ETHNIC CHANGE, PERSONALITY, AND POLARIZATION OVER IMMIGRATION IN THE AMERICAN PUBLIC

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Abstract This article explores the interplay between ethnic change and individual psychology in shaping mass opinion on immigration. Recent research suggests that personality traits related to uncertainty aversion structure left-right orientation in American politics, and we argue that this personality cleavage should shape citizens’ reactions to ethnic change. Using national survey data and a survey experiment, our analysis reveals that ethnic change polarizes citizens by personality, as those averse to uncertainty feel heightened cultural threat from ethnic change, while those open to uncertainty feel less threatened. The association of traits related to uncertainty aversion with left-right orientation suggests that polarization over immigration is exacerbated by the interaction of citizen personality and ethnic context. While the opinion literature on immigration is replete with studies analyzing the separate effects of ethnic context and individual differences, this article contributes to the literature by analyzing the two in conjunction.

Ethnic diversity in the United States is increasing and altering the cultural landscape surrounding many American citizens. What are the consequences of ethnic change for the politics of immigration? The opinion literature on immigration comes up short in providing a satisfactory answer to this question. The lion’s share of studies in research analyzing immigration policy preferences focus on the effects of the size of, rather than the change in, the immigrant

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populations surrounding citizens. Further, the results from these studies are mixed. While it is intuitive to think that immigration-driven ethnic change across the nation explains observable patterns of anti-immigrant sentiment, empirical research has yet to establish a strong connection between growing immigrant populations and opposition to immigration.

In this article, we suggest that the mixed results of previous research are, at least partly, the result of a failure to consider heterogeneity in how citizens interpret and respond to a changing ethnic context. First, in line with recent research (Hopkins 2010; Newman 2013), we explore over-time growth in, rather than the size of, immigrant populations as the key feature of these populations responsible for driving public opinion. Second, we argue that differences in personality moderate the extent to which citizens see ethnic change as a threat to their desired cultural milieu. Recent research demonstrates that a significant portion of the variance in left-right political orientation in the American public can be accounted for by differences in personality traits related to uncertainty aversion (e.g., Jost et al. 2003; Hetherington and Weiler 2009; Mondak 2010). Extending this perspective to public opinion on immigration, we argue that this “personality cleavage” is influential in shaping how citizens respond to change within their local ethnic context. These considerations suggest that citizen personality interacts with context to deepen polarization over immigration as communities undergo ethnic diversification.

We propose a differential-adaptation hypothesis, which argues that immigration-driven ethnic change should serve as an environmental determinant of opinion on immigration, but that citizens should react differently to ethnic change conditional on their relative aversion to or acceptance of uncertainty. The rapid influx of members of ethnic outgroups can be viewed as threatening to existing cultural institutions, and implies uncertainty in one’s environment. Such change could, however, also be viewed positively as opportunity enhancing. According to the differential-adaptation hypothesis, citizens should interpret rapid ethnic change differently across personality types, such that the uncertainty averse should see ethnic change as threatening, while those comfortable with uncertainty and attracted to novelty should find such changes less threatening, and perhaps even desirable (see also Hibbing, Smith, and Alford 2013).

We test this hypothesis in two steps. In Study 1, using the 2005 Citizenship, Involvement, Democracy Survey combined with Census data, we demonstrate that traits related to uncertainty aversion moderate the effect of objective local ethnic change on the perception that immigrants pose a cultural threat. In Study 2, we report the results of an Internet-based survey experiment that manipulated perceptions of ethnic change. The data from this study reinforce the observational findings from Study 1. In addition, we demonstrate the political relevance of the interplay of personality with ethnic change by linking perceptions of cultural threat to support for restrictive immigration policies.
Immigration, Ethnic Context, and Public Opinion

The ethnic composition of citizens’ residential environment is a primary factor hypothesized to account for public opinion on immigration. A substantial body of research explores the effect of the size of the immigrant population surrounding citizens on their immigration-policy preferences. The racial or power-threat hypothesis (Key 1949; Blalock 1967), when translated from white-black relations to the case of immigration, argues that anti-immigrant sentiment will be greater among citizens residing in immigrant-heavy areas (Hopkins 2010). This line of research, however, has generated mixed results, with some studies finding limited evidence in support of the power-threat hypothesis (Tolbert and Grummel 2003; Campbell, Wong, and Citrin 2006), other studies finding that residing near large immigrant populations reduces anti-immigrant sentiment (Hood and Morris 1997; Fetzer 2000), and the bulk of research finding that the size of local immigrant populations exerts no significant effect on citizens’ attitudes (Citrin et al. 1990; Taylor 1998; Cain, Citrin, and Wong 2000; Dixon and Rosenbaum 2004).

While several factors have been proposed to explain the inconsistency of support for the power-threat hypothesis (e.g., degree of contact, Hood and Morris [2000]; residential segregation, Rocha and Espino [2009]), they ignore its most defining aspect, which is a focus on the size, rather than the growth, of immigrant populations. Hopkins (2010) argues that American citizens are surprisingly unaware of their demographic surroundings, and that occupational and residential segregation limit the visibility of immigrants to American citizens. Citing a principal axiom of prospect theory (Kahneman and Tversky 1979), Hopkins reasons that while contemporary levels of ethnic diversity may elude citizens’ attention, significant changes in the level of ethnic diversity are less likely to evade notice. Hopkins’s (2010) argument is strongly supported by his analysis, as well as by other recent research on immigration policy and opinion (Citrin et al. 1990; Alexseev 2006; Newman et al. 2012; Newman 2013).

