

**Testing Theories of Threat, Individual Difference, and Ideology: Little Evidence of  
Personality Based Individual Differences in Ideological Responses to Threat**

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**Data availability statement:** Data and materials are available from <https://electionstudies.org/>, <https://www.lissdata.nl/>, <https://data.worldbank.org/indicator/VC.IHR.PSRC.P5?locations=NL>, <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?end=2022&locations=NL&start=2008>, <https://population.un.org/wpp/Download/Standard/MostUsed/>. Code and non-proprietary data used for the analyses in this manuscript as well as our supplemental materials referenced in text are at OSF [https://osf.io/7x2ge/?view\\_only=5ef9b923e2fe4f0987b5abec2fe89fa5](https://osf.io/7x2ge/?view_only=5ef9b923e2fe4f0987b5abec2fe89fa5). Proprietary LISS survey data can be obtained at <https://www.lissdata.nl/> and ANES data can be obtained at <https://electionstudies.org/> and used with our code to replicate all findings reported.

**Word Count:** 5,000

This paper has been accepted for publication at *Social Psychological and Personality Science*

### **Abstract**

Recent attempts to establish the veracity of the conservative shift hypothesis have failed to find supportive evidence. Instead, this work yields inconsistent results and reveals considerable individual differences in ideological responses to ecological threats. In two studies, we build upon this work in two ways. First, we test the conservative shift hypothesis across five ecological threats: unemployment, immigration, racial diversity, COVID-19, and violent crime, more than has been examined previously. Second, we test whether, in line with political personality theories, openness to experience and conscientiousness predict who is likely to shift to the right in the face of threat and who is not. In one nationally representative panel study from the Netherlands (N = 11,189) and one nationally representative repeated cross-sectional study in the U.S. (N = 9,040), we find minimal support for the conservative shift hypothesis and theories that predict personality based individual differences in ideological responses to threat.

*Key Words:* Conservatism, Threat, Personality, Political Attitudes

## **Testing Theories of Threat, Individual Difference, and Ideology: Little Evidence of Personality Based Individual Differences in Ideological Responses to Threat**

The world can be a dangerous place. Although political orientations are generally stable (Brandt & Morgan, 2023; Kiley & Vaisey, 2020), prominent theories of ideology suggest that threats push people towards conservatism (e.g., Jost et al., 2003; Onraet et al., 2013; Sibley et al., 2012). For example, Sales (1972) found that economic downturns lead to higher conversion rates at conservative churches. Meta-analyses support the idea that threat experiences correlate with conservatism ( $r = .18$ , Jost et al., 2003;  $r$ 's range =  $[.07, .14]$ , Jost et al., 2017,  $r = .28$ , Onraet et al., 2013). We test this conservative shift hypothesis. We examine how ecological threats are associated with conservatism and test if the threats' effects are moderated by people's personalities.

### **Threat and Politics**

The conservative shift hypothesis posits that conservatism buffers against ecological threats because it is characterized by resistance to social change, and support for tradition and hierarchies (Hetherington & Weiler, 2009; Inbar et al., 2016; Jost et al., 2017). Because these characteristics of the ideology entrench the status quo, it provides stability and predictability that theory predicts should be comforting during threatening times (Jost et al., 2003). Empirical evidence supporting the premise, however, often focuses on specific threats (e.g., Islamist terrorism, Nail & McGregor, 2009), in WEIRD countries, using mostly (but not solely) small cross-sectional samples of undergraduates (Jost et al., 2003; 2017; Sibley et al., 2012). For example, meta-analyses clearly show Islamist terrorist threats in western democracies predict conservatism (Godefroidt, 2023; Jost et al., 2017). Another study found New Zealand undergraduates shifted towards conservatism when reading about a threatening future marred by

economic decline and violent crime (Duckitt & Fisher, 2003). Finally, during the 2014 Ebola outbreak, a young convenience sample expressed more negative implicit attitudes towards gay men (Inbar et al., 2016).

Other work has made arguments grounded in threat to link racial diversity, immigration, unemployment, and violent crime to conservatism (Jost et al., 2017). Craig and Richeson (2014) found that exposing Whites to information that Whites will constitute a minority of U.S. citizens by 2042 caused White respondents to shift towards conservatism (see also Major et al., 2018). In Europe, an increase in foreign born residents predicted an increase in right wing populist votes (Halla et al., 2017). While individual level crime victimization is *not* directly associated with conservatism (e.g., Unnever et al., 2007), *societal* increases in violent crime have been linked with greater support for conservative “law and order” ideologies (Stack et al., 2007). This work suggests that ecological threats *can* push people to the right.

### ***Different Threats, Different Shifts?***

The literature, however, is more mixed than the work above suggests (Brandt & Bakker, 2022). For example, people became more liberal when reading about threats viewed as better handled by liberal policies such as climate change or corporate misconduct (Eadeh & Chang, 2020). During the COVID-19 pandemic, attitudes often shifted left, or did not shift at all (Brandt et al., in press; Stern & Axt, 2021). Cross-sectional studies show *perceived* threats’ association with ideology varies by the threat, and by the context (i.e., the country, Brandt et al., 2021). However, because of its cross-sectional design and measures of subjective threat perceptions, this latter work is unable to examine how *changes* in ecological conditions predict *changes* in political ideology. Eadeh and Chang’s (2020) experimental approach is better equipped to study

change, but was designed to elicit liberal shifts and threats were induced, rather than naturalistically experienced.

We test if multiple real-world threats are associated with shifts towards conservatism. Such a test is important, as it evaluates how a *general* theory empirically verified with *particular* threat paradigms performs when making *general* predictions in the real-world. Put differently, we need to evaluate the extent to which the conservative shift hypothesis has ecological validity and generalizability across multiple real-world threats. We do this by testing whether the conservative shift hypothesis makes accurate predictions in the real world across many different ecological threats.

