The Coherence of Citizen Preferences*

Gregory A. Huber
Yale University

gregory.huber@yale.edu
huber.research.yale.edu

Nicholas Ottone
Yale University

nicholas.ottone@yale.edu

Erik Snowberg
University of Utah,
UBC, CESifo, and NBER
snowberg@eccles.utah.edu
eriksnowberg.com

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Abstract

We use novel survey question design to ascertain the coherence of citizen preferences—both at a point in time and across time—in seven policy domains. Contrary to characterizations of the mass public as lacking meaningful policy preferences, we find that approximately 80% of people express coherent preferences about 80% of the time. While some key factors thought to predict having "meaningful" preferences are associated with coherence, others—such as political interest, ideological constraint across issues, and extreme most-preferred policies—are only weakly related.

JEL Classifications: C99, D02, D79, P19,
Keywords: measurement of policy preferences, coherence of preferences, stability of preferences, ideological constraint

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1 Introduction

Scholars have spent decades debating whether people's policy preferences are sufficiently well-structured to support meaningful democratic governance (for example, Converse, 1964). Yet these debates rest on surprisingly little data about actual preferences, often relying instead on proxies such as "attitudes," or relatively abstract summaries of preferences, such as ideology or ideological consistency across issues. From these data we have learned that people's policy preferences are not replicas of elite opinion. However, we know far less about what those preferences are, and how they are actually structured.

Despite many changes in American politics since Converse (1964), "most contemporary scholars of public opinion have come to accept, at least in broad outline, Converse's portrait of democratic citizens" (Achen and Bartels, 2017, p.36). Barber and Pope (2019, p.40) agree with this assessment, writing "the contemporary American public still resembles the landscape described by Converse more than fifty years ago as voters lack the ability to offer truly polarized, constrained opinions." Similarly, Kinder and Kalmoe (2017, p.20) write, "On issues that have attracted intense and persistent attention from political elites, public opinion is not what it seems. It is a mixture of real opinions and nonopinions, with the latter often outnumbering the former." Even preferences that seem to conform to ideological constraint are suspect; "it is well-known that ordinary voters must rely on elites to make sense of the political world." (Levendusky, 2010, p.114).

We use innovative survey question design and data collection to more fully characterize individuals' policy preferences on several issues at two points in time. These questions allow us to ascertain the coherence—which we equate with the theoretical concept of single-peakedness (Downs, 1957; Kalandrakis, 2022)—of a respondent's policy preferences at a point in time, as well as over time. For each of seven issues domains, we measure preferences over five policy alternatives by allowing respondents to rank and score each alternative. Most people express coherent preferences on most issues. Deviations from coherence appear to reflect idiosyncratic differences in people's preferences in a specific policy domain (Lauderdale, Hanretty and Vivyan, 2018). Most-preferred policy choices are also relatively coherent over

time. People tend to keep the same most-preferred policies, and instability often involves movement to ideologically adjacent options that a respondent views as similarly desirable. Our original results remain substantively unchanged when we weight for demographics, addressing concerns about the representiveness of opt-in online samples (Berrens et al., 2003; Malhotra and Krosnick, 2007), and we have replicated our results about coherence for a single issue using a nationally-representative survey with more than 100,000 respondents. Our data therefore suggest that prior disputes about preferences may reflect the limitations of extant measurement tools—for example, the choice to solicit only most-preferred policies, or vague response options—rather than limitations of individuals themselves (see also Ansolabehere, Meredith and Snowberg, 2013).

We provide further evidence for the validity of these measures by showing that key factors thought to predict holding meaningful preferences also predict coherence. For example, across individuals, greater political knowledge, cognitive ability, and ideological constraint across issues are positively correlated with coherence both at a point in time and over time. Moreover, viewing a particular issue domain as important, and expressing confidence in one's ability to evaluate policy in that domain, predict greater coherence. Finally, coherence at a single point in time and coherence over time are systematically related.

These findings have important implications for the capacity of citizens to meaningfully engage in democratic governance. Primarily, we provide direct evidence that most individuals have policy preferences that conform to standard theoretical models. This calls into question arguments that citizens are unable to choose policies they prefer, or that their ranking of policy preferences in a given domain are meaningless. Furthermore, as these preferences are coherent over time, they likely reflect important underlying motivations, rather than being purely ephemeral expressions. Altogether, they provide strong evidence that "voters are not fools" (Key, 1966) because they understand how policy choices in given domains differ and compare to those they prefer.

We also provide evidence that helps understand fundamental questions about the nature of mass preferences. Instability in electoral choices is sometimes ascribed to basic failings of

citizens, such as not holding meaningful policy preferences (for example, Kinder and Kalmoe, 2017). Our data, by contrast, show that this interpretation is incorrect. It is not that citizens lack meaningful preferences. Perhaps, instead, electoral environments requiring individuals to weigh choices across many policy domains necessitates more complex state-dependent strategies.

Finally, we also provide new evidence addressing persistent questions about whether those with moderate preferences do or do not have "real" political positions (Broockman and Lauderdale, 2023; Fowler et al., 2023). While this debate often turns on how to classify those who hold offsetting liberal and conservative views, we show that a large proportion of those who express moderate most-preferred policies in a given policy domain have coherent preferences in that domain. This provides direct evidence about the nature of moderates' preferences that does not rely on trying to impose a given structure on views across issue domains.

2 Theoretical Background

2.1 The Primacy of Coherence and Coherence over Time

We focus on two facets of coherence: coherence at a point in time, and coherence over time. Coherence at a point in time (which we will usually call *coherence*) is the degree to which preferences over policy options in a given policy domain are single-peaked over a left-right ideological ordering of choices.[1] That is, we examine whether individuals have a most-preferred policy, and whether options that are further from this most-preferred policy in left-right space are (weakly) less preferred to those closer to their ideal. For example, someone displays coherent preferences over minimum wage levels if their most-preferred

[1]Generally speaking, the term single-peaked refers to a preference profile—that is, the preferences of an entire voting group. The term for individual-level preferences of this sort is (weakly) quasi-concave. We prefer the term single-peaked as it is more evocative. Note that preferences may be coherent even if they are not single-peaked (Egan, 2014). For example, one may want concealed weapons to be either unrestricted or completely banned, believing all other policies to be unworkable. Thus, equating coherence with single-peaked preferences creates a conservative measure that may improperly classify some individuals with coherent preferences as incoherent.

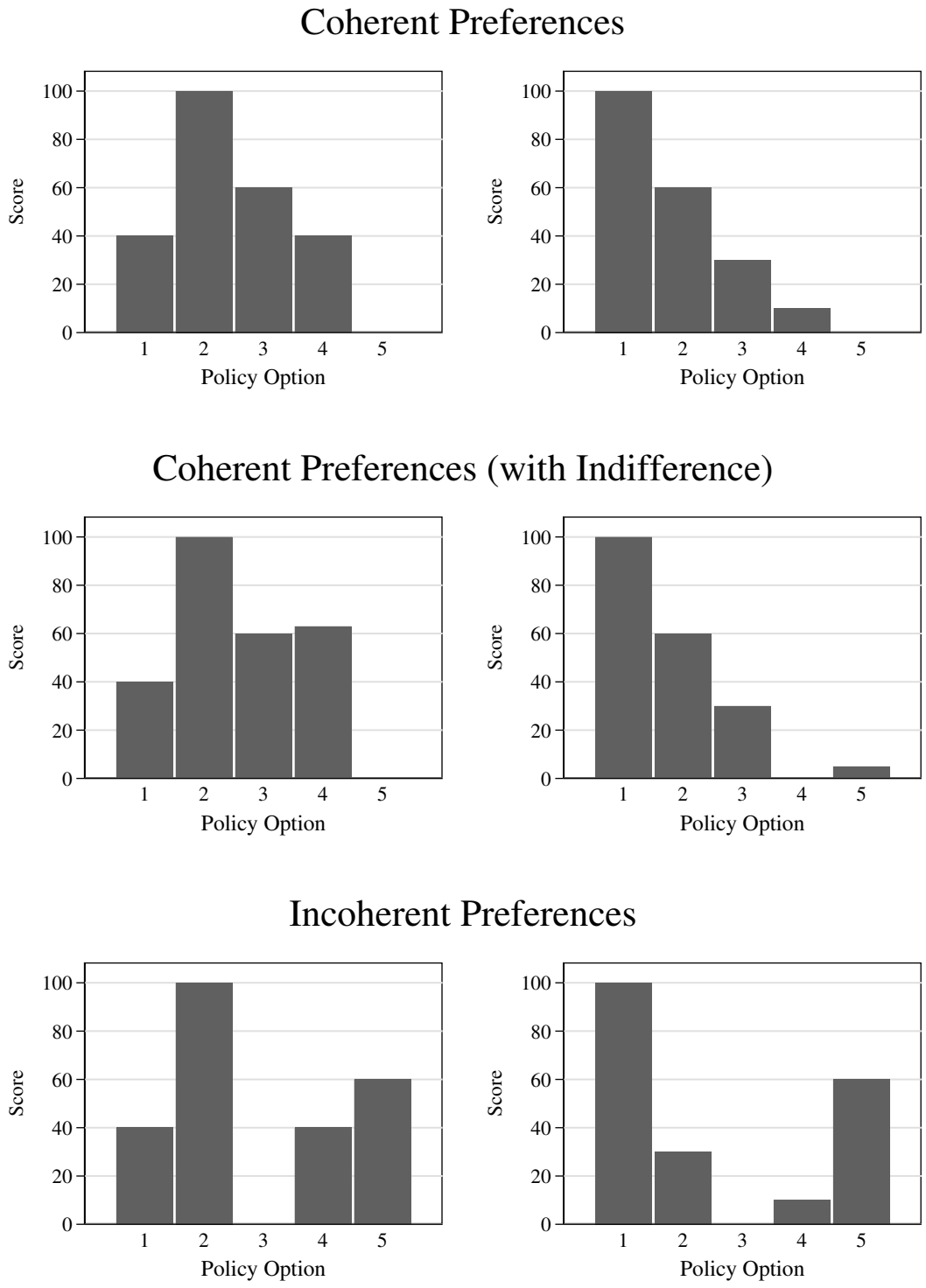
policy is a wage of $12/hour, and they are indifferent between this option and $10/hour, which they prefer to $14/hour, which they prefer to $8/hour, which they prefer to $16/hour. If preferences in individual policy domains are coherent, it means that it is theoretically possible for policy competition in (only) that domain to produce a stable outcome at the ideal point of the median voter.

In our primary data, we examine the coherence of people's preferences using the 0–100 scores that people assign to each policy option. Due to the implementation of the survey, which uses sliders to choose the numerical scores for different options (discussed below), it may be difficult for respondents to choose exactly the same score for two options over which they are indifferent. To allow for this potential source of measurement error, we code an individual as indifferent between two options if they score them within five points of each other. If someone exhibits single-peaked preferences in a given domain under this coding, we classify their preferences in this domain as coherent.

Our measure of coherence is illustrated in Figure 1. In the left column, the most-preferred policy option is 2, and in the right column it is 1. The top panel shows single-peaked preference profiles as measured using scores, which we code as coherent. In the middle row, the preference profiles are also coded as coherent because deviations from single-peakedness likely reflect indifference—there are only small differences in scores between adjacent options. Finally, in the bottom row, we display two profiles that are incoherent.

Coherence is distinct from the frequently studied concept of ideological constraint, which is the degree to which individuals' most-preferred policies (or attitudes) across policy domains demonstrate similarity to elite groupings of policy preferences (Converse, 1964; Baldassarri and Gelman, 2008). In other words, constraint measures, for example, the degree to which someone holds generally Republican views on abortion (prefers more state intervention), gun control (prefers less state intervention), and taxes (prefers lower taxes). The constraint standard presumes that fealty to observed elite patterns is necessary in order to indicate meaningful policy preferences (see also Jost, 2021). This excludes groups whose views are coherent and deeply held but misaligned with observed party cleavages (for example, His-

Figure 1: Examples of Coherent and Incoherent Preferences



panics in Southwest Texas who generally agree with Democrats on immigration, but with Republicans on abortion; consistently anti-state libertarians; or pro-life, but economically liberal, social justice Catholics). Moreover, the ability to parrot the positions of party elites or platforms does not necessitate any understanding of the relative ordering or merits of other policy options in that domain (Lenz, 2013; Achen and Bartels, 2017).We show below that constraint is not a substitute for coherence, although the two are modestly correlated.

In addition to coherence at a point in time, we examine *coherence over time*—the degree to which changes in most-preferred policies are coherently structured. Past work has generally regarded instability of *attitudes*—positive or negative evaluations of specific policies (Eagly and Chaiken, 1993, chapter 1)—as evidence that preferences are ephemeral. The literature asserts that if attitudes change frequently and without reason—for example, changes are unrelated to news or other events—then individuals do not have real preferences (Converse, 1964; Kinder and Kalmoe, 2017). However, attitudes are not the same as preferences: one can have a positive or negative evaluation of a given policy—depending on what one is comparing it to in their mind, which may change over time—but still prefer that policy to all other feasible policies.

Importantly, it matters a great deal whether changes in most-preferred policies are "local"—to ideologically adjacent options that one is nearly indifferent over—or random. We code a respondent's policy preferences as coherent over time either if their most-preferred policy in Wave 2 of the survey is the same as their most-preferred policy in Wave 1, or if it is ideologically adjacent to it, and scored as their second (or within five points of their second) most-preferred policy in Wave 1. This definition encompasses the intertemporal consistency one might expect of real preferences, subject to both survey measurement error and real-world shocks. The structure of changes in most-preferred polices over time has not been considered by the literature: we show that most changes are coherently structured.

This approach to classifying coherence highlights two implications for the structure of citizens' preferences. First, if a voter has coherent preferences at a point in time, it enables them to engage in meaningful voting in those policy domains. Specifically, if they can order

choices in a sensible ideological way, then they can choose a policy they prefer given a choice in that dimension–i.e., they can engage in spatial voting (Jessee, 2009). Second, coherence over time confirms that these coherent preferences are indeed deeply held and meaningful rather than an artifact of survey design or luck.

2.2 Measurement and Analysis Approaches in Past Research

While survey-based scholarship on the nature of political attitudes is voluminous, this belies the relatively limited range of measurement tools and analytical approaches used to understand them (see Ansolabehere, Rodden and Snyder, 2008; Kinder and Kalmoe, 2017; Freeder, Lenz and Turney, 2019). Three features characterize past efforts to describe individuals' policy preferences using survey data: (1) Many questions measure (policy) attitudes rather than (policy) preferences, (2) few studies measure complete preference profiles (especially over time), and (3) no extant studies directly measure the relative intensity, using scores, of individuals' preferences over multiple policy options in a specific domain.

In the bulk of past research, scholars have used survey questions about *attitudes*—positive or negative evaluations of specific policies or political objects—as evidence of people's opinions on policy (see Ansolabehere, Rodden and Snyder, 2008; Feldman, 1988). In surveys such as the American National Election Studies (ANES), attitudes are elicited by asking people how they "feel" about a political object, like a particular policy,[2] or by asking them to place themselves on numbered scales with two abstract endpoints, without a defined policy for each scale position.[3] However, attitudes alone do not directly provide evidence about people's policy preferences, which are comparative evaluations—that is, rankings of one option against others (Druckman and Lupia, 2000, p.2). Importantly, one's attitude toward a specific policy may be negative, but one may still prefer it to the alternatives. Even when

[2]For example, the classic ANES Feeling Thermometer solicits feelings on a 0–100 scale, see electionstudies.org/data-tools/anes-variable/variable.html?year=2020&variable=V202477

[3]For example, the 2020 ANES question on environmental regulation used "Tougher regulations on businesses needed to protect environment" and "Regulations to protect environment already too much a burden on business" as endpoints, see electionstudies.org/data-tools/anes-variable/variable.html?year=2020&variable=V201262

survey questions ask about preferences, they generally elicit only a person's most-preferred policy; for example, in the ANES respondents are asked to indicate which of four abortion policies they most prefer.[4] In contrast, by eliciting preferences over multiple options in each dimension, we explicitly ask respondents to compare different policies.

Three prior studies do elicit preferences over several options. Hansen (1998), using 12 different questions, asks respondents whether they favor or oppose federal budget proposals on taxation and spending. He finds that most respondents have complete and consistent preferences—for example, they do not prefer lower taxes and greater spending—but the survey question design does not allow an assessment of coherence. List et al. (2013) ask respondents to rank order between three and five alternatives in an issue domain in nine different "deliberative polls." They find middling rates of coherence, but most of the issues they examine, such as how an electric utility should change its generation capacity, are not of general interest. Egan (2014) asks people to rank three policy choices on issues of broader interest. He finds much higher levels of coherence, consistent with List et al.'s (2013) finding for the high-salience, three-alternative, policy domains they examine. None of these studies examine stability of individuals' expressed preferences, nor provide evidence about the intensity of preferences across options.[5]

A complementary literature focuses on the coherence of preferences over candidates. Brady and Ansolabehere (1989) elicit choices over all pairwise comparisons among candidates in two polls from 1976 and 1983, and show that large proportions of individuals (∼60% in their sample) have preferences over candidates that we would classify as coherent. Whether such patterns extend to policy preferences is unknown.