Personality and Differential Adaptation

Extant research also implicitly assumes that context exerts a uniform effect across citizens. While there is an emerging literature on the conditional effects of ethnic context (e.g., Oliver and Mendelberg 2000; Branton and Jones 2005; Hopkins 2010), this work restricts its focus to the moderating role of other contextual factors. What is missing from immigration opinion research is an examination of how important differences across citizens shape their reactions to factors operative across distinct contexts.

The extent to which individual personality differences matter for policy outcomes is conditional on the degree to which they align with the political
divisions that organize policymaking at the elite level. Personality should matter most, politically speaking, when traits align with the left-right dimension of political conflict, and thus structure citizens’ attachment to political parties and ideological groups. In other words, personality will have its largest political influence when it structures demand for policies within existing political cleavages. We thus begin by considering how citizens who identify with the left and right in American politics differ with respect to personality, and how these personality differences shape interpretation and responses to ethnic change.

PERSONALITY DIFFERENCES IN AMERICAN POLITICS

Recent research converges on the empirical finding that citizens identifying with the political left and right differ with respect to their relative aversion or attraction to uncertainty and novelty. The core claim is that conservatism is palliative for individuals who find uncertainty aversive, as it promotes social stability and predictability. In contrast, liberalism’s emphasis on social change and diversity is appealing to citizens who seek out novelty and new experiences (Jost et al. 2003; Jost, Federico, and Napier 2009). Supportive evidence comes from studies of the “Big Five” personality traits (Mondak and Halperin 2008; Gerber et al. 2010; Mondak 2010), which suggest that “openness to experience” and “conscientiousness” most reliably distinguish the right from the left. As Mondak (2010, 127) explains, “the openness and conscientiousness hypotheses are best understood in terms of traditional views in which liberalism corresponds with a willingness to see government tackle new and varied problems, while conservatism implies a more cautious approach in which presumption favors the status quo.” In a meta-analysis of studies on personality and ideology, Jost et al. (2003) find that conservative political orientations are strongly associated with several indicators of uncertainty aversion (e.g., the need for closure). Hetherington and Weiler (2009) find that epistemic needs—in the form of “authoritarianism”—constitute an influential basis for party identification. Overall, a substantial body of work suggests that ideological orientation in contemporary American politics is substantially rooted in uncertainty aversion.

IMPLICATIONS FOR RESPONSES TO ETHNIC CHANGE

This psychological divide between the left and right implies differential responses to immigration-driven ethnic change. At its most basic level, immigration engenders intercultural contact. Such contact can lead to a process of large-scale cultural change, labeled acculturation (Redfield, Linton, and Herskovitz 1936; Castro 2003), where the original pattern of
interacting groups is altered by the transmission and fusion of culture. When triggered by immigration, the process of acculturation can be characterized by the displacement of the ethno-cultural status quo of the host community and the emergence of a more ethnically and culturally diverse landscape. Psychological research on acculturation focuses on how individuals residing within changing environments adapt to the dislocation and replacement of their habituated ethnic context. Adaptation to one’s environment involves both psychological and cultural components, with the former pertaining to feelings of belonging to one’s community, social trust, and satisfaction with life (LaFromboise, Coleman, and Gerton 1993; Berry and Sam 1997), and the latter pertaining to the ability to effectively interact and communicate with cultural outgroups (i.e., cultural competence) (LaFromboise, Coleman, and Gerton 1993; Ward and Rana-Deuba 1999; Castro 2003). The acculturation literature contends that individuals are susceptible to “culture shock” (Oberg 1960; Furnham and Bochner 1986) or “acculturative stress” (Berry 1997) as their habituated environment changes and they (potentially) fail to adapt to heightened levels of ethnic and cultural diversity.

When combined, the research on personality and that on acculturation hold an important implication for the politics of immigration. Namely, they suggest that politically relevant personality traits will shape how individuals adapt to environments undergoing immigration-driven acculturation. Of primary theoretical concern are feelings and perceptions of cultural threat in response to immigration, which should be politically consequential because cultural threat is a potent source of citizens’ immigration-policy preferences (Citrin et al. 1997; Hood and Morris 1997; Sniderman, Hagendoorn, and Prior 2004; Sides and Citrin 2007; Ha 2010). The personality and acculturation frameworks suggest that openness to novelty and uncertainty should lead citizens to find immigration-driven cultural changes less culturally threatening, and should thus engender positive adaptation to heightened diversity. In contrast, traits associated with aversion to uncertainty, and a corresponding desire for stability and predictability in one’s social environment, should promote negative adaptation to ethnic change. In sum, we offer the differential-adaptation hypothesis:

Ethnic change and citizen personality will interact to predict cultural threat from immigration; citizens high in uncertainty aversion will become more culturally threatened in response to ethnic change, while citizens low in uncertainty aversion will not.

This hypothesis has both a “strong” and a “weak” form. In the strong form, citizens low in uncertainty aversion will respond to rapid ethnic change with decreased perceptions of cultural threat. Positive adaptation in this form of the hypothesis entails a more positive attitude than would be the case in more ethnically homogeneous environments. The strong form might be expected on the basis of the association of these personality traits with novelty-seeking, and the
fact that ethnic change entails expanded cultural opportunities. In the weak form, citizens low in uncertainty aversion are simply unthreatened by ethnic change, and thus show no changes in perceived cultural threat as a function of change. In both the weak and strong forms, however, we expect ethnic change to polarize citizens by uncertainty aversion; that is, to increase the gap in perceived cultural threat between the uncertainty averse and the uncertainty tolerant.

