and times (Box 2) [10,38].

Further, non-network models of left–right belief systems have revealed that individuals who are familiar with cues from their party leaders about what positions they should believe show the highest degree of belief constraint [39] and, similarly, that high belief-constraint is predominantly found in nations with well-known, stable political parties [35]. All of this supports the possibility that, even when the left–right spectrum 'sticks together', models that center 'left' and 'right' may allow for few insights into the psychological forces that structure political views.

#### Two dimensions (at least) structure left and right

Another straightforward observation as to why we may need to rethink political ideology as simply being a matter of left and right is that it is not uncommon to hear someone volunteer that they are 'socially liberal and economically conservative' (or vice versa). Consistent with this observation, a considerable body of evidence shows that commonly debated political preferences can be systematically organized along at least two conceptually and empirically distinct dimensions in latent variable space: **social conservatism** and **economic conservatism** (e.g., [21,34,40–42]). Whereas social conservatism chiefly concerns stances on topics like traditional social values (e.g., same-sex marriage), criminal justice, and patriotism, economic conservatism chiefly concerns stances on topics like redistributive and regulatory economic interventions (e.g., taxes, government-funded healthcare, welfare, public education).

values (vs. modern), social order (vs. freedom), and strict norm-enforcement (vs. rejection). In contemporary Western democracies, social conservatism predicts stances on same-sex marriage, religion, law and order, and national security.

**Structural analyses:** techniques used to examine the underlying structure or organization of psychological phenomena. There are several different types of structural analyses used in psychology, including factor analysis, cluster analysis, latent semantic analysis, and structural equation modeling.

### Box 2. Political engagement and strong versus weak 'ideological situations'

Relations between psychological traits and political preferences tend to be stronger and are sometimes exclusively found among people who are politically engaged, or who otherwise have highly constrained belief systems [15,23,36,37,40]. This boundary condition for personality-conservatism relations is consistent with evidence that politically engaged Americans are much more inclined to structure their economic and social preferences along the left-right dimension than others [39] and may also partially explain the degree to which trait-conservatism relations manifest dynamically and with profound heterogeneity across samples, nationalities, and measurement modalities [15].

One could make a good case that these findings, concerning political engagement, support the notion of relatively fundamental left-right psychological differences; after all, those who are inattentive to politics may often fail to sort themselves into a political party that aligns with their psychological inclinations, perhaps because they are unaware of what party platforms entail [90].

Yet, by contrast, environmental pressures associated with engagement and partisanship (e.g., [30,65]) may flatten, obviate, or spuriously imply causal relations between personality traits and political opinions. Just as there are circumstances that limit the expression and predictive power of personality traits (strong situations; e.g., red traffic lights) [91], strong environmental pressures may weaken or overwhelm 'bottom-up' links between ideology and psychology. For example, frequent exposure to other partisans may prompt political elites to 'impute' associations amongst beliefs or be reprimanded for expressing certain opinions [36,37,92]. When social cleavages overlap with partisan divides, which is often the case in the USA, these pressures may be especially pervasive and inelastic [10,93,94].

Naturally, strong situations can be contrasted with weak situations, wherein personality traits more vigorously influence one's behavior. Potential samples suitable for testing hypotheses related to weak ideological pressures include, but are not limited to: (i) people from nations without influential political institutions/parties, (ii) people in nations with fast shifting or multitudinous political parties, and/or (iii) people who have little knowledge of what political opinions should be bundled together per political elites.

Applying traditional methods to samples of people in 'weak ideological situations' may be a straightforward, fruitful means of expanding knowledge about the political mind. Weak ideological pressures will, by definition, allow relatively fundamental ties between traits and ideologies to flourish if ideology is measured with rough taxonomic accuracy. Systematically targeting a diverse set of weak samples might also allow researchers to identify elements of ideologies that independently recur across cultures, which would suggest that causal networks undergirding human ideological variance are shaped by stable forces. If, by contrast, liberalism and conservatism do not consistently emerge across cultural situations, then a substantial proportion of knowledge gained by studying their psychological causes and correlates may be needlessly bespoke (insofar as they are specific to a narrow slice of time, space, and culture).

Assuming political ideology is just one 'thing', we would expect social and economic conservatism to be inextricably bound together. Admittedly, the two are highly correlated (e.g.,  $r_s > 0.50$ ) among people who (i) live in certain economically prosperous, secularized, and culturally liberal nations (e.g., USA, western Europe, Australia); and (ii) are knowledgeable of, and interested in, political affairs [34]. But moving beyond people in these Western, educated, industrialized, rich, and democratic (WEIRD) nations, relations between social and economic conservatism are quite inconsistent [42–48]. For example, looking at data from 99 nations around the world, it is most common for left-wing economic ideology to be positively correlated with social conservatism [49]. Such a pronounced degree of heterogeneity would not occur if the two dimensions of conservatism were naturally intertwined.