The nature of existing data, characterized by an emphasis on policy attitudes or most-preferred policies, may explain the dominant analytical approaches. The two most common approaches, by far, are to examine either constraint (described above) at a single point in time, or the stability of attitudes or most-preferred policies over time. Importantly, a

[4]For the specific options, see electionstudies.org/data-tools/anes-variable/variable.html?year=2020&variable=V201336

[5]In particular, only List et al. (2013) have a two-period panel structure, but they do not examine coherence across time.

difference in an abstract scale score—for instance, a ten-point gap on a feeling thermometer—does not have clear implications for preferences. This problem is likely exacerbated when data are collected over time, as the considerations individuals draw upon to form an attitude may change, generating instability in a stated attitude—what Zaller, labeled, "Making it up as [they] go along" (1992, chapter 5)—that is irrelevant for understanding stability in preferences.

Prior work using the ideological constraint and stability standards has reached sharply different conclusions about whether individuals have meaningful policy opinions. Some canonical accounts (for example, Converse, 1964), as well as more recent research (for example, Kinder and Kalmoe, 2017), reach the conclusion that few people have sophisticated understandings of policy because correlations of most-preferred options across policies domains are low, preferred policies change over time, and people eschew ideological labels. However, other research argues that this finding may be driven by measurement error, exacerbated by the vague question formats used to elicit preferred policy opinions (Achen, 1975; Krosnick and Berent, 1993, for example). Supporting concerns about measurement error, Ansolabehere, Rodden and Snyder (2008) find that when multiple most-preferred policy questions in related policy domains—for example, social policy—are averaged together, these preferences are more stable over time.

Part of the reason for conflicting interpretations drawn from extant data is that existing empirical analysis is indirect. It is unclear how much ideological constraint within an individual across issues, or how much stability of most-preferred policies over time, is enough to demonstrate that preferences are real and meaningful, because neither is a direct measure of the nature of preference structures. These empirical and theoretical limitations explain some of the indeterminacy in the literature.

To move beyond this indeterminacy, we provide new data that measure individuals' complete preferences in several different policy domains over time. Our design eliminates much of the vagueness in prior elicitations, reduces measurement error, and allows us to examine the extent to which changes in most-preferred policies over time are coherently

structured. We pair these data with theoretically appropriate empirical analyses. Contrary to (most) prior work, we find that the median respondent has coherent preferences on most issues, especially on issues of high salience. By eliciting respondents' full preference profile across two waves, we also show that most people have stable most-preferred policies, but when most-preferred policies change, they usually change to ideologically adjacent options that the respondent previously evaluated favorably.

3 Survey Design and Data Collection

Our panel survey, fielded in October and December 2018, focuses on five high-salience policy domains—abortion, gun control, immigration, top tax rates, and welfare—and two lower-salience (at the time of the survey) domains—childhood vaccination and space exploration.[6] Ex ante, we expected that people would have less coherent preferences at both a point in time and over time in these two low-salience domains.

We designed the survey to yield the data necessary to evaluate the coherence and coherence over time of individuals' policy preferences. In particular, we elicited individuals' rankings of, and scores for, five policy options in seven different policy domains at two points in time. In contrast to conventional policy questions, our survey elicits relative evaluations of many options. These data are sufficient to construct individuals' complete preference ordering in each issue domain at each point in time. We use a branching question format to lessen respondents' cognitive burden. Finally, we explicitly define the policy domain and status quo policy for respondents. Participants considered each policy domain in random order. At the beginning of each policy domain, we provided respondents with a one-paragraph description of the issue under consideration. For example, in the domain of concealed handgun policy, we presented the description shown at the top of Figure 2.

Note that the unambiguous and clear descriptions of each policy domain should reduce

[6] In late 2018, views on child-vaccination requirements did not strictly fall along left-right lines and the issue was relatively absent from national discourse (Jones and McDermott, 2022).

Figure 2: Example Survey Interface: Describing Policy Domain and Selecting Most- and Least-Preferred Options

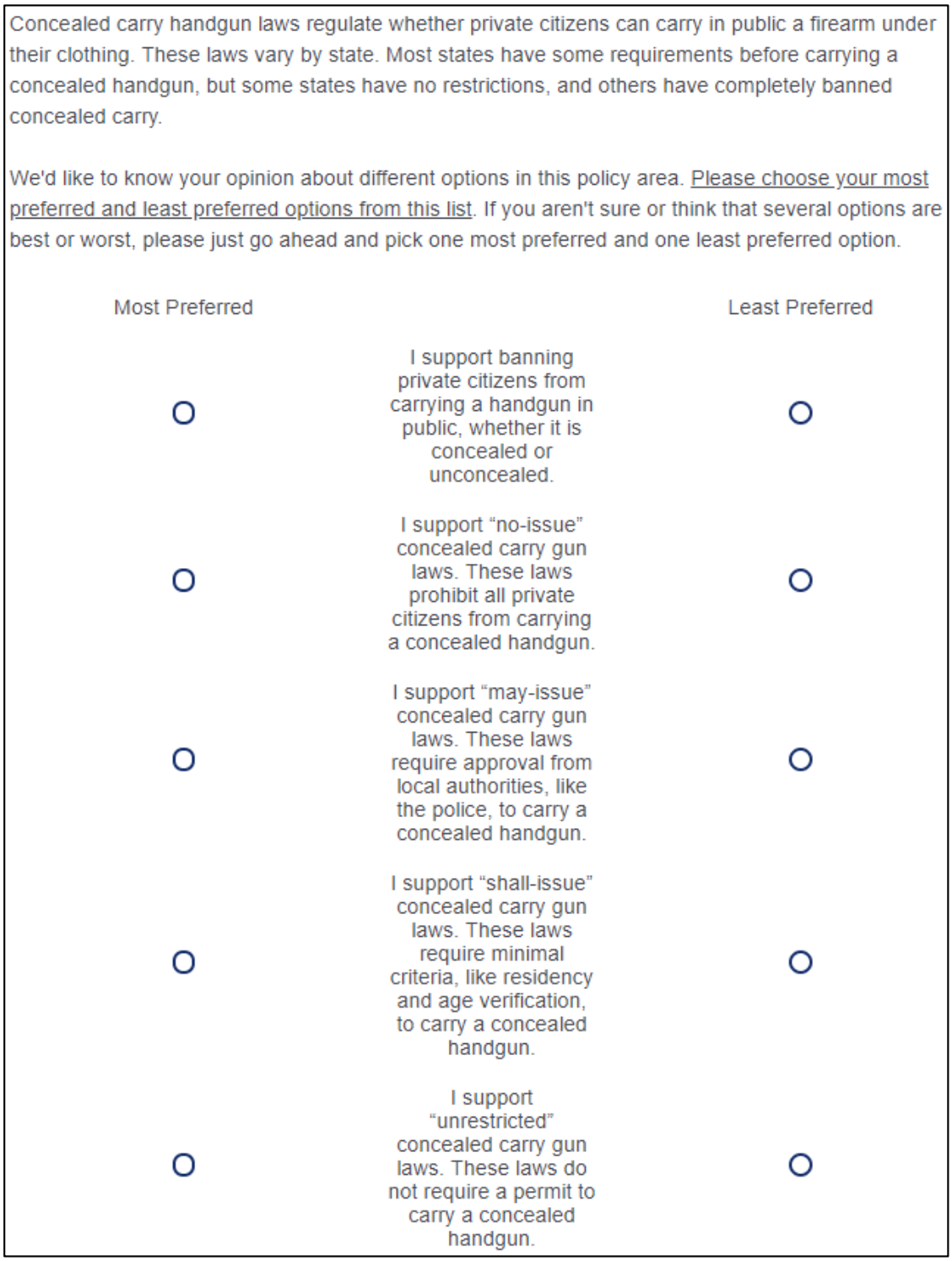
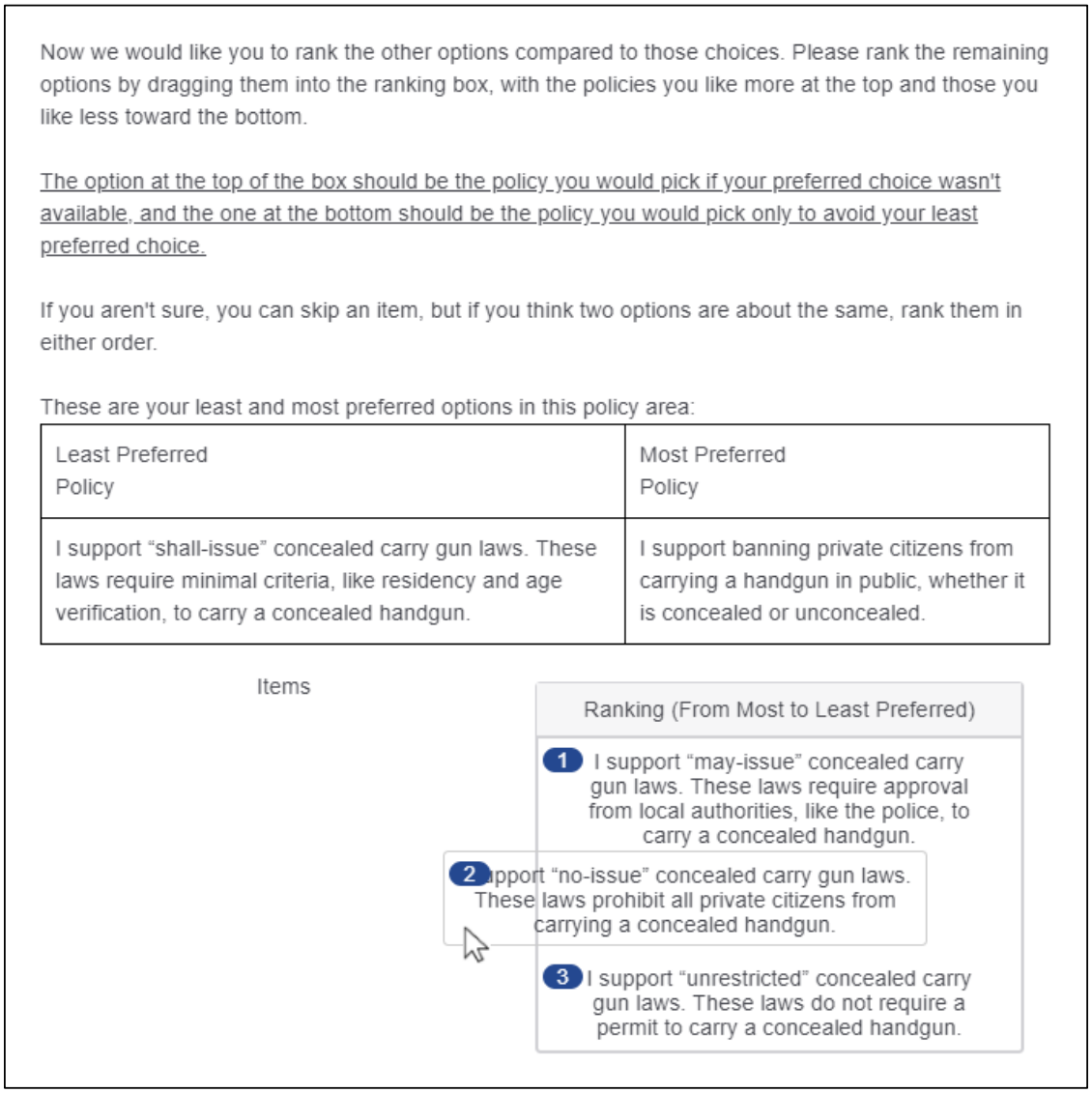


Figure 3: Example Survey Interface: Ranking Intermediate Options



the possibility that different individuals, or the same individual over time, understand the policy options differently. After the introductory paragraph, we presented five specific policy options in similarly clear and unambiguous language. The positions for concealed handguns are shown in Figure 2. Determining whether or not an individual has coherent preferences is possible when the options can be arrayed along a single ideological dimension. So, for example, in the case of gun control, we focused on the stringency of rules surrounding

concealed handguns.[7] We ask about specific and complex policy issues, and to the extent this induces inattention or incomprehension, this design choice should bias our results toward incoherence. The complete descriptions and policy choices for all policy domains are listed in Appendix Table A.1.

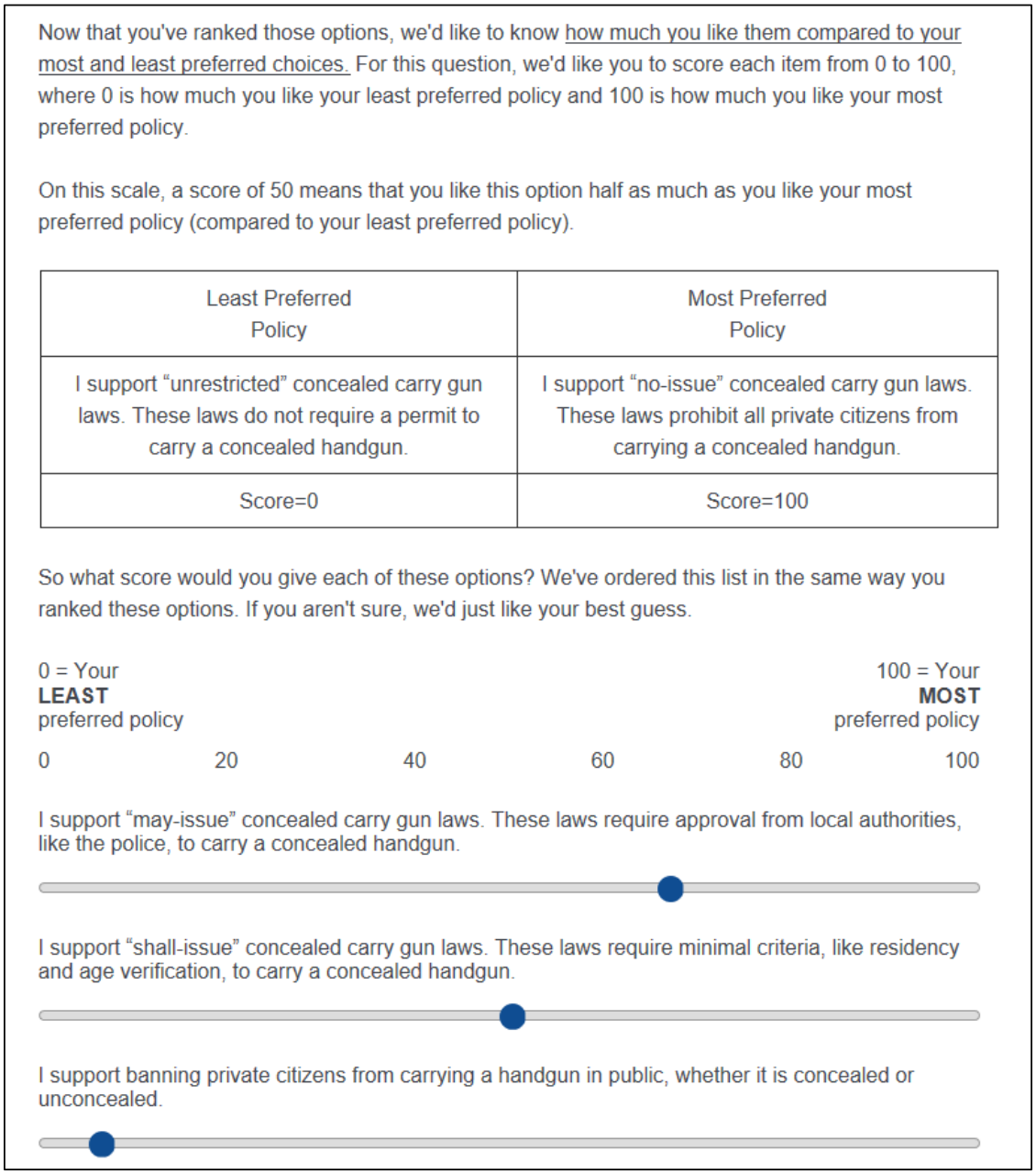
Scoring and ranking all options in a policy domain was done over three screens, examples of which are shown in Figures 2–4. On the first survey screen, participants were presented with the five policy options in an ideologically ordered way, and were asked to indicate which of the five policies they "most preferred" and which they "least preferred," as in Figure 2. They were then asked to rank the remaining three options from second-most-preferred to second-least-preferred by dragging blocks of text describing each option into their preference order, as in Figure 3. On this page, the policies were in the original order, with the options selected for most- and least-preferred removed. Note that this did not allow participants to express indifference between different policy options.