### ***Individual Differences in Shifts?***

Average effects of threat might mask person to person variability (Bryan, 2021). Studies finding support for the conservative shift hypothesis often use homogenous samples (e.g., undergraduates) or experiments that direct respondent's attention to threats (Duckitt & Fisher, 2003; Craig & Richeson, 2014). In naturalistic settings, individual responses to threats may vary. Such a pattern is observed by Brandt et al. (in press) in one of the few ecologically valid tests of the conservative shift hypothesis. Exploring this individual variability is important as political personality theories raise the possibility that some people may be more ideologically responsive to ecological threats than others (e.g., Hibbing et al., 2014; Sibley et al., 2012). We test two ideas from political personality theories.

Exploring why the relationship between openness to experience and conservatism varies across studies, Sibley and colleagues (2012) propose the threat constraint model. It suggests the negative relationship between openness and conservatism declines when threat is present, as society moves to the right to cope with the threat. Consistent with this idea, they find that the

negative relationship between openness and conservatism is smaller in magnitude in countries where violent crime and unemployment are high.

The threat constraint model is intended to explain variation in the personality/ideology association across contexts, however, it can also be re-interpreted to predict who should have the largest conservative shifts in the face of threat. In particular, one reading of the model predicts that open individuals might be particularly likely to move towards conservatism during threatening conditions as their safe worldview is challenged (Sibley et al., 2012). In contrast, those who are low in openness tend to consistently view the world as threatening (Sibley et al., 2012). They may have their existing worldview confirmed, and have no new need for conservatism in the face of ecological threat. According to this logic we would expect to observe positive and significant interactions between openness and threat, indicating that the effect of threat on ideology is particularly strong for those high in openness. We term this idea “modified threat constraint.”

A second idea is that people high in conscientiousness and low in openness shift more towards conservatism when ecological threat is present (e.g., Hibbing et al., 2013; 2014). According to this “negativity bias” perspective, people with this personality profile are more attuned to threats in the environment than others, and as such are more in need of conservatism when threat is present in the environment. Despite some failures to replicate other predictions from this perspective (Bakker et al., 2020; Feldman & Huddy, 2014; Fournier et al., 2020; Johnson & Madson, 2022), the personality predictions need empirical scrutiny. As such, we test the predictions emanating from this framework that positive and significant conscientiousness by threat and negative and significant openness by threat interactions should emerge.

### **The Current Research**

We advance the study of threat and politics in several ways. First, we examine the real-world impact of several ecological threats on ideology. In Study 1, we use a large nationally representative 14-wave panel study from the Netherlands to examine whether year-to-year changes in threat predict within-person changes in ideology. In Study 2, we test the relationship between threat and conservatism in the U.S. context, as most evidence in support of the conservative shift hypothesis comes from the US. context (e.g., Jost et al., 2003; 2017). Second, we test if personality traits moderate the effects of threat on ideology. We test whether those high in openness, or those low in openness and high in conscientiousness are more likely to shift towards conservatism in threatening conditions. We employ multiple measures of ideology, as the personality-politics and threat-politics association has been shown to vary across operationalizations (e.g., Brandt et al., 2021; Johnston et al., 2017). As our analyses are exploratory, and both authors have worked extensively with both datasets, neither study is pre-registered. According to a Markov-Chain-Monte-Carlo (MCMC) power analysis conducted in the package *simr* (Green & MacLeod, 2016), we possess 100% power to detect a small-moderate (.2 on a 0-1 scale) direct effect of threat and 100% power to detect a small-moderate threat by personality interaction in Study 1. In Study 2, we possess 100% power to detect a small-moderate direct effect of threat, and 84% power to detect a small-moderate threat by personality interaction.

### **Method Study 1**

We use the LISS panel (see Scherpenzeel & Das, 2010), a large nationally representative 14-wave (2007-2023) panel study from the Netherlands ( $N = 11,189$ ;  $M$  waves = 9.34,  $SD$  waves = 4.39; Demographics wave 1: 49 percent male,  $M$  age = 36,  $Mdn$  income = €2,401-€3,000/month;  $Mdn$  education = vocational school) that contains measures of personality and political

ideology. We retain individuals in our sample who completed at least two waves of data collection. We merge these data with information about ecological threats in the Netherlands at the time of data collection.

### **Measures**

All measures are detailed in Table 1. We include measures of symbolic ideology (i.e., ideological self-identification) and substantive social and political attitudes (i.e. issue positions, Ellis & Stimson, 2012). Personality was measured using the Dutch version of the IPIP (Goldberg et al., 2006). As the theories we test treat personality as a stable person-level attribute, and ideology as contextually variable (e.g., Hibbing et al., 2014; Jost et al., 2003; Sibley et al., 2012), we average personality traits across waves.<sup>1</sup>

With respect to threats, we examine the effect of COVID-19, net migration rate per 1,000 individuals, unemployment rate, and homicide rate. COVID-19 was operationalized by coding a dummy indicator for whether data collection took place during the peak of the pandemic (we code this as whether data collection took place after the first COVID-19 case in the Netherlands on February 27<sup>th</sup>, 2020, and before March of 2022). Data on the unemployment rate and intentional homicide rate were gathered from the World Bank Data Center and data on the net migration rate was gathered from the United Nations Department of Economic and Social Affairs (United Nations 2023; Word Bank 2023a, World Bank, 2023b). These data were merged with LISS panel data such that the respective year of LISS panel data were coded as having the corresponding unemployment rate, immigration rate, homicide rate, and COVID-19 presence/absence.

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<sup>1</sup> We also present models that do not aggregate personality across waves and instead model within-person centered personality which varies within individuals by wave in the supplemental materials. Results of these models are consistent with those presented in the main text.



Immigration, homicide, and unemployment were chosen as threats because previous research has consistently linked them to conservatism (Duckitt & Fisher, 2003; Halla et al., 2017; Jost et al., 2017; Sibley et al., 2012; Stack et al., 2007). The fourth threat we study is the COVID-19 pandemic. While some research has shown that the COVID-19 pandemic did *not* increase conservative attitudes (Brandt et al., in press; Stern & Axt, 2021), other research has shown that infectious disease threats can shift at least some attitudes in a conservative direction (Inbar et al., 2016). Thus, comparing the effects of other ecological threats with those of the COVID-19 pandemic is a useful exercise (e.g., Brandt et al., in press; Stern & Axt, 2021).

