The Political Psychology of Immigration Attitudes: A Compound Threat Sensitivity Framework

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Abstract

Immigration attitudes are shaped by complex interactions between contextual factors and individual differences. Whereas prior work has generally considered these interactions in isolation, I contend that we can gain a more nuanced understanding of the dynamics of immigration attitudes by assessing individual differences in sensitivity to *simultaneous* contextual changes. I develop a *compound threat sensitivity framework*, which proposes that the influence of population change on immigration attitudes is dependent on concurrent changes in economic wellbeing and crime, as well as individual differences associated with preferences for security/order over social freedom (e.g., authoritarianism; see Altemeyer, 1981; Stenner, 2005), and those associated with preferences for power/dominance over egalitarianism (e.g., social dominance orientation; see Pratto, Sidanius, Stallworth, & Malle, 1994). Correspondingly, the influence of economic conditions and crime on immigration attitudes depends on concurrent changes in the rate of immigration, as well as these individual differences. I tested these ideas in two studies. Study 1 assessed the contingent influence of objective country-level contextual factors, using data from the European Social Survey. Study 2 tested these ideas experimentally by manipulating information about concurrent changes in society. The results provide support for a compound threat sensitivity framework. These findings expand upon and qualify both the Dual Process Model of Prejudice (DPM; Duckitt & Sibley, 2009) and research on the influence of demographic change on political attitudes (e.g., Craig & Richeson, 2014). In addition to enhancing our theoretical understanding of "person X context" interactions in the domain of immigration, this work also has practical implications regarding messages that are likely to influence support for immigration.

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Chapter 1: Introduction

"My fellow Americans, tonight, I'd like to talk with you about immigration. For more than 200 years, our tradition of welcoming immigrants from around the world has given us a tremendous advantage over other nations. It's kept us youthful, dynamic, and entrepreneurial. It has shaped our character as a people with limitless possibilities –- people not trapped by our past, but able to remake ourselves as we choose."

-President Barack Obama (11/20/2014)

"We have people coming into the country, or trying to come in — and we're stopping a lot of them — but we're taking people out of the country. You wouldn't believe how bad these people are. These aren't people. These are animals. And we're taking them out of the country at a level and at a rate that's never happened before. And because of the weak laws, they come in fast, we get them, we release them, we get them again, we bring them out. It's crazy. The dumbest laws — as I said before, the dumbest laws on immigration in the world."

-President Donald Trump (05/16/2018)

Immigration is subject of contentious public debate in contemporary politics. The above quotes from the two most recent U.S. presidents illustrate stark contrast in political rhetoric on immigration.[1] Indeed, in the United States and much of Europe, public opinion on immigration has grown increasingly polarized in recent years. As of 2018, 83% of liberals in the United States endorsed the idea that immigrants make the country stronger, whereas only 37% of conservatives endorsed this idea (PEW, 2018). Similar trends have been observed for preferred immigration levels, with 52% of Republicans believing that immigration should be reduced, as compared with only 20% of Democrats (Taxin, 2019). Political polarization on immigration is also observed to varying degrees in much of Europe. In Italy, for example, 71% of right-wing populists believe that immigrants increase the risk of terror attacks and are a burden on the economy. Among

[1] The context surrounding both of these (admittedly cherry-picked) quotes concerns the perceived importance of limiting undocumented migration to the United States. Trump's remarks are in response to a question about gang activity. Nonetheless, the statements themselves serve as prominent examples of divergence in attitudes toward immigrants and immigration policy.

[2] Relevant country-level variables were not available for Israel, but were available for the

Italians on the mainstream left, only 18% believe that immigrants are a burden on the economy and 30% believe that immigrants increase the risk of terrorism (PEW, 2018).

This political polarization on immigration is related to broader shifts in public opinion on immigration. In 2001, 53% of U.S. citizens believed that legal immigration should be decreased. By 2018, only 24% of U.S. citizens endorsed this view (PEW, 2018). Although support for legal immigration increased among both Democrats and Republicans, these attitudes changed to a much greater extent among Democrats. Whereas in 2006, 37% of Democrats supported decreased immigration, this figure declined to 16% by 2018. In 2006, among Republicans, 43% supported decreased immigration, and this figure declined to 33% in 2018 (see PEW, 2018). Thus, the growing political divide on immigration in the United States appears to be driven largely by more rapid changes in support for immigration among Democrats than among Republicans.

Although public attitudes toward immigration have generally become more positive in the United States, the opposite trend has occurred in many countries. In Sweden, for example, the percentage of the public that believes that immigration has a positive impact on the country declined 13% from 2011 to 2016 (IPSOS, 2017). In a number of other European countries (e.g., France, Hungary, Turkey, and Poland) an increasing percentage of the population believes that there are too many immigrants in their country (IPSOS, 2017). In some countries with growing anti-immigration sentiment, right-wing populist parties have capitalized on public opposition to immigration to secure electoral victories. For example, Hungarian President Viktor Orban has consistently offered anti-immigrant rhetoric, such as the following statement: “Every single migrant

poses a public security and terror risk ... For us migration is not a solution but a problem ... not medicine but a poison, we don't need it and won't swallow it" (Quackenbush, 2016). Jarosław Kaczyński, former Prime Minister of Poland and leader of the Law and Justice Party, warned that migrants bring "all sorts of parasites" that might pose a danger to citizens (Cienski, 2015).

This kind of political rhetoric foments and capitalizes on perceived threats posed by immigrants. But the implications of increasing anti-immigrant public opinion extend beyond political rhetoric. There are numerous real-world consequences of these attitudes. In the United States, the Trump administration's zero-tolerance policy on illegal border crossings has led to large-scale detainment of asylum seekers, as well as the separation of approximately 4,300 children from their parents, prior to a federal court order to halt the practice of family separation (Hackman, 2019). In the United Kingdom, anti-immigration attitudes were a strong predictor of support for the 2016 public referendum vote to leave the European Union, popularly referred to as "Brexit" (Goodwin & Milazzo, 2017; Hobolt, 2016). Although it's difficult to precisely estimate the impact of Brexit, a number of econometric analyses suggest that leaving the European Union will negatively impact the UK economy, especially in the domain of trade flows (e.g., Lawless & Morgenroth, 2019).

In a global context, migration policy is likely to be a major source of political conflict in the coming decades. The total number of immigrants has increased globally to over 272 million (IOM, 2020). Although immigrants represent only 3.5% of the world's population, global migration is increasing and this is a major driver of country-level demographic change (IOM, 2020). The global dynamics of migration place immigration

policy at center stage on the national and international agenda, thus intensifying political conflict between nativism and globalism. It is therefore critically important to gain an increasingly nuanced empirical understanding of factors that shape immigration attitudes.

The Path Toward a Multi-level Understanding of Immigration Attitudes

Attitudes toward immigration have received considerable scholarly attention in a number of social science disciplines. In political science and sociology, a long line of prior work addresses the influence of contextual factors or large-scale societal changes in shaping immigration attitudes. Consistent with theories of intergroup threat (e.g., Blalock, 1967; Blumer, 1958), much of this work focuses on societal conditions in which natives are likely to perceive a sense of threat or intergroup competition from immigrant populations. These conditions include factors like the size of the foreign population and the state of the economy (Coenders & Scheepers, 2003; Meuleman, Davidov, & Billiet, 2009; Quillian, 1995), as well as real and perceived levels of crime and social safety (Chandler & Tsai, 2001; Guia, van der Woude, & van der Leun, 2013; Nunziata, 2010). The common thread underlying these lines of research is that societal conditions play a role in facilitating perceptions of resource scarcity or social danger, which then results in negative intergroup attitudes, especially toward immigrant groups.

To the extent that attitudes toward immigration are shaped by perceptions of threat (rather than directly by real-world conditions), it's also important to consider the psychological factors underlying these threat perceptions. Psychological research on immigration attitudes has primarily focused on individual differences in the tendency to perceive these threats, as threat perceptions vary greatly across individuals within the same social context. Two broad psychological dimensions are especially relevant: those

associated with preferences for security/order over social freedom (e.g., authoritarianism; see Altemeyer, 1981; Duckitt & Sibley, 2009; Stenner, 2005), and those associated with preferences for power/dominance over egalitarianism (e.g., social dominance orientation; see Pratto, Sidanius, Stallworth, & Malle, 1994).

Historically, individual-level psychological predictors and contextual predictors of immigration attitudes have often been treated as competing explanations. More recently, however, researchers have adopted a multi-level ("person X situation") orientation to gain more nuanced insight into the particular conditions that facilitate support for (or opposition to) immigration. The Dual Process Model of Prejudice (DPM; Duckitt & Sibley, 2009) offers a particularly useful framework for thinking about these interactions between individual differences and social contexts. According to the DPM's differential-moderation hypothesis, individual differences in authoritarianism (and associated preferences for social order) predict greater sensitivity to social conditions implicating threats to safety and social order, such as increasing crime. By contrast, individual differences in social dominance orientation (and associated preferences for power/hierarchy over egalitarianism) predict greater sensitivity to social conditions implicating resource scarcity or group conflict over resources, such as economic downturn. Thus, the DPM's differential moderation hypothesis postulates that societal conditions shape attitudes toward immigration, but that individuals are differentially sensitive to particular societal conditions.