The final page asked participants to score each position on a 0–100 scale, where 0 was automatically assigned to their least-preferred option and 100 was automatically assigned to their most-preferred option, as in Figure 4. To reduce cognitive load, options were presented in the order respondents ranked them. Participants were also asked to score any options they did not rank. Note that the participants had to judge the relative position of sliders visually, which may have inadvertently led to participants scoring a slightly less preferred option as slightly more preferred, and vice versa.

The contrast between this design and conventional policy questions is notable in three ways. First, conventional questions are often more general than ours. For example, the American National Election Studies' question about gun control is simply "Do you think the federal government should make it more difficult for people to buy a gun than it is now, make it easier for people to buy a gun, or keep these rules about the same as they are now?" This question does not define the status quo policy, clarify what "about the same"

[7] If, instead, we choose options representing two different dimensions simultaneously, then we would need to ask respondents to rank choices in all parts of the two-dimensional space in order to verify the coherence of an individual's preferences, see (see Lacy, 2001).

Figure 4: Example Survey Interface: Scoring Intermediate Options



means, or specify a particular aspect of gun control policy under consideration. Second, conventional questions do not ask people to indicate their preferences over multiple policies in an issue domain. Without such data, one cannot construct an individual's preference ordering. Third, eliciting scores provides evidence about the slope of participants' utility functions. These scores allow us to identify the strength of preferences, and the extent to

which individuals may be (close to) indifferent between policy options.[8]

We fielded a two-wave study using these questions. Respondents—U.S. residents 18 and older—were recruited by Survey Sampling International (SSI), which compensated participants for their time and directed them to our Qualtrics-hosted survey, where they provided informed consent. Wave 1 was fielded to 1,933 respondents in October 2018. We later invited those respondents to participate in Wave 2, fielded in December 2018; 1,024 people participated. Because the coherence of preferences over time is one of our main outcomes of interest, our analysis in the text of the paper focuses on those respondents who completed both waves and scored all five options in at least one domain in Wave 1 ($N = 988$).

Our sample has similar demographics to the population of the United States in terms of gender, race, education, age, income, and partisanship, see Appendix Table A.2. On average, our sample is better educated, older, less Hispanic, and more Republican than the U.S. population. Attrition between waves did not noticeably change the demographics of our sample. For analyses weighted to population demographics, see Appendix Sections B and C.

4 Characterizing the Coherence of Policy Preferences

We find that the median respondent expresses coherent policy preferences on the majority of issues, especially high-salience ones. Our analysis focuses on the scores respondents assign to each policy option to form their preference ordering. Respondents are coded as coherent if their preference ordering is single-peaked on the left-right ordering of the options. To account for the fact that the difficulty of indicating indifference in our interface may induce measurement error, we code respondents as indifferent between options that are scored within 5 points of one another.[9]

[8] This standard utility-focused definition of indifference differs from Krosnick et al.'s (1993) notion of strength of preference, operationalized as whether one expresses a preference for a moderate or an extreme position.

[9] We chose 5 points as a benchmark, but report results for smaller (0 or 3) and larger (10) thresholds in Appendix Table B.4.

Table 1: Summary of Coherence in Wave 1 for those completing both waves ($N = 988$).

Policy Domain	Score All Options	Coherent	Random Responding Benchmark	Ratio: Coherent/ Benchmark
Abortion	97%	73%		4.3
Concealed Carry	98%	68%		4.0
Immigrant Kids	99%	76%		4.5
Welfare	98%	78%	17%	4.6
Top Tax Rates	98%	73%		4.3
Vaccine Rules	98%	64%		3.8
Space Exploration	97%	49%		2.9
Average, All Domains	98%	69%		4.1
Average, High Salience	98%	74%	17%	4.3
Average, Low Salience	98%	57%		3.3

Despite the relative complexity of our elicitations, the vast majority of respondents—97% or 99%, depending on the domain—score all options, as shown in the first column of Table 1. Policy domains are ordered so that we present the five higher-salience domains first, followed by the two lower-salience domains (vaccine rules and space exploration).

Averaging across all policy domains, a high proportion of respondents—69%—have coherent policy preferences, as shown in Column 2 of Table 1. For the higher-salience policy domains, nearly three out of four people, 74% on average, have coherent policy preferences. For the lower-salience policy domains, this figure is 57%, driven largely by the low rate of coherence, 49%, in the space exploration domain.[10]

These rates are markedly higher than one would expect to find if respondents answered at random.[11] To estimate a random responding benchmark, we simulated survey responding

[10]This analysis is of the Wave 1 responses in our standardized sample, described in Section 3. Appendix Table B.1 reports the same analysis of Wave 2 responses, which are, on average, slightly more coherent—72%. Appendix Table B.2 reports the same analysis using all Wave 1 respondents. The coherence among this sample is, on average, slightly lower—65%.

[11]One might also be interested in whether respondents have "flat" preferences, meaning that they score all the options between their most- and least-preferred within 10 points of one another. These "flat" preferences could be consistent with non-attitudes. In the five high-salience domains, 10% of those coded as coherent

in a manner that accounts for the design of our survey. First, we selected most- and least-preferred policy options at random for 1.2 million simulated respondents. Then, as with our survey interface, we scored the former as 100 and the latter as 0. Second, we randomly scored the other 3 policy options on the interval 0–100. These simulated respondents had coherent preferences 17% of the time. Observed rates of coherence in our data are 2.9 (Space exploration) to 4.6 (Welfare) times greater than what one would expect given random responding, as shown in Column 4. [12]

Overall, when we directly measure whether individuals have coherent preferences, we find much higher rates than one would expect in light of prior work. However, our data reveal that members of the mass public hold ideologically coherent preferences over multiple policy options in a given policy domain most of the time. Further, this analysis reveals the importance of directly eliciting preference profiles when making arguments about whether individuals hold meaningful views.

4.1 Rates of Coherence Across Issues

We now examine the coherence of an individual's preferences across all domains using the so-called "black-and-white" model of Converse (1964) to categorize individuals. This model asserts that some (small) portion of the population has meaningful policy preferences, while another (large) proportion does not. "The substantive conclusion...is simply that large portions of an electorate do not have meaningful beliefs, even on issues that have formed the basis for intense political controversy among elites for a substantial period of time" (p. 52). Given the high rates of coherence we observe, this characterization of the frequency of each type is easily rejected—far too many respondents express coherent preferences for Converse's assessment to be accurate. Nonetheless, the two hypothesized types may be apparent in our data.

in Wave 1 have flat preferences. Among those who are coherent over time, 4% have flat preferences in both waves.

[12] For example, in a sample of 1,000 respondents answering randomly in such a way that they each have a 17% chance of being coded as coherent, the probability that 250 respondents (25%) appear coherent is 10^{-10}. The smallest rate that we observe is 49%.

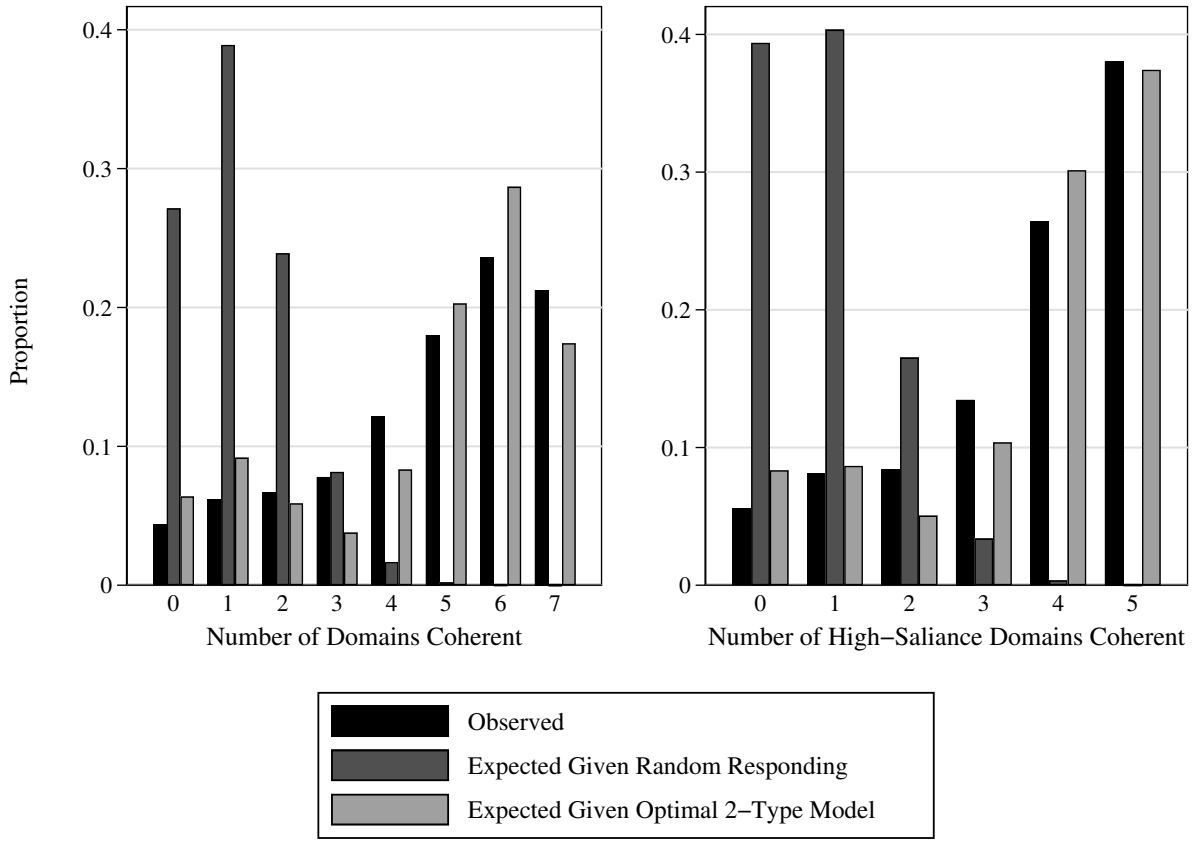
To explore this possibility, in Figure 5 we plot the rate at which individuals are coherent across multiple policy domains, as well as two theoretically relevant benchmarks.[13] The black bars represent the proportion of the sample expressing coherent preferences in that number of policy domains. Additionally, we present the proportions we would expect to be coherent in that number of domains given either random responding (dark grey bars) or an optimal two-type model (light grey bars), which we explain in the appendix.

Most people are coherent most of the time, and a modest number have coherent preferences on all issues, as shown by the black bars in Panel A. Around 21% of people are coherent on all seven issues, and about 4% on no issue. The median number of issues on which a person expresses coherent preferences is five, and the mode is six. Under the random responding benchmark introduced earlier, the dark grey bars show the probability that someone appears to express coherent preferences on six or seven policy issues is less than 0.02%, and on four or more policy issues it is around 2%. The observed rate at which people are coherent in all seven domains exceeds the random responding benchmark by a factor of more than 50,000. At the other extreme, the random responding benchmark predicts 15% of respondents will be coherent in no domain, while the observed rate is 85% lower.

If respondents are instead presumed to be divided into one more and one less-coherent type, we can use the black bars in Figure 5 to estimate features of these populations (see Appendix B for details). When considering all seven issues, model fit is maximized when 76% of the respondents are high-coherence types, who are coherent on any given issue 81% of the time. Using these parameters to predict the expected distribution of coherent preferences across domains (the light grey bars), it is immediately clear that these predictions more closely match the observed distribution of coherence across issues than the random responding benchmark. This exercise reveals that even if we accept the notion that there are two well-defined types in the population, an overwhelming majority of respondents are predicted to be the more-coherent type.

[13] If a respondent did not score all five options, we code their response as incoherent. This coding is conservative because individuals who score few options have a higher probability of being coded as coherent. We therefore avoid equating non-response with having coherent preferences.

Figure 5: Number of Issues Coherent: Data and Models



Notes: Number of issues: on which a respondent expresses coherent preferences in Wave 1 (black bars); random responding benchmark (dark grey bars), optimal two-type model (light grey bars). Sample restricted to those completing both waves and providing complete scores for at least four of seven policy domains ($N = 988$).

If we instead focus only on the five high-salience policy domains, as shown in Panel B, we find that 38% of people are coherent on all five issues, and 6% on no issue, as shown by the black bars. The median number is four, and the mode is five. Once again, the dark grey bars make clear that this pattern is far from what one would expect given random responding. The optimal two-type model prediction, shown with light grey bars, comes closer to fitting the observed distribution. This model estimates that 79% of respondents are the high-coherence types, who are coherent 86% of the time.

4.2 Coherence by Most-Preferred Policy Options

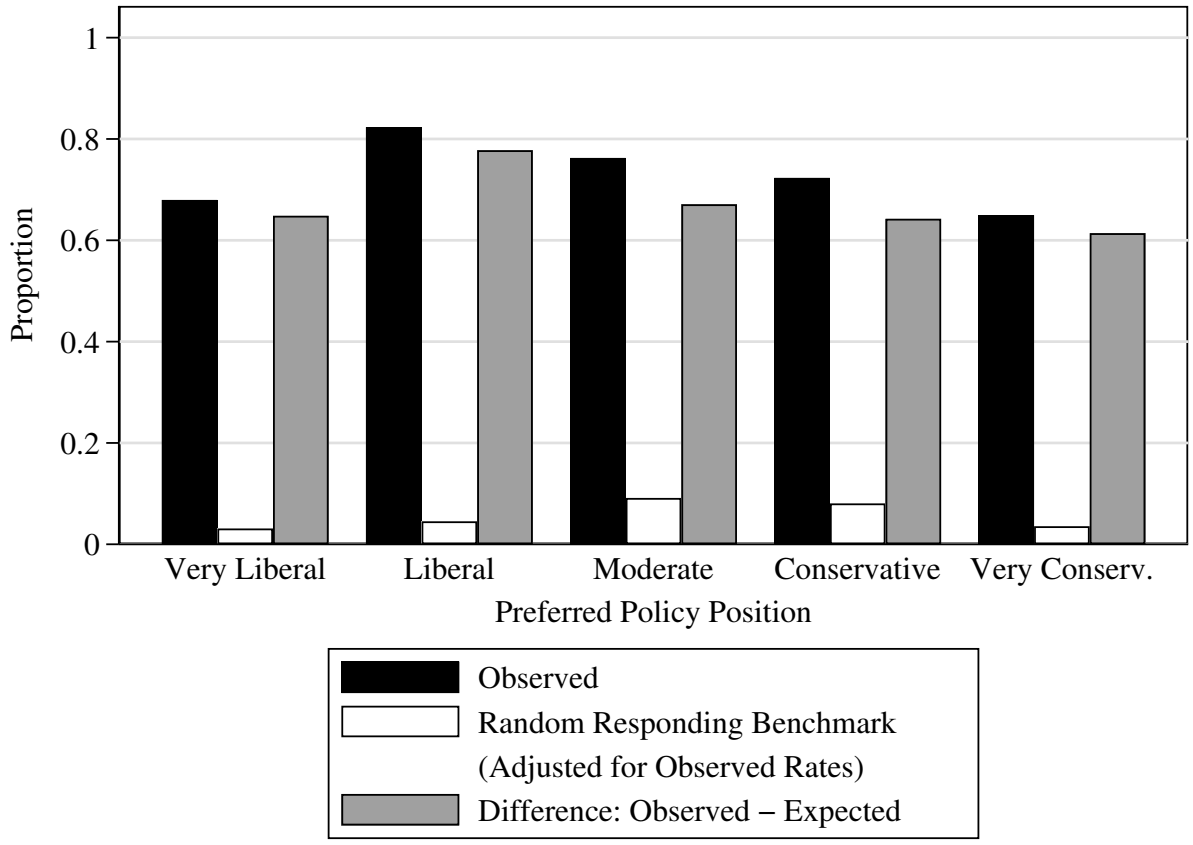
Examining patterns of coherence by respondents' most-preferred policy choices suggests there is little difference in rates of coherence between "extremists" and "moderates." There are two reasons to decompose the analysis in this way. First, the chance of appearing coherent when responding randomly varies systematically with a respondent's most-preferred policy choice. For someone who expresses as their most-preferred policy the middle of the five options, it is relatively easy to be coded as coherent: they need only score policy option 1 lower than 2, and 5 lower than 4. By contrast, for someone whose most-preferred option is 1, they must score option 5 lower than 4, 4 lower than 3, and 3 lower than 2. Our random responding benchmark allows us to account for this important difference.[14] Second, it helps us understand the nature of expressing more extreme policy preferences. On one hand, expressing extreme policy preferences may indicate those preferences are sincerely held (Howe and Krosnick, 2017) rather than simply choosing "the middle option" (Krosnick, 1991). Alternatively, preferences may be a product of random responding, and, if so, "extremists" and "moderates" should be equally likely to be coherent, relative to a random responding benchmark. In this case, the empirical finding that some people have policy preferences that are sometimes extremely liberal and sometimes extremely conservative might arise because these expressions are not meaningful (but see Broockman, 2016).