**Table 1***Summary of LISS panel individual level measures used in analyses*

Measure	N Items	N Waves	Example Item	$\alpha/r$
<b>Ideology</b>				
Income Inequality	1	14	Some people believe differences in income should increase in our country. Others feel that they should decrease. Still others hold an opinion somewhere in between. Where would you place yourself on a scale from 1-5, where 1 means that differences in income should increase, and 5 means differences should decrease?	NA
EU Support	1	14	Some people and political parties feel that European unification should go a step further. Others think that European unification has already gone too far. Where would you place yourself on a scale from 1 to 5, where 1 means European unification should go further and 5 means that it has already gone too far?	NA
Immigrant Culture	1	14	In the Netherlands, some people believe that immigrants are entitled to live here while retaining their own culture. Others feel that they should adapt entirely to Dutch culture. Where would you place yourself on a scale from 1 to 5, where 1 means that immigrants can retain their own culture and 5 means they should adapt entirely?	NA
Symbolic Ideology	1	14	In politics, a distinction is sometimes made between “the left” and “the right.” Where would you place yourself on the scale below, where 0 means left and 10 means right?	NA
Union Support	2	13	Trade unions should take a much tougher political stance if they wish to promote workers interests.	.40
Gender & Childrearing	4	14	A woman is more suited for rearing young children than a man.	.70

Mothers of Young Children Working	4	14	Do you think that women, under the circumstances described below, should be able to have a full-time job, a part time job, or no job at all? Example: If she has a baby (a child younger than 1 year).	.69
Fathers Working	4	14	The father should earn money, while the mother takes care of the household and the family.	.65
Mothers of Kids Any Age Working	3	14	For each statement, please indicate to what extent you agree or disagree. Example: A working mother's relationship with her children can be just as close and warm as that of a non-working mother.	.80
Traditional Marriage	7	14	It is perfectly fine for a couple to live together without marriage intentions.	.71
Immigration Ability	8	14	It should be made easier to obtain asylum in the Netherlands.	.69
<b>Personality Traits</b>		Intro: How accurately do the statements below describe you (as a person)? I...		
Openness	10	14	Example: have a rich vocabulary	.77
Conscientiousness	10	14	Example: am always prepared	.77
Agreeableness	10	14	Example: feel little concern for others (reverse scored)	.80
Extraversion	10	14	Example: am the life of the party	.86
Neuroticism	10	14	Example: am relaxed most of the time	.88

*Note:* All multi-item scales can be found in the supplemental materials. We report alpha for scales with greater than 2 items and interitem correlations for scales with 2 items.

## Modeling Strategy

We fit multi-level models with waves nested within individuals. All models were fitted using the lme4 package (Bates et al., 2014) in R version 4.3.0. All variables were recoded to range from 0-1 such that zero represented the minimum value in the dataset on the variable and 1 represented the maximum. Coefficients thus represent the expected proportion change in the dependent variable upon moving from the minimum value to the maximum value of the respective independent variable in the dataset. All continuous predictors are grand-mean centered.

We fit two primary sets of models. First, for each measure of ideology, we examine the effects of threats on ideology controlling for personality and wave of data collection, estimating the extent people shift towards conservatism in response to threat. We used the following model:

$$\begin{aligned} & \textbf{Level 1 (Within person equation)} \\ Ideology_{ij} = & \beta_{0i} + \beta_{1i}wave_{ij} + \beta_{2i}homicide_{ij} + \beta_{3i}immigration_{ij} \\ & + \beta_{4i}unemployment_{ij} + \beta_{5i}covid_{ij} + \varepsilon_{ij} \end{aligned} \tag{1}$$

$$\begin{aligned} & \textbf{Level2 (Between person equations)} \\ \beta_{0i} = & \gamma_{00} + \gamma_{01}open_i + \gamma_{02}conscientious_i + \gamma_{03}extraverted_i \\ & + \gamma_{04}agreeable_i + \gamma_{05}neurotic_i + u_{0i} \\ \beta_{1i} = & \gamma_{10} + u_{1i} \end{aligned}$$

Second, for the same ideology dependent variables, we estimate models also including interaction terms between openness and threats and conscientiousness and threats. We used the following model:

$$\begin{aligned} & \textbf{Level 1 (Within person equation)} \\ Ideology_{ij} = & \beta_{0i} + \beta_{1i}wave_{ij} + \beta_{2i}homicide_{ij} + \beta_{3i}immigration_{ij} \\ & + \beta_{4i}covid_{ij} + \beta_{5i}unemployment_{ij} + \varepsilon_{ij} \end{aligned} \tag{2}$$

$$\textbf{Level2 (Between persons equation)}$$

$$\begin{aligned}
\beta_{0i} &= \gamma_{00} + \gamma_{01}open_i + \gamma_{02}conscientious_i + \gamma_{03}extraverted_i + \gamma_{04}agree_i \\
&\quad + \gamma_{05}neurotic_i + u_{0i} \\
\beta_{1i} &= \gamma_{10} + \gamma_{11}open_i + \gamma_{12}conscientious_i + u_{1i} \\
\beta_{2i} &= \gamma_{20} + \gamma_{21}open_i + \gamma_{22}conscientious_i \\
\beta_{3i} &= \gamma_{30} + \gamma_{31}open_i + \gamma_{32}conscientious_i \\
\beta_{4i} &= \gamma_{40} + \gamma_{41}open_i + \gamma_{42}conscientious_i \\
\beta_{5i} &= \gamma_{50} + \gamma_{51}open_i + \gamma_{52}conscientious_i
\end{aligned}$$

The research questions we test, the models we fit, and the patterns of statistical results that would provide support for the frameworks we review are presented in Table 2. The models we present in the main text are our preferred models. However, to show if and how the results may vary across reasonable specifications, we also conduct multiverse analyses (e.g., Simonsohn et al., 2020, Steegen et al., 2016) that vary in the inclusion and exclusion of personality variables in the main effects models and examine ecological threats both in isolation and tandem. Results are consistent with the results we discuss in the main text. See Supplemental Materials for the multiverse analyses.<sup>2</sup>

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<sup>2</sup> In the Supplemental Materials, we also pull the results of alternative models of particular interest from the multiverse analysis. These include models where personality is allowed to vary within individuals from wave to wave, and models where no personality terms are included in the main effects models. Results are consistent with the results of models presented in the main text.