We conclude by addressing a broad implication of these dynamics for the politics of immigration in the United States. As the perception of cultural threat over immigration is an established source of public support for restrictive immigration policy, factors hypothesized to influence threat perceptions—such as ethnic change—should indirectly influence policy preferences. This logic suggests that one political consequence of our differential-adaptation hypothesis is polarization of immigration policy opinion by personality. We label this the *polarization hypothesis*. We represent our differential-adaptation and polarization hypotheses in one comprehensive, moderated-mediated effects model presented in figure 1.

**Study 1: 2005 CID Survey**

Our first study relies upon the 2005 United States Citizenship, Involvement, Democracy Survey (Howard, Gibson, and Stolle 2005).¹ This survey consists of 1,001 in-person interviews and provides county-level FIPS codes for all respondents, allowing us to match respondents with contextual data from the Census Bureau. In keeping with prior opinion research on immigration (e.g., Citrin, Reingold, and Green 1990; Campbell, Wong, and Citrin 2006; Brader, Valentino, and Suhay 2008), where the focus is on testing theories primarily concerned with understanding the dynamics of opinion among non-immigrant group members toward immigrant minorities, the present analysis restricts its focus to $N = 905$ non-Hispanic respondents in the survey.

![Figure 1. Proposed Model Linking Ethnic Change to Cultural Threat and Immigration Policy Preferences.](http://poq.oxfordjournals.org/)

1. The CID was conducted for the Center for Democracy and Civil Society at Georgetown University by International Communications Research using a cluster sample design with a target population of adult Americans residing in occupied residential housing units in the continental United States. The survey was conducted between May 16 and July 19, 2005. The response rate was 40 percent (AAPOR RR3).
MEASURES

To measure perceptions of cultural threat, we used an item asking whether respondents believe that “America’s cultural life is undermined or enriched by people coming to live here from other countries.” This item is comparable to measures of cultural threat in leading opinion research (e.g., Citrin et al. 1997; Sniderman, Hagendoorn, and Prior 2004), and has 11 response options, ranging from 0 (“cultural life undermined”) to 10 (“cultural life enriched”). We reverse-code this item and label the variable Cultural Threat. To measure preferences over immigration policy, we used a standard item in the literature: “Should the number of immigrants from foreign countries permitted to come to the United States to live be increased a lot, increased a little, left the same as it is now, decreased a little, or decreased a lot?” Amount immigration has five ordered response options, ranging from 1 (“increased a lot”) to 5 (“decreased a lot”).

To measure immigration-driven local ethnic change, we used two variables measured at the county level. First, we measured change in the foreign-born population in respondents’ county of residence (∆Foreign born). While serving as a general measure by not singling out any particular immigrant subgroup, extant research provides reason to expect that this measure will perform poorly relative to one that focuses on the local growth of politically salient immigrant subgroups, Hispanics in particular. Opinion research on immigration finds that citizens’ reactions to immigrants vary depending upon the specific group in question, with several studies converging upon the finding that citizens are most threatened by Hispanic immigrants (Citrin et al. 1990; Hood and Morris 1997; Brader, Valentino, and Suhay 2008; Ha 2010; Hartman et al. 2014). With this research in mind, we measured change in the Hispanic population (∆Hispanic) in respondents’ county of residence as a more specific, and arguably more relevant, second measure of local ethnic change. Drawing upon data from the US Census Bureau, we subtracted the percentage of the county population that was foreign born/Hispanic in 1990 from the percentage in 2000.

To measure personality differences in uncertainty aversion, we used two items measuring respondents’ Authoritarianism (r = .48). Both items asked respondents how much they agree or disagree with a specific statement (five-point scale, from “strongly agree” to “strongly disagree”). The first statement read “What young people need most of all is strict discipline by

2. One limitation of this measure is that the time period under which change is being observed goes from 1990 to 2000 rather than to 2005, which is the year in which our survey data were collected. This operationalization of county-level change is due to limitations in data availability, as the annual American Community Surveys (ACS) taken between the Decennial Censuses, such as the 2005 ACS, do not have foreign-born data available for many counties across the nation with smaller population sizes. In order to obtain data for each county in our data, we utilized the 1990 and 2000 Decennial Censuses. The usage of a 10-year time frame is consistent with recent research concerned with the effects of ethnic change on opinion and behavior (Green, Strolovitch, and Wong 1998; Alexseev 2006; Hopkins 2010; Newman 2013).
their parents.” The second statement read “In preparing children for life, it is extremely important that they learn to be obedient.” In recent work, scholars theorize that authoritarian attitudes and behaviors are derivative of a need for a well-ordered environment, and thus uncertainty aversion (e.g., Feldman 2003; Stenner 2005). In a meta-analysis of over 80 studies, Jost et al. (2003) find strong associations between uncertainty aversion and authoritarianism (see also Hetherington and Weiler [2009]). These items also have face validity. Each item considers potential solutions to dealing with an uncertain world, more specifically, by adhering to established norms, rules, and institutions, and respecting legitimate authorities. As Duckitt (2001, 50) argues, “A view of the world as dangerous, unpredictable, and threatening…would activate the motivational goal of social control and security. This motivational goal would be expressed in the collectivist sociocultural values of conformity and traditionalism and in…authoritarian social attitudes.”