Figure 6 plots observed rates of coherence (black bars), expected rates of coherence given an adjusted random responding benchmark (white bar), and the difference between the two (grey bar) by the respondent's most-preferred policy option, arranged from left to right. This analysis is restricted to those who score all five policy options in a given policy domain, and leaves out the two lower-salience issue domains where coherence is much less frequent and the ideological ordering is less clear.

The benchmark rate of coherence presented in Figure 6 is calculated in a more informed

[14] The expected rate of being coded coherent when answering randomly is 6.6% for someone whose most-preferred option is either the first or last option, 21.1% for someone whose most-preferred option is either the second or fourth option, and 29.4% for someone whose most-preferred option is the middle option.

Figure 6: Coherence in High-Salience Policy Domains, by Preferred Policy ($N = 988$)



way. Our simulations show that if everyone was choosing randomly, then those who chose the middle (third) position as their most-preferred would appear coherent around 29% of the time. However, if everyone was responding randomly, we would also expect 71% of respondents with that most-preferred option to be incoherent. The proportion that is empirically observed to be incoherent is much lower (24%). Thus, we can be sure that not everyone is randomly responding, and a more suitable benchmark is needed. Define the proportion observed to be incoherent as I, and the benchmark rate at which people who indicate this most-preferred policy option and are incoherent will appear coherent as B (29% in this case). If we assume that everyone who appears incoherent is responding randomly—which is conservative, as this is unlikely to be the case—then the proportion of respondents who appear coherent but are responding randomly is $I * B/(1 - B)$. We use this formula to calculate

the white bars in Figure 6.

Several patterns are immediately apparent. First, as with the analysis in Table 1, rates of coherence are much greater than one would expect given random responding, regardless of an individual's most-preferred policy option. The grey bars can be interpreted as an "adjusted coherence" measure—the excess rate of coherence versus a random response model. All of these are significantly larger than zero.[15]

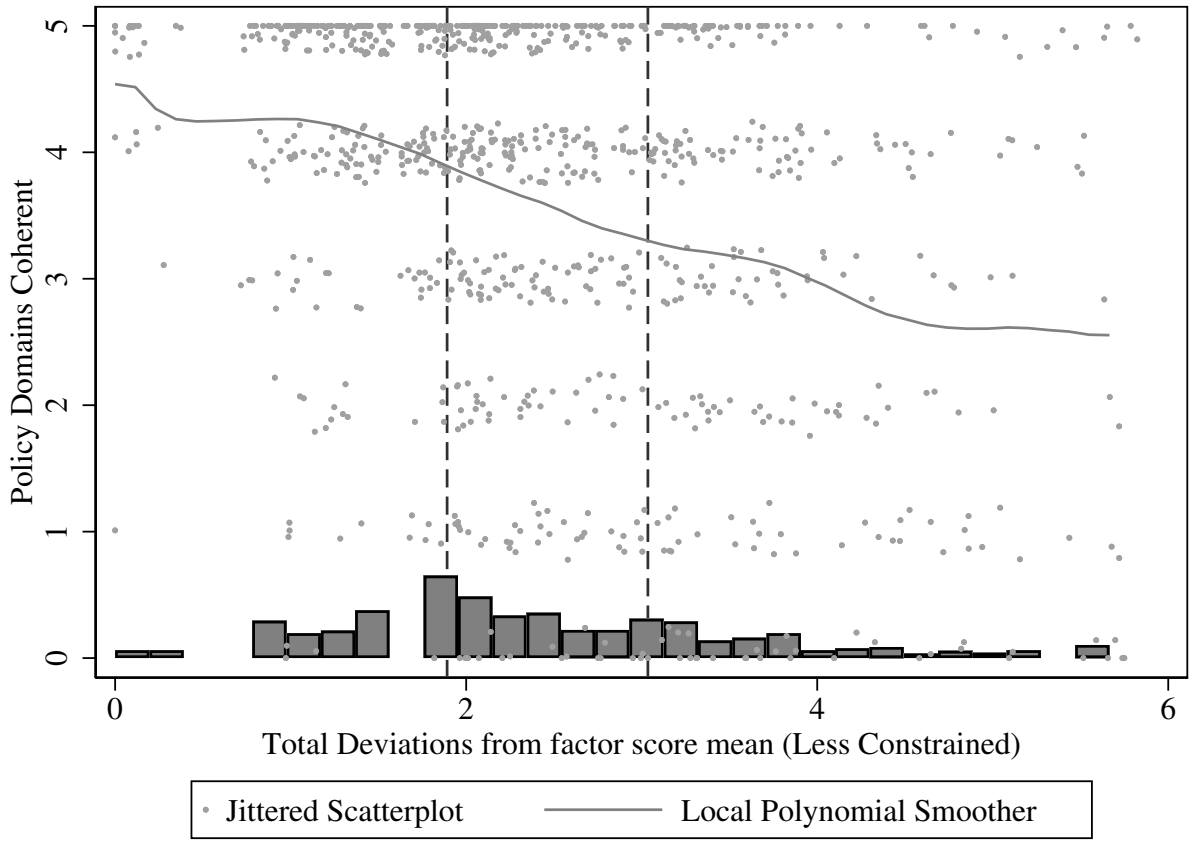
Second, it does not appear that those with more extreme policy preferences have systematically more or less coherent policy preferences. Adjusted coherence rates are roughly uniform across the ideological spectrum of preferred policy options. In quantitative terms, if we fold the preferred policy measure to instead create a measure of extremity (0 = moderate, 1 = liberal/conservative, 2 = very liberal/conservative), we find that compared to those with moderate most-preferred policies, adjusted coherence rates are 5 points higher for those with somewhat extreme preferences, and 3 points lower for those with the most extreme preferences. These modest differences do not accord with extant theory.

4.3 Coherence Versus Ideological Constraint

Our coherence measure allows more precise measurement of individual policy preferences. Some existing approaches have instead focused on ideological constraint—the degree to which most-preferred policies across policy domains are consistent with patterns of elite opinion. This work has argued that those who are more ideologically constrained have preferences that are more deeply held. For example, Peffley and Hurwitz (1985) write, "The importance of [constraint] is certainly warranted, for it has profound implications at both the macro level, where it speaks to the positive and normative dimensions of democratic theory, and at the micro level, where it addresses questions of mass sophistication and the extent to which individuals can make rational and consistent choices." Additionally, Freeze and Montgomery

[15]Some caution is required when interpreting this measure, as it subtracts the percent of people who would be expected to have coherent preference *if everyone who expressed apparently incoherent preferences was responding randomly.* Thus, adjusted coherence provides a lower bound on the "true" number of people who express coherent preferences.

Figure 7: Total Coherence by Ideological Constraint



Notes: Vertical lines denote one standard deviation range around mean of deviations measure. Mean = 2.46, standard deviation = 1.14. Sample is restricted to those who completed both waves of the survey and provided scores for at least three out of five high-salience policy domains: $N = 988$.

(2016) write,"Without issue preference stability and constraint, electoral and political institutions that purport to link the public with elite actions have little or no substance." Our data allow us to more directly analyze whether constraint is a valuable proxy for coherent preferences.

To answer this question empirically, we examine the correlation between having coherent preferences and ideological variation in most-preferred policy options (the opposite of constraint) in the five high-salience policy domains. To operationalize ideological variation, we first rescale policy options within all domains so they are arrayed left to right on the range

-2 to 2. Then, we perform a principal components factor analysis on these items and predict a person's mean preferred policy position. Finally, we calculate the sum of the absolute value of the deviations between an individual's expressed scaled most-preferred policy option in each policy area from their factor score. Higher values indicate more deviations from a person's central tendency, that is, lower constraint.

Total coherence is only weakly decreasing with less ideologically-constrained policy preferences, as shown in Figure 7. A statistical analysis of the relationship between three measures of constraint and coherence can be found in Appendix Tables B.5 and B.6. The horizontal axis of Figure 7 measures the ideological variation score (ranging from 0 to 5.6, mean = 2.4, sd = 1.1), and the vertical axis is the number of high-salience policy areas (out of 5) in which people express coherent preferences. Greater values on the horizontal axis therefore indicate less constraint. Each point is a single individual (jittered for clarity), and the line is a locally smoothed polynomial fit. The x-axis also shows a histogram of the number of individuals with a given level of absolute deviations. To illustrate the weak relationship, a one standard deviation increase in median deviations centered on the mean—a shift from about 1.9 to 3.0 absolute deviations—is marked in the figure with dashed vertical lines. That increase in median deviations is associated with a predicted decline in total coherence of only about 0.6 domains, from 3.9 to 3.3. Moreover, even among the small proportion of the population that exhibits the least constraint, a substantial proportion expresses coherent preferences. For those with a deviation score greater than 5 (3.2% of the sample), the average total coherence measure is 2.7 out of 5, and 50% are coherent in 4 or 5 policy domains. At face value, even the lowest level of constraint is not very predictive of extreme incoherence.

Stepping back, the data presented so far provide a sharp rejoinder to claims that most people lack meaningful policy preferences. We find much higher levels of coherence than one would expect if respondents did not understand policy choices in a standard left-right ideological way, or were answering randomly. Such coherence, however, is not the same as having ideologically correlated most-preferred policies. When complete preference profiles are elicited using an appropriately designed survey, we find much more coherence than

incoherence, particularly on high-salience issues.

5 Coherence Over Time

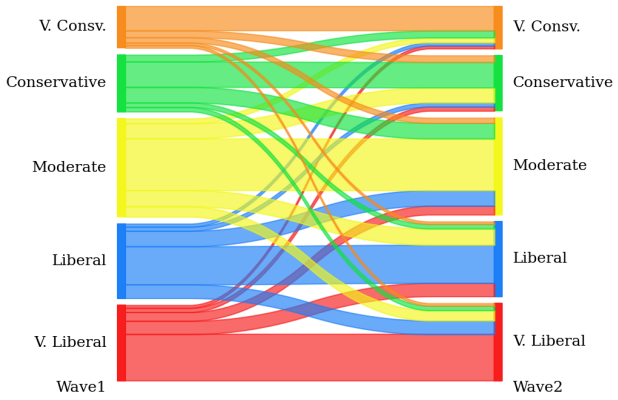
The pattern of stability and changes in most-preferred policies also suggests that most individuals' policy preferences are coherently structured over time. Many respondents have stable most-preferred policies across survey waves. When individuals do change their most-preferred policy, they tend to choose a policy option in the second wave that is both ideologically adjacent to their most-preferred option, and also their second-most-preferred option in Wave 1. Individuals who are more indifferent between their first and second-most-preferred options in Wave 1 options are more likely to choose the second-most-preferred option in Wave 2 than individuals with stronger preferences. Finally, coherent preferences at a point in time are predictive of coherence across time.

Patterns of change over time in most-preferred policies are shown in Figure 8 using a river plot pooling all five high-salience policy domains. The most-preferred policies of respondents are shown in both waves in Panel A, in which each respondent is represented five times—once for each policy domain. The left axis displays the most-preferred policy in Wave 1, with each policy option—arranged from most conservative to most liberal—represented by a single color. The right axis shows Wave 2 most-preferred policies, linked to the stated Wave 1 most-preferred policy by a river of a single color. So, for example, those whose Wave 1 most-preferred policy was the most liberal are shown in red, and this red river is relatively undiminished as it moves to the right, showing that most people who stated this preference in Wave 1 retain it. Panel B simulates what would happen if, fixing Wave 1 responses as observed, everyone chose their most-preferred policy randomly in Wave 2. It is immediately apparent that the observed stability of most-preferred policy (54%) is much higher than what we observe if people choose their most-preferred policy randomly (20%).

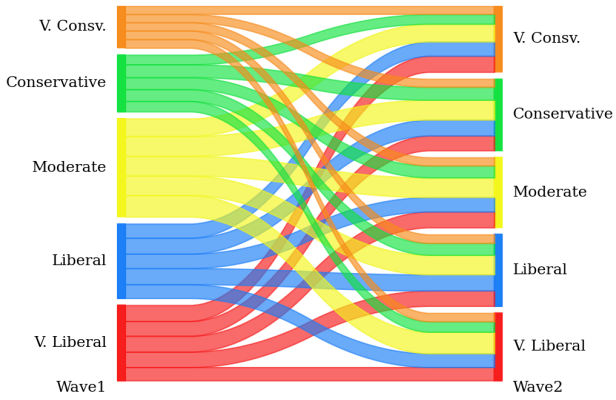
Importantly, the figure also shows that the stability of most-preferred policies is an insufficient measure of coherence over time. For those whose most-preferred policies change, they

Figure 8: River Plots

(a) Observed Most-Preferred Policies



(b) Simulation under Random Responding



are much more likely to change to adjacent policy options than is expected from random responding. For example, of those who prefer a very liberal policy option in Wave 1 and change their preferred policy in Wave 2, it is more likely that they express a liberal most-preferred option than a moderate, conservative, or very conservative option. Overall, among the 46% of the sample whose most-preferred policy changes over time, 64% choose an ideologically adjacent most-preferred policy in Wave 2—much greater than the 41% benchmark predicted by random responding. Overall, 83% of respondents have either identical most-preferred policies in both waves (54%) or prefer a policy in Wave 2 ideologically adjacent to the one they preferred in Wave 1 (29%).

Cumulatively, these data provide prima facie evidence that there is a coherent structure to preferences over time, and that instability of most-preferred policies is not the same as incoherent preferences. This is counter to the common view that any instability means that preferences are ephemeral rather than deeply held (Converse, 1964; Kinder and Kalmoe, 2017).

In light of these observations, our definition of coherence over time takes into account the expressed preferences across all policy options in Wave 1. Coherence over time, as we define it, consists of two parts. First, an individual's most-preferred policy option in Wave 2 must be either the same as, or ideologically adjacent to, their most-preferred policy in Wave

1. Second, if their most-preferred policy changes between waves, their most-preferred policy in Wave 2 must have been scored second in Wave 1. For consistency with our definition of coherence at a point in time, we allow the option to be scored within five points (on the 0–100 scale) of the second-place scored option in Wave 1, although this makes little difference to our results.[16]

Prior studies have undercounted those with preferences that are coherent over time by focusing only on those with stable most-preferred policies, as shown in Table 2. The first column shows that, consistent with previous studies, about half of respondents have the same most-preferred policies in both waves (albeit for different survey questions, see Markus, 1986; Kustov, Laaker and Reller, 2021). As noted above, if participants were responding randomly, this number would be only 20%. Moreover, as shown in the second column, more than 70% of respondents have preferences that are coherent over time, an increase of 20 percentage points over those with stable most-preferred policies. By comparison, if respondents were answering randomly, only 29% would be coded as coherent over time.[17] Another way of looking at these numbers is that of the 29% of respondents whose (different) Wave 2 most-preferred policy in the five high-salience domains is ideologically adjacent to their Wave 1 preferred policy, two-thirds (66%) also scored that policy highly enough to be coded as coherent.

Coherence at a point in time, and over time, are closely related, as shown in Columns 3–5 of Table 2. Column 3 shows that in the high-salience policy domains, 60% of respondents have coherent preferences in a policy domain in both Waves 1 and 2. Of those, Column 4 shows that 86% had coherent preferences over time. This can be compared with Column 5,

[16]Of course, someone's most-preferred policy may change to what was formerly their third, fourth, or fifth most-preferred policy in response to a large informational or other shock. At the same time, such variability may also indicate preferences are not well formed, so we code such deviations as incoherent.

[17]Our benchmark randomly assigns most- and least-preferred policies, giving those options scores of 100 and 0, respectively. We then randomly assign scores on the 0–100 interval for the other three policy options. Random responding would produce 20% of respondents with the same most-preferred policy, and an additional 9% would be coded as coherent over time. This implies that approximately 11% (9%/80%) of those who are not coded as stable are coded as coherent. For the high-salience policy domains, we find 54% have stable most-preferred policies, and an additional 20% have preferences that are coherent over time. This implies that of the 46% that are not coded as stable, 43% (20%/46%) express preferences that are coded as coherent over time. This 43% figure is much higher than the 11% rate predicted by random responding.