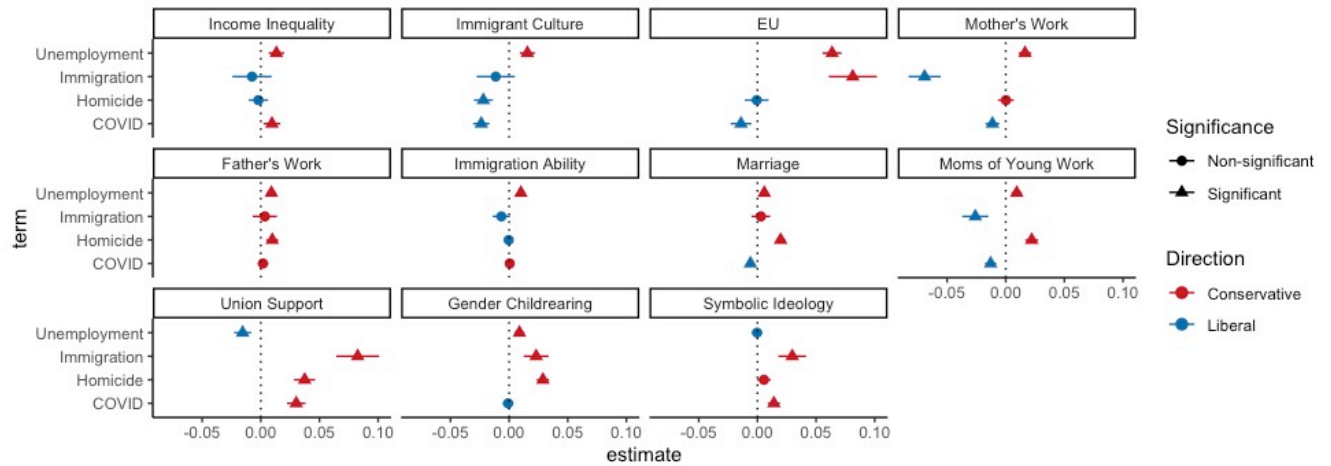
**Table 2***Summary of research questions, models, terms of interests, and criteria for supportive results*

Research Question/ Framework	Model	Terms of Interest	Supportive Results
Do people shift to the right in the face of threat? (conservative shift)	Multilevel model with waves nested within individuals  Threat terms as time-varying predictors  Controls for big five personality	IVs: unemployment rate, immigration rate, homicide rate, and COVID-19 presence/absence  DVs: self-rated conservatism, 10 substantive attitude measures	Positive and significant coefficients for threat variables
Are individuals who are <i>high</i> in openness more likely to shift to the right? (threat constraint)	Multilevel model with waves nested within individuals  Threat terms and big five personality terms  Threat by openness and conscientiousness interaction terms	IVs: unemployment rate, immigration rate, homicide rate, and COVID-19 presence/absence; threat by openness interaction  DVs: self-rated conservatism, 10 substantive attitude measures	Positive and significant openness by threat interaction terms
Are individuals who are <i>low</i> in openness and <i>high</i> in conscientiousness more likely to shift to the right? (negativity bias)	Multilevel model with waves nested within individuals  Threat terms and big five personality terms  Threat by openness and conscientiousness interaction terms	IVs: unemployment rate, immigration rate, homicide rate, and COVID-19 presence/absence; threat by openness and threat by conscientiousness interactions  DVs: self-rated conservatism, 10 substantive attitude measures	Positive and significant conscientiousness by threat interaction terms  Negative and significant openness by threat interaction terms

## Results: Study 1

### Threat (conservative?) shifts

Across all threats and measures of ideology, results reveal that significant changes in ideology do *sometimes* occur in the face of threat (see Figure 1). However, the size of this shift is very small (the average threat shift is  $b = .007$  on a 0-1 scale), and it is not consistently in a conservative direction ( $b$ 's range  $[-.07, .08]$ ). Interestingly, the largest effects in both a liberal and a conservative direction emerged in the face of increased immigration. Higher levels of immigration predicted the largest liberal shift, more support for mothers in the workforce ( $b = -.07$ ,  $SE = .007$ ,  $p < .001$ ), and the largest conservative shift, less support for labor unions ( $b = .08$ ,  $SE = .009$ ,  $p < .001$ ). Overall, sometimes people shift in a liberal direction (9 liberal shifts), sometimes they don't significantly shift at all (14 non-significant shifts), and sometimes they shift in a conservative direction (21 conservative shifts). The mean significant liberal shift was  $-.02$ . The mean significant conservative shift was  $.03$ . In short, a little less than half of terms emerged as significant and in a conservative direction, but over half of shifts were either non-significant or in a liberal direction. The small effect sizes raise questions regarding the statistically significant shift's practical importance.

**Figure 1***Fixed Effects of Ecological Threats on Different Operationalizations of Ideology*

*Note:* This figure displays fixed effects of threats from 11 multilevel models (one per ideology measure on the y-axis) examining the main effects of ecological threats on ideological attitudes.

All models control for wave.

### Personality based individual differences in shifts

Next, we examined the second set of models testing if threat interacted with openness and conscientiousness in predicting ideology. Our modification of the threat constraint model (Sibley et al., 2012) predicts that individuals high in openness will shift towards conservatism in the face of threat. The negativity bias perspective (Hibbing et al., 2014) suggests that individuals low in openness and high in conscientiousness should be more likely to recognize threats in society and respond with conservative shifts. Neither of these frameworks explain much with respect to symbolic ideology nor substantive policy items (see Figure 2).