Our analysis included a series of contextual and individual controls. To account for the predictions of power- and economic-threat hypotheses, we controlled for levels of immigrants as the percent foreign born/Hispanic of the county population in 2000 and the unemployment rate within each county in 2005. Additionally, as local political culture is an established predictor of opinion on policies concerning ethnic minorities (Campbell, Wong, and Citrin 2006), we controlled for political culture as the proportion of the vote won by George W. Bush in each county in the 2004 presidential election. At the individual level, we controlled for age, gender, race, educational attainment, income, national pride, personal economic retrospections, friendship with immigrants, citizenship status, employment status, partisanship, and ideology. Our ethnic-change variables were recoded to have a mean of 0 and a standard deviation of 1 prior to analysis. All other predictors were recoded to range from 0 to 1.

ANALYSIS

We estimated two models. We begin our discussion with a core model that tests our primary hypothesis. Specifically, we estimated the following regression for perceived cultural threat (Y) via maximum likelihood:

\[ y_{ij} = \beta_0 + \beta_1 \text{AUTH}_j + \sum_{k=2}^{13} \beta_k \text{CONTROL}_{kj} + \epsilon_{ij}; \epsilon_{ij} \sim N(0, \sigma^2) \] (1)

3. We provide two additional sets of original analyses in the supplementary data online that demonstrate strong support for a conceptualization of authoritarianism as rooted in uncertainty aversion.

4. One might be concerned about acquiescence bias in our two items measuring authoritarianism and the relationship of this bias to immigration attitudes. We do not believe this is a concern. If acquiescence is a form of “yea-saying,” we would expect only a main effect of our measure, not an interaction.
In this model, both the intercept of the individual-level equation and the coefficient for authoritarianism are modeled as a function of county-level predictors and normally distributed, random disturbances. A small or negative value for the $\gamma_{01}$ coefficient indicates that, at low levels of authoritarianism, $\Delta$ Hispanic has no effect or decreases perceptions of cultural threat. Conversely, a large and positive interaction term between change and authoritarianism ($\gamma_{11}$) such that $|\gamma_{11}| > |\gamma_{01}|$ indicates that at high levels of authoritarianism, ethnic change entails an increase in perceptions of cultural threat. To check the robustness of the results from the above model, we estimated a second model including additional interactions of authoritarianism with all other county-level predictors: Hispanic levels, political culture, and unemployment.

RESULTS

The estimates for the core model are shown in the first three columns of table 1. They show strong support for theoretical expectations. First, the coefficient for $\Delta$ Hispanic is in the expected negative direction, and is statistically significant ($\hat{\gamma}_{01} = -0.084$, $p < .05$). In addition, as expected, the coefficient for the interaction of change with authoritarianism is positive, larger in absolute value than the coefficient for change, and statistically significant ($\hat{\gamma}_{11} = 0.146$, $p < .01$), indicating a reversal in direction of the effect of Hispanic change on cultural threat from negative to positive as authoritarianism increases from low to high.

To better interpret the substance of these results, we generated predicted values of perceived cultural threat as a function of Hispanic change and authoritarianism, which are displayed in figure 2. Each line represents the predicted values of threat, moving from the 5th to the 95th percentile of Hispanic change, for citizens at low (5th percentile), moderate (50th percentile), and high (95th percentile) levels of authoritarianism. The plot illustrates nicely the theorized conditional relationship between ethnic change and perceived threat. For citizens low in authoritarianism—and thus uncertainty acceptant—changes in the ethnic

5. We include regression estimates for the $\Delta$ Foreign born model in the supplementary data online. As would be expected given our theoretical discussion above, the pattern is identical, but the effects are weaker relative to the models in table 1. This again suggests that Hispanic immigration is a more potent force influencing mass preferences in American politics. We focus our discussion on the latter.
composition of one’s county entail a statistically significant decrease in the perception that immigrants pose a cultural threat to the United States. Specifically, moving from the 5th to the 95th percentile of change entails a decrease in perceived threat of about 15 percentage points. Conversely, at moderate levels of

Table 1. Ethnic Change, Personality, and Cultural Threat Perceptions—2005 CID Survey

<table>
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<tr>
<th></th>
<th>Baseline model</th>
<th>+ Interactions</th>
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<tr>
<td></td>
<td>B</td>
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<tr>
<td>Δ Hispanic</td>
<td>-.084</td>
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<tr>
<td>Authoritarianism</td>
<td>.160</td>
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<td>Δ Hispanic × Authoritarianism</td>
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<td>(.042)</td>
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<td>Contextual controls</td>
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<tr>
<td>% Hispanic 2000</td>
<td>-.094</td>
<td>(.065)</td>
</tr>
<tr>
<td>Bush vote 2004</td>
<td>.079</td>
<td>(.050)</td>
</tr>
<tr>
<td>% Unemployed</td>
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<td>(.086)</td>
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<tr>
<td>Individual controls</td>
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<tr>
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<td>Pocketbook evaluations</td>
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<tr>
<td>Party ID</td>
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<td>Ideology</td>
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<td>Δ Hispanic × Party ID</td>
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<td>% Unemp. × Authoritarianism</td>
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Note.—Entries are maximum likelihood estimates, standard errors, and p-values. Δ Hispanic is coded to have a mean of 0 and a standard deviation of 1. All variables are coded to range from 0 to 1.
authoritarianism, a change from low ethnic change to high ethnic change is associated with an increase in perceived cultural threat of about eight percentage points, though this effect falls short of significance ($p < .06$). At high levels of authoritarianism, and thus for citizens very averse to uncertainty, large changes in county-level ethnic composition entail a nearly 20-percentage-point increase in the perception that immigrants pose a cultural threat ($p < .01$). We thus find support for the strong form of our differential-adaptation hypothesis.