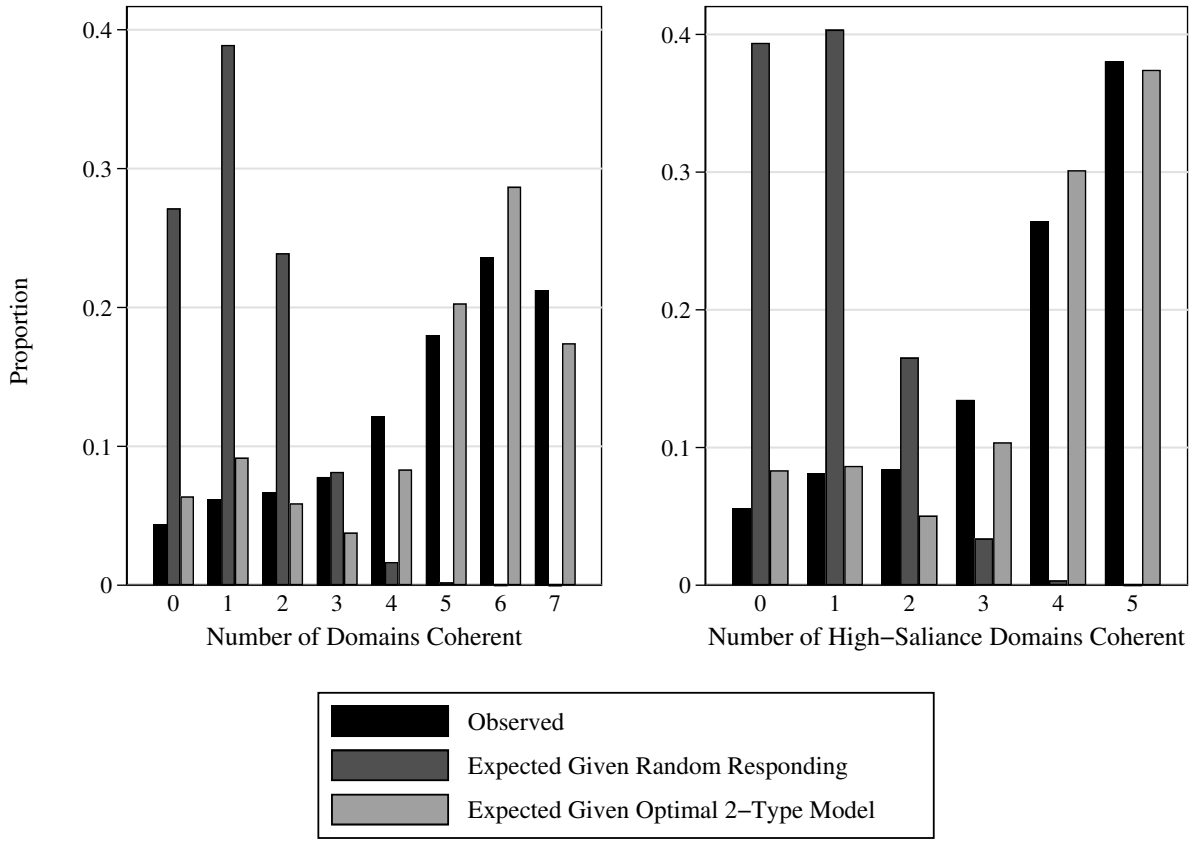
Table 2: Stability and Coherence over Time ($N = 988$).

Policy Domain	Same Most Preferred	Coherent over Time (COT)	Coherent Both Waves	COT if Coherent Both Waves	COT if NOT Coherent Both Waves
Abortion	61%	80%	59%	91%	62%
Concealed Carry	52%	71%	52%	83%	57%
Immigrant Kids	58%	79%	64%	91%	57%
Welfare	52%	73%	64%	86%	50%
Top Tax Rates	48%	68%	61%	80%	50%
Vaccine Rules	50%	70%	48%	83%	57%
Space Exploration	45%	63%	32%	85%	52%
Average, All Domains	52%	72%	54%	86%	55%
Average, High Salience	54%	74%	60%	86%	55%
Average, Low Salience	47%	66%	40%	84%	54%

in which only 55%—of the 12% (on average, across high-salience domains) who did not have coherent preferences in both waves—had coherent preferences over time.

In a two-type model, most respondents express preferences that are coherent over time most of the time. Similar to the exercise performed for coherence at a point in time, we fit a mixture model of high coherence types and random responders to the distribution of the total number of domains in which individuals express coherent preferences over time, as shown in Figure 9. As random response will cause a person to appear coherent over time about 29% of the time, we estimate a model where the "low-coherence" type has that rate of apparent coherence, and then fit the percentage of the population that is a high-coherence type, and their rate of coherence over time, to the observed data. The best fit of this model when considering only the five high-salience domains is with 84% of the population as high-coherence types, who are coherent over time 81% of the time. Expanding to all seven issues, we estimate 81% of the population is coherent over time 79% of the time. Once again, a two-

Figure 9: Number of Issues Coherent over Time: Data and Models



Notes: Number of issues on which a respondent expresses preferences that are coherent over time. Sample restricted to those completing both waves ($N = 988$).

type model suggests that most people are highly coherent, rather than responding randomly. Notably, these figures are very similar both for coherence at a point in time and coherence over time: around 80% of people express coherent preferences about 80% of the time.

6 Predicting Coherence

Having examined both coherence at a point in time and over time, we explore further how these concepts relate to each other, and to other measures that have been used to assess whether people have meaningful policy preferences. Coherence at a point in time and over time are strongly related. There are statistically-significant relationships between coherence

and all of: constraint, political knowledge, generalized intelligence, policy importance, and policy confidence. However, there is little or no relationship between coherence and political interest. Preferences are more likely to be coherent over time, and respondents are more likely to have the same preferred policy in both waves, when they have larger scoring gaps between their most and second-most-preferred policies in Wave 1. Finally, respondents have some ability to understand when their most-preferred policy has changed between waves of the survey, returning to the point with which we began the prior section: apparent instability of most-preferred policy options is not necessarily evidence of incoherent preferences.

6.1 Predicting Coherence at a Point in Time

We start, in the first two columns of Table 3, by analyzing the relationship between coherence at a point in time in Wave 1 and proxies of holding "meaningful" preferences used in the literature.[18] These specifications regress an indicator for whether a respondent has coherent preferences (1 = yes, 0 = no) in a given policy domain on various measures—see table notes for specification details. We find that Political Interest, often described as an important component of political sophistication that assists individuals in developing ideologically-constrained belief systems (see Lupton, Myers and Thornton, 2015), is unrelated to having coherent preferences at a point in time. Instead, we find that Political Knowledge, measured using a respondent's ability to correctly recall salient political facts, predicts coherent preferences. Knowledge is broadly predictive of engagement in, and understanding of, politics (Delli Carpini and Keeter, 1996), and we find that a one standard deviation increase in knowledge (1.8) is associated with an 8.1 percentage point increase (12% on a 69% base) in the predicted probability of having coherent preferences.

In addition to political knowledge, we also find that two proxies of intelligence predict coherent preferences at a point in time. Scoring more highly on a logic quiz—used in prior work examining cognitive ability (Frederick, 2005)—as well as scoring more highly on a

[18]The question wording and coding rules for these measures appears in Appendix A.1. See Appendix Table D.1 for analogous results for Wave 2, and among all Wave 1 respondents.

Table 3: Relationships between canonical political behavioral variables and coherence.

	Coherent in Wave 1		Coherent over Time			Stable
Political Interest Scale (0-4)	-0.007 (0.007)		-0.004 (0.006)	0.000 (0.006)		0.000 (0.006)
Political Knowledge Score (0-6)	0.045*** (0.006)		0.024*** (0.004)	0.010*** (0.004)		0.015*** (0.004)
Logic Quiz Score (0-3)	0.030*** (0.010)		0.032*** (0.008)	0.017** (0.007)		0.018** (0.009)
IQ Score (0-6)	0.021*** (0.006)		0.017*** (0.005)	0.008* (0.005)		0.007 (0.005)
Constraint ($-1\times$ Deviations from Factor Score Mean)	0.058*** (0.008)		0.044*** (0.007)	0.027*** (0.006)		0.015** (0.007)
Wave 1: Very Conservative or Very Liberal	-0.074*** (0.015)	-0.108*** (0.015)	0.054*** (0.016)	0.066*** (0.015)	0.056*** (0.017)	0.123*** (0.018)
Wave 1: Somewhat Conservative or Somewhat Liberal	0.016 (0.014)	0.021 (0.014)	0.016 (0.014)	0.006 (0.014)	0.008 (0.015)	-0.063*** (0.016)
Policy Importance (demeaned by person)	0.022*** (0.006)	0.023*** (0.006)	-0.001 (0.006)	-0.006 (0.006)	-0.005 (0.006)	0.002 (0.007)
Policy Confidence (demeaned by person)	0.025*** (0.008)	0.027*** (0.008)	0.018* (0.009)	0.012 (0.009)	0.014 (0.009)	0.014 (0.010)
Wave 1 Score Difference (1st to 2nd)/10				0.006*** (0.002)	0.006** (0.003)	0.014*** (0.003)
Coherent Either Wave				0.014 (0.021)	-0.011 (0.023)	-0.016 (0.019)
Coherent Both Waves				0.29*** (0.02)	0.23*** (0.02)	0.15*** (0.02)
W2 Reported Most Preferred Policy Changed (1=yes)						-0.079*** (0.026)
Constant	0.73*** (0.10)	0.80*** (0.01)	0.77*** (0.09)	0.57*** (0.09)	0.54*** (0.03)	0.27*** (0.09)
Observations	6757	6757	6757	6757	6757	6757
Adj. R^2	0.15	0.09	0.06	0.14	0.07	0.07
Mean of DV	0.69	0.69	0.72	0.72	0.72	0.52
Number of Respondents	987	987	987	987	987	987
Demographic Controls	Yes	No	Yes	Yes	No	Yes
Respondent Fixed Effects	No	Yes	No	No	Yes	No

Notes: OLS Coefficients with robust standard errors in parentheses, clustered by respondent. ***, **, * denote statistical significance at the 1%, 5%, and 10% level using two-tailed tests. All specifications include categorical controls for policy area and the extremity of a respondent's most-preferred policy in a given domain. Demographic (categorical) controls are age, gender, education, and income. Number of respondents is one less than other analyses because a single respondent did not provide any Policy Importance or Confidence scores in Wave 1.

measure of IQ—measured with puzzles similar to Raven's matrices (Condon and Revelle, 2014; Chapman et al., 2019)—is associated with higher rates of coherent preferences. A one standard deviation increase in either measure is associated with a 3 percentage point increase (4%) in the probability of having coherent preferences.

Constraint across issues—operationalized using the measure introduced earlier—is also associated with having more coherent preferences at a point in time. Per Column 1, a one standard deviation decrease in constraint is associated with a 6.4 point (9.2%) decrease in the probability of having coherent preferences at a point in time.

Moving from respondent-level analysis to issue-domain level analysis, those who have a very conservative or very liberal most-preferred policy are 8 percentage points less likely to have coherent preferences. These coefficients differ from the results in Figure 6—which shows those who have the most extreme preferences are about 6 points less likely to be coherent by chance—but there is no adjustment for the different baseline rates of apparent coherence by extremity of most-preferred policy option implied by random responding. There is no statistically-significant relationship between coherence and having somewhat conservative or liberal most-preferred policies.

Finally, we consider the relationship between coherence and either viewing a policy domain as important, or being confident in one's ability to assess policy options in that domain. Importance may be a proxy both for engagement with the general issue and an understanding of the policy choices in the domain (Krosnick, 1990; Fournier et al., 2003). Confidence, by contrast, is a self-assessment of one's ability to evaluate policy in a given domain. In an experimental setting, both confidence and importance predict greater responsiveness to candidates' positions in that domain (Gerber et al., 2011). This implies that individuals give more weight to their stated policy preferences when they view an issue domain as more important and are more confident in their ability to assess policy options in that domain.

To account for differences across respondents in how they use the importance and confidence scales, we calculate relative measures for each by scaling importance and confidence in each domain compared to the respondent's average. Both of these scaled measures are

positively associated with having coherent preferences at a point in time. In Column 2, we repeat this analysis within-person by using a specification with individual-level fixed effects, necessitating that we remove all measures that do not vary within respondent. The effects of both importance and confidence are almost identical. A one standard deviation (within-person) in importance is associated with a 2 percentage point (2.9%) increase in coherence, while for confidence the comparable figure is 2.2 percentage points (3.2%).

To sum up, those variables that predict coherence at a point in time are variables that are commonly understood in prior research either to explain individual-level (knowledge, cognitive function, constraint) or issue-level (importance and confidence) differences in having "meaningful" policy preferences. These correlations help validate the importance of the direct measurement of having coherent preferences. Counter to some prior literature, holding more extreme policy preferences is not associated with being more coherent in either our regression analysis or in Table 6.

6.2 Predicting Coherence over Time

Many of the same variables that are associated with coherence at a point in time are also associated with coherence over time, as shown in Columns 3–5 of Table 3. Moreover, coherence at a point in time and over time are positively associated, as suggested by Table 2. Individual-level measures of knowledge, cognitive ability, constraint, and confidence are all associated with coherence over time (Column 3), similar to coherence at a point in time (Column 1). The marginal effect of a one standard deviation increase in knowledge is to increase coherence over time by 4 points (5.5% of a baseline of 71%), for the logic quiz it is 3.4 points (4.8%), for the IQ score measure it is 2 points (2.9%), and for constraint it is 5 points (7.2%). The relative importance of an issue is not associated with coherence over time, nor is confidence after accounting for coherence at a point in time.

A notable difference between the predictors of being coherent at a point in time and coherent over time is the effect of having extreme preferences. Here, we find that those with the most extreme preferences are five to six points more likely to have coherent preferences

over time. Once again, those with somewhat conservative or somewhat liberal most-preferred policies are indistinguishable from those with moderate most-preferred policies.

Almost all of the relationships estimated in Column 3 (in particular, knowledge, intelligence, and constraint) are attenuated by about 50% when conditioning on whether a respondent expressed coherent preferences in each wave, as shown in Column 4. By comparison, expressing coherent preferences in a given policy domain in both waves of the survey is associated with a 29 point increase in the probability of a respondent expressing coherent preferences over time. This effect is much larger than the effect of any of the other measure, showing the expected strong relationship between coherence at a point in time and over time.

We continue to find a relationship between being coherent in both waves and being coherent over time (effect size 23 points) when using person-level fixed effects in Column 5. Moreover, the larger the scoring gap between the respondent's first and second most-preferred policies in Wave 1, the greater the probability of being coherent over time. A one standard deviation in this scoring gap (an increase in the scoring difference of 24 points) is associated with a 1.4 percentage point (2.0%) increase in the probability of being coherent over time, meaning that those who see bigger differences between their most-preferred policies and other policies are more likely to be coherent over time.

Finally, in Column 6 of Table 3, we compare these results to the effect of the same covariates on having a stable most-preferred policy. This analysis produces more evidence that stability of most-preferred policies is not sufficient to characterize whether someone's preferences are coherent over time.

In particular, there are four noticeable differences between Column 4 and Column 6. First, the scoring distance between a person's first- and second-most-preferred option is a much stronger predictor of stability of one's most-preferred option than of coherence over time. This suggests that when someone is closer to indifferent between their first- and second most-preferred options (in Wave 1), their most-preferred policy option is more likely to change. That is, there is a coherent structure to instability of most-preferred options that reflects indifference, and other factors, rather than a lack of meaningful preferences.

Moreover, as indicated in Column 4, the measure of coherence over time adequately captures this coherent structure of preference change.

Second, the effect of having an extreme most-preferred policy in Wave 1 doubles to 12 points. This means that a simple stability perspective will tend to overstate the distinctiveness of those holding more extreme preferences compared to those with more moderate preference. This is also apparent from the -6 point estimated effect of having somewhat conservative or somewhat liberal most-preferred policies.

Third, the coefficient on expressing coherent preferences in both waves of the survey is much larger for the measure of coherence over time than for stability of one's most-preferred option, by a factor of 2 (29 versus 15 points). The stronger relationship between coherence at a point in time and over time shows again that our measures of coherence capture the coherent structure that underlies some instability in most-preferred policies.

Fourth, those who indicated in Wave 2 that their most-preferred option had changed are 7.9 percentage points more likely to have actually changed their most-preferred policy. Changing one's most-preferred policy in response to new information is a coherent pattern of behavior, however, this is not captured by the stability of most-preferred options. Additionally, if people accurately understand that their most-preferred policy has changed, it suggests awareness of those preferences.

7 Discussion and Replication

Using novel survey-question design, we directly assess the coherence of people's policy preferences. We show that most people have coherent preferences, most of the time, for the issue domains we examine. Individuals express coherent preferences at a point in time and over time, and these two measures are highly correlated. Measures used in prior work as proxies for holding meaningful preferences—such as political interest, having extreme most-preferred policies, and ideological constraint across issues—are only weakly correlated with respondents having coherent preferences.

Our work provides a distinct basis for directly assessing the structure of mass preferences. While we cannot ascertain whether policy preferences in other domains or individuals would exhibit similar patterns, the survey technology we develop, and our method of data analysis, can easily be extended. Of particular interest would be other populations (for example, other countries or relevant sub-populations in the United States), different methods of subject recruitment (for example, push-to-internet mail recruitment), and other policy domains. Incorporating this sort of data collection and analysis into surveys associated with electoral choice behavior may help in understanding the relationship between coherence and political behavior. For example, it would be useful to understand whether individuals give more weight in their electoral choices to expressed policy preferences in domains where their preferences are coherent.