Nevertheless, the methodological practice (and theoretical lodestar) of unidimensionality may sometimes be justifiable if the constituent elements of the left-right spectrum are undergirded by the same psychological processes. After all, prominent theories in political psychology are based on the notion that some key factor separates leftists and conservatives, whether it is cognitive-motivational rigidity (as in the rigidity-of-the-right hypothesis) [15] or sensitivity to threat and other negative stimuli (as in the negativity bias hypothesis) [50]. Looking at the rigidity-of-the-right hypothesis, social conservatism does indeed manifest relations with rigidity-related outcomes, yet economic conservatism displays negative or null relations with those same outcomes [15,23,51,52]. A similar pattern is found for the negativity bias hypothesis, such that self-report measures of generalized threat salience explain a modest fraction of variance in social conservatism but zero variance in economic conservatism [53]. Perhaps relatedly, high-profile studies suggesting a physiological threat-conservatism association have not replicated (see [54]).

Overall, these findings again suggest that ‘top-down’ (i.e., environmental) forces may structure social and economic conservatism together in nations where they are highly correlated [23,34,55]. Thus, any shared psychological variance across the two dimensions may be difficult to interpret. Indeed, controlling for shared variance in social and economic conservatism (in samples where they are positively correlated, like in the USA) tends to increase both variables’ predictive power for a diverse set of psychological outcomes, with specific effect sizes in opposing directions (e.g., social conservatism remains positively related to authoritarianism while economic conservatism becomes negatively related) [56]. Hence, combining the two dimensions into a single score may often lead to a loss of key information by cancelling out their net effects.

#### The tip of the taxonomic iceberg?

To return to our example of ‘left-wing’ individuals, accounting for social and economic ideology would hardly provide sufficient descriptive resolution to distinguish between a card-carrying Democrat, an anarchist, and a hardline communist. Thus, social and economic conservatism may be the tip of the taxonomic iceberg for describing political ideology. Indeed, a dizzying array of ideology constructs are presently popular in studies of social and political beliefs (e.g., status-quo conservatism, left-wing authoritarianism, racism, need for chaos, progressivism, reactionism, effective altruism, autocratic orientation, NIMBY-ism, anarchism, fascism, anomie, to name only a handful) [57–63], and numerous axes of political ideology exist in philosophy, literature, and everyday conversation that might be fruitfully incorporated into higher-bandwidth and higher-fidelity taxonomies of ideology.

A great deal of structural evidence illustrates that the heterogeneity of political ideology extends beyond the social and economic dimensions [64–67]. For instance, one study focusing on conservative policy issues in the American public [65] advanced a model comprising three modestly correlated dimensions (which were not isomorphic with social and economic ideology). A counterpart study, evaluating divisions within left-wing politics in America, identified four clearly distinguishable factors [64]. Although much of this work is limited insofar it has targeted the US public, a study on the Chinese public [66] found three superordinate political dimensions, one of which combined right-wing (i.e., free-market) economics and left-wing social values (see also [49]). Another study, conducted in India [67], identified two distinct factors that were only moderately correlated with self-reported social and economic political leanings.

These investigations are quite promising. Nevertheless, they are narrow, emphasizing the dimensional structure of normative policy issues within a single cultural context (Box 3). Systematically accumulating findings (and communicating them across research groups) requires, as a foundation, a consensual **general taxonomy** of political ideology dimensions (e.g., a ‘Big Five’ of political ideology).

Fortunately, such an effort to construct a general taxonomy exists. Drawing on the lexical approach for investigating trait taxonomies (which is premised on the idea that salient individual difference characteristics are encoded in language), research [17,68,69] has explored the general structure of ideological preferences by constructing items based on words in the English dictionary ending in ‘ism’ (e.g., nationalism, socialism, rationalism). With this approach, which followed the data-driven, iterative process of observation, deduction, induction, and verification used to develop the Big Five, five basic building blocks of belief systems were derived: (i) tradition-oriented religiousness (e.g., creationism, puritanicalism, institutionalism; akin to social conservatism); (ii) inequality-aversion (e.g., welfarism, Marxism, primitivism; akin to economic leftism); (iii) communal rationalism (e.g., Meliorism, rationalism, existential individualism; involving support for common institutions, freedom, and the social contract); (iv) subjective spirituality

### Box 3. Why are we still on left and right?

Why do many investigators continue to conceive of, and approach, the universe of political attitudes as a single (or even 2D) spectrum? For one, where we look affects what we see. The field of political psychology has often emphasized the USA, yet US politics are often not representative of human politics [19,35]. The US political ecosystem has been warped by idiosyncratic constraints (e.g., a 'first-past-the-post' electoral system that restricts power to two parties; the world's oldest functioning written constitution) and is dominated by intense conflicts between nominal liberals and conservatives (though most members of the two parties do not hold policy preferences consistent with their party identification) [34]. Such polarization has grown with time and been accompanied by geographical and social 'sorting' [95], which renders correspondences between ideology, party affiliation, psychological characteristics, culture, and environment easily observable but inaccessible to substantive etiologic theorizing (e.g., [80]). Hence, while political research in the US may be quite conducive to topics related to the psychological processes sustaining polarization, dogmatic certitude, and intergroup animus (see [13,96]), we suspect it offers few insights into the nature of the specific sorts of belief-tendencies that characterize humans.