The DPM's hypotheses concerning differential moderation offer an interactive perspective on the influence of economic conditions and crime on immigration attitudes, but this perspective isn't especially clear about the role of population change. An

increasing rate of immigration might be perceived as a threat to social order (thus interacting with authoritarianism to predict immigration attitudes) or it might be perceived as a status threat (thus interacting with SDO to predict immigration attitudes). Some work has assessed interactions between population change and these individual difference dimensions, showing that high authoritarians are especially likely to respond to population change with increased opposition to immigration (e.g., Johnston, Newman, & Velez, 2015; Van Assche, Roets, Dhont, & Van Hiel, 2014). Other research suggests that increasing diversity or population change interact with individual level concerns about group status to predict negative intergroup attitudes, including opposition to immigration (e.g., Outten, Lee, Costa-Lopes, Schmitt, & Vala, 2018). These findings are suggestive, but more research is needed on the particular individual difference dimensions that interact with population change in shaping immigration attitudes.

This dissertation research seeks to integrate theorizing regarding differential sensitivity to population change with the DPM's differential moderation hypothesis. Both of these avenues of research propose that individual-level worldview orientations interact with societal changes. However, prior research has generally considered societal conditions or threats in isolation, rather than in conjunction. The present research proposes that different kinds of societal threat have a compounding effect on individuals, depending on their values and worldview orientation. I call this the ***compound threat sensitivity hypothesis***.

The central idea underlying this hypothesis is that individuals are differentially sensitive to *concurrent* societal changes. A combination of high rates of migration and economic conditions that facilitate perceived competition over resources is likely to

induce negative immigration attitudes among those who value group dominance and social hierarchy (e.g., high-SDO individuals). Similarly, a combination of high rates of migration and increasing crime is likely to facilitate negative immigration attitudes among those who highly value safety, security, and social order (e.g., high-authoritarian individuals). Thus, the differential effect of population change depends on other concurrent societal changes (i.e., crime and the economy), and vice versa. I will elaborate on these ideas at greater length in subsequent chapters.

Looking Ahead: A Roadmap

In the chapters that follow, I develop a compound threat sensitivity framework and test these ideas in two large-scale studies. Before doing so, I provide a detailed review of prior research on immigration attitudes, in order to offer relevant context and situate this project in the research literature. Chapter 2 is an overview of macro-level research on societal conditions that predict immigration attitudes. This chapter reviews theory and empirical research on the influence of population change, economic conditions, and crime on immigration attitudes. Chapter 3 turns to the psychological predictors of immigration attitudes. This chapter reviews psychological theories of intergroup threat, with a focus on individual-level psychological differences that are especially strong predictors of intergroup attitudes. In particular, Chapter 3 discusses the Dual Process Model of Prejudice (DPM; Duckitt & Sibley, 2009) and the role of authoritarianism and social dominance orientation in shaping immigration attitudes.

Chapters 4 through 6 discuss Study 1, which is a cross-national assessment of attitudes toward immigration across 20 European countries, using data from the European Social Survey (ESS, 2014). In Chapter 4, I integrate macro-level and micro-level

perspectives and provide a focused review of prior correlational tests of differential sensitivity to changing societal conditions. I also give an overview of research hypotheses, including a description of the compound threat sensitivity hypothesis. Chapter 5 provides a detailed description of measures and sample characteristics. Chapter 6 presents the results, showing that the influence of net migration rates on immigration attitudes depends on individual differences in value orientation and on concurrent economic conditions and changes in violent crime at the country level. Similarly, these results show that the DPM's differential moderation hypothesis is contingent on rates of net migration.

Chapters 7 through 9 discuss Study 2, which is an experimental assessment of the influence of information about changes in society on immigration attitudes. In this study, I experimentally manipulate information about changes in rates of migration to the United States, and subsequently manipulate information about changes in the economy or changes in crime. Chapter 7 provides an overview of prior experimental work in the domain of immigration attitudes, with a focus on experimental tests of differential sensitivity. I also give a description of research hypotheses as the operational level. Chapter 8 offers a detailed description of research methodology, including the experimental design, manipulations, and measures. Chapter 9 describes the results of Study 2. Consistent with the compound threat sensitivity hypothesis, I find that economic decline interacts with SDO to predict immigration attitudes, but only among participants who are given information about increasing immigration. I also find that the DPM's predicted interaction between authoritarianism and information about changing crime is dependent on information about rates of migration.

Chapter 10 integrates the findings across Study 1 and Study 2. Broadly, the results underscore the importance of considering differential sensitivity to different societal changes in conjunction with one another. Differential sensitivity to economic conditions as a function of SDO (and related value preferences) depends on migration levels. Similarly, differential sensitivity to changes in crime as a function of authoritarianism (and related value preferences) depends on migration levels. Correspondingly, the effects of both real-world changes in migration and experimentally assigned information about these changes depend on concurrent (real and perceived) societal changes and individual differences. By considering societal changes in conjunction with each other, we can gain a more nuanced and dynamic understanding of the factors that shape attitudes toward immigration.

Chapter 2: Contextual Predictors of Immigration Attitudes

Immigration attitudes vary considerably across contexts and over time. What features of people's social and political environments help us understand and explain this variation? A long tradition of macro-level research in political science, sociology, and economics addresses this question by assessing the role of contextual factors in shaping public attitudes toward immigration. Much of this research is grounded in theories of intergroup threat (Blalock, 1967; Blumer, 1958; Quillian, 1995), which share the common proposition that prejudice follows from perceiving a salient outgroup as a threat to the status and prerogatives of one's ingroup. Intergroup threat theories therefore emphasize the ways in which various sources of group threat (both real and perceived) increase the likelihood of prejudice and intergroup bias. To the extent that group threats induce intergroup hostility, perceived threats from immigrant groups may result in negative attitudes toward immigrants and support for more restrictive immigration policies.

Consistent with this insight, macro-level research on immigration attitudes generally emphasizes societal conditions under which immigrants are likely to be perceived as threating to the native population. Although contemporary intergroup threat theories (e.g., Stephan & Stephan, 2017) distinguish between a variety of different kinds of threat, including both realistic threats (e.g., resource competition) and symbolic threats (e.g., threats to group values and norms), macro-level research on contextual predictors of immigration attitudes has focused primarily on the social conditions that are generally likely to induce perceptions of threat, which may be either realistic or symbolic in nature.

This research tradition emphasizes three factors in particular: population composition, economic conditions, and crime. However, in all of these domains, findings are somewhat inconsistent. In the sections that follow, I will outline basic findings for each of these macro-political factors.

Population Composition

Intergroup Threat

A variety of group-threat perspectives–including the theory of group position (Blumer, 1958), power threat theory (Blalock, 1967), and social dominance theory (Sidanius, 1993), among others–propose that members of dominant groups often express prejudice toward subordinate groups as a defensive reaction against perceived challenges to the dominant status of their group. When a subordinate group's share of the population increases, members of dominant groups may perceive this as a threat, perhaps because of increased salience of intergroup competition, as well as the potential for subordinate groups to more effectively challenge the social, economic, and political power of dominant groups (see Blalock, 1967). Additionally, as predicted by ethnic competition theory (Scheepers, Gijsberts, & Coenders, 2002), perceptions of realistic competition or threat from ethnic outgroups might increase strength of identification with one's ethnic ingroup, resulting in greater likelihood of outgroup derogation.

Consistent with the above predictions, many scholars have found that opposition to immigration increases as a function of the immigrant group's share of the population. Using data from 12 countries in the Eurobarometer Survey, Quillian (1995) found that the percentage of non-European immigrants predicted greater anti-immigrant prejudice. Similarly, data from the European Social Survey (ESS) suggest that prejudicial attitudes

toward foreigners are more pronounced in countries with larger proportions of immigrants (Semyonov, Raijman, & Gorodzeisky, 2008). Indeed, across a variety of contexts, researchers have found that a greater proportion of foreign-born residents predicts more negative attitudes toward immigrants and/or greater endorsement of exclusionary immigration policies (Gijsberts & Hagendoorn, 2017; McLaren, 2003; Scheepers, Gijsberts, & Coenders, 2002). There is also some evidence that the size of the foreign population predicts *changes* in immigration attitudes, rather than just stable differences. For example, Semyonov and colleagues (2008) found that a greater proportion of foreigners in European countries predicted an increase in anti-foreigner sentiment between 1988 and 2000.

Intergroup Contact

The aforementioned evidence provides considerable support for the intergroup threat perspective on the influence of population composition on immigration attitudes. However, an alternative theoretical perspective, intergroup contact theory (Allport, 1954; Pettigrew, 1998), proposes a mechanism by which increasing foreign-born populations might facilitate more *positive* attitudes toward immigration. According to intergroup contact theory, contact between members of different groups can decrease prejudice, at least to the extent that such contact meets the following conditions: common goals, equal status, intergroup cooperation, and support from authorities, legal institutions, or norms (see Allport, 1954). Although these conditions may not be perfectly achieved in many real-world interactions between natives and immigrants, an increasing foreign-born population has the potential to increase the likelihood of positive intergroup contact, which could then reduce prejudice and foster greater support for immigration.