A potential criticism of our primary datasource is that it may not be representative of the general population. To address this concern, in December 2023, we fielded a modified version of our survey item about "Dreamers" to a large sample of approximately 128,000 Americans asking them to score on a 0-10 scale (0=strongly oppose, 10=strongly support) 5 different policy options for these immigrants (See APPENDIX FOR DETAILS). Importantly, this YouGov sample provides weights to approximate a national sample. We then calculated rates of coherence using both our preferred (allowing a 1 unit misordering on the 11 point scale) and a strict definition of coherence. In this weighted sample, we find that 85% of respondents have coherent preferences given our preferred definition, and 77% are coherent with a strict coding rule.[19]. In other words, our results hold even with a different questionnaire design, for a different sample at a different point in time, and when weighted to a nationally representative population.

Moreover, given longstanding debates about whether those who express moderate preferred policies are truly moderate or simply uninformed (Fowler et al., 2023), information about coherence is useful for assessing the structure of various patterns of most-preferred policies. Notably, we find high degrees of moderate most-preferred policies if we focus on the

[19]Unweighted estimates are even higher, 87 and 80%, respectively.

segment of the population that is both coherent at a point in time (in Wave 1) and coherent over time. Across all five high-salience domains, we find consistently high levels of preferring the middle policy option: Abortion 33%, Concealed Carry 36%, Immigration 15%, Welfare 35%, and Taxes 31%. These preferences also define the median for all but Immigration. It therefore seems clear that appearing moderate is not purely a function of measurement error or unimportant preferences.[20]

More broadly, our work highlights the importance of linking theory and data collection. Our approach, in which we measure (more) complete preference profiles over time, allows us to directly assess a theoretically relevant benchmark. The analysis that follows from this data collection is therefore both more straightforward and more theoretically informative than indirect inference from other forms of data, such as expressed policy attitudes or most-preferred policies.

Overall, while our results challenge prior work that concludes—based on different data and indirect analysis—that citizens lack the structured preferences necessary for democratic governance, we emphasize that our findings come from a single representative sample of U.S. citizens. More studies are needed. However, these studies should employ, and hopefully expand and improve on, the survey design and analysis approach we use here.

Ethical Standards

All authors declare no conflicts of interest or ethical issues in this research. The human subjects research was reviewed and approved by UBC's IRB.

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[20] Additionally, we find that the standard deviation of most-preferred policies is similar between those with moderate most-preferred policies and those with more extreme most-preferred policies, implying similar levels of constraint.

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Appendices for Online Publication ONLY

A Survey Demographics and Details

Table A.1 provides the full text and description for all policy options for the seven policy domains in the survey. When possible, the state of the current law (the status quo) is described in Option 3 (the middle option).

Table A.1: Policy Description

Long description	Options
The program called Temporary Assistance for Needy Families, also known as welfare, provides cash assistance to poor American families with children. Welfare laws currently mandate a "lifetime cap" of 5 years: during your lifetime, you can receive benefits for no more than 5 years.	(1) Remove the lifetime cap so that people can receive benefits for an unlimited length of time. (2) Raise the lifetime cap from 5 years to 8 years. (3) Keep the lifetime cap at 5 years. (This is the current law.) (4) Reduce the lifetime cap from 5 years to 2 years. (5) Completely eliminate all welfare benefits.
Throughout the country, abortion is legal during the first trimester of pregnancy for women who are at least 18 years old. After the first trimester, access can be regulated by state law.	(1) Outlaw abortion completely. (2) Make abortion in the first trimester legal only in cases of incest, rape, if the mother's life is endangered, or if the child is expected to have severe deformities. (3) Keep abortion legal during the first trimester, with other details of access left to the states. (This is the current law.) (4) Make abortion legal during the first two trimesters. (5) Make abortion legal at any time.

Concealed carry handgun laws regulate whether private citizens can carry in public a firearm under their clothing. These laws vary by state. Most states have some requirements before carrying a concealed handgun, but some states have no restrictions, and others have completely banned concealed carry.	(1) I support banning private citizens from carrying a handgun in public, whether it is concealed or unconcealed. (2) I support "no-issue" concealed carry gun laws. These laws prohibit all private citizens from carrying a concealed handgun. (3) I support "may-issue" concealed carry gun laws. These laws require approval from local authorities, like the police, to carry a concealed handgun. (4) I support "shall-issue" concealed carry gun laws. These laws require minimal criteria, like residency and age verification, to carry a concealed handgun. (5) I support "unrestricted" concealed carry gun laws. These laws do not require a permit to carry a concealed handgun.
Please think about immigrants who were brought to the U.S. illegally as children, have lived here for at least 10 years, and have graduated from an American high school. Under current law, these immigrants, often called "Dreamers," are allowed to live and work in the U.S., but only under strict regulation. They cannot become citizens.	(1) Dreamers should be deported immediately. (2) Dreamers should be deported within three years. (3) Dreamers should be allowed to live and work in the U.S., but only under strict regulation, and without a chance of citizenship. (This is the current law. The President tried to suspend the program, but it was reinstated by a federal court.) (4) Dreamers should be allowed to live and work in the U.S., and to eventually become citizens. (5) Dreamers should be allowed to become citizens immediately.

The tax rate is the percentage of your income that is taken to fund government services. The marginal tax rate is the tax rate that you pay on your "last dollar earned." For example, people who earn $100,000 have a marginal tax rate of about 24%, which means they pay 24 cents in taxes out of each additional dollar they earn over $100,000. Currently, the top marginal income tax rate for the federal government is 37%, and it applies to earnings above $500,000 per year.	(1) Raise the top marginal tax rate to 57%. (2) Raise the top marginal tax rate to 47%. (3) Keep the top marginal tax rate at 37%. (This is the current law.) (4) Reduce the top marginal tax rate to 27%. (5) Reduce the top marginal tax rate to 17%.
Childhood vaccine policies determine which vaccines children are required to get. They also determine when exemptions from those requirements are allowed.	(1) All children should be required to receive a set of vaccines unless there is a medical basis for exemption. (2) All children should be required to receive a set of vaccines if they want to attend public school, unless there is a medical basis for exemption. (3) All children should be required to receive a set of vaccines if they want to attend public school, unless there is a medical or religious basis for exemption. (Current law in almost every state.) (4) All children should be required to receive a set of vaccines if they want to attend public school, unless there is a medical, religious, or personal/philosophical basis for exemption. (5) Children should not be required to receive a set of vaccines if they want to attend public school.

The US government supports non-military space exploration both in deep space, far from earth, and with near-earth missions. The National Aeronautics and Space Administration (NASA) is a government agency that undertakes most exploration of deep space, while private contractors are hired to undertake most near-earth programs.	(1) The US government should stop funding space exploration and leave it to private companies. (2) The US government should pay private companies to explore space. (3) The US government should have NASA explore deep space, while paying private companies for many near-earth missions. (This is the current practice.) (4) The US government should have NASA explore deep space and also give it the option to conduct near-earth missions itself or by paying private companies. (5) The US government should let NASA explore deep space and also have it take over all near-earth missions.

In Table A.2, we provide demographics of our sample. The first column shows the demographics of those who responded to the first wave of the survey. The second column shows the demographics of those who responded to both waves of the survey. The third column compares our sample to the unweighted American National Election Studies survey. Finally, the fourth column compares our sample to statistics provided by the Census Bureau and, where noted under the table, other sources.

A.1 Question wording: Political Knowledge and Interest, and IQ

This subsection contains the full question wording for measures of political knowledge, political interest, and IQ, which are used in the analyses presented in Tables 3 and D.1.

Political Interest: Some people seem to follow what's going on in government and public affairs most of the time, whether there is an election going on or not. Others are not that interested. In general, how interested are you? (Options: Not at all interested, Slightly interested, Somewhat interested, Very interested, Extremely interested)

Table A.2: Sample Demographics

	Wave 1	Both Waves	ANES	Actual
Gender				
Female	53.1%	55.4%	53.7%	51.3%
Race				
Asian	6.1%	7.3%	3.4%	5.5%
Black	14.4%	15.6%	8.8%	12.3%
Hispanic	9.5%	10.1%	9.2%	18.1%
White	73.6%	71.1%	72%	60.5%
Other	2.1%	2.2%	6.6%	3.6%
Education				
Less than High School	1.8%	1.7%	4.6%	12%
High School Degree	18.5%	20%	16.4%	27.1%
Some college/2 year	31.9%	32.2%	34.2%	28.9%
Bachelors degree	30.2%	31.3%	25.2%	19.7%
Graduate degree	17.6%	14.8%	19.5%	12.3%
Age				
18-24	5.4%	3.1%	5.1%	12.3%
25-34	16.3%	11.6%	15.5%	17.8%
35-44	22.3%	18.5%	17.4%	16.4%
45-64	38.5%	43.6%	33.7%	33.5%
65+	17.4%	23.1%	28.3%	20%
Income				
Less than $30,000	2.2%	1.9%	21.8%	24.6%
$30,000-60,000	24.8%	25.8%	20.2%	24.5%
$60,000-90,000	23.6%	24.4%	17.3%	17.5%
$90,000-120,000	20.1%	19.9%	14%	11.3%
$120,000-150,000	13.8%	12.6%	4.2%	7.1%
More than $150,000	8%	6.8%	15.4%	15%
Prefer not to say	7.4%	8.6%	7.1%	0%
Partisanship				
Democrat	34.6%	32.2%	46.5%	44.4%
Republican	48.7%	51.3%	41.7%	37.4%

Notes: The demographics for the Wave 1 column are calculated among all Wave 1 respondents, regardless of whether they completed Wave 2 or scored all five options in a single domain. Demographics in the ANES column are drawn from the 2020 American National Election Studies unweighted survey. Age, gender, race, and education statistics for the United States are drawn from the 2017 American Community Survey 1-Year Estimates Data Profile. Income statistics come from the 2017 Community Population Survey Annual Social and Economic Supplement. Party identification statistics come from the 2014 Pew Research Religious Landscapes Survey.

Political Knowledge Questions:

1. Who nominates judges to the federal courts? (Options: President, Senate, House of Representatives, Supreme Court)
2. Who determines whether a law is constitutional? (Options: President, Senate, House of Representatives, Supreme Court)
3. How long is the term of a member of the United States House of Representatives? (Options: Two years, four years, six years, eight years)
4. What job or political office does John Roberts hold? (Options: Secretary of the Treasury, Chair of the Federal Reserve, Chief Justice of the Supreme Court, Chair of the Senate Judiciary Committee)
5. What job or political office does Jerome Powell hold? (Options: Chair of the Federal Reserve, Associate Justice of the Supreme Court, House Minority Leader, Secretary of Transportation)

Logic Quiz (The IRT of Frederick 2005:)

1. A computer and monitor cost $450 in total. The computer cost $350 more than the monitor. How much does the monitor cost?
2. It takes 10 computers 10 minutes to run 10 simulations. How long does it take 200 computers to run 200 simulations?
3. In a pond, there is a patch of lily pads. The patch doubles in size every day. If it takes 30 days to cover the entire pond, how many days would it take to cover half the pond?

IQ:

- Following Chapman et al. (2023), the first three questions we chose are matrix-reasoning questions similar to Raven's Progressive Matrices drawn from the International Cog-

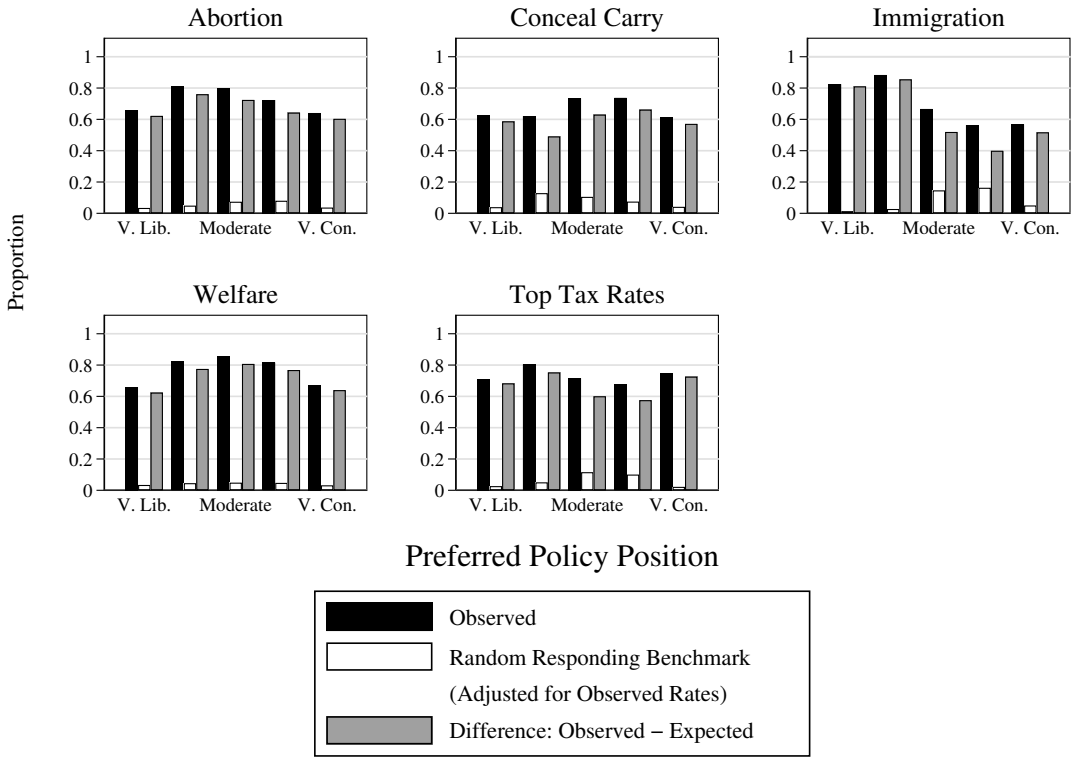
nitive Ability Resource (Condon and Revelle, 2014). Participants determined which of a set of possibilities correctly completed a graphic pattern.

- Following Chapman et al. (2023), we used a second three-question battery based on three-dimensional rotations drawn from the International Cognitive Ability Resource (Condon and Revelle, 2014). A drawing of a cube was shown, and participants had to identify which of a set of six other drawings of a cube were compatible.

B Additional Analyses: Coherence at a Point in Time

In this section, we present additional analyses of coherence (at a point in time). Figure B.1 replicates the analysis of Figure 6 by policy domain. We find some heterogeneity across policy domains and policy positions. For example, respondents with more conservative immigration preferences are less coherent than those with liberal preferences.

Figure B.1: Coherence in High-Salience Policy Domains, by Preferred Policy and Domain ($N = 988$)



Next, we replicate our previous analyses using responses from Wave 2 of the survey. These analyses can be found in Table B.1, Figure B.2, and Figure B.3. These results are largely consistent with our analysis of Wave 1 responses among the same sample, with perhaps slightly more coherence.

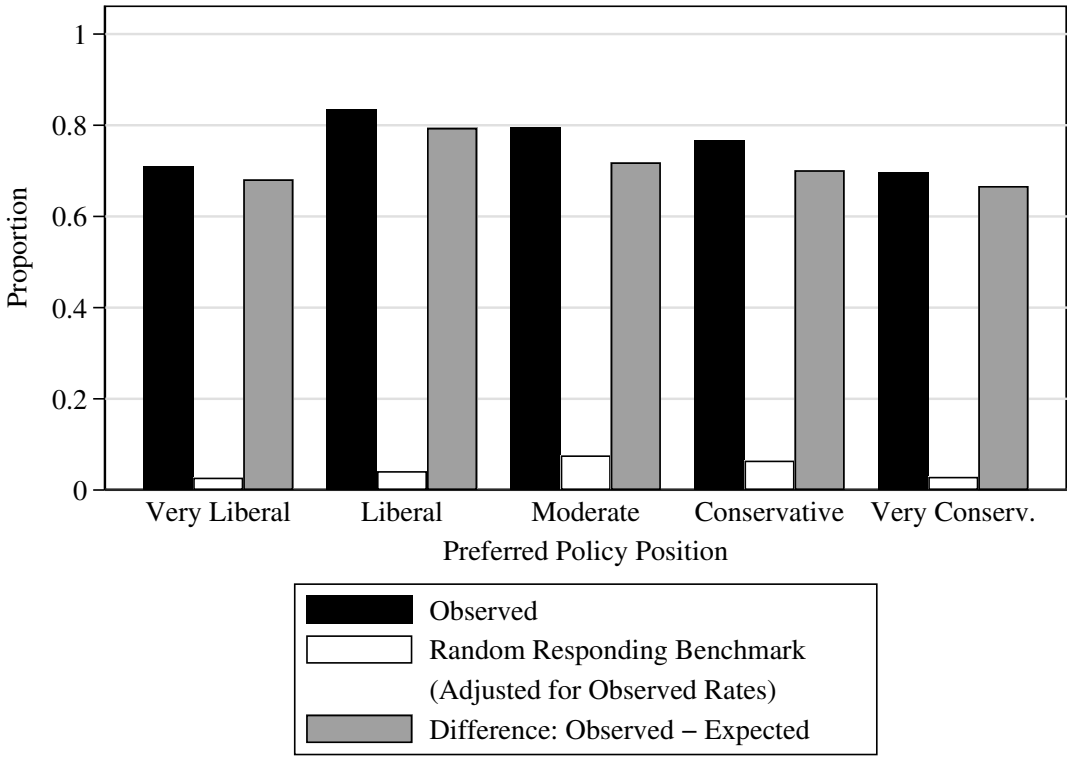
Table B.1: Summary of Coherence in Wave 2 for those completing both waves ($N = 988$).