It is also useful to think about the interaction in terms of the extent to which change in the ethnic composition of one’s environment increases the gap in cultural threat between citizens low and high in authoritarianism. Figure 2 indicates increased personality-based polarization as change increases. At low levels of ethnic change (5th percentile), there is no significant difference between low, moderate, and high authoritarians with respect to their levels of perceived cultural threat. At one standard deviation above the mean of ethnic change, there is a 15-percentage-point gap between low and high
authoritarians. Finally, at very high levels of ethnic change, the gap in perceived threat between low and high authoritarians is about 35 percentage points. It is notable that this pattern maps clearly onto recent research on authoritarianism that suggests the influence of authoritarianism emerges in contexts of normative threats, but may not be observed in low-threat environments (e.g., Feldman 2003; Stenner 2005).

**ROBUSTNESS CHECKS**

We turn now to the results from a model that controls for a series of additional interactions, the estimates for which are shown in the second set of columns of table 1. The inclusion of the additional interactions of authoritarianism with Hispanic levels, political culture, and county-level unemployment—three alternative hypotheses—have little influence on the estimates of the relationship between ethnic change and cultural threat, which are very close to their values in the first three columns of table 1. None of these additional interactions approach statistical significance. This is of particular importance when considering the level of Hispanic immigrants in comparison to changes in this population. That is, changes in, not levels of, ethnic composition are what polarize citizens along this personality dimension. Additionally, the null results for the interaction of $\Delta$ Hispanic with partisanship indicate that authoritarianism is serving as the true moderator and not simply capturing unobserved heterogeneity in the effect of Hispanic change across partisan identities.6

**Study 2: Survey Experiment**

In Study 2, we complemented our findings from Study 1 with a survey experiment that manipulated perceptions of ethnic change, and thus ruled out the possibility of selection bias via random assignment. In addition, we utilized

6. An additional issue meriting discussion is the well-known problem of selection bias—the possibility that respondents select into geographical areas on the basis of the presumed causal variable as a function of their attitudes or dispositions. While citizens may select into environments on the basis of attitudes and traits relevant to the immigration attitudes examined herein, our hypothesized dynamic of interest should be less subject to claims of selection-induced spuriousness. This argument would claim that citizens select into geographic regions as an interactive function of both the region’s level of expected and/or ongoing ethnic change and the citizen’s own traits and attitudes. Thus, citizens who are most negative toward immigrants would select into relatively homogeneous regions, and those most positive would select into regions with greater extant or expected diversity. However, our hypothesis is not a simple direct effect of change on attitudes, but a conditional one. Specifically, we expect the impact of ethnic change to be exactly opposite across personality orientations, with those high in needs for epistemic certainty becoming more threatened, and vice versa. While the selection-bias argument is potentially plausible for the latter hypothesis, it simply fails for the former. Specifically, for the selection argument to work, one would have to posit that those with personality traits and attitudes most averse to cultural uncertainty seek residence in regions undergoing substantial change. We find this position implausible.
Study 2 as an opportunity to include a more direct measure of uncertainty aversion. The data consist of an adult sample of \( N = 1,115 \) US adults collected through Amazon.com’s Mechanical Turk interface.\(^7\) The procedure for obtaining these data, and relevant summary statistics, are given in the supplementary data online.\(^8\) As experimental manipulation of actual ethnic change is nearly impossible, we sought to identify a manipulable aspect of ethnic change that can be reasonably instantiated in an experimental treatment. We focused on the salience of diversity as a manipulable component of ethnic change theorized to affect citizens’ political behavior. A core component of theories focusing on ethnic change rather than levels is that citizens are better able to detect changes to a status quo, and thus diversity will be increasingly salient as a function of the degree of ethnic change (Hopkins 2010; Newman 2013). While we cannot manipulate citizens’ ethnic environment, we can manipulate the salience of diversity, and have designed our experimental conditions (control, cues, and change) to vary in terms of priming of ethnic diversity, with the change condition designed to be conceptually closest to the effect of high-ethnic-change environments.

Thus, one distinct use of a survey experiment in the present context is that it enables us to assess the causal effect of a variable (i.e., the salience of diversity) posited by recent research as a primary mechanism linking ethnic change to attitudes. Moreover, as our ultimate theoretical interest lies in assessing how personality moderates the effect of ethnic change, our survey experiment affords the opportunity to observe whether uncertainty aversion moderates the effect of manipulated diversity salience on cultural-threat perceptions.

**EXPERIMENTAL DESIGN**

Respondents were assigned to one of three experimental conditions. In each condition, respondents first completed a survey of their demographic profile, political affiliations, and an instrument measuring uncertainty aversion. In the control condition, respondents then completed a survey of preferences over

\(^7\) We collected data in three rounds, the first occurring on 2/8/2012, the second on 2/24/2014, and the third on 5/28/14. The second round was initiated in response to reviewer concerns with the efficiency of the estimates obtained using only the first sample, and was thus an effort to double the sample size for our study. The third round was done in response to a reviewer suggestion to add an “ethnic cues” condition to what was previously a two-condition (i.e., control and “ethnic change”) experiment. These account for the time gaps in our data.