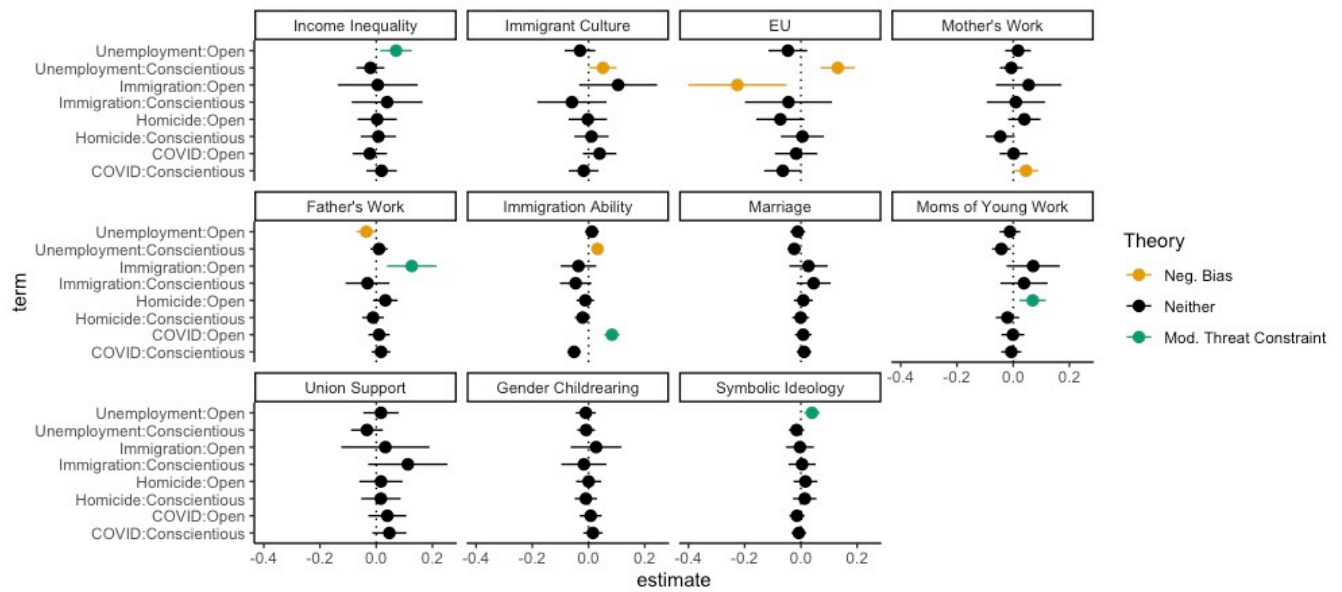
About 7 percent of coefficients (or 6 of 88 relevant terms) emerged in line with predictions generated by the negativity bias perspective, which predicts that positive and significant coefficients should emerge for conscientiousness by threat interaction terms and



negative and significant coefficients should emerge for openness by threat interaction terms. About 11 percent of coefficients (or 5 of 44 relevant terms) emerged in line with predictions generated by our modified threat constraint model, which predicts that positive and significant coefficients should emerge for openness by threat interaction terms.

**Figure 2**

*Fixed Effects Threat by Personality Interaction Terms*



*Note:* This figure shows the fixed effects for interaction terms between ecological threats and personality variables for 11 multilevel models (one per ideology measure). The models examine whether personality moderates the effects of ecological threats on different operationalizations of ideology. Significant coefficients consistent with the modified threat constraint model are coded green. Significant coefficients consistent with the negativity bias perspective are coded orange. All models control for wave.

**Discussion: Study 1**

We do not find a consistent conservative shift, with support for the conservative shift hypothesis emerging in less than half of cases. Moreover, the typical size of a threat-shift

coefficient is very small. The largest effect shifts emerge for the immigration threat, but these shifts are still small (-.07 in a liberal direction, and .08 in a conservative direction respectively). Results are even less supportive of the idea that personality moderates the effect of threat on ideology, with the overwhelming majority of coefficients not emerging as statistically significant.

### **Method: Study 2**

We sought to conceptually replicate our study in the U.S. context. We use the repeated cross-sectional data of the 2012 and 2016 waves of the American National Election Studies (ANES, 2012; ANES, 2016;  $N = 9,040$ ; *Mdn* age = 50-54, *Mdn* income = \$50,000 - \$54,999; *Mdn* education = some college, 65 percent white, 48 percent male). The ANES is a nationally representative repeated cross-sectional study of U.S. American eligible voters. These two years contain both a measure of personality and multiple measures of political ideology. We merge these data with data on threat conditions across states.

### **Measures**

All measures are detailed in Table 3. We include measures of symbolic ideology (i.e., ideological self-identification) and substantive social and political attitudes (i.e. issue positions, Ellis & Stimson, 2012). Substantive attitudes were measured separately for the economic and social domains, as research suggests that there are meaningful distinctions between the meaning and correlates of these two dimensions of ideology in the U.S. context (e.g., Johnston et al., 2017). Respondent personality on each of the big five traits was measured using the TIPI (Gosling et al., 2003).

We assessed three variables – racial diversity, unemployment, and violent crime – that have been characterized as threats in the literature, show significant variation across states, and have been found to lead people towards conservatism (e.g., Craig & Richeson, 2014; Jost et al.,

2017; Roccato et al., 2013; Stack et al., 2007). Threat conditions in each state for each year of data collection (2012 and 2016) were merged with ANES data for the corresponding state and year. Data on the unemployment rate and racial diversity are collected from the U.S. Census API using the tidycensus R package (Walker & Herman, 2021). Data on the violent crime rate were collected from the FBI Crime in the U.S. database (USDOJ, 2013; 2017).