Moreover, how we look affects what we see. A broader style of myopia than WEIRDness arguably drives the field's emphasis on left and right: omitting diverse political ideas from measurement and theory has reduced the validity of the data-driven structural analyses that are used as a source of 'ground truth' for subsequent research [97]. Recall that researchers typically measure only leftism versus conservatism (using a single item) when assessing political ideology [15]. If one does not administer multidimensional, high-resolution measures designed to reflect the potential heterogeneity of political ideology (e.g., [59,65,66]), they will invariably reify the left-right spectrum. Efforts to explore the structure of political phenomena in the USA frequently do not measure political ideas about which the Republican and Democratic parties agree (e.g., anarchism, dissolving national borders, direct democracy) and/or fail to discuss (e.g., regulations on artificial intelligence, owning exotic animals, banning automobiles, voluntary human extinction). Further, those relatively rare studies that incorporate samples from nations without a history of left- versus right-wing identification tend to rely on large cross-national public surveys that, by necessity, favor breadth over depth (e.g., the World Values Survey, a common source of political psychology data, has only six rather vague questions on economic values, such as 'Competition is good'). This problem of a limited item pool is compounded by the fact that, beyond these cross-national surveys, the field of political psychology has traditionally relied on convenience samples [15] that are unrepresentative of relevant subpopulations (e.g., people with non-mainstream beliefs). These practices collectively impair the possibility that novel, multidimensional models of ideology can be factor-analytically discovered and, in turn, measured.

(e.g., reincarnationism, totemism, intuitionism; involving metaphysics and non-hierarchical forms of spirituality); and (v) unmitigated self-interest (e.g., sensationalism, hedonism, materialism; involving endorsement of various forms of hedonic self-interest as a source of value and goodness in life). The same approach applied to Chinese-language 'isms' revealed an analogous four-factor structure with social conservatism and subjective spirituality combined and a new factor (reflecting the ideology of the Communist Party of China) replacing inequality-aversion [68].

The findings of this first taxonomic study of lexically derived politics items reinforce the notion that unidimensional (and 2D) models of political ideology are limiting. Insofar as the aforementioned 'isms' are based on data-driven methods and reflect many topics not subject to partisan cultural pressures, they may be strong candidates for organic, reasonably stable dimensions of political preferences. Yet the ism dimensions are differentiated from left-right ideology, with correlations not exceeding 0.51 (and a median correlation of 0.25) [67]. Taken together, such taxonomic data suggest that liberalism and conservatism may be topically salient, yet factorially arbitrary, configurations of more basic ideological building blocks.

Drawing from history, though, the initial application of lexical methods in personality psychology served more as a clarion call than a definitive treatise, and the same may be true here. Contemporary personality science reveals that individual differences can be organized at multiple levels of abstraction, allowing for trade-offs between bandwidth and fidelity [11]. For example, Big Few models (e.g., the Five-Factor Model or the HEXACO) comprise large multidimensional domains (e.g., Extraversion, Conscientiousness), which comprise smaller aspects (e.g., Assertiveness, Orderliness), which themselves comprise still-smaller facets (e.g., Social Boldness, Organization). Many individual items comprising these facets reflect unique personological variance [70]. Importantly, no single level of analysis, from domains to individual items, is objectively more 'correct'

than another. Instead, the more useful approach is to critically evaluate the match between a given level of analysis and the research questions at hand. This requires us to adopt taxonomies designed to accommodate such flexibility. At best, defaulting to the left–right spectrum may be akin to relying on ‘g’ for all research related to cognitive abilities (Box 1); at worst, it may be akin to relying on the ‘big one’ of personality for all research related to individual differences or the dubious ‘p-factor’ of psychopathology for all research related to psychiatric illness [71–73].

### A data-driven path forward

Accurately understanding the taxonomic structure of human variation demands approaches that, even now, push at the boundaries of our scientific capabilities [9–11]. Mapping variation at the nexus of psychology and ideology may prove equally, if not more, difficult. Consequently, researchers have recently championed bottom-up, data-driven approaches to political psychology [13,74], a handful of which have already proven fruitful, revealing that distinct flavors of threat [75], cognition [14], and prejudice [76] divergently predict political ideology (see [54]).

These investigations have primarily addressed heterogeneity in how people hold their beliefs (e.g., rigidly versus flexibly) and why people are drawn to whole-cloth ideologies (e.g., conservatism) [13,14]. For reasons we have articulated throughout the present article, however, popular political constructs may reflect multiple sources of substantive variance, comprising a ‘constellation’ of unrelated political-psychological dimensions that onlookers mistakenly interpret as a coherent entity (see [77]). In other words, people are heterogeneous in what they believe, and charting the what may be required to shed light on the how and the why.

Inspired by promising developments in the fields of clinical science and personality [10,78,79], here we posit that disaggregating well-known ideological constructs into their component parts using data-driven structural methods involved in exploratory taxonomy construction may be necessary for building mechanistic accounts at the intersection of psychology and political ideology (see [80], for a kindred call to apply methods from computational psychiatry to political psychology). Next, we briefly detail this path forward (Figure 1, Key figure).