\(^8\) Recent research suggests that samples obtained through Mechanical Turk are similar in their demographic and political characteristics to those of nationally representative samples (Berinsky, Huber, and Lenz 2012), yet may differ from these samples in unknown ways, particularly those associated with the “professionalization” of these individuals as survey takers. These samples also tend to be younger and more liberal than respondents in a national survey. Given that the influence of personality on information processing and judgment should be a general process, our assumption for this study is that patterns uncovered with this sample will be generalizable to the broader population.
several policy issues, within which were embedded two questions concerning the respondents’ perceptions of the threat to American culture posed by immigrants. In the “ethnic change” condition, before moving on to an identical survey, respondents were asked to read a mock newspaper article concerning recent increases in the Hispanic population in “most parts of the country in recent years.” The article stated that several “typical” American cities had experienced changes in the percent Hispanic from about 5 percent to about 15 percent from 2000 to 2010, and included a graph displaying this change in the Hispanic population from 2000 to 2010. The article also stated that the percentage of restaurants owned by Hispanics had increased from about 4 percent to about 9 percent over this same time period. The article concluded by discussing the implications of this demographic change for local culture, and contained statements at the end from residents of one of the typical cities highlighted. The first resident expressed the opinion that ethnic change has had positive effects on the local culture (e.g., opportunities for new experiences), while the other resident expressed the opinion that change has had negative effects (e.g., threat to status quo). These two statements were intended to represent two potential interpretations of the implications of ethnic change with respect to local culture.

In addition to the control and change conditions, our experiment included an “ethnic cues” condition that exposed respondents to a mock article that made mention of “Hispanic immigrants,” “immigrants speaking Spanish,” and “Mexican restaurants,” but whose explicit title and ostensible focus were not ethnic change. This condition primes ethnic diversity, but does not focus on a changing environment. The difference between the ethnic change and the ethnic cues conditions thus map conceptually onto the difference between population change and population levels, as in Study 1. In this sense, the cues condition is an additional control. Note that in the “true” control, respondents did not read an article, and were not exposed to any information regarding ethnic diversity. The cues condition provides a control for reading an article and for exposure to diversity. As in the ethnic-change condition, the cues condition concluded with two residents expressing contrasting views. The full texts for both articles are in the supplementary data online. Following the article, respondents in the cues and change conditions responded to questions concerning their agreement with the positions of the two speakers, and then continued on to the same survey items as were administered in the control condition.

MEASURES

We measured uncertainty aversion via 10 items from the Need for Nonspecific Cognitive Closure scale (Kruglanski, Webster, and Klem 1993; 9. Respondents in both treatment conditions were told this was a recent article from a major national newspaper, and were debriefed with respect to the true purpose and design of the experiment at the end.
Kruglanski and Webster 1996). In addition to its use as a key indicator of the personality dimension underlying current ideological conflict in the United States (e.g., Jost et al. 2003; Federico and Goren 2009), the need for closure is an obvious choice as a measure of uncertainty aversion. As Jost et al. (2003, 348) explain, “contents that promise or support epistemic stability, clarity, order, and uniformity should be preferred by high-need-for-closure persons over contents that promise their epistemic opposites (i.e., instability, ambiguity, chaos, and diversity).” Need for closure (hereafter NFC) was measured with 10 items that are presented in the supplementary data online (e.g., “I dislike unpredictable situations”), and formed a highly reliable scale (α = .82).

We measured respondents’ perceptions of Cultural threat from immigrants with two items. The first read “Would you say that America’s cultural life is generally undermined or enriched by people coming to live here from other countries?” Responses were recorded on a six-point scale from “undermined a great deal” to “enriched a great deal.” The second item read “To what extent do you agree or disagree with the following statement: ‘These days, I am afraid the American culture is undermined by immigration.’” Responses were again recorded on a six-point scale (“agree strongly” to “disagree strongly”). The two items were highly correlated (r = –.68) and were combined. Additionally, as those in the cues and change conditions were presented with diverging interpretations of the changing context as espoused by two residents in the mock article, respondents were asked which interpretation they preferred if they “had to choose.” We examine responses to this dichotomous item, labeled Threat/Opportunity focus (1 = threatened citizen), after our initial analysis below. Last, we included three items to measure immigration-policy preferences. These items asked about whether the United States should become more or less permissive with respect to the amount of immigration and deportation policy, as well as support for “Official English” language laws (see the supplementary data online for wording). The three formed a relatively reliable scale (α = .68) and were averaged such that higher values indicate greater opposition to immigration (the scale ranges from 0 to 1).

We control for several variables in our analysis, including personal and sociotropic economic retrospections, age, gender, race, educational attainment, income, employment status, partisanship (higher values = more Republican), and ideology (higher values = more conservative). Given a very strong correlation, partisanship and ideology were combined to form a single scale of right-wing orientation. All variables were recoded from 0 to 1 prior to analysis.

10. The first item was adapted from the 2005 CID, and the second was adapted from a similar item used in Sniderman, Hagendoorn, and Prior (2004).
RESULTS

Using OLS, we estimated three models, each regressing perceived cultural threat on NFC, a dummy variable representing a comparison between two experimental conditions, the interaction of the dummy with NFC, and all controls. Each of the three models tests one comparison of treatments: cues versus control, change versus cues, and change versus control.