**Table 3***Summary of ANES individual level measures used in analyses*

Measure	N Items	Example Item	$\alpha / r$
<b>Ideology</b>			
Symbolic Ideology	1	We hear a lot of talk these days about liberals and conservatives. Where would you place yourself on this scale or haven't you thought about it much? 1- Extremely liberal... 7- Extremely conservative... - 2- Haven't thought about it much... -8- Don't know... -9 Refused to answer	NA
Social Ideology	4	Newer lifestyles are breaking down society. (Rate agreement on scale from 1- Agree strongly to 5- Disagree strongly)	.71
Economic Ideology	5	Which of the two statements comes closer to your view? 1. The main reason government has become bigger is because it has gotten involved in things that people should do for themselves. 2. Government has become bigger because the problems we face have become bigger.	.79
<b>Personality</b>			
		Intro: We're interested in how you see yourself. Please mark how well the following pair of words describes you, even if one word describes you better than the other.	
Openness	2	Example: Open to new experiences, complex.	.24
Conscientiousness	2	Example: Disorganized, careless	.37
Extraversion	2	Example: Reserved, quiet	.32
Agreeableness	2	Example: Sympathetic, warm	.19
Neuroticism	2	Example: Anxious, easily upset.	.37

*Note:* Multi-item measures are reported in supplemental materials. We report alpha for all scales with 3 or more items. We report inter-item correlations for all scales with 2 items.

## Modeling Strategy

We estimated multilevel models with individuals nested within states using the lme4 package (Bates et al., 2014). We include year in our analyses as a dummy coded covariate. All continuous variables in the model are mean centered and recoded to range from 0-1. Coefficients thus represent the expected proportion change in the dependent variable upon moving from the minimum to the maximum value of the respective independent variable in the dataset. As some socio-demographic variables are correlated with both state-level threat and political ideology, we control for race, gender, age, education, and income in the analyses reported in the main text.<sup>3</sup>

We fit two sets of primary models for each of the three dependent variables. The first set of models look at the main effect of state-level threats (here, considered simultaneously) on ideology controlling for personality. The purpose of these models is to investigate whether those who live in states with more threatening ecological conditions are more likely to be conservative. We used the following model:

$$\begin{aligned}
 & \textbf{Level 1 (Within State)} \\
 \text{Ideology}_{ij} = & \beta_{0j} + \beta_{1j}\text{Open}_{ij} + \beta_{2j}\text{Extraverted}_{ij} + \beta_{3j}\text{Agreeable}_{ij} \\
 & + \beta_{4j}\text{Neurotic}_{ij} + \beta_{5j}\text{Conscientious}_{ij} \\
 & + \beta_{6j}\text{RaceContrastCode1}_{ij} + \beta_{7j}\text{RaceContrastCode2}_{ij} \\
 & + \beta_{8j}\text{RaceContrastCode3}_{ij} + \beta_{9j}\text{Income}_{ij} + \beta_{10j}\text{Education}_{ij} \\
 & + \beta_{11j}\text{Age}_{ij} + \beta_{12j}\text{Male}_{ij} + \beta_{13j}\text{Year}_{ij} + \varepsilon_{ij} \quad (3)
 \end{aligned}$$

$$\begin{aligned}
 & \textbf{Level 2 (Between State)} \\
 \beta_{0j} = & \gamma_{00} + \gamma_{01}\text{CrimeRate}_j + \gamma_{02}\text{UnemploymentRate}_j + \gamma_{03}\text{PropNonWhite}_j \\
 & + u_{0j}
 \end{aligned}$$

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<sup>3</sup> We also fit models that control for state level covariates that could lead to suppression effects or confounding and pull these results from the multiverse for interested readers. These results are shown in the supplemental materials. Results are consistent with those reported in the main text regardless of the inclusion or exclusion of these covariates. In addition, we report results without demographic controls, and results of models fitted only among Whites (since they may be more likely to view racial diversity as threatening and these theories were originally tested in mostly White samples) these results are also consistent with those reported in the main text.

The second set of models includes relevant trait by threat interaction terms to test whether personality moderates the propensity to be more conservative in the face of threat. We used the following model:

**Level 1 Equation (Within State)**

$$\begin{aligned}
 Ideology_{ij} = & \beta_{0j} + \beta_{1j}Open_{ij} + \beta_{2j}Extraverted_{ij} + \beta_{3j}Agreeable_{ij} \\
 & + \beta_{4j}Neurotic_{ij} + \beta_{5j}Conscientious_{ij} \\
 & + \beta_{6j}RaceContrastCode1_{ij} + \beta_{7j}RaceContrastCode2_{ij} \\
 & + \beta_{8j}RaceContrastCode3_{ij} + \beta_{9j}Income_{ij} + \beta_{10j}Education_{ij} \\
 & + \beta_{11j}Age_{ij} + \beta_{12j}Male_{ij} + \beta_{13j}Year_{ij} + \varepsilon_{ij}
 \end{aligned} \tag{4}$$

**Level 2 (Between State)**

$$\begin{aligned}
 \beta_{0j} = & \gamma_{00} + \gamma_{01}CrimeRate_j + \gamma_{02}UnemploymentRate_j + \gamma_{03}PropNonWhite_j \\
 & + u_{0j} \\
 \beta_{1j} = & \gamma_{10} + \gamma_{01}CrimeRate_j + \gamma_{02}UnemploymentRate_j + \gamma_{03}PropNonWhite_j \\
 \beta_{5j} = & \gamma_{10} + \gamma_{01}CrimeRate_j + \gamma_{02}UnemploymentRate_j + \gamma_{03}PropNonWhite_j
 \end{aligned}$$

More information on these models, and the patterns of results suggested by different frameworks is presented in Table 4. We again conduct multiverse analyses to probe the extent to which results are robust to the inclusion and exclusion of demographic covariates, when personality variables are included and excluded from main effects models, and when threat variables are considered in isolation and tandem. The general conclusions based on the models presented in text are also consistent with the results of the multiverse analysis (see supplemental materials).<sup>4</sup>

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<sup>4</sup> Because the threat constraint model predicts variation in the relationship between ideology and openness based on state level threat, we tried to fit models including a random slope of openness by state. However, these models did not converge due to lack of variation in the effect of openness by state.