Consistent with the predictions of intergroup contact theory, some research shows that larger immigrant populations are associated with more positive attitudes toward immigration among natives. To the extent that direct contact facilitates more positive intergroup attitudes, we might expect the size of the immigrant population to predict positive immigration attitudes at a more local level of analysis, where direct interaction is most likely to occur. Although greater immigration may be generally associated with negative immigration attitudes at the national level, Weber (2015) found that immigration attitudes tend to be more *positive* in regions with a larger proportion of immigrants. Similarly, using regional data in France, Jolly and DiGiusto (2014) found that a larger percentage of immigrants in one's local community predicted decreased prejudice. These findings are not exclusive to the regional or local level either. Other studies have found that the relative size of the immigrant population in European countries predicted, if anything, *increased* support for immigration and reduced perceptions that immigration results in negative consequences (Sides & Citrin, 2007).

Mixed Findings: Theoretical and Empirical Ambiguities

Overall, there is mixed evidence regarding the effect of migration rates or population composition on immigration attitudes. Some of the aforementioned evidence supports the contention that increasing migrant populations predict negative immigration attitudes among natives, whereas other research finds the opposite (see Pottie-Sherman & Wilkes, 2017). There have been some attempts to reconcile this competing evidence. Schlueter and Scheepers (2010) found that municipal-level immigrant group size predicted both greater perceived threat and greater intergroup contact. Greater threat, in turn, predicted disapproval of immigrants, whereas intergroup contact predicted the

opposite. Thus, the size of the immigrant population might have multiple competing effects on natives. When natives do have positive contact with immigrants, ample evidence suggests that this contact is associated with reduced threat perceptions and more positive attitudes toward immigrants. However, the presence of larger immigrant populations will not necessarily facilitate positive contact (see Laurence & Bentley, 2018). The likelihood of such contact is also influenced by country-level differences in immigrant integration policy (Green, Visintin, Sarrasin, & Hewstone, 2018), as well as individual differences such as authoritarianism (e.g., Van Assche, Asbrock, Dhont, & Roets, 2018).

Other work has attempted to reconcile the predictions of intergroup threat and intergroup contact perspectives by assessing the possibility of a curvilinear relation between population composition and immigration attitudes. There is some evidence that perceived threat from Muslims in the Netherlands is a curvilinear function of the percentage of Muslims at the regional level–as the percentage increases, perceived threat initially increases, but then decreases in regions with the highest percentage of Muslims (Savelkoul, & Scheepers, & Tolsma, & Hagendoorn, 2011). One explanation of this finding is that an increasing proportion of outgroup members is initially perceived as threatening, but once people become familiar with these outgroups, perceived threat is reduced (see Schneider, 2008). An alternative explanation is that higher percentages of a given immigrant population move into regions in which they are accepted, rather than regions in which natives tend to be prejudiced and discriminatory. Or, perhaps natives who dislike immigrants tend to leave or avoid regions with high proportions of immigrants. Indeed, self-selection into different neighborhoods or regions presents a

pernicious challenge for research on the effects of population composition at more local levels of analysis. At the national level, these processes of self-selection are less likely to influence estimates of the effect of population composition on immigration attitudes, given that only 3.5% of the world's population resides outside of their country of origin (IOM, 2020). This may help explain observed differences between the effects of regional versus national population composition (see Weber, 2015), and this is also one reason that the present analysis focuses on nation-level contextual factors rather than regional ones.

Objective vs. Subjective Assessment of Population Characteristics

But how is it that country-level population composition influences individual-level attitudes toward immigration? Presumably, citizens need to be aware of these broader population changes in order for them to have an effect. Some scholars contend that objective country-level population characteristics are unlikely to influence people's attitudes, because people are inaccurate in their estimation of objective foreign-born population size at the country-level. Citizens don't directly observe country-level demographic changes, so they might not be able to accurately assess real-world population composition. Indeed, studies consistently show that people overestimate the proportion of the foreign-born population, and these perceptions are more predictive of immigration attitudes than are objective conditions (Gorodzeisky & Semyonov, 2019; Semyonov et al., 2004; Sides & Citrin, 2007).

However, despite biases in perceptions of population composition, objective conditions are strong and robust predictors of subjective perceptions, even in analyses arguing that subjective perceptions are far more important than objective conditions

(Gorodzeisky & Semyonov, 2019; Hooghe & De Vroom, 2015; Sides & Citrin, 2007). Perceptions of population composition are therefore influenced by objective realities, but also subject to over-estimation. Moreover, this tendency to overestimate the size of the foreign-born population is endogenous to political attitudes and worldview orientations that have direct influence on immigration attitudes (Van Assche, Roets, Dhont, & Van Hiel, 2016). Thus, it is important to assess the influence of exogenous objective conditions, especially because individuals perceive these conditions in biased ways.

The Role of Mass Media

To the extent that objective country-level factors (e.g., population composition) influence subjective perceptions, much of this influence may be facilitated by exposure to mass media. As Weber (2015) argues, whereas local context is relevant to people's immediate experience, national context is especially relevant to public discourse. Levels of migration are measured and tracked at the national level, and these figures are promulgated through various media channels, which subsequently influence public attitudes on immigration (Boomgaarden & Vliegenthart, 2007; Iguarta & Cheng, 2009; Schlueter & Davidov, 2013). Hopkins (2010) also emphasizes the role of mass media and political rhetoric in shaping immigration attitudes at the local level. The evidence suggests that the effects of demographic change on immigration attitudes are conditional on both the *rate* of demographic change and the salience of national immigration rhetoric. During times in which immigration receives considerable national news attention, rapid local demographic change is associated with more negative immigration attitudes. However, local demographic change has little effect on immigration attitudes during times in which immigration receives little attention in national news (see Hopkins, 2010).

A comprehensive assessment of the role of mass media in shaping perceptions of population change (and immigration attitudes) is beyond the scope of the present analysis. Mass-media exposure may indeed function as a primary mechanism by which objective country-level factors influence immigration attitudes. However, as research on selective exposure demonstrates, media exposure is also highly endogenous to pre-existing political attitudes, leaving ambiguity regarding its causal effects (see Stroud, 2008). In Study 2 of this dissertation, I attempt to deal with this issue by randomly assigning individuals to receive different information about changes in population composition and concurrent changes in society, as a way of estimating the causal effect of media communication about objective changes in society. This may help elucidate the process by which objective changes in society filter their way into individual-level beliefs. But for now, it should suffice to say that objective country-level differences in population composition influence immigration attitudes, and mass media offers a plausible intermediary mechanism by which this occurs.

Economic Conditions

The Role of Scarcity and Resource Competition

A number of perspectives in economics and political science suggest that economic factors should play a role in shaping immigration attitudes. In particular, considerable evidence supports the assertion that economic downturn (e.g., increasing unemployment, inequality, declining GDP) is associated with greater anti-immigrant sentiment. These findings are consistent with realistic conflict theory (Bobo, 1983; Levine & Campbell, 1972; Sherif, 1966), which proposes that intergroup biases follow from competition over scarce and limited resources. From this perspective, given that

economic downturn increases resource scarcity, it should also increase intergroup competition and bias. Similarly, according to the Instrumental Model of Group Conflict (Esses, Dovidio, Jackson, & Armstrong, 2001), conditions of greater *resource stress* should result in perceived group competition, at least when potentially competitive outgroups are salient. Periods of economic downturn are associated with a more zero-sum construal of economic success (Sirola & Pitesa, 2017), and such zero-sum perceptions are a strong predictor of anti-immigration attitudes (Esses et al., 2001). These ideas are also corroborated by theory and research in evolutionary psychology, which suggests that resource scarcity should generally lead individuals to exhibit a more competitive orientation (see Roux, Goldsmith, & Bonezzi, 2015), which may exacerbate intergroup biases.

Consistent with these perspectives on the influence of resource scarcity, lower GDP and/or a higher rate of unemployment predict opposition to immigration in a variety of analyses (Billiet, Meuleman, & De Witte, 2014; Miller, 2012; Quillian, 1995; Schneider, 2008). These economic conditions have been shown to increase perceptions of economic threat, which subsequently result in more negative attitudes toward immigration (Meuleman, 2011). Economic vulnerability at the individual level also predicts negative attitudes toward immigration (van Setten, Scheepers, & Lubbers, 2017). Low-skill natives tend to be more opposed to immigration than are high-skill natives (controlling for a variety of political attitudes that covary with economic measures of labor skills), and this effect might be more pronounced in countries with greater GDP and in those with greater economic inequality (O'Rourke & Sinnott, 2006).