The estimates for these models are shown in table 2, columns 1 through 3. Additionally, the effect of each possible contrast between experimental groups at low and high values of NFC is graphically illustrated in figure 3. Given the coding of NFC, the constituent terms for the three treatment dummies represent the change in perceived threat caused by each respective contrast in experimental condition for uncertainty-tolerant individuals. The multiplicative term indicates whether and in what direction the slope of the effect of each treatment dummy differs comparing high- to low-uncertainty-averse citizens. The estimates presented in table 2 align with expectations. First, similar to the absence of an interaction of Hispanic levels with authoritarianism in Study 1, there is no interaction between the Hispanic cues versus control contrast and NFC. Significant treatment effects do appear when comparing the ethnic change to the cues condition, and most powerfully when contrasting the change to the control condition. These initial findings provide a conceptual replication of the interactions uncovered in our observational data above. To further explore these effects, we turn to figure 3.

Looking first at those high in NFC, the estimates reveal that receiving ethnic cues in the absence of explicit discussion of ethnic change led to an increase in cultural threat relative to the control. However, this effect fell short of statistical significance. Compared to those receiving ethnic cues only, high-NFC respondents receiving the ethnic change treatment also report higher levels of cultural threat; contrary to expectations, this effect also fails to attain conventional levels of statistical significance, and is of a similar magnitude to the cues/control contrast. Respondents high in NFC who received the change treatment reported significantly higher levels of cultural threat from immigration relative to high-NFC individuals in the control condition, as predicted. We thus find partial support for expectations for high-NFC individuals: The ethnic-change treatment significantly increased threat relative to the control, but not relative to the cues condition. Among respondents low in NFC, there was no difference in perceived threat between the cues and control conditions, as expected. As predicted, however, significant decreases in cultural threat emerged when comparing the cues to the change condition and when comparing the control to the change condition. For low-NFC individuals, then, ethnic change significantly decreased threat relative to a full control and relative to a control for priming ethnic diversity independent of change.

In sum, for those low in NFC, the pattern of contrasts matches the pattern uncovered in our observational data: Ethnic change decreases perceptions of
Table 2. Ethnic Change, Personality, and Cultural Threat Perception—MT Survey Experiment

<table>
<thead>
<tr>
<th></th>
<th>Cultural threat perceptions</th>
<th>Threat/Opportunity focus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contrast I</td>
<td>Contrast II</td>
</tr>
<tr>
<td>Cues (vs. Control)</td>
<td>.009 (.058)</td>
<td></td>
</tr>
<tr>
<td>Change (vs. Cues)</td>
<td></td>
<td>-.164 (.059)**</td>
</tr>
<tr>
<td>Change (vs. Control)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need for closure (NFC)</td>
<td>.017 (.068)</td>
<td>.065 (.075)</td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment × NFC</td>
<td>.065 (.099)</td>
<td>.220 (.100)*</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>-.112 (.036)**</td>
<td>-.119 (.037)**</td>
</tr>
<tr>
<td>Income</td>
<td>.013 (.047)</td>
<td>.032 (.047)</td>
</tr>
<tr>
<td>Age</td>
<td>.110 (.045)*</td>
<td>.080 (.045)</td>
</tr>
<tr>
<td>Male</td>
<td>-.006 (.018)</td>
<td>.008 (.019)</td>
</tr>
<tr>
<td>Black</td>
<td>.045 (.028)</td>
<td>.008 (.032)</td>
</tr>
<tr>
<td>Born in US</td>
<td>-.001 (.034)</td>
<td>-.053 (.039)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>.051 (.024)*</td>
<td>.063 (.024)**</td>
</tr>
<tr>
<td>Pocketbook retrospection</td>
<td>.019 (.040)</td>
<td>.012 (.041)</td>
</tr>
<tr>
<td>Sociotropic retrospection</td>
<td>-.006 (.041)</td>
<td>-.023 (.043)</td>
</tr>
<tr>
<td>Political orientation</td>
<td>.365 (.033)**</td>
<td>.369 (.034)**</td>
</tr>
<tr>
<td>Constant</td>
<td>.186 (.062)</td>
<td>.264 (.070)</td>
</tr>
</tbody>
</table>

R²      | .20 | .24 | .24 |                |                |
N       | 689 | 646 | 765 | 285            | 362            |

Note.—Entries are unstandardized regression coefficients and standard errors (in parentheses) from OLS (Cultural threat) and logistic (Threat/Opportunity focus) regression models. All variables are coded from 0 to 1.

*p < .05; **p < .01; ***p < .001 (two-tailed tests)
cultural threat, but primed levels of ethnic diversity have no effect on perceptions. For those high in NFC, the comparison of the ethnic change to the control condition also matches the observational data, with change inducing greater perceptions of cultural threat relative to the control. However, in contrast to the results for low-NFC individuals, the comparison of the ethnic change to the ethnic-cues condition was in the expected positive direction, but statistically insignificant. The reason is that we observe a positive (though insignificant) difference in perceived threat among high-NFC respondents when comparing the cues to the control condition. This suggests that simple priming of ethnic diversity, even absent explicit discussion of change, is sufficient to induce some increase in perceived threat among the uncertainty averse. Nonetheless, we observe a pattern of mounting treatment effects on cultural threat for high-NFC individuals. When moving from a survey context where immigration and diversity are lowest in salience (i.e., control condition) to a context where ethnic concepts and diversity are incidentally activated, we see some increase in cultural threat. When moving from incidental priming to explicit discussion of ethnic change, we see an additional increase in cultural threat. Last, when moving from a survey context where immigration and change are not salient (control) to one with high induced salience, we observe the sum of these
previous changes, and a meaningful and statistically significant increase in perceived cultural threat. We believe these findings are largely, if imperfectly, in accord with a theoretical approach to real-world cultural threat that emphasizes the heightened salience of ethnic diversity as a function of growth in, relative to levels of, diversity. Figure 4 illustrates this last contrast between the control and change conditions via the predicted values of cultural threat in the control and change conditions at low, moderate, and high values of NFC. This figure shows a pattern strikingly similar to that found in the CID data, namely, polarization of cultural threat perceptions as a function of ethnic change, with a statistically significant increase in threat for high-NFC individuals, and a statistically significant decrease in threat for low-NFC individuals.