Policy Domain	Score All Options	Coherent	Random Responding Benchmark	Ratio: Coherent/ Benchmark
Abortion	97%	76%		4.5
Concealed Carry	98%	72%		4.2
Immigrant Kids	97%	79%		4.7
Welfare	97%	79%	17%	4.6
Top Tax Rates	97%	78%		4.6
Vaccine Rules	98%	69%		4.1
Space Exploration	97%	53%		3.1
Average, All Domains	97%	72%		4.3
Average, High Salience	97%	77%	17%	4.5
Average, Low Salience	98%	61%		3.6

For our optimal two-type model shown in Figures 5 and B.3, we fit a model with an unknown percentage of low- and high-coherence types to the observed distribution of the number of issues on which respondents are coherent. We assume low-coherence types express coherent preferences in any given domain at the rate that would be expected from random guessing (17% of the time). The high-coherence types express coherent preferences at a rate that is fit by minimizing the mean-squared error between the predicted number of coherent issues across the entire population and the true values, while simultaneously estimating the proportion of respondents who are of each type.

An analysis of coherence (at a point in time) using all Wave 1 respondents (that is, not eliminating those who failed to score all five options in a single domain, or those who did not respond to Wave 2) can be found in Table B.2. This follows the same structure as Table 1 in the text. Rates of coherence are slightly lower in this sample (70% in high-salience domains vs. 74% in Table 1) but still much higher than random responding benchmarks by a factor

Figure B.2: Coherence in High-Salience Policy Domains, by Preferred Policy (Wave 2; $N = 988$)

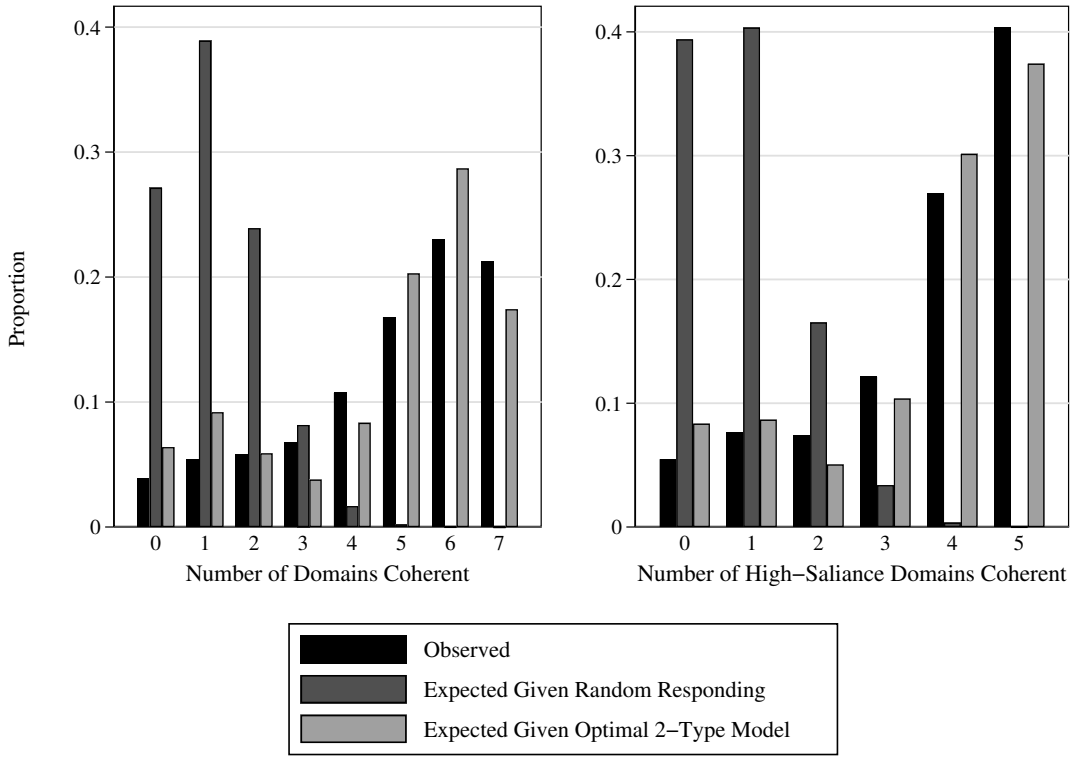


of 3 to 4.

We also analyze coherence in Wave 1 with weights so that our sample matches Census demographics. Weights are calculated using iterative proportional fitting, also known as raking, using the *autumn* package in R. The "raking" survey weights are fitted to proportions drawn from Census and surveys (see Table A.2) and adjusted for each category until the weighted distribution fits the target demographics. These analyses can be found in Table B.3 and Figure B.4; rates of coherence are slightly lower among this weighted sample (70% in high-salience domains vs. 74% in Table 1) but still exhibit patterns of coherence 3 to 4 times greater than our random responding benchmark.

We also analyze coherence in Wave 1 by changing the maximum difference in scores which we classify as indifferent. Throughout the text, this is set at 5 points. In Table B.4, we use maximum differences of 0, 3, and 10 points. Rates of coherence are slightly lower at more

Figure B.3: Number of Issues Coherent: Wave 2 Data and Models



Notes: Number of issues on which a respondent expresses coherent preferences in Wave 2. Sample restricted to those completing both waves and providing complete scores for at least four of seven policy domains ($N = 988$).

restrictive thresholds, but coherence across all alternative thresholds are much higher than what we would expect from random responding.

Lastly, we provide more analysis of the relationship between constraint and coherence. In Figure B.5, we supplement the analysis in Figure 7 by using two other measures of constraint: deviations from the raw mean (Panel A) and deviations from the median (Panel B). We also provide more formal statistical analysis of the relationship between constraint and coherence in Tables B.5 and B.6. The first two columns of Table B.5, and first column of Table B.6, use the coherence measure used in the text (See Figure 7). The second and third sets of two columns in B.5, and second and third column of Table B.6, use the measures underlying Figure B.5, Panels A and B respectively.

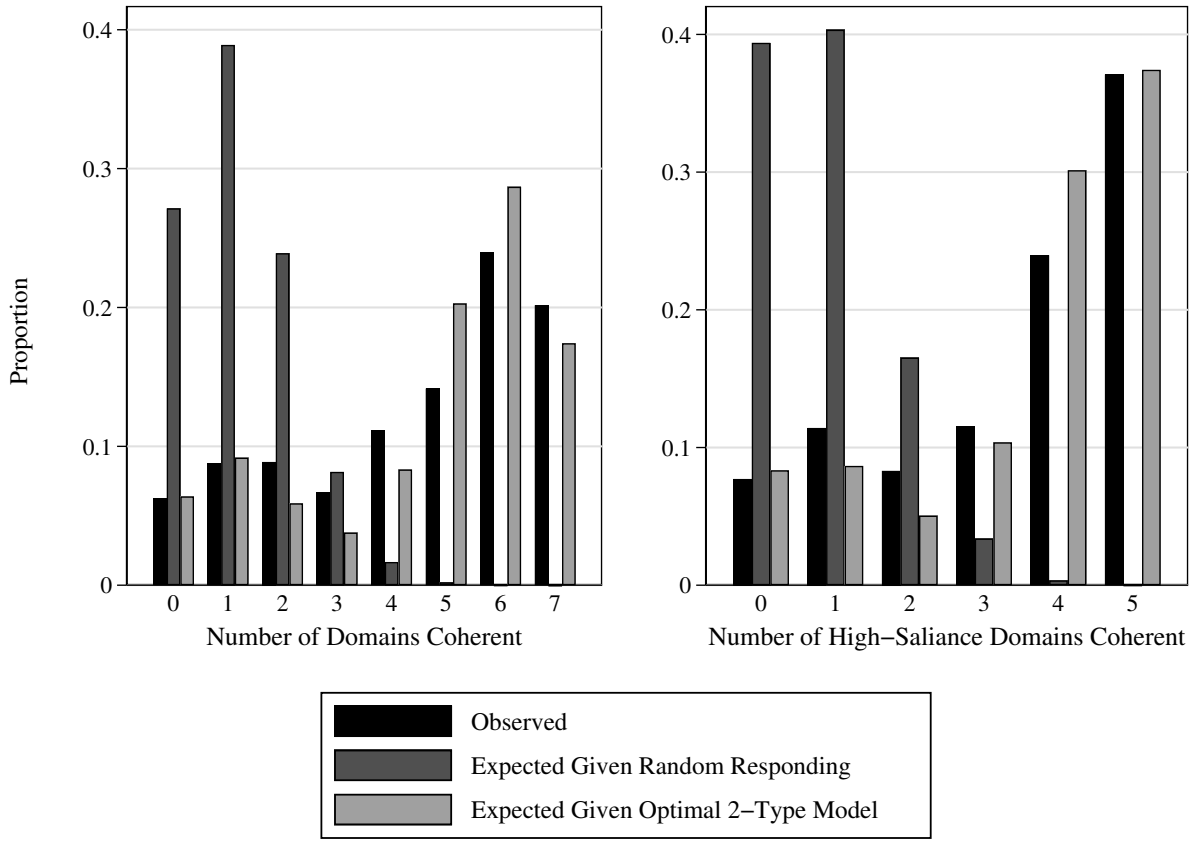
Table B.2: Summary of Coherence in Wave 1 among all respondents ($N = 1{,}922$).

Policy Domain	Score All Options	Coherent	Random Responding Benchmark	Ratio: Coherent/ Benchmark
Abortion	92%	70%		4.1
Concealed Carry	92%	63%		3.7
Immigrant Kids	92%	71%		4.2
Welfare	92%	74%	17%	4.3
Top Tax Rates	92%	70%		4.1
Vaccine Rules	93%	61%		3.6
Space Exploration	92%	48%		2.8
Average, All Domains	92%	65%		3.8
Average, High Salience	92%	70%	17%	4.1
Average, Low Salience	92%	55%		3.2

Table B.3: Summary of Coherence in Wave 1 (Weighted, main sample, $N = 988$).

Policy Domain	Score All Options	Coherent	Random Responding Benchmark	Ratio: Coherent/ Benchmark
Abortion	96%	68%		4.0
Concealed Carry	98%	66%		3.9
Immigrant Kids	99%	72%		4.2
Welfare	98%	75%	17%	4.4
Top Tax Rates	99%	70%		4.1
Vaccine Rules	98%	61%		3.6
Space Exploration	98%	44%		2.6
Average, All Domains	98%	65%		3.8
Average, High Salience	98%	70%	17%	4.1
Average, Low Salience	98%	53%		3.1

Figure B.4: Number of Issues Coherent: Weighted Wave 1 Data and Models

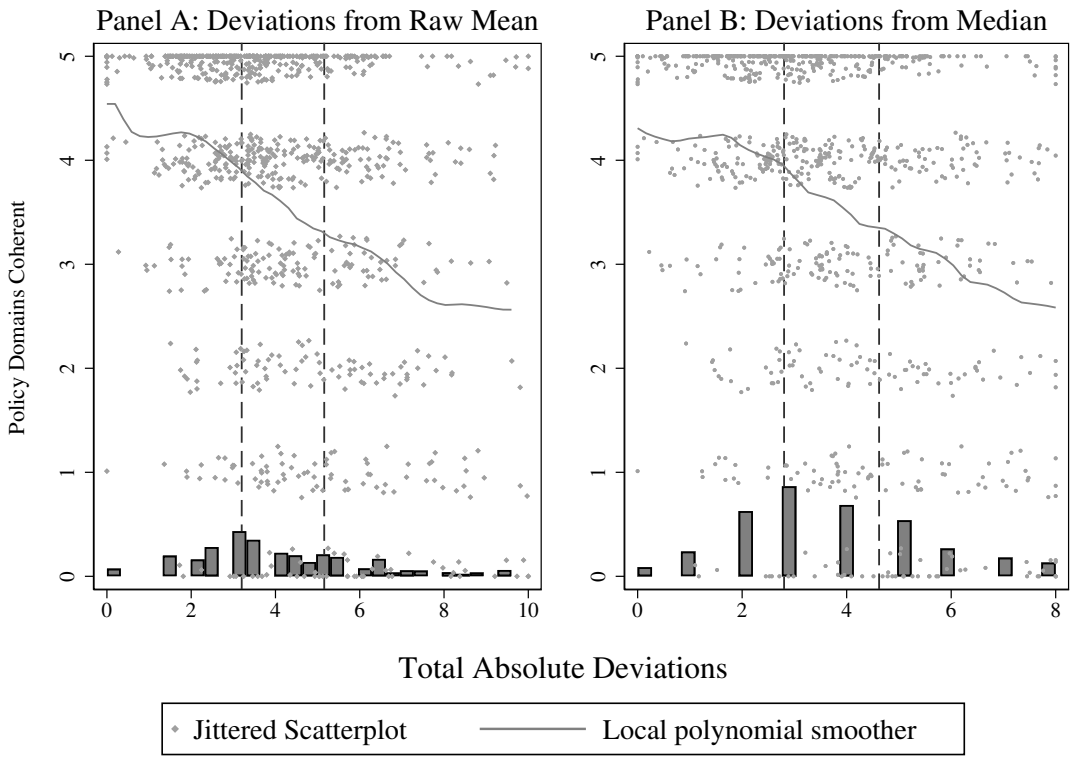


Notes: Number of issues on which a respondent expresses coherent preferences in Wave 1. Sample restricted to those completing both waves and providing complete scores for at least four of seven policy domains ($N = 988$).

The weak relationship between constraint and coherence present in our graphical presentation persists in our more formal statistical analysis in Table B.5. Regardless of which measure of constraint we use, being less ideologically constrained only explains a small portion of differences in observed coherence. In particular, as noted in the text, a two standard-deviation increase in constraint—no matter how it is measured—is associated with having coherent preferences on one additional policy (out of five). This continues to be true in the even-numbered columns, where we also control for the extremity of the central tendency (mean or median) of each individual's most-preferred policies.

Finally, Table B.6 shows that having less constrained preferences in a given policy domain

Figure B.5: Total Coherence by Ideological Constraint



Notes: Vertical lines denote one standard deviation range around mean of deviations measure. For Panel A, Mean = 4.18, standard deviation = 1.96. For Panel B, Mean = 3.71, standard deviation = 1.86. Sample is restricted to those who completed both waves of the survey, and provided scores for at least three out of five high-salience policy domains: $N = 988$.

is associated with a statistically significant, but very small, decrease in the probability that a participant express coherent preferences on that issue. Here, the measure of constraint is how far an individual's most-preferred policy is from their median/mean/factor mean most-preferred policy option across all high-salience policy domains. For example suppose one's most-preferred policy option is the right-most option on four out of five policy domains, and is the left-most on one policy domain. Then, the median most-preferred will be the right-most policy, and the measure of constraint here will be zero for four out of five domains, and 4 for the remaining domain. On the one domain on which there preferences are (much) less constrained, that individual is 10 percentage points less likely to be coherent according to the estimates in Table B.6.

Table B.4: Summary of Coherence with alternative thresholds in Wave 1 for those completing both waves ($N = 988$).

Policy Domain	Score All Options	Coherent (0pt)	Coherent (3pt)	Coherent (5pt)	Coherent (10pt)
Abortion	97%	68%	72%	73%	77%
Concealed Carry	98%	59%	66%	68%	72%
Immigrant Kids	99%	70%	74%	76%	79%
Welfare	98%	73%	77%	78%	80%
Top Tax Rates	98%	68%	72%	73%	76%
Vaccine Rules	98%	56%	62%	64%	69%
Space Exploration	97%	42%	47%	49%	52%
Average, All Domains	98%	62%	67%	69%	72%
Average, High Salience	98%	67%	72%	74%	77%
Average, Low Salience	98%	49%	54%	57%	61%

Table B.5: Relationship between constraint and total policy domains coherent

	Total Policy Domains Coherent (0-5)					
Total Abs. Deviations Median Most Preferred	-0.508***	-0.510***				
	(0.049)	(0.048)				
Abs. Value Preferred Median		0.054				
		(0.045)				
Total Abs. Deviations Mean Most Preferred			-0.519***	-0.480***		
			(0.049)	(0.052)		
Abs. Value Preferred Mean				0.124***		
				(0.044)		
Total Abs. Deviations Factor Mean Most Preferred					-0.514***	-0.475***
					(0.049)	(0.052)
Abs. Value Preferred Factor Mean						0.131***
						(0.044)
Constant	4.650***	4.597***	4.720***	4.472***	4.719***	4.459***
	(0.098)	(0.112)	(0.102)	(0.142)	(0.104)	(0.142)
Observations	988	988	988	988	988	988
Adj. R^2	0.11	0.11	0.12	0.12	0.11	0.12

Notes: OLS Coefficients with robust standard errors in brackets, clustered by respondent. ***, **, * denote statistical significance at the 1%, 5%, and 10% level using two-tailed tests. Independent variables in regressions are standardized with SD = 1.