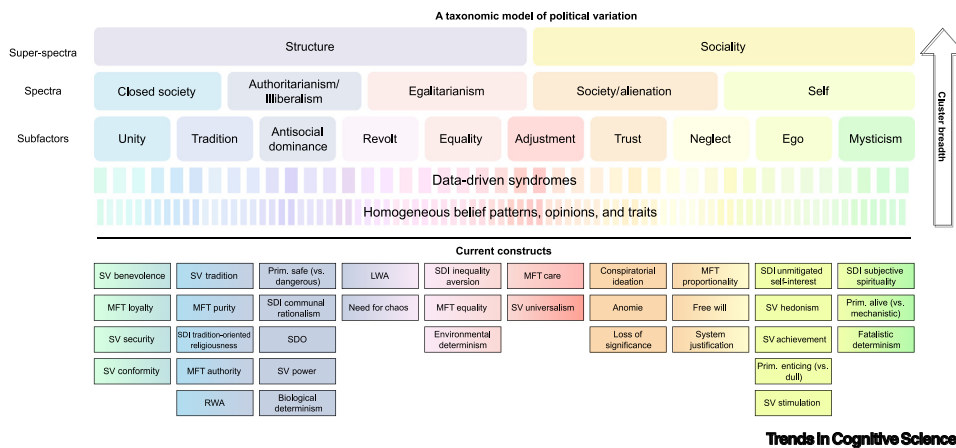
### Taxonomic models of (political) psychological phenomena: the case example of Hierarchical Taxonomy of Psychopathology (HiTOP)

Psychiatric illnesses have historically been classified according to typologically distinct ‘disorders’ based on experts’ consensus descriptions (e.g., depressive disorder, borderline personality disorder). Yet, this approach has proven deeply problematic in a manner akin to problems with the left–right spectrum (e.g., rampant co-occurrence of disorders, extensive within-category heterogeneity, falsely categorical distinctions) [81]. To resolve issues stemming from the heterogeneity of psychiatric syndromes, a large cohort of researchers embraced said heterogeneity, subjecting the hundreds of narrow signs, symptoms, and traits that comprise each (categorical) mental disorder in the DSM-5 to data-driven **structural analyses** [81]. Abandoning the categories outlined in the DSM, they worked from the ‘bottom-up’ (i.e., beginning with homogeneous and unidimensional signs, symptoms, and traits) to derive a hierarchy of nested higher-order components of increasing breadth. Substantial evidence now suggests that the resultant HiTOP closely mirrors the genetic structure of psychopathology and roughly doubles the explanatory and predictive advantages of the traditional diagnostic category system [78,81–83]. Moreover, HiTOP is a responsive model, whose nested dimensions can be rearranged dynamically to examine novel hypotheses, or to accommodate new data.

Such a deeply flexible approach, allowing researchers to tailor their units of analysis to the research questions at hand, provides us with highly mutable building blocks that better reflect

Key Figure

Illustrating a psychological taxonomy of political variation



Trends in Cognitive Sciences

**Figure 1.** To provide an example of what our proposed approach might produce, in appearance, if not in specific content, we generated and arranged a speculative series of hierarchically nested dimensions modeled after the Hierarchical Taxonomy of Psychopathology (HiTOP) [9]. We do not claim that this particular model is true. That said, constructs higher in the structure are more general and constructs lower in the structure are more specific. Constructs closer together bear greater resemblance to one another. Based on the terminology and organizational scheme of HiTOP, the upper rows of the model denote the following hypothetical ‘spectra’: Closed society (e.g., pertaining to organic, tribal ways of living), Authoritarianism/illiberalism (e.g., using power, coercion, and force to control others based on unjustified group-level moral imperatives), Egalitarianism (e.g., prioritizing social equality for all people), Society/alienation (e.g., pertaining to social bonds, social and institutional trust, and concern for others’ well-being), and Self (e.g., viewing one’s personal interests, phenomenology, and personal experiences as of outsized importance). Shared characteristics across the former three spectra are organized into the superspectrum of Structure (e.g., pertaining to how best to organize society) and shared characteristics across the latter two spectra are organized into the superspectrum of Sociality (e.g., pertaining to orientation towards people; for a related distinction, see [13]). Venturing further down the taxonomic hierarchy, the five spectra decompose into more homogeneous subfactors that themselves comprise lower-order syndromes (i.e., homogeneous clusters of phenomena that can be derived using largely data-driven methods such as factor analysis) (see, too, [81]). At the foundation of the taxonomy are the many hundreds of atomistic beliefs, opinions, behaviors, and traits that serve as the basic unit of analysis for political psychology. Some of the syndromes populating these levels of analysis approximate familiar constructs in the literature. Thus, to help ground our hypothetical hierarchical taxonomy, we use the color scheme to symbolize where the primary elements of well-known constructs might potentially reside in the taxonomic structure. We drew from five well-known taxonomies in political psychology that span ostensibly distinct domains (Moral Foundations Theory (MFT), Schwartz’ Values (SV), Saucier’s Isms (SDI), the Primal Worldviews (Prim.), and the Free Will and Determinism—Plus), as well as a handful of relevant standalone constructs [e.g., right-wing authoritarianism (RWA), social dominance orientation (SDO), left-wing authoritarianism (LWA), need for chaos, conspiratorial ideation]. These constructs, which represent only a fraction of relevant variables used in political psychology, are not incorporated in the hypothetical model, as denoted by the unbroken line separating the hypothetical taxonomy from said extant constructs.

the virtually infinite ways in which humans vary [11,79]. Such a unified, atheoretical model, if replicated in political psychology, would be useful and perhaps even help resolve many of the issues outlined in the present article. Although structural investigations of political opinions (and debates surrounding dimensionality) have long existed in political science and psychology, nearly all of them restrict their item pools to political issues that are widespread in elite discourse. Moreover, few, if any, integrate items targeting multiple levels of psychological abstraction (e.g., [10,25,78,79,84]).