Much of the aforementioned research on economic predictors of immigration attitudes is cross-sectional, leaving ambiguity regarding causal effects. However, there is also evidence from time-series analyses, as well as some experimental data. Wilkes, Guppy, and Farris (2008) found that increasing GDP (from 1975-2000) predicted increasingly positive immigration attitudes among Canadians, whereas increasing unemployment had the opposite effect. Although there is little experimental evidence in this domain, Jetten et al. (2015) found that participants exhibited increased opposition to immigration when given an experimental manipulation of information about high levels of inequality in a hypothetical society, thus bolstering the claim that economic factors can have a causal influence on immigration attitudes.

A variety of economic models have also elaborated on the idea that resource competition facilitates negative attitudes toward immigration. For example, according to the labor market competition model (Dustmann & Preston, 2006; Facchini & Mayda, 2009; Senik et al., 2009; Helbling & Kriesi, 2014), natives exhibit anti-immigration attitudes to the extent that they experience job competition from immigrants with similar labor skills. This suggests that anti-immigrant attitudes are influenced by relative fit between the labor skills of immigrants and those of natives. There is a bit of support for this prediction. For example, whereas low-skilled and low-income natives are *generally* more opposed to immigration and more concerned about the economic impact of immigration than are their high-skilled counterparts (e.g., Hainmueller & Hiscox, 2007), high-skilled natives are relatively more concerned about high-skilled immigration (see Davis & Deole, 2015).

The Effect of Economic Prosperity

Whereas much of the aforementioned research on the influence of economic conditions on immigration attitudes finds that economic scarcity (e.g., low GDP, high unemployment, high inequality) results in negative immigration attitudes, other work suggests that economic prosperity might sometimes result in opposition to immigration. As Guimond and Dambrun (2002) argue, the experience of relative gratification (i.e., favorable comparisons with others) can result in prejudice, because individuals and groups who view themselves as advantaged or high-status might seek to preserve their advantaged status. This work converges with social dominance theory (Sidanius, 1993), which proposes that members of high-status groups are motivated to maintain and reinforce their position in the social hierarchy. In some cases, conditions of economic prosperity might motivate individuals and groups to protect their relatively abundant share of resources and oppose "sharing the pie" with others, such as immigrant groups.

Consistent with these ideas about the influence of economic prosperity, Mols and Jetten (2016) found that participants were more likely to support anti-immigration rhetoric when they were given information about a prosperous national economy. There is also some real-world evidence of greater support for anti-immigrant policies and political parties in relatively economically prosperous contexts. Hamilton (1992) found that relatively wealth districts in Germany cities were more likely than less prosperous districts to vote for the Nazi party in 1932. In another study, Swiss cantons characterized by relatively high economic wellbeing (i.e., low unemployment and high income) displayed the greatest support for a referendum limiting immigration (Jetten, Mols, & Postmes, 2015).

The idea that resource abundance can facilitate negative immigration attitudes is also supported by some research on the welfare-state predictors of immigration attitudes. Holding other relevant factors constant, more generous social welfare provisions may predict reduced support for immigration, especially in welfare systems that emphasize passive labor market policies, such as unemployment insurance (Nagayoshi & Hjerm, 2015). Additionally, in countries with predominantly low-skilled labor market migration, high-income natives are especially likely to oppose immigration, because of the potential increase on the tax burden of high-income natives (see Facchini & Mayda, 2009). When individuals and groups see themselves as having more to lose, they might sometimes be more likely to oppose groups that are perceived as a threat to resources.

Mixed Evidence

As with research on the influence of population composition, there is mixed evidence regarding the effect of economic factors on immigration attitudes. Much of the aforementioned evidence supports the proposition that conditions of economic downturn or scarcity are associated with negative attitudes toward immigration. But there is also some evidence that conditions of economic prosperity can lead to negative immigration attitudes. In addition to these inconsistencies, other studies find that the effects of economic factors are relatively weak or null, leading scholars to argue that economic conditions are less important than symbolic concerns and intergroup biases in shaping immigration attitudes (e.g., Dustmann & Preston, 2001; Sides & Citrin, 2007).

However, the weight of the evidence suggests that objective economic conditions do generally play a role in predicting immigration attitudes, even after controlling for these cultural and psychological factors (Mayda, 2006). Of course, evidence for the

existence of these effects does not shed light on their underlying mechanisms. Citizens may not directly perceive or understand the complex interplay between macro-economic factors and immigration. Indeed, considerable scholarship suggests that citizens generally lack the expertise to understand complex policy issues (e.g., Galston, 2001), and there are also systematic differences in political knowledge as a function of individual and country-level economic factors (see Fraile, 2013). Thus, the effects of economic conditions on attitudes toward immigration are likely contingent on mass media discourse and immigration rhetoric utilized by political elites. Particular economic conditions may predispose citizens to be more attracted to anti-immigration rhetoric, or these conditions may increase the availability of such rhetoric in a given context (see Fetzer, 2000).

Crime

Whereas there is considerable research on the influence of population composition and economic conditions on immigration attitudes, there is comparatively little research on the role of crime. Much of the work on the relation between immigration and crime considers subjective perceptions of a link between immigration and crime, rather than objective conditions. Citizens commonly believe that immigrants cause increased crime or represent a threat to public safety (Semyonov et al., 2008). For instance, according to data from the 2003 European Social Survey, more that 73% of Western Europeans believe that immigration increases their country's crime problems (Fitzgerald, Curtis, & Corliss, 2012).

The belief that immigration results in greater crime is at odds with the empirical evidence, which suggests that immigration is associated with either reduced crime (Ousey & Kubrin, 2018; Sampson, 2008; Wadsworth, 2010), is unassociated with changes in

crime (e.g., Hiatt, 2007), or is only modestly associated with increases in property crime in some contexts, but not violent crime (e.g., Bianchi, Buonanno, & Pinotti, 2012). In the United States, the weight of the evidence strongly indicates that greater immigration predicts reduced crime (Adelman, Reid, Markle, Weiss, & Jaret, 2017) and that immigrants commit crimes at lower rates than native citizens (Bersani & Piquero, 2017). This negative relation between immigration and crime also applies to undocumented immigrants (Light & Miller, 2018). Across a wide variety of other countries with positive net migration (e.g., Western Europe), greater immigration is similarly associated with reduced crime or is unrelated to crime (Fasani, Mastrobuoni, Owens, & Pinotto, 2019).

If immigration leads to reductions in crime, why do citizens commonly believe otherwise? Racial and ethnic stereotypes and prejudice may play a large role in shaping these perceptions. Ceobanu (2011) found that perceived criminality among immigrants was not predicted by actual levels of crime, but was instead predicted by factors associated with prejudice, such as political ideology and the extent to which one has friends who are immigrants. Other studies show that subjective perceptions of greater racial and ethnic diversity in one's neighborhood predict greater perceptions of neighborhood crime levels, above and beyond objective measures of crime and racial diversity (Chiricos, McEntire & Gertz, 2001; Quillian & Pager, 2001). Thus, perceived associations between immigration and criminality appear to be driven by intergroup biases, not objective realities.

Public perceptions of immigration as a threat to public safety are often exacerbated by elite political rhetoric. Anti-immigrant political parties commonly blame immigrant groups for crime and frame immigration as a safety threat (Dinas & van

Spanje 2011; Mudde, 2012). Much of this rhetoric comes from far-right parties, such as Italy's Lega Nord (Padovani, 2018) and Australia's One Nation Party (Murphy, 2016), among others. However, leaders of mainstream contemporary political parties have also adopted rhetoric connecting immigration with crime. For example, in 2018, President Donald Trump stated the following: "When Mexico sends its people, they're not sending their best…They're sending people that have lots of problems, and they're bringing those problems with us…They're bringing drugs. They're bringing crime. They're rapists. And some, I assume, are good people" (Thomsen, 2018). When political parties articulate this kind of anti-immigrant rhetoric, it can result in more negative public attitudes toward foreign populations (see Bohman, 2011).

Given the disconnect between objective reality and subjective perceptions regarding the relation between immigration and crime, it is not surprising that scholars have focused primarily on understanding the role of subjective perceptions of crime in shaping immigration attitudes. As this work consistently shows, individual-level perceptions that immigration causes crime are strongly associated with anti-immigrant attitudes (Hainmueller & Hiscox, 2007; Mayda, 2006; McLaren & Johnson, 2007; Palmer, 1996). This is not a surprising finding: People who believe that immigrants cause negative outcomes are less likely to support immigration. However, it is possible that the belief that immigrants cause crime may *follow* from anti-immigrant prejudice, rather than being a *predictor* of immigration attitudes (see Sniderman & Hagendoorn, 2007). In other words, people who tend to dislike immigrants may rationalize their prejudices or may be more susceptible to believing that immigrants cause negative outcomes. Although

subjective perceptions of immigrant criminality may be strongly associated with anti-immigrant attitudes, the underlying causal relation therefore remains ambiguous.