**Table 4***Summary of frameworks, models, and supportive results ANES analysis*

Research Question/ Framework	Model	Terms of Interest	Supportive Results
Are people more conservative in states with more threatening conditions? (i.e., conservative shift hypothesis)	Multilevel model with individuals nested within states  Threat condition and personality predictors, demographic controls, dummy indicator for year	IVs: violent crime rate, unemployment rate, proportion non-white, big five  DVs: symbolic ideology, social ideology, economic ideology	Positive and significant threat terms, people in more threatening environments are more conservative
Are people who are <i>high</i> in openness more likely to shift to the right in the face of threat? (threat constraint)	Multilevel model with individuals nested within states  Threat condition and personality predictors, demographic controls, dummy indicator for year  Relevant personality by threat interactions	IVs: violent crime rate, unemployment rate, proportion non-white, big five, relevant personality by threat interaction terms  DVs: symbolic ideology, social ideology, economic ideology	Positive and significant openness by threat terms
Are people who are <i>low</i> in openness and <i>high</i> in conscientiousness more likely to shift to the right in the face of threat? (negativity bias)	Multilevel model with individuals nested within states  Threat condition and personality predictors, demographic controls, dummy indicator for year	IVs: violent crime rate, unemployment rate, proportion non-white, big five, relevant personality by threat interaction terms  DVs: symbolic ideology, social ideology, economic ideology	Negative and significant openness by threat interaction terms  Positive and significant conscientiousness by threat interaction terms



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Relevant personality by  
threat interactions

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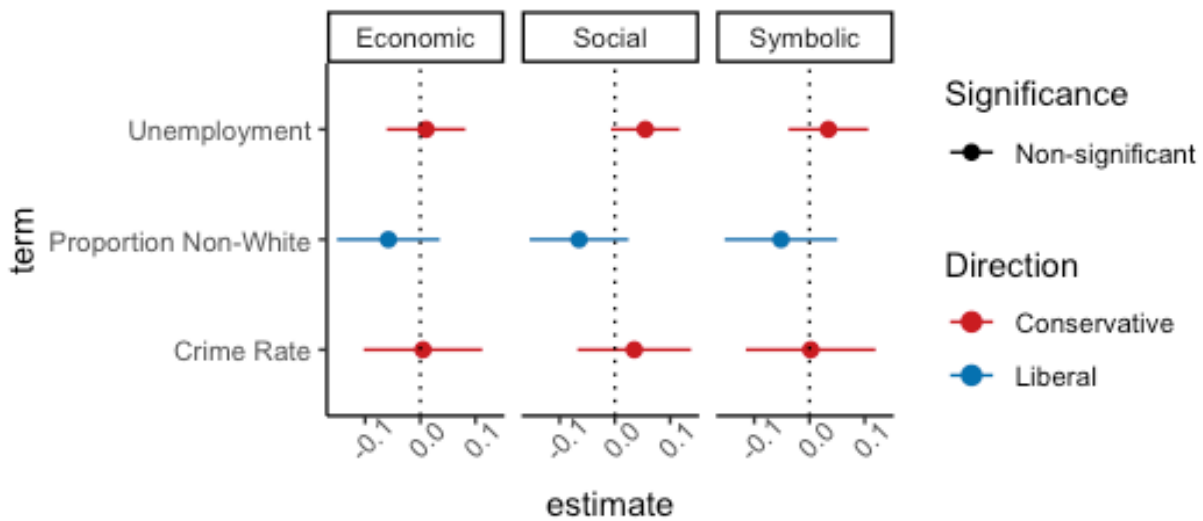
## Results: Study 2

### Threat (conservative?) shifts

State-level ecological threats do not predict conservatism (Figure 3). In one model, the unemployment rate emerges as a marginally significant predictor of social conservatism. However, the relationship between these variables is small ( $b = .06$ ,  $SE = .031$ ,  $p = .08$ ).

### Figure 3

*Fixed effects of state-level threat on ideology*



*Note:* This figure displays the effects of state-level ecological threats on political ideology.

Models control for race, gender, education, age, income, and big five personality traits.

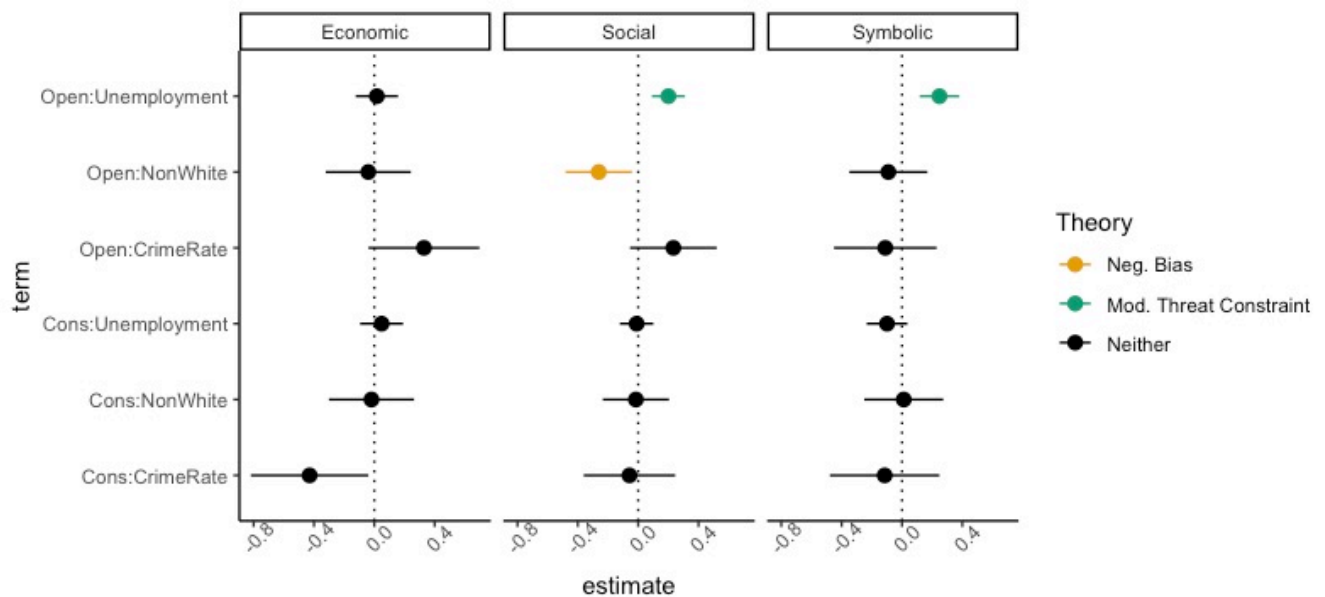
### Personality based individual differences in shifts