By contrast, a hierarchical or heterarchical taxonomy of political ideology (Figure 1) might be composed of building blocks drawn from diverse domains spanning motivational needs and values (e.g., the Schwartz Values) [85], moral foundations [3], policy preferences [65], primal worldviews



[25], isms [17], and the many additional constructs referenced throughout this article [13,43,58–63,86–88]. Synthesizing across these weighty, disparate frameworks also has the advantages of boiling them down to their unique components, pruning redundant or malfunctioning measures/modalities, identifying previously overlooked phenomena, and even allowing for a test of the explanatory power of the left–right spectrum. Further, such a model could straightforwardly incorporate ideology-adjacent constructs, such as belief extremity or prejudice, and could similarly incorporate nonpolitical ideological constructs such as religiosity or conspiratorial ideation into a unified ‘psychology of ideology’ (see [13]).

Most importantly, a hierarchical or heterarchical taxonomy of political ideology offers a means of organizing political phenomena into standardized, tightly knit dimensions of reasonably organic human variance. It promises to quantify the breadth and depth of political psychology by locating and situating all the field’s ‘pieces’ in relation to one another. This might serve to leverage the heterogeneity characterized throughout this opinion article by unlocking a vault of explanatory power currently lost to conceptual and measurement imprecision, constructs needlessly occupying discrete conceptual fiefdoms and an overarching reliance on the left–right political spectrum.

### Concluding remarks

Decades of research on the interface between psychology and politics has been based on the left–right divide, but in this opinion article we have proposed that merely distinguishing between left and right is not enough: people and their politics are more complicated. Treating contemporary political conflicts as enduring characteristics of the political mind risks overfitting our models to culturally and temporally idiosyncratic circumstances. By contrast, embracing and developing models that engage with heterogeneity using bottom-up, data-driven methods will reveal new insights (see [Outstanding questions](#)) and foster durable, explanatorily powerful theories that better align with the intricate causal systems [89] that give rise to political beliefs, attitudes, and behaviors.

### Acknowledgments

We thank Ori Friedman, Stella Lourenco, Gordon Pennycook, and Philip Tetlock for their feedback on this work.

### Declaration of interests

No interests are declared.

### References

- Jost, J.T. *et al.* (2014) Political neuroscience: the beginning of a beautiful friendship. *Polit. Psychol.* 35, 3–42
- Buechner, B.M. *et al.* (2021) Political ideology and executive functioning: the effect of conservatism and liberalism on cognitive flexibility and working memory performance. *Soc. Psychol. Pers. Sci.* 12, 237–247
- Atari, M. *et al.* (2022) Morality beyond the weird: how the nomological network of morality varies across cultures. *PsyArXiv* Published online March 4, 2022. <https://doi.org/10.31234/osf.io/q6c9r>
- Long, J.A. and Eveland, W.P. (2021) Entertainment use and political ideology: linking worldviews to media content. *Commun. Res.* 48, 479–500
- Emerson, R.W. (1903) *The Complete Works of Ralph Waldo Emerson: Essays. 1st series*, Houghton, Mifflin
- Graham, J. *et al.* (2009) Liberals and conservatives rely on different sets of moral foundations. *J. Pers. Soc. Psychol.* 96, 1029–1046
- Tomkins, S. (1963) Left and right: a basic dimension of ideology and personality. In *The Study of Lives: Essays on Personality in Honor of Henry A. Murray* (White, R.W., ed.), pp. 388–411, Atherton Press
- Bryan, C.J. *et al.* (2021) Behavioural science is unlikely to change the world without a heterogeneity revolution. *Nat. Hum. Behav.* 5, 980–989
- Kotov, R. *et al.* (2022) The Hierarchical Taxonomy of Psychopathology (HiTOP) in psychiatric practice and research. *Psychol. Med.* 52, 1666–1678
- Bouchard, T.J. and Johnson, W. (2021) Keith Hayes’ experience-producing drives: an appreciation and extension. *Pers. Individ. Differ.* 169, 110082
- Condon, D.M. *et al.* (2020) Bottom up construction of a personality taxonomy. *Eur. J. Psychol. Assess.* 36, 923–934
- Federico, C.M. and Malka, A. (2018) The contingent, contextual nature of the relationship between needs for security and certainty and political preferences: evidence and implications. *Polit. Psychol.* 39, 3–48
- Zmigrod, L. (2022) A psychology of ideology: unpacking the psychological structure of ideological thinking. *Perspect. Psychol. Sci.* 17, 1072–1092
- Zmigrod, L. *et al.* (2021) The cognitive and perceptual correlates of ideological attitudes: a data-driven approach. *Philos. Trans. R. Soc. B* 376, 20200424
- Costello, T.H. *et al.* (2023) Revisiting the rigidity-of-the-right hypothesis: a meta-analytic review. *J. Pers. Soc. Psychol.* 124, 1025–1052
- Cumming, G.S. (2016) Heterarchies: reconciling networks and hierarchies. *Trends Ecol. Evol.* 31, 622–632
- Saucier, G. (2013) Isms dimensions: toward a more comprehensive and integrative model of belief-system components. *J. Pers. Soc. Psychol.* 104, 921–939

### Outstanding questions

How much does the content and structure of political-psychological variation vary across time and place? Are higher, or more abstracted, levels of a taxonomy of such variation more stable than lower, more specific, levels in this regard?