Because of these causal ambiguities, it remains important to assess the influence of exogenous *objective* changes in crime on immigration attitudes, though most prior studies have not done so. There are a few notable exceptions. Greater crime at the municipal level has been shown to predict increased likelihood of the Vlaams Blok (a Flemish right-wing extremist party) running in municipal elections, though in these analyses, crime did not significantly predict the popularity of this far-right party (Coffe, Heyndels, & Vermeir, 2007). In Dutch elections, municipal crime levels appear to influence the probability of voting for the far-right LPF party, especially among citizens who believe that immigrants should assimilate to Dutch culture (Dinas & Spanje, 2011). In one of the most influential studies in this domain, Fitzgerald et al. (2012) compare the effects of general concerns about crime with those of objective crime data in Germany. They find that *general concerns* about crime are a strong predictor of anti-immigrant attitudes (especially among people who are politically engaged), though *actual* per capita crimes at the regional level have no effect on these attitudes.

Although the approach adopted by Fitzgerald and colleagues (2012) offers an important contribution to the literature by comparing the effects of subjective perceptions of crime with objective realities, this approach also might lead to underestimation of the effect of objective crime levels on immigration attitudes if these objective crime levels have any influence on subjective concerns about crime. Although people are undoubtedly biased in their estimation of real-world crime, objective realities can still influence these perceptions. For example, crime victimization at the country-level is strongly associated

with increased fear of crime (Chon & Wilson, 2016; Visser, Scholte, & Scheepers, 2013). These concerns about crime, in turn, predict anti-immigration attitudes (Fitzgerald et al., 2012). Thus, when researchers compute multivariate models including both objective crime data at the contextual level and concerns about crime at the individual level, they may underestimate the total effect of crime on immigration attitudes, to the extent that this effect is mediated through individual-level concerns about crime

To summarize, considerable research suggests that perceptions of crime, social danger, or physical-safety threat are associated with negative attitudes toward immigration. This is true with respect to perceived connections between immigration and crime, as well as more general fear of crime victimization. People are also biased in their perceptions of crime. Citizens overestimate levels of crime, and this tendency appears to be influenced by racial and ethnic biases (Quillian & Pager, 2010). As discussed in the following chapter, considerable psychological work also suggests that individual differences in values associated with preferences for security and social order greatly influence perceptions and fears related to crime. These biases in perceptions of crime lead to ambiguity in assessing the *causal* effect of crime on immigration attitudes. It thus remains important to better understand the influence of *objective* changes in crime on immigration attitudes. This has not been explored sufficiently, despite considerable work addressing citizens' perceived connection between immigration and crime. One goal of the present analysis is therefore to better understand how and when objective crime levels influence immigration attitudes.

Summarizing the Role of Contextual Factors

In this chapter, I reviewed evidence for the influence of contextual factors on immigration attitudes. Considerable evidence suggests that an increasing share of the foreign-born population is associated with more negative immigration attitudes, though some studies find the opposite effect or no effect at all. Similarly, there is quite a bit of evidence to suggest that economic downturn is associated with more negative attitudes toward immigration, though other studies find no effect of economic conditions or even the opposite effect. In terms of the effect of crime, a number of studies show that perceptions of crime are a strong predictor of immigration attitudes, but few studies have assessed the influence of objective crime levels on immigration attitudes.

Overall, there is evidence that contextual factors matter, but much of this evidence is inconsistent across prior studies. Additionally, subjective perceptions of these contextual factors seem to be much more strongly predictive of immigration attitudes, and these subjective perceptions are often highly inaccurate. These biases in subjective perceptions lead many scholars to argue that objective conditions are not very important in shaping immigration attitudes, and that symbolic considerations matter far more (e.g., Sides & Citrin, 2007). I argue, however, that this is a false dichotomy. People's perceptions and symbolic concerns might be shaped by contextual factors, as well as their own predispositions. The fact that subjective perceptions of contextual factors (i.e., population composition, crime levels, and the state of the economy) are biased is all the more reason to gain a better understanding of how and when objective societal conditions influence people's attitudes. I contend that contextual factors have very different effects on individuals, depending on their psychological predispositions. If we can gain an

understanding of individual differences in sensitivity to different kinds of societal changes, we can better understand the conditions under which people are likely to oppose immigration. I thus turn to the psychological underpinnings of immigration attitudes.

Chapter 3: Psychological Predictors of Immigration Attitudes

Whereas macro-level research focuses primarily on the contextual factors that influence immigration attitudes in the aggregate, psychological approaches to the study of immigration attitudes shed light on the processes by which social contexts have these effects on individuals, as well as the role of individual differences in sensitivity to changing social conditions. Insights from psychological theories of intergroup attitudes can therefore help resolve inconsistencies in the effects of contextual predictors. This chapter reviews psychological theory on the antecedents of intergroup attitudes, with a focus on individual differences in the ways in which individuals respond to perceived intergroup threats. Because subjective perceptions of intergroup threat are likely to mediate much of the influence of contextual factors on immigration attitudes, it is important to gain an understanding of how people differ in their tendency to perceive different social conditions as threatening.

Psychological Predictors of Resource Competition and Status Threat

As discussed in the previous chapter, contextual factors such as an increasing foreign-born population or conditions of economic scarcity can increase negative attitudes toward immigrants. Realistic Group Conflict Theory (RCT; Levine & Campbell, 1972) offers a primary explanation for these findings. RCT proposes that intergroup conflict results from competition over scarce resources. However, RCT also postulates that it is the *perception* of resource conflict that drives negative intergroup attitudes, rather than the presence of objective resource competition. Similarly, the Instrumental Model of Group Conflict (IMGT; Esses, Jackson, & Armstrong, 1998) posits that

perceptions of resource stress (i.e., scarcity, inequality in the distribution of resources) contribute to intergroup bias and discrimination against groups that are perceived to be in competition over valued resources. In other words, when individuals value certain resources and perceive zero-sum competition over these resources from outgroups, they are likely to engage in intergroup competition and develop negative attitudes toward these outgroups.

Because perceptions of zero-sum competition are a critical antecedent of intergroup bias and discrimination in this framework, IMGT predicts that individual differences in Social Dominance Orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994) play a major role in shaping intergroup attitudes. SDO reflects individual differences in preferences for inequality (versus equality) among social groups in society (see Pratto et al., 1994). Individuals who are high in SDO tend to see the world as a competitive place (Altemeyer, 1998), and SDO has been conceptualized as a view that zero-sum conflict characterizes human existence (Duckitt & Sibley, 2010; Sidanius, Pratto, & Bobo, 1994). If high-SDO individuals tend to perceive zero-sum conflict between groups, they may be more likely than low-SDO individuals to perceive immigrant groups as a threat to valued resources. Consistent with this perspective, Esses and colleagues (1998) found that SDO strongly predicts negative attitudes toward immigrants, and that this effect is mediated by perceptions of zero-sum resource conflict (i.e., believing that when immigrants make gains economically, natives lose out). A number of other studies have corroborated this finding (e.g., Esses, Dovidio, Danso, Jackson, & Semenya, 2005; Esses et al., 2001).

The Instrumental Model of Group Conflict (IMGT) therefore offers insight into the conditions in which economic downturn can lead to negative immigration attitudes. Increasing economic scarcity (e.g., decreasing GDP, increasing unemployment, increasing inequality) represents a source of *resource stress*, according to IMGT. This resource stress can induce negative attitudes toward groups that are perceived as competing for economic resources. Experimental manipulations that present immigrant groups as competitive result in greater perceptions of zero-sum conflict, and these perceptions subsequently predict reduced support for immigration (see Esses et al., 2005). But there are also individual differences in the tendency to see immigrants as a threat to valued resources. High-SDO individuals are more likely to perceive zero-sum competition from immigrants and, subsequently, to oppose immigration. We should therefore expect objective conditions resulting in perceptions of resource stress to induce negative attitudes toward immigration especially among high-SDO individuals.

Psychological Predictors of Perceived Safety and Security Threats

While some psychological theories emphasize the role of perceived resource competition in shaping intergroup attitudes, other perspectives emphasize perceived threats to safety, security, and social order. As mentioned previously, empirical evidence does not support the contention that immigration increases crime. Indeed, in the United States, meta-analytic estimates of 543 effect sizes across 51 studies suggest a trivially small *negative* correlation between immigration and crime (r = -0.031; Ousey & Kubrin, 2018). Nonetheless, citizens often believe that immigrants increase crime, and these perceptions are strongly associated with anti-immigration attitudes (Hainmueller & Hiscox, 2007; Mayda, 2006). Although such perceptions are as likely to follow from anti-

immigration sentiment as to underlie it, research has also shown that *general* concerns about crime and insecurity predict opposition to immigration (Canetti-Nisim, Ariely, & Halperin, 2008; Sniderman & Hagendoorn, 2007). Indeed, concerns about crime are one of the strongest predictors of anti-immigration attitudes, even after controlling for objective measures of crime, and a number of other contextual and individual-level factors (Fitzgerald et al., 2012).

The Role of Authoritarianism

Given that concerns about crime and perceived threats to safety/security predict anti-immigration attitudes, psychological factors associated with increased concern over such threats should also be associated with opposition to immigration. One particularly important variable in this regard is *authoritarianism*, which reflects intolerance of difference, sensitivity to social threat, and greater attachment to tradition and social conformity (Adorno et al., 1950; Altemeyer, 1996; Feldman & Stenner, 1997; Stenner, 2005; Hetherington & Weiler, 2009). Authoritarianism is a robust predictor of anti-immigration attitudes across nations (Pettigrew, Wagner, & Christ, 2007). However, there are divergent perspectives in the literature on the relation between authoritarianism, threat, and outgroup attitudes.