Table B.6: Relationship between constraint and coherence in a policy domain

	Coherent (1 = yes)		
Abs. Deviation from Median Most Preferred	-0.016*** (0.006)		
Abs. Deviation from Mean Most Preferred		-0.026*** (0.007)	
Abs. Deviation from Factor Mean Most Preferred			-0.024*** (0.007)
Constant	0.776*** (0.011)	0.796*** (0.013)	0.793*** (0.013)
Observations	4940	4940	4940
Adj. R^2	0.01	0.01	0.01
Number of Respondents	988	988	988

Notes: OLS Coefficients with robust standard errors in brackets, clustered by respondent. ***, **, * denote statistical significance at the 1%, 5%, and 10% level using two-tailed tests. Respondent-level fixed effects are included in all three models. Independent variables in regressions are standardized with SD = 1.

C Additional Analyses: Coherence Across Time

In this section, we provide additional analyses of coherence over time.

First, Table C.1 shows the data underlying the transition plot in the left-hand panel of Figure 8.

Next, we provide weighted analyses of coherence over time, using the same raking weights used in the prior section. Figure C.1 replicates the analysis in Figure 9 using weights. Table C.2 replicates the analysis in Table 2 using weights. These weighted analyses show slightly lower rates of coherence over time, but these differences do not substantively change our conclusions. For example, the difference between the unweighted and weighted analyses with respect to coherence over time among all domains is a single percentage point (72% to 71%).

Table C.1: Transition matrix of most-preferred options underlying Figure 8.

		Wave 2				
		Very Liberal	Liberal	Moderate	Conservative	Very Conservative
Wave 1	Very Liberal	666 62%	185 17%	126 12%	56 5%	41 4%
	Liberal	198 19%	547 52%	218 21%	56 5%	43 4%
	Moderate	145 10%	233 17%	746 53%	215 15%	68 5%
	Conservative	62 8%	67 8%	221 27%	364 45%	96 12%
	Very Conservative	37 6%	37 6%	75 13%	89 15%	349 59%

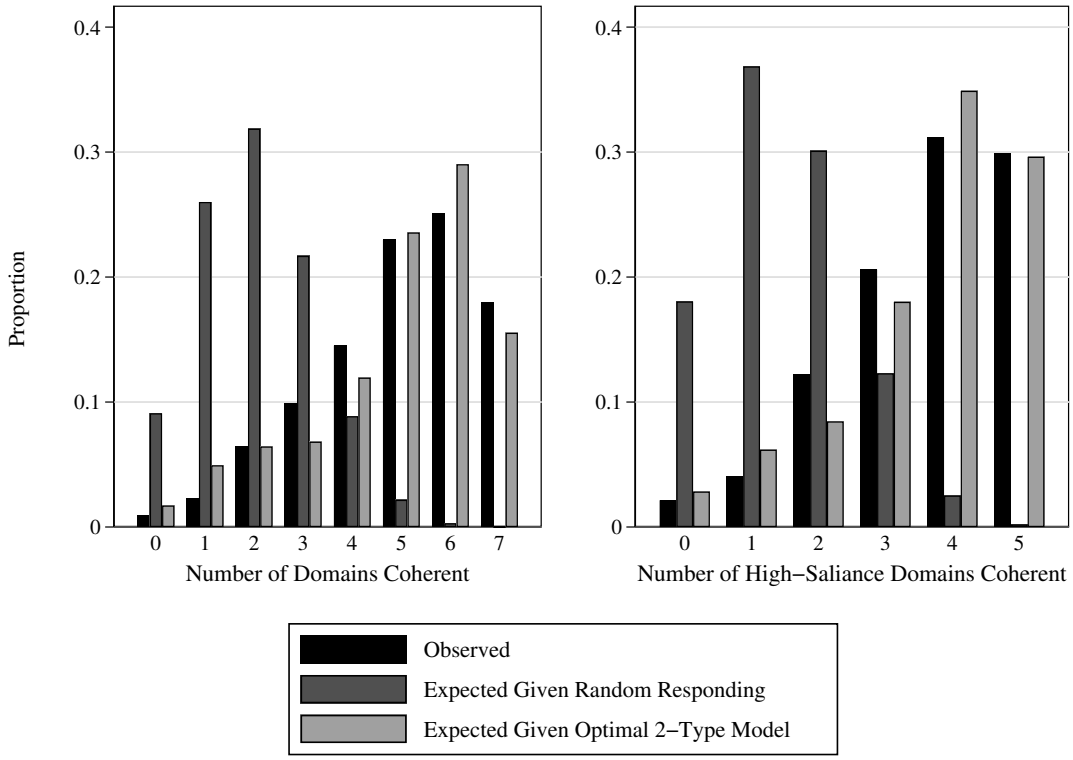
Notes: Counts of person x policy domain in Wave 1 and 2. Percentages are of the row total (that is, Wave 1 expressed most preferred policy).

Table C.2: Stability and Coherence over Time, Weighted ($N = 988$).

Policy Domain	Same Most Preferred	Coherent over Time (COT)	Coherent Both Waves	COT if Coherent Both Waves	COT if NOT Coherent Both Waves
Abortion	60%	80%	53%	93%	63%
Concealed Carry	50%	72%	50%	85%	58%
Immigrant Kids	55%	76%	59%	92%	53%
Welfare	49%	71%	59%	86%	49%
Top Tax Rates	42%	66%	56%	78%	50%
Vaccine Rules	47%	70%	47%	85%	56%
Space Exploration	44%	61%	29%	85%	51%
Average, All Domains	49%	71%	51%	86%	54%
Average, High Salience	51%	73%	55%	87%	55%
Average, Low Salience	45%	66%	38%	85%	53%

Notes: Data is weighted.

Figure C.1: Number of Issues Coherent over Time: Weighted Data and Models



Notes: Number of issues on which a respondent expresses coherent preferences over time, weighted. Sample restricted to those completing both waves and providing complete scores for at least four of seven policy domains ($N = 988$).

D Predicting Changes in Most-Preferred Policy

Similar to the analysis of Table 3, Table D.1 predicts coherence based on canonical political behavioral variables, including political interest, political knowledge and the extremity of their preferred policy. In the two leftmost columns, the dependent variable is coherence in Wave 1, and these analyses are conducted among all Wave 1 responses, regardless of whether they completed Wave 2. In the two rightmost columns, the dependent variable is coherence in Wave 2. One notable difference with Table 3 is the negative and statistically significant coefficient on the Political Interest scale in Columns 1 and 3. This is in contrast to past work which has theorized that political interest is an important aspect that assists individuals in developing ideological belief systems. Otherwise, the results of this more detailed analysis is

Table D.1: Relationships between canonical political behavioral variables and coherence.

	Coherent in Wave 1		Coherent in Wave 2	
Political Interest Scale (0-4)	-0.023*** (0.005)		-0.017*** (0.005)	
Political Knowledge Score (0-6)	0.050*** (0.004)		0.037*** (0.003)	
Logic Quiz Score (0-3)	0.038*** (0.008)		0.034*** (0.007)	
IQ Score (0-6)	0.027*** (0.005)		0.020*** (0.004)	
Constraint ($-1\times$ Deviations from Personal Median)	0.037*** (0.004)		0.023*** (0.003)	
Very Conservative or Very Liberal	-0.08*** (0.01)	-0.11*** (0.01)	-0.10*** (0.01)	-0.11*** (0.01)
Somewhat Conservative or Somewhat Liberal	0.01 (0.01)	0.01 (0.01)	0.00 (0.01)	0.03** (0.01)
Policy Importance (demeaned by person)	0.022*** (0.004)	0.023*** (0.004)	0.033*** (0.007)	0.033*** (0.006)
Policy Confidence (demeaned by person)	0.025*** (0.006)	0.026*** (0.006)	0.015 (0.009)	0.016* (0.009)
Constant	0.71*** (0.08)	0.77*** (0.01)	0.78*** (0.07)	0.81*** (0.01)
Observations	12360	12367	6741	6741
Adj. R^2	0.21	0.08	0.14	0.08
Mean of DV	0.65	0.65	0.72	0.72
Number of Respondents	1807	1808	973	973
Demographic Controls	Yes	No	Yes	No
Respondent Fixed Effects	No	Yes	No	Yes

Notes: OLS Coefficients with robust standard errors in parentheses, clustered by respondent. ***, **, * denote statistical significance at the 1%, 5%, and 10% level using two-tailed tests. All specifications include categorical controls for policy area and the extremity of a respondent's most-preferred policy in a given domain. Demographic (categorical) controls are age, gender, education, and income. All Wave 1 respondents are included in "Coherent in Wave 1," while only respondents who completed both waves are included in "Coherent in Wave 2." Coefficients and standard errors for demographic controls can be found in Table D.3.

substantively similar.

Below we include the coefficients and standard errors for the demographic controls in Tables 3 and D.3.

E Details on YouGov Replication

In December 2023-January 2024, we included a question to measure policy preferences regarding Dreamers on a survey fielded by YouGov to approximately 128,000 respondents. The question began with this preamble: "What do you think should be done about "Dreamers"- immigrants who were brought to the U.S. illegally as children, graduated from an American high school, and have lived here for at least ten years? For each of the following policy options, please indicate your level of support."

The following five items were presented, and respondents were asked to rate each on a scale from 0 (strongly oppose) to 10 (strongly support).

- Deport All Immediately
- Deport all within 3 years
- Allow Dreamers to stay, but never to become citizens [(this is the current law)]
- Allow dreamers to stay and apply to become citizens after 10 years
- Allow Dreamers to apply to become citizens immediately

First, we use a strict definition of coherence: respondents are coded as coherent if they score policies farther away from their most-preferred policy lower or equal to policies closer to their most-preferred policy. Indifference can only be expressed with equal scores. With these criteria, we find that 80.4% of the sample expresses coherent preferences; when respondents are weighted to national demographics, 76.7% are coded as coherent.

Next, we use our preferred measure of coherence, where we allow for a one-point deviation to express indifference. For example, the preference scoring {2, 4, 3, 7, 10} would be coded as incoherent under the previous coding, but under this new definition of coherence, the respondent's second and third policy scores would be considered indifferent and they would be coded as coherent. With these criteria, we find that 87.1% of the sample expresses coherent preferences; when respondents are weighted to national demographics, 84.8% are coded as coherent.

Table D.2: Demographic controls for Table 3

	Coherent in Wave 1		Coherent over Time			Stable
Policy Domain: Abortion	-0.051***	-0.053***	0.065***	0.080***	0.078***	0.103***
	(0.016)	(0.016)	(0.018)	(0.018)	(0.018)	(0.022)
Policy Domain: Guns	-0.101***	-0.098***	-0.024	0.011	0.008	0.013
	(0.017)	(0.016)	(0.019)	(0.019)	(0.019)	(0.021)
Policy Domain: Immig. Kids	-0.019	-0.019	0.063***	0.065***	0.067***	0.084***
	(0.015)	(0.015)	(0.018)	(0.017)	(0.017)	(0.023)
Policy Domain: Taxes	-0.039***	-0.037***	-0.049	-0.040	-0.038	-0.033
	(0.015)	(0.015)	(0.019)	(0.019)	(0.019)	(0.022)
Policy Domain: Vaccines	-0.124***	-0.117***	-0.041**	0.006	0.002	-0.002
	(0.017)	(0.017)	(0.020)	(0.020)	(0.020)	(0.022)
Policy Domain: Space	-0.257***	-0.251***	-0.099***	-0.014	-0.026	-0.020
	(0.019)	(0.019)	(0.021)	(0.020)	(0.020)	(0.023)
Female	0.062***		0.038***	0.022*		0.020
	(0.017)		(0.014)	(0.013)		(0.014)
High School Degree or Equivalent	0.004		-0.029	-0.047		0.026
	(0.060)		(0.055)	(0.055)		(0.046)
Some college or 2-year degree	-0.018		-0.045	-0.059		0.041
	(0.059)		(0.055)	(0.055)		(0.045)
Bachelor's Degree	-0.014		-0.048	-0.062		0.048
	(0.061)		(0.056)	(0.056)		(0.047)
Graduate Degree	0.020		-0.025	-0.051		0.023
	(0.063)		(0.057)	(0.057)		(0.049)
Income: Less than $30K	0.028		-0.027	-0.011		0.036
	(0.070)		(0.052)	(0.054)		(0.052)
Income: $30-60K	0.004		-0.024	0.000		0.063
	(0.071)		(0.052)	(0.054)		(0.052)
Income: $60-90K	-0.020		-0.046	-0.011		0.029
	(0.071)		(0.053)	(0.054)		(0.053)
Income: $90-120K	-0.040		-0.051	-0.007		0.019
	(0.072)		(0.054)	(0.056)		(0.054)
Income: $120-150K	-0.051		-0.071	-0.037		-0.005
	(0.077)		(0.057)	(0.057)		(0.056)
Income: $150K+	-0.021		-0.048	-0.010		0.025
	(0.073)		(0.056)	(0.058)		(0.057)
Observations	6757	6757	6757	6757	6757	6757
Adj. R^2	0.15	0.09	0.06	0.14	0.07	0.07
Mean of DV	0.69	0.69	0.72	0.72	0.72	0.52
Number of Respondents	987	987	987	987	987	987
Demographic Controls	Yes	No	Yes	Yes	No	Yes
Respondent Fixed Effects	No	Yes	No	No	Yes	No

Notes: OLS Coefficients with robust standard errors in brackets, clustered by respondent. ***, **, * denote statistical significance at the 1%, 5%, and 10% level using two-tailed tests. Categorical control for age is omitted from columns 1, 3, 4 and 6.

Table D.3: Demographic controls for D.1

	Coherent in Wave 1		Coherent in Wave 2	
Policy Domain: Abortion	-0.047***	-0.047***	-0.031	-0.032**
	(0.012)	(0.012)	(0.019)	(0.015)
Policy Domain: Guns	-0.109***	-0.106***	-0.073***	-0.071***
	(0.012)	(0.012)	(0.019)	(0.016)
Policy Domain: Immig. Kids	-0.024**	-0.024**	0.005	0.002
	(0.011)	(0.011)	(0.019)	(0.015)
Policy Domain: Taxes	-0.032***	-0.030***	0.002***	0.004***
	(0.011)	(0.011)	(0.019)	(0.014)
Policy Domain: Vaccines	-0.114***	-0.107***	-0.081***	-0.077***
	(0.012)	(0.012)	(0.019)	(0.016)
Policy Domain: Space	-0.229***	-0.224***	-0.214***	-0.211***
	(0.014)	(0.014)	(0.020)	(0.018)
Female	0.087***		0.047***	
	(0.013)		(0.011)	
High School Degree or Equivalent	-0.036		0.085**	
	(0.046)		(0.042)	
Some college or 2-year degree	-0.045		0.082*	
	(0.045)		(0.042)	
Bachelor's Degree	-0.058		0.054	
	(0.046)		(0.043)	
Graduate Degree	-0.055		0.075*	
	(0.047)		(0.044)	
Income: Less than $30K	0.051		-0.001	
	(0.052)		(0.039)	
Income: $30-60K	0.015		-0.025	
	(0.052)		(0.039)	
Income: $60-90K	-0.012		-0.060	
	(0.052)		(0.040)	
Income: $90-120K	-0.035		-0.074*	
	(0.054)		(0.041)	
Income: $120-150K	-0.071		-0.035	
	(0.056)		(0.043)	
Income: $150K+	0.010		-0.053	
	(0.055)		(0.043)	
Observations	12360	12367	6741	6741
Adj. R^2	0.21	0.08	0.14	0.08
Mean of DV	0.65	0.65	0.72	0.72
Number of Respondents	1807	1808	.	973
Demographic Controls	Yes	No	Yes	No
Respondent Fixed Effects	No	Yes	No	Yes

Notes: OLS Coefficients with robust standard errors in brackets, clustered by respondent. ***, **, * denote statistical significance at the 1%, 5%, and 10% level using two-tailed tests. Categorical control for age is omitted from columns 1 and 3.