Can ambulatory assessments (e.g., experience sampling, ecological momentary assessment, daily diaries) be used to understand how psychopolitical phenomena change within people, across contexts, and over short time periods? Or do belief systems change too slowly for such methods to succeed?

Might one’s personality and politics be twigs off the same causal branch, rather than explanandum and explanans?

Why and how do ideological dimensions cohere? What can developmental research tell us about these and other questions?

18. Hibbing, J.R. *et al.* (2014) Differences in negativity bias underlie variations in political ideology. *Behav. Brain Sci.* 37, 297–307
19. Caprara, G.V. and Vecchione, M. (2018) On the left and right ideological divide: historical accounts and contemporary perspectives. *Polit. Psychol.* 39, 49–83
20. Morgan, G.S. and Wisneski, D.C. (2017) The structure of political ideology varies between and within people: implications for theories about ideology's causes. *Soc. Cogn.* 35, 395–414
21. Claessens, S. *et al.* (2020) The dual evolutionary foundations of political ideology. *Nat. Hum. Behav.* 4, 336–345
22. Federico, C.M. (2021) When do psychological differences predict political differences?: Engagement and the psychological bases of political polarization. In *The Psychology of Political Polarization* (van Prooijen, J.-W., ed.), Routledge
23. Ollershaw, T. and Johnston, C.D. (2022) The conditional relationship of psychological needs to ideology: a large-scale replication. *Public Opin. Q.* 86, 369–380
24. Bakker, B.N. *et al.* (2020) Conservatives and liberals have similar physiological responses to threats. *Nat. Hum. Behav.* 4, 613–621
25. Clifton, J.D.W. *et al.* (2019) Primal world beliefs. *Psychol. Assess.* 31, 82–99
26. Vargas Salfate, S. *et al.* (2022) A longitudinal test of the conservative-liberal well-being gap. *Pers. Soc. Psychol. Bull.* Published online July 7, 2022. <https://doi.org/10.1177/01461672221096587>
27. Jost, J.T. (2021) *Left and Right: The Psychological Significance of a Political Distinction*, Oxford University Press
28. Beck, E.D. and Jackson, J.J. (2020) Idiographic traits: a return to allportian approaches to personality. *Curr. Dir. Psychol. Sci.* 29, 301–308
29. Borsboom, D. *et al.* (2003) The theoretical status of latent variables. *Psychol. Rev.* 110, 203–219
30. Molenaar, P.C.M. and Beltz, A.M. (2020) Modeling the individual: bridging nomothetic and idiographic levels of analysis. In *The Cambridge Handbook of Research Methods in Clinical Psychology* (Wright, A.G.C., ed.), pp. 327–336, Cambridge University Press
31. Brandt, M.J. and Morgan, G.S. (2022) Between-person methods provide limited insight about within-person belief systems. *J. Pers. Soc. Psychol.* 123, 621–635
32. Brandt, M.J. (2022) Measuring the belief system of a person. *J. Pers. Soc. Psychol.* 123, 830–853
33. Osborne, D. and Sibley, C.G. (2020) Does openness to experience predict changes in conservatism? A nine-wave longitudinal investigation into the personality roots to ideology. *J. Res. Pers.* 87, 103979
34. Kalmoe, N.P. (2020) Uses and abuses of ideology in political psychology. *Polit. Psychol.* 41, 771–793
35. Kesintürk, T. (2022) The organization of political belief networks: a cross-country analysis. *Soc. Sci. Res.* 107, 102742
36. Coppock, A. and Green, D.P. (2022) Do belief systems exhibit dynamic constraint? *J. Polit.* 84, 725–738
37. Fishman, N. and Davis, N.T. (2022) Change we can believe in: structural and content dynamics within belief networks. *Am. J. Polit. Sci.* 66, 648–663
38. Freeder, S. *et al.* (2019) The importance of knowing "what goes with what": reinterpreting the evidence on policy attitude stability. *J. Polit.* 81, 274–290
39. Kozlowski, A.C. and Murphy, J.P. (2021) Issue alignment and partisanship in the American public: revisiting the 'partisans without constraint' thesis. *Soc. Sci. Res.* 94, 102498
40. Feldman, S. and Johnston, C. (2014) Understanding the determinants of political ideology: implications of structural complexity. *Polit. Psychol.* 35, 337–358
41. Duckitt, J. and Sibley, C.G. (2009) A dual-process motivational model of ideology, politics, and prejudice. *Psychol. Inq.* 20, 98–109
42. Ashton, M.C. *et al.* (2005) Two dimensions of political attitudes and their individual difference correlates: a cross-cultural perspective. In *Culture and Social Behavior* (Sorrentino, R.M. *et al.*, eds), pp. 1–29, Ontario Symposia on Personality and Social Psychology