Although there is a fairly strong scholarly consensus on the existence of a relation between authoritarianism and threat, there is less agreement about the ways in which these variables relate to outgroup attitudes. Some scholars propose a mediation model, whereby authoritarianism leads to greater perceived threat, which then directly predicts prejudice (e.g., Stephen & Renfro, 2002). Evidence in support of this perspective is largely indirect: Authoritarianism is associated with greater perceptions of threat and

danger in the world (Altemeyer, 1988; Duckitt, 2001; Lavine, Lodge, Polichak, & Taber, 2002), and threat is robustly associated with prejudice (Riek, Mania, & Gaertner, 2006; Stephan, Renfro, Esses, Stephan, & Martin, 2005). This perspective implies that authoritarians are more attuned to (or more likely to perceive) threats in the social environment, but that once people perceive such threats, they are likely to exhibit prejudice regardless of individual worldview orientations.

An alternative mediation model suggests that societal threat influences levels of authoritarianism, which subsequently predicts intergroup attitudes. Some longitudinal and experimental evidence does suggest that various societal threats are associated with increased authoritarianism (Altemeyer, 1988; Doty, Peterson, & Winter, 1991; McCann & Stewin, 1990; Sales, 1972; Sales & Friend, 1973). However, these analyses generally rely on very indirect behavioral proxy measures of authoritarianism (e.g., dog registrations for "tough" breeds compared with lapdogs), and these studies tend to find weak or null effects. If authoritarianism is an individual difference variable akin to personality, we should expect a high degree of stability in levels of authoritarianism over time (Feldman & Stenner, 1997). However, as Duckitt and Fisher (2003) argue, authoritarianism might be better understood as a general worldview orientation that is activated by perceptions of threat in the social environment. Duckitt and Fisher found evidence consistent with this prediction: Experimentally manipulated social threat increased authoritarianism, and this effect was mediated by belief in a dangerous world.

In contrast with both of the aforementioned mediation models, a *moderation* approach to the relation between authoritarianism and threat suggests that contexts of threat "activate" the authoritarian predisposition, thus leading to effects of

authoritarianism only (or particularly) under conditions of greater threat (Feldman & Stenner, 1997; Stenner, 2005). According to these perspectives, authoritarianism represents a general preference for conformity and social order. When high-authoritarians encounter potential threats to social order, they are likely to respond with punitive sociopolitical attitudes, as well as with prejudice and discrimination toward outgroups (especially those perceived to be deviant or dissimilar). But these attitudinal and behavioral consequences should only emerge to the extent that high-authoritarians perceive threats to social order, tradition, and/or security (Feldman, 2003; Stenner, 2005). Similarly, Duckitt (2001) argues that motivations to protect social order and security are chronically salient among those high in authoritarianism. Consequently, potential threats to order and security should be more relevant for high authoritarians, leading these individuals to adopt attitudes and behaviors that ostensibly mitigate these threats, such as endorsing exclusionary policies for groups stereotyped as threatening (Duckitt, 2006) or groups presented as threatening in experimental contexts (Cohrs & Asbrock, 2009).

Distinguishing Between Types of Threat

Perceived threat clearly plays a major theoretical role in the relation between authoritarianism and intergroup attitudes. It is therefore important to gain a clear understanding of the nature and meaning of psychological threat. This is a difficult task, because researchers have conceptualized threat in vastly different ways. According to Intergroup Threat Theory (ITT; Stephan & Renfro, 2002), two different broad types of threat exert independent effects on intergroup attitudes. First, consistent with Realistic Group Conflict Theory (RGCT), *realistic* threats include perceived threats both to the political and economic power of one's ingroup, and threats to physical and material well-

being. Second, *symbolic* threats are comprised of threats to the values, norms, customs, and traditions of one's group or oneself. Although social-identity-based definitions of group status threat often imply both threats to group esteem (see Branscombe, Spears, Ellemers, & Doosje, 2002) and threats to tangible resources (see Jetten, Postmes, & McAuliffe, 2002), the ITT perspective distinguishes between these, considering the former to be symbolic and the latter to be instrumental (Stephan, Ybarra, & Morrison, 2009).

Both realistic and symbolic threats are represented in the literature on authoritarianism and threat, but different types of threat are often combined. Studies on symbolic threat have shown, for example, that threats to group identity or national community promote intolerance toward immigrants (e.g., Lahav, 2004; Scheepers et al., 2002; Stellmacher & Petzel, 2005). Other studies include measures of both symbolic and realistic threat perceptions, but subsume both within a single latent perceived-threat construct (Green, 2009; Ward & Masgoret, 2006). Other studies manipulate realistic threat, but don't differentiate among various sources of threat. For example, Duckitt and Fisher's (2003) manipulation of social threat includes economic threats (i.e., increasing unemployment, international trade wars, inflation, increasing debt), safety threats (i.e., murder, rape, aggravated assault, burglary), and political stability threats (i.e., fringe political movements, chaotic political demonstrations). Although including all of these threats might make for a psychological powerful manipulation, it is impossible to tell which specific threats participants are responding to when manipulations cast such a wide net.

Furthermore, some research suggests that security threats may have different effects than other types of threat. Specifically, whereas many forms of threat have been shown to increase the predictive power of authoritarianism on intergroup attitudes, Hetherington and Suhay (2011) find that the post-9/11 context increased socially conservative policy attitudes among those lowest in authoritarianism, but not among those high in authoritarianism. These researchers argue that this effect occurs because high authoritarians are perpetually vigilant in defense against potential threats, whereas low authoritarians require high levels of contextual threat in order to behave in this manner. Similarly, Lahav and Courtemanche (2012) find that framing immigration in terms of security threat reduces ideological polarization on immigration attitudes by making the attitudes of liberals more similar to those of conservatives. This work implies that security threats might sometimes attenuate the effects of authoritarianism, by making the attitudes of low-authoritarianism more similar to those of high-authoritarians, though recent evidence finds no support for this proposition (see Claassen & McLaren, 2019). In any case, these divergent findings for the effect of security threats underscore the importance of distinguishing between various sources or types of threat.

Conceptualization and Measurement of Authoritarianism

The link between authoritarianism and threat is also complicated by differences in conceptualization and measurement of authoritarianism. Right-Wing Authoritarianism (RWA; Altemeyer, 1996) is the most widely used measure of authoritarianism in the psychological literature. Although RWA is often treated as a unidimensional construct, it theoretically and empirically comprises three distinct facets or attitudinal clusters (Altemeyer, 1996; Asbrock & Kauff, 2015; Passini, 2017). These facets are: submission

to established authorities (authoritarian submission), aggression toward those who deviate from established norms and authorities (authoritarian aggression), and adherence to conventional norms (conventionalism). These facets have different antecedents and consequences. For example, Passini (2017) shows that these three facets of authoritarianism are differentially related to values and prejudice. Although Schwartz's (1992) Conservation values (conformity, tradition, security) are generally regarded as an antecedent of authoritarianism (Duriez & Van Hiel, 2002), the relations between values and authoritarianism differ across the three RWA subscales. Authoritarian submission is most strongly related to valuing conformity, conventionalism is most strongly related to valuing tradition, and authoritarian aggression is most strongly related to valuing security (Passini, 2017). Furthermore, some studies find that authoritarian aggression uniquely predicts prejudicial attitudes (Funke, 2005; Passini, 2017).

The aforementioned relations between facets of authoritarianism and values suggest possible differences in the ways that different types of threat might interact with facets of authoritarianism in predicting intolerant attitudes. Given that authoritarian aggression is more strongly related to security values, threats to security might interact more strongly with this facet in predicting intolerance generally, and anti-immigration attitudes specifically. To the extent that authoritarian submission and conventionalism are associated with valuing and adhering to traditional norms and values, individuals who are high in these facets should be most likely to respond with prejudice in the face of symbolic threats to cultural values, norms, and traditions, especially when these individuals identify highly with a group. Moreover, in the presence of strong social norms supporting immigration, individuals who are high in these facets of

authoritarianism might even be more likely to support immigration, especially when these individuals hold other values (e.g., humanitarianism) that are consistent with such support (Oyamot, Fisher, Deason, & Borgida, 2012).

Summarizing Research on the Role of Authoritarianism and Safety/Security Threats

As the previous sections demonstrate, theory and research on the influence of authoritarianism on intergroup attitudes is often convoluted, due to different conceptualizations and measures of both authoritarianism and threat. However, there are some convergent findings that emerge from this literature. First, people high in authoritarianism are generally more likely to oppose immigration (Pettigrew, Wagner, & Christ, 2007), and this tendency also depends on contexts of threat. The weight of the evidence suggests that threats to social order and threats implicating danger are particularly likely to induce negative intergroup attitudes (including attitudes toward immigration) among those highest in authoritarianism (Claassen & McLaren, 2019; Cohrs & Asbrock, 2009; Duckitt, 2006; Feldman & Stenner, 1997; Stenner, 2005). There is also more limited evidence of the opposite interaction pattern: Contexts of security threat might sometimes induce negative intergroup attitudes to a greater extent among those *lowest* in authoritarianism (Hetherington & Suhay, 2011). However, this probably occurs primarily under conditions of relatively extreme political and social changes that heighten overall public perceptions of insecurity.