Of the 18 relevant personality by threat interaction terms, only 4 emerge as statistically significant. In line with the expectations of our modified threat constraint model, where unemployment is high, individuals high in openness are more likely to identify as conservative and express socially conservative attitudes (symbolic ideology:  $open*unemployment$   $b = .25$ ,  $SE = .07$ ,  $p < .001$ ; social conservatism:  $open*unemployment$   $b = .20$ ,  $SE = .06$ ,  $p < .001$ ). In line

with the negativity bias perspective, a negative and significant openness by proportion non-white interaction term emerges ( $b = -.26$ ,  $SE = .11$ ,  $p = .02$ ), indicating that more (less) open individuals are less (more) likely to endorse socially conservative attitudes where the proportion of non-white individuals in a state is high. The fourth significant interaction term we observe is not consistent with any of individual difference theories we test. We find that conscientious people are *less* likely to adopt economically conservative attitudes where the crime rate is high ( $b = -.44$ ,  $SE = .2$ ,  $p = .03$ ).

**Figure 4**

*Fixed effects of threat by personality interaction terms*



*Note:* This figure displays the relevant threat by personality interaction terms from the second set of multilevel models fitted to test theories of personality based individual differences in ideological response to threat. Model controls for race, gender, education, age, and income as well as big five personality traits. Significant coefficients in line with threat constraint are color coded green. Significant coefficients in line with negativity bias are coded orange.

## Discussion: Study 2

Using a different study design in a different country, we largely replicate Study 1. Our analyses do not find evidence for a consistent conservative shift. Results are also unsupportive of frameworks predicting that personality moderates the effects of threat on ideology, with most coefficients being non-significant. Of course, the cross-sectional design of Study 2 does give rise to several serious limitations, we expand upon these limitations in the General Discussion and urge readers to bear them in mind.

### **General Discussion**

Across two socio-political contexts, we find little evidence supporting a consistent conservative shift or political personality theories of individual differences in conservative shifts. In Study 1, slightly less than half of coefficients supported the conservative shift hypothesis, with liberal shifts occurring in about a quarter of cases. Both liberal and conservative shifts were small, suggesting that their substantive implications are likely marginal. Study 2 showed no support for the hypothesis. Few coefficients across both studies emerged as consistent with the negativity bias perspective or our modified threat constraint model. Overall, the results suggest that ecological threats do not consistently push people towards conservatism, nor is their influence consistently moderated by openness or conscientiousness.

This lack of consistent ideological response to a range of ecological threats in a naturalistic setting challenges influential theoretical accounts (e.g., Jost et al., 2003; Hibbing et al., 2014). Political psychologists have long viewed a wide range of ecological threats as core predictors of conservatism (Adorno, 1950; Fromm, 1941; Sales, 1972). Instead, we find that threats are, at best, small and inconsistent predictors across type of threat and political outcome. This inconsistency suggests that these frameworks often make incorrect predictions about ideological responses to ecological threat and individual differences in response.

An interesting pattern in Study 1 was that the largest effects occurred in response to immigration, and for threat-ideology pairs where the ideological response could be seen as addressing the threat. For example, the largest liberal shift was related to women working outside of the home, and the largest conservative shift was related to labor unions. Women working outside the home, and less political power afforded to unions, could be viewed by some as protecting the economic interests of the native-born. This phenomenon aligns with Eadeh and Chang (2020), who suggest that political attitudes can shift towards conservatism *or* liberalism in response to threat, depending on whether a liberal or conservative policy is perceived as providing the best solution.

Our work has several advantages: large, nationally representative samples from two countries; a panel study allowing within-person ideological analysis; and multiple naturalistically experienced ecological threats. We also investigated theoretically derived personality moderators, that previous ecologically valid tests of the conservative shift hypothesis have not considered (e.g., Brandt et al., in press).

Despite these strengths, there are limitations. Study 1 assesses within-person changes in ideology and their association with changes in ecological threat, but Study 2 uses cross-sectional data. Unmeasured confounders or suppressors at the individual or state level might obscure a relationship between threat and conservatism. In our Supplemental Materials, additional models including potential confounders and suppressors show consistent results. However, unaccounted variables may still exert influence. Additionally, state-level threats may be too broad to reflect individual-level threat experiences. More detailed threat data at the county or municipality level may better capture individuals' experiences, and future research should explore this possibility. That said, state-level data have been used as support for threat-politics perspectives (e.g., Jost et

al., 2017), indicating that proponents of these theories do not limit threats to smaller levels of analysis.

Despite these limitations, the study provides valuable insights, especially when combined with our longitudinal Study 1. The consistent weak effects of ecological threat on political attitudes and the lack of evidence for personality-based individual differences in ideological responses to threat are robust across both studies. Both studies were appropriately powered and used nationally representative samples, in contrast to many studies *supporting* the theories we test. This replication across different methodologies and contexts enhances the robustness of the findings, suggesting null results are likely not artifacts of the study design, though we of course cannot definitively prove this.

We also lack measures of subjective perceptions of threat. It's possible that subjective threat perceptions could lead to conservative shifts, but at least some scholars suggest that subjectively perceiving threat is not necessary for threats to lead to conservatism (Jost et al., 2003). We also did not examine all possible threats, focusing instead on those that previous research has linked to conservative shifts, and that showed variation in the contexts we study. It is possible that threat(s) we did not study do consistently lead to meaningful shifts towards conservatism. It will be incumbent on theories in this area to specify exactly what those are. Finally, we use data from only two countries; threat dynamics may vary across countries (Brandt et al., 2021). Future research should address these limitations by experimentally manipulating multiple threats, measuring subjective threat perceptions, and examining a wider range of threats across more national and cultural contexts.

We find limited support for the conservative shift hypothesis and little evidence for political personality theories predicting systematic individual differences in ideological responses

to threats. This suggests that ecological threats might not be key drivers of conservatism. Writ large, our results signal the need for alternative theory regarding the etiology of political ideology.

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