43. Beattie, P. *et al.* (2019) Who is the neoliberal? Exploring neoliberal beliefs across east and west. *J. Soc. Issues* 75, 20–48
44. Cotterill, S. *et al.* (2014) Ideological support for the Indian caste system: social dominance orientation, right-wing authoritarianism and kama. *J. Soc. Polit. Psychol.* 2, 98–116
45. Chin, M.K. *et al.* (2021) Unpacking political ideology: CEO social and economic ideologies, strategic decision-making processes, and corporate entrepreneurship. *Acad. Manag. J.* 64, 1213–1235
46. Malka, A. *et al.* (2014) Do needs for security and certainty predict cultural and economic conservatism? A cross-national analysis. *J. Pers. Soc. Psychol.* 106, 1031–1051
47. Nilsson, A. *et al.* (2020) Beyond 'liberals' and 'conservatives': complexity in ideology, moral intuitions, and worldview among Swedish voters. *Eur. J. Personal.* 34, 448–469
48. Perry, R. and Sibley, C.G. (2013) A dual-process motivational model of social and economic policy attitudes. *Anal. Soc. Issues Public Policy* 13, 262–285
49. Malka, A. *et al.* (2019) Are cultural and economic conservatism positively correlated? A large-scale cross-national test. *Br. J. Polit. Sci.* 49, 1045–1069
50. Johnston, C.D. and Madson, G.J. (2022) Negativity bias, personality and political ideology. *Nat. Hum. Behav.* 6, 666–676
51. Czarnek, G. and Kossowska, M. (2021) The effects of needs for security and certainty on economic beliefs: the role of political engagement and the welfare state model. *Soc. Psychol. Pers. Sci.* 12, 1467–1475
52. Nilsson, A. *et al.* (2019) The complex relation between receptivity to pseudo-profound bullshit and political ideology. *Personal. Soc. Psychol. Bull.* 45, 1440–1454
53. Clifton, J.D.W. and Kerry, N. (2022) Belief in a dangerous world does not explain substantial variance in political attitudes, but other world beliefs do. *Soc. Psychol. Pers. Sci.* Published online September 1, 2022. <https://doi.org/10.1177/19485506221119324>
54. Brandt, M.J. and Bakker, B.N. (2022) The complicated but solvable threat-politics relationship. *Trends Cogn. Sci.* 26, 368–370
55. Malka, A. and Soto, C.J. (2015) Rigidity of the economic right? Menu-independent and menu-dependent influences of psychological dispositions on political attitudes. *Curr. Dir. Psychol. Sci.* 24, 137–142
56. Costello, T.H. and Lilienfeld, S.O. (2021) Social and economic political ideology consistently operate as mutual suppressors: implications for personality, social, and political psychology. *Soc. Psychol. Pers. Sci.* 12, 1425–1436
57. Liekefett, L. and Becker, J.C. (2022) Low system justification is associated with support for both progressive and reactionary social change. *Eur. J. Soc. Psychol.* 52, 1015–1030
58. Costello, T.H. *et al.* (2022) Clarifying the structure and nature of left-wing authoritarianism. *J. Pers. Soc. Psychol.* 122, 135–170
59. Arceneaux, K. *et al.* (2021) Some people just want to watch the world burn: the prevalence, psychology and politics of the 'Need for Chaos'. *Philos. Trans. R. Soc. B* 376, 20200147
60. Bartusevičius, H. *et al.* (2020) Dominance-driven autocratic political orientations predict political violence in Western, educated, industrialized, rich, and democratic (WEIRD) and non-WEIRD samples. *Psychol. Sci.* 31, 1511–1530
61. Alto, A. *et al.* (2022) "I put Liberal but LOL": investigating psychological differences between political Leftists and Liberals. *PsyArXiv* Published online March 10, 2022. <https://doi.org/10.31234/osf.io/3qgep>
62. Caviola, L. *et al.* (2021) The psychology of (in) effective altruism. *Trends Cogn. Sci.* 25, 596–607
63. Heckert, J. (2013) An other state of mind is possible: anarchism and psychology. *Soc. Pers. Psychol. Compass* 7, 513–525
64. Proulx, T. *et al.* (2022) The progressive values scale: assessing the ideological schism on the left. *Pers. Soc. Psychol. Bull.* Published online June 8, 2022. <https://doi.org/10.1177/01461672221097529>
65. Xu, X. *et al.* (2022) Three dimensions of American conservative political orientation differentially predict negativity bias and satisfaction with life. *Soc. Psychol. Pers. Sci.* 13, 1230–1245
66. Pan, J. and Xu, Y. (2018) China's ideological spectrum. *J. Polit.* 80, 254–273
67. Puthillam, A. *et al.* (2021) Beyond left and right: a scale to measure political ideology in India. *PsyArXiv* Published online February 17, 2021. <https://doi.org/10.31234/osf.io/tg387>