On a concluding note for this section of the analysis, our theoretical framework posits that the observed moderating influence of personality emerges from differential interpretations of the implications of ethnic change. Consequently, we examined the influence of NFC on agreement with the opinions of the two “speakers” at the end of the article viewed in the cues and change conditions. We estimated a logistic regression of Threat/Opportunity focus on personality and all controls, and present these results in the right side of table 2. As seen, NFC exerted a positive but insignificant effect in the cues condition, and a positive and significant effect in the change condition. This latter effect was substantively large, as a change from the 5th to the 95th percentile of NFC was associated with an increase in the probability of agreement with the concerned/threatened speaker of 27 percentage points (p < .01), suggesting that different aspects of ethnic change (i.e., opportunities for new experiences versus loss of the familiar) differentially “resonate” with personality in predictable ways.

Polarization over Immigration Policy

Our theoretical model implies polarization of support for restrictive immigration policy by personality through changes in perceived cultural threat. To test this expectation, we estimated structural equation models (SEM) in both the 2005 CID and the MT experimental data. In each, we simultaneously estimated the regression of (1) Cultural threat on ethnic change, personality, ethnic change \times personality, and controls, and (2) immigration policy preferences on Cultural threat, ethnic change, personality, ethnic change \times personality, and controls. For the SEM with the 2005 CID data, ethnic change is \Delta Hispanic and personality is Authoritarianism; for the SEM with the MT experimental data, ethnic change is the ethnic change (versus control condition) treatment dummy and personality is Need for closure.

The results from these two SEMs are presented in figure 5, panels A and B. Each figure presents the direct effect of actual or manipulated ethnic change on cultural threat perceptions, the direct effect of perceived cultural threat on policy attitudes, and the indirect effects of actual/manipulated ethnic change on
policy attitudes. Each figure presents these effects for those low and high on each respective personality trait. For example, panel A reveals that, among citizens at the lowest levels of authoritarianism, residing in a context experiencing a large influx of Hispanics is associated with a significant decrease in cultural-threat perception. As cultural-threat perceptions significantly increase support for restricting the amount of immigrants allowed to enter the country, Hispanic growth among those low in authoritarianism indirectly decreases support for restricting immigration. Among those high in authoritarianism, the reverse is true; Hispanic growth heightens cultural-threat perception, and through this, indirectly increases support for restricting immigration. This same pattern is documented in panel B with respect to manipulated perceptions of Hispanic growth and a scale measure of immigration-policy preferences. In short, the results across the two models provide evidence in support of the polarization hypothesis, and demonstrate that
personality-based heterogeneity in reaction to ethnic change is politically consequential in that it ultimately results in a divergence of policy preferences.

Conclusion

The present research considered the interactive role of personality and context on citizens’ perceptions of the cultural threat posed by immigrants. Utilizing a multi-method approach, we have provided evidence that the influence of ethnic change on perceived threat is strong, but conditional: Ethnic change increases perceived threat for uncertainty-averse citizens, and decreases...
perceived threat for citizens attracted to novelty and uncertainty. We thus offer a framework that is truly “political-psychological” in its orientation, viewing citizen and sociopolitical context as inextricable. While research on immigration has focused on either “dispositional” variables (e.g., authoritarianism) or contextual factors (e.g., outgroup levels in one’s environment), no work to our knowledge has attempted to understand how the stable traits of citizens shape their responses to real changes in the ethnic composition of their environments, and how the interaction of these dispositional and contextual factors shapes politically relevant preferences. Through more careful attention to heterogeneity in how citizens interpret and respond to their social environments, we will be in a better position to make sense of seemingly contradictory empirical patterns in an increasingly important political science literature (e.g., the variation in “contact effects”).

In addition to the theoretical contribution, the present paper has important normative implications for the politics of immigration in the United States. The increasing association of personality traits related to uncertainty aversion with political affiliations in recent years (e.g., Hetherington and Weiler 2009; Mondak 2010) suggests that polarization of immigration opinion by uncertainty aversion has longer-term implications for polarization by partisanship and ideology. Ethnic change exacerbates divisions between citizens low and high in uncertainty aversion with respect to their preferences over immigration policy. Since these traits are increasingly associated with political cleavages, such change should, over time, exacerbate polarization along such cleavages. First, polarization incentivizes politicians to move to the extremes to score political points with core constituencies that are themselves increasingly polarized by personality. Second, if citizens become better sorted by personality over time, they carry their already polarized opinions on immigration, leading to a greater divide between the left and the right. As ethnic change in the United States continues unabated, these findings—that conflict over immigration is rooted in stable psychological responses to changing cultural environments—suggest pessimism regarding bipartisan efforts on immigration in US politics.

Supplementary Data

Supplementary data are freely available online at http://poq.oxfordjournals.org/.

References