A few studies have also found that contexts of threat can increase levels of authoritarianism in society or within individuals (Doty, Peterson, & Winter, 1991; Duckitt & Fisher, 2003), but these effects are relatively limited in scope. More recent evidence indicates that authoritarianism is a relatively stable individual difference

predisposition, with considerable variance accounted for by genetic factors (Kandler, Bell, & Riemann, 2016; Ludeke & Krueger, 2013). Thus, although overall levels of authoritarianism might change to some degree as a function of changing social contexts, it is perhaps more common to observe stable pre-existing differences in authoritarianism interacting with contexts of threat to shape intergroup attitudes. Nonetheless, when assessing these interactions between authoritarianism and threat, it is important to distinguish between different potential sources of perceived threat, and to emphasize proper measurement of authoritarianism and related individual differences in preference for tradition and social order.

Dual Process Model of Prejudice

The evidence reviewed heretofore considers the role of two distinct types of perceived threats in shaping immigration attitudes: threats to status/resources and threats to safety/security/social order. Perceptions of both of these threats predict negative attitudes toward immigration, but individuals differ in their tendency to perceive these different kinds of threat. Individual differences in SDO predict variance in the propensity to compete over status/resources and to perceive zero-sum competition from outgroups (Esses et al., 1998; Pratto et al., 1994). Similarly, individual differences in authoritarianism predict variance in the propensity to perceive threats to safety/security/social order from outgroups (e.g., Stenner, 2005). These insights regarding authoritarianism and SDO have emerged from largely orthogonal programs of research. However, it is also important to consider how these processes operate in conjunction with one another. How do we best integrate theory and research emphasizing SDO and

intergroup competition with theory and research emphasizing authoritarianism and threats to social order, stability, and safety?

One particularly promising integrative psychological framework is the Dual Process Model of Prejudice (DPM; Duckitt & Sibley, 2010). According to the DPM, intergroup attitudes are a consequence of two correlated but distinct motivational dimensions. First, the belief that the world is dangerous leads to authoritarian attitudes and greater desire for conformity and social order, which is generally operationalized as Right-Wing Authoritarianism (RWA; see Altemeyer, 1996) in the DPM. The second dimension, Social Dominance Orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994), is grounded in the belief that the world is a ruthless, competitive jungle. These beliefs, in turn, lead to support for intergroup hierarchy and concerns about group status and dominance.

The DPM offers considerable explanatory power in the domain of immigration. Most relevant for the present analysis, the DPM suggests that individuals should be differentially responsive to real and perceived changes in societal conditions. Because authoritarianism is associated with increased concern over issues related to personal and collective security, individual differences in authoritarianism should *uniquely* predict sensitivity to perceived security threats, such as crime. By contrast, because SDO is related to concerns over power, status, and hierarchy, SDO should *uniquely* predict sensitivity to perceived threats to resources, such as economic scarcity. These individual-difference dimensions are associated with a general tendency to perceive these threats, but the DPM also proposes that real-world conditions implicating these different threats can "activate" negative intergroup attitudes. Specifically, the DPM's differential-

moderation hypothesis postulates that high-SDO individuals should exhibit particularly negative immigration attitudes under real-world conditions of resource scarcity, and highly authoritarian individuals should exhibit these attitudes when social contexts imply threats to security and social stability.

Much of the evidence supporting differential moderation comes from experimental studies that manipulate perceptions of threat posed by immigrant groups. For example, Duckitt and Sibley (2010) found that RWA predicted opposition to a fictitious immigrant group depicted as socially deviant, whereas SDO predicted opposition to a fictitious immigrant group depicted as either economically competitive or economically disadvantaged. This research illustrates ways in which RWA and SDO are associated with opposition to different kinds of immigrant populations, or those depicted as representing different kinds of psychological threats (see also Thomsen, Green, & Sidanius, 2008).

However, differential moderation also implies divergent reactions to changing real-world contexts, and there are relatively few empirical tests of this hypothesis using objective contextual measures. In one notable exception, Cohrs and Stelzl (2010) found that RWA was strongly associated with anti-immigrant attitudes in countries where immigrants were thought to increase the crime rate, and SDO was a stronger predictor of opposition to immigration in countries with a higher unemployment rate among immigrants. This study is consistent with the differential moderation hypothesis, though using an aggregated subjective measure of perceived associations between immigration and crime leaves some ambiguity regarding the causal nature of this effect.

The Role of Population Composition and Migration

Although the DPM offers clear predictions regarding interactions between individual-difference predispositions and societal conditions implicating threats to safety/stability and threats associated with resource competition/scarcity, the DPM is less clear about the role of population change. On the one hand, an influx of immigrants could be perceived as a threat to social stability, thus implicating an interaction between migration and authoritarianism. Consistent with this idea, Sibley et al. (2013) found that the proportion of immigrants in a local community predicted opposition to immigrants only among individuals who perceived threats to personal safety (a proxy for RWA), whereas relative affluence predicted opposition to immigrants among people who are low in social trust (a proxy for SDO). Similarly, Van Assche, Roets, Dhont, and Van Hiel (2014) found that greater ethnic diversity at the local level was associated with negative attitudes towards immigrants among high authoritarians and among people who perceived their immediate environment as threatening (see also Johnston, Newman, & Velez, 2015; Velez & Lavine, 2017).

On the other hand, migration could be perceived as a threat to status and resources among natives, thus implicating an interaction between migration rates and SDO. This view is grounded in theories of group threat, which often propose that individuals use the size of a given group as an indicator of their relative power (Blalock, 1967; Quillian, 1995). Consistent with this view, Craig and Richeson (2014) found that an experimental manipulation of demographic change in the United States induced negative intergroup attitudes among Whites, but not when such demographic change was described as having no effect on the relative status of White Americans.

Thus, the DPM offers competing predictions regarding the role of population change. To the extent that an influx of immigrants is perceived as a threat to status and resources among natives, we should expect an influx of immigrants to result in negative immigration attitudes to the greatest extent among those highest in SDO. By contrast, to the extent that an influx of immigrants is perceived as a threat to social stability or safety among natives, we should expect an influx of immigrants to result in negative immigration attitudes to the greatest extent among those highest in authoritarianism. I will argue that the influence of migration rates/population change is a bit more complicated, as this depends on concurrent changes in society. Under conditions of increasing resource scarcity, net migration should exacerbate perceptions of resource competition. Under conditions of increasing crime, net migration should exacerbate perceptions of threats to security and stability posed by immigrants. I outline these ideas in greater detail in the following chapter and connect them directly to research hypotheses at the operational level.

Chapter 4: The Real-World Dynamics of Immigration Attitudes

Armed with insights from both macro-level research and individual-level psychological research on immigration attitudes, we can now begin putting the pieces together to develop a more integrative perspective on the real-world dynamics of immigration attitudes. The literature reviewed in the previous two chapters offers a couple of key take-away messages. First, objective contextual factors play a role in shaping immigration attitudes. A number of different contextual factors could potentially influence these attitudes, but the present analysis focuses on three factors that have received considerable attention in prior work: population change, economic conditions, and crime. Second, individuals vary greatly in their tendency to view different societal conditions as threatening and to subsequently respond by endorsing protectionist policies or exhibiting prejudicial attitudes. According to the Dual Process Model of Prejudice (DPM; Duckitt & Sibley, 2009), those highest in social dominance orientation (SDO; Pratto et al., 1994) should be particularly likely to exhibit negative immigration attitudes in response to conditions of economic scarcity. Correspondingly, those highest in authoritarianism (Adorno et al., 1950; Altemeyer, 1996; Feldman & Stenner, 1997; Stenner, 2005; Hetherington & Weiler, 2009) should be especially likely to oppose immigration in response to conditions of increasing crime.

The DPM therefore offers a multi-level "person X context" framework for assessing the real-world dynamics of immigration attitudes. However, the DPM is less clear about the role of population change, which could interact with either authoritarianism or SDO to shape immigration attitudes. One goal of the present work is to integrate research on the role of population change with predictions from the DPM. In

this chapter, I will focus on the gaps in prior literature on "person X context" interactions in the domain of immigration attitudes. Whereas prior work has generally considered the effects of different contextual factors in isolation, I extend the logic of the DPM by arguing that multiple societal changes operate in conjunction with one another to shape immigration attitudes, and that individuals differ in sensitivity to particular combinations of changes in society. I label this the ***compound threat sensitivity*** hypothesis. After describing these ideas in greater detail, I then provide an overview of Study 1, which offers a cross-national assessment of the real-world dynamics of immigration attitudes. The primary goal of this study is to document the ways in which simultaneous changes in society interact with individual differences to shape immigration attitudes. This research has the capacity to inform our understanding of the unique effects of different societal changes on immigration attitudes, as well as the ways in which concurrent societal changes have compound effects on different individuals, depending on these individuals' needs and values.

Filling the Gaps in Prior Literature on "Person x Context" Interactions

Although a few prior studies test interactions between societal changes and individual differences in the domain of immigration, the present research offers several distinct advantages. First, prior research in this area has often relied on subjective assessments of societal threats. For example, Cohrs and Stelzl (2010) found that authoritarianism was a strong predictor of anti-immigrant attitudes in countries in which immigrants are thought to increase the crime rate. This is an interesting finding and it is consistent with the DPM's differential moderation hypothesis. However, because this study relies on an aggregated subjective measure of perceptions that immigration is

associated with greater crime, it leaves some ambiguity regarding the meaning of this interaction effect. The interaction could occur, for example, because of cross-national differences in the expression of authoritarianism, such as country-level variance in discourse surrounding perceived dangers posed by immigrants among political elites.

Other studies use objective measures of societal conditions but assess individual differences in perceptions of societal threat that are likely shaped by a combination of individual differences and objective societal conditions. For example, Sibley and colleagues (2013) found that perceiving others as untrustworthy was associated with greater opposition to immigration among people who live in affluent areas, but not among people who live in less affluent areas. They also found that perceptions of reduced personal safety predicted opposition to immigration among individuals who live in areas with a higher proportion of immigrants. These interactions are consistent with the differential moderation hypothesis (see Sibley et al., 2013, for a detailed explanation). Although perceptions of personal safety may indeed serve as a proxy for dangerous-world beliefs that underlie authoritarianism, these perceptions are also potentially influenced by individual differences in responsiveness to physical security threats and real-world conditions that induce these threat perceptions. Similarly, perceptions of others as untrustworthy may indeed tap into competitive-jungle beliefs underlying SDO. But these perceptions could also be influenced by objective factors that increase social mistrust, resource scarcity, and/or intergroup competition.

The Importance of Objective Conditions

Although the aforementioned studies advance the social-psychological understanding of immigration attitudes by assessing interactions between individual

differences and social contexts, their reliance on subjective assessments of societal conditions leaves unanswered questions about the ways in which *objective* features of social contexts interact with individual differences to shape perceptions of societal threat. Focusing on objective features is important for a couple of reasons. First, subjective perceptions are endogenous to each other. For example, perceiving others as untrustworthy could be a consequence of numerous perceptions and beliefs, including: perceptions of changing social demographics, competitive-worldview beliefs, political ideology, intergroup prejudices, or any interactive combination of these factors. By instead focusing on interactions between pre-political differences in values and objective changes in societal conditions, researchers can be more confident that these objective societal changes are *exogenous* to individual difference dimensions and prior immigration attitudes. As a consequence, the causal logic of differential moderation can be tested most clearly when using objective indicators of societal conditions, rather than subjective perceptions of these conditions.

Another advantage in the use of objective measures of societal conditions is an enhanced understanding of the influence of changing real-world contexts on immigration attitudes. Immigration attitudes have changed considerably over time, both in the United States (e.g., Hopkins, 2010) and in numerous other countries (e.g., Meuleman, Davidov, & Billiet, 2009; Wilkes & Corrigall-Brown, 2011). It is therefore important to consider the factors that influence changes in public opinion on immigration. These changes in immigration attitudes are not completely random, but rather, they are reliably associated with real-world conditions, such as the state of the economy (e.g., Meuleman et al., 2008). In particular, the combination of economic decline and increasing immigration

seems to predict negative immigration attitudes. For example, Hjerm (2009) found that poor economic development and substantial increases in the immigrant population interact to produce anti-immigration sentiment. This finding is consistent with prior research showing that GDP interacts with the size of the foreign-born population in predicting immigration attitudes across Europe (Quillian, 1995). Other work has shown that *changes* in societal conditions–rather than stable differences–are particularly important in predicting immigration attitudes. For example, Coenders and Scheepers (2008) found that recent increases in both unemployment and foreign immigration predict more negative attitudes toward foreigners, whereas stable overall levels of immigration and unemployment do not predict these attitudes. This research underscores the importance of assessing the influence of societal change, rather than just stable differences across contexts.

Despite considerable evidence that real-world conditions shape immigration attitudes, some scholars remain skeptical, arguing that perceptions of these conditions are biased and that individuals base their political and intergroup attitudes on symbolic considerations, rather than objective realities (Achen & Bartels, 2017; Sides & Citrin, 2007). It is clear that symbolic considerations matter and that people's perceptions of objective conditions are biased. However, these biases are all the more reason to examine how and when objective realities influence political attitudes. People's perceptions can be systematically biased but also constrained by reality. For example, perceptions of the state of the economy are strongly influenced by economic realities at the national level (Erikson & Wlezien, 2012; Lewis-Beck, Martini, & Kiewiet, 2013), the state level (Franko, 2017; Niemi, Bremer, & Heel, 1999; Xu & Garand, 2010), and the local level

(Holbrook & Weinschenk, 2019; Newman, Velez, Hartman, & Bankert, 2015). Thus, despite systematic biases in subjective evaluations of objective conditions, real-world conditions undoubtedly influence people's perceptions of the state of society.

The Role of Population Change

Despite clear evidence that objective conditions matter (i.e., people perceive actual changes in society and these changes influence immigration attitudes), there is likely substantial heterogeneity in the effects of societal changes on political attitudes and behavior. As the psychological literature shows, individuals with different needs and values respond differently to different kinds of societal change. This insight is particularly evident in recent work on the effects of growing diversity on immigration attitudes. Whereas group-threat theories (e.g., Blalock, 1967; Blumer, 1958) traditionally argued that growing diversity or increasing demographic change should *generally* facilitate opposition to immigration among native citizens (subsequently called the ***general-intergroup-threat*** hypothesis), more recent research suggests that the influence of demographic change on immigration attitudes is contingent on individual differences in needs and values.

Considerable research on the conditional influence of demographic change focuses on individual differences in *authoritarianism* (Altemeyer, 1998; Stenner, 2005). For high-authoritarians, increasing diversity may be perceived as a threat to social stability and cohesion, thereby inducing support for protectionist measures such as restrictive immigration policy (subsequently called the ***social-stability-threat*** hypothesis). Consistent with this idea, Van Assche, Roets, Dhont, and Van Hiel (2014) find that greater ethnic diversity predicts more negative out-group attitudes among high-

authoritarians, but more positive out-group attitudes among low-authoritarians. There are a variety of mechanisms that might explain this interaction effect. High-authoritarians are more likely to respond directly to objectively high diversity with increased outgroup negativity, and they are also more likely than low-authoritarians to subjectively perceive greater diversity in response to objectively high neighborhood diversity (Van Assche, Roets, Dhont, & Van Hiel, 2016). Objective diversity has also been shown to predict more negative contact among high-authoritarians (relative to low-authoritarians), which subsequently predicts greater prejudice (Van Assche, Dhont, Roets, & Van Hiel, 2018). For these reasons, factors related to population composition (e.g., ethnic diversity, demographic change, foreign-born population size, migration rates) are often associated with negative intergroup attitudes *only* among high-authoritarians (Johnston, Newman, & Velez, 2015; Van Assche, Roets, Van Hiel, & Dhont, 2019; Velez & Lavine, 2017). Similar interactions have been observed for variables closely related to authoritarianism, such as conformity values (Fasel, Green, & Sarrasin, 2013).

Whereas research on interactions between authoritarianism and societal conditions robustly demonstrates that increasing diversity/demographic change results in negative attitudes toward immigration among high-authoritarians only, less is known about the ways in which SDO interacts with societal changes to shape immigration attitudes. Both the Dual Process Model of Prejudice (DPM; Duckitt & Sibley, 2009) and the Instrumental Model of Group Conflict (Esses, Jackson, & Armstrong, 1998) propose that concerns about group dominance, status, and resource competition influence intergroup attitudes broadly, including in the domain of immigration. To the extent that increasing diversity represents a threat to status, SDO might interact with changing

demographics or increasing immigration to predict negative immigration attitudes (subsequently called the ***status-threat*** hypothesis). However, to the best of my knowledge, prior research has not assessed this prediction. Van Assche and colleagues (2018) did find that objective neighborhood-level diversity predicted (marginally) greater support for right-wing populist parties in the Netherlands among high-SDO individuals, whereas objective diversity did not influence support for these political parties among low-SDO individuals. This finding is suggestive, but more research is needed to assess the moderating role of SDO in the relation between demographic change and immigration attitudes.

Economic Scarcity or Abundance?

The DPM's differential moderation hypothesis also predicts that SDO should interact with societal changes implicating threats to status and resources to predict intergroup attitudes. Although a number of aforementioned studies test interactions between perceived economic threats and SDO in the domain of immigration, relatively few studies test interactions between objective economic factors and SDO. There are also divergent findings across studies. Some studies