68. Chen, Z.J. *et al.* (2018) Chinese isms dimensions in mainland China and Taiwan: convergence and extension of American isms dimensions. *J. Pers.* 86, 555–571
69. Saucier, G. (2000) Isms and the structure of social attitudes. *J. Pers. Soc. Psychol.* 78, 366
70. Möttus, R. *et al.* (2019) Personality characteristics below facets: a replication and meta-analysis of cross-rater agreement, rank-order stability, heritability, and utility of personality nuances. *J. Pers. Soc. Psychol.* 117, e35–e50
71. Watts, A.L. *et al.* (2022) How robust is the p factor? Using multitrait-multimethod modeling to inform the meaning of general factors of youth psychopathology. *Clin. Psychol. Sci.* 10, 640–661
72. Gignac, G.E. (2015) Raven's is not a pure measure of general intelligence: implications for g factor theory and the brief measurement of g. *Intelligence* 52, 71–79
73. Davies, S.E. *et al.* (2015) The general factor of personality: the "big one," a self-evaluative trait, or a methodological gnat that won't go away? *Pers. Individ. Differ.* 81, 13–22
74. Jack, R.E. *et al.* (2018) Data-driven methods to diversify knowledge of human psychology. *Trends Cogn. Sci.* 22, 1–5
75. Kahn, D.T. *et al.* (2022) The intent and extent of collective threats: a data-driven conceptualization of collective threats and their relation to political preferences. *J. Exp. Psychol. Gen.* 151, 1178–1198
76. Bergh, R. and Brandt, M.J. (2022) Mapping principal dimensions of prejudice in the United States. *J. Pers. Soc. Psychol.* 123, 154–173
77. Lilienfeld, S.O. *et al.* (2019) Personality disorders as emergent interpersonal syndromes: psychopathic personality as a case example. *J. Personal. Disord.* 33, 577–622
78. Kotov, R. *et al.* (2021) The Hierarchical Taxonomy of Psychopathology (HiTOP): a quantitative nosology based on consensus of evidence. *Annu. Rev. Clin. Psychol.* 17, 83–108
79. Möttus, R. *et al.* (2020) Descriptive, predictive and explanatory personality research: different goals, different approaches, but a shared need to move beyond the big few traits. *Eur. J. Personal.* 34, 1175–1201
80. Rollwage, M. *et al.* (2019) What underlies political polarization? A manifesto for computational political psychology. *Trends Cogn. Sci.* 23, 820–822
81. Kotov, R. *et al.* (2017) The Hierarchical Taxonomy of Psychopathology (HiTOP): a dimensional alternative to traditional nosologies. *J. Abnorm. Psychol.* 126, 454–477
82. Perkins, E.R. *et al.* (2020) Neurobiology and the hierarchical taxonomy of psychopathology: progress toward ontogenetically informed and clinically useful nosology. *Dialogues Clin. Neurosci.* 22, 51–63
83. Latzman, R.D. and DeYoung, C.G. (2020) Using empirically-derived dimensional phenotypes to accelerate clinical neuroscience: the Hierarchical Taxonomy of Psychopathology (HiTOP) framework. *Neuropsychopharmacology* 45, 1083–1085
84. Wilkowski, B.M. *et al.* (2020) Lexical derivation of the PINT taxonomy of goals: prominence, inclusiveness, negativity prevention, and tradition. *J. Pers. Soc. Psychol.* 119, 1153–1187
85. Sagiv, L. and Schwartz, S.H. (2022) Personal values across cultures. *Annu. Rev. Psychol.* 73, 517–546
86. Stenner, K. (2009) Three kinds of "conservatism". *Psychol. Inq.* 20, 142–159
87. Thornton, B. and Knox, D. (2002) "Not in my back yard": the situational and personality determinants of oppositional behavior. *J. Appl. Soc. Psychol.* 32, 2554–2574
88. Capelos, T. and Katsanidou, A. (2018) Reactionary politics: explaining the psychological roots of anti preferences in European integration and immigration debates. *Polit. Psychol.* 39, 1271–1288
89. Madole, J.W. and Harden, K.P. (2022) Building causal knowledge in behavior genetics. *Behav. Brain Sci.* Published online May 5, 2022. <https://doi.org/10.1017/S0140525X22000681>
90. Kalmoe, N.P. and Johnson, M. (2022) Genes, ideology, and sophistication. *J. Exp. Polit. Sci.* 9, 255–266
91. Mischel, W. (1977) On the future of personality measurement. *Am. Psychol.* 32, 246–254
92. Goldberg, A. and Stein, S.K. (2018) Beyond social contagion: associative diffusion and the emergence of cultural variation. *Am. Sociol. Rev.* 83, 897–932
93. Selway, J.S. (2011) The measurement of cross-cutting cleavages and other multidimensional cleavage structures. *Polit. Anal.* 19, 48–65
94. Hufer, A. *et al.* (2020) Genetic and environmental variation in political orientation in adolescence and early adulthood: a nuclear twin family analysis. *J. Pers. Soc. Psychol.* 118, 762–776
95. Iyengar, S. *et al.* (2019) The origins and consequences of affective polarization in the united states. *Annu. Rev. Polit. Sci.* 22, 129–146
96. Van Bavel, J.J. and Pereira, A. (2018) The partisan brain: an identity-based model of political belief. *Trends Cogn. Sci.* 22, 213–224
97. Clark, L.A. and Watson, D. (2019) Constructing validity: new developments in creating objective measuring instruments. *Psychol. Assess.* 31, 1412–1427
98. Condon, D.M. and Mroczek, D.K. (2016) Time to move beyond the Big Five? *Eur. J. Pers.* 30, 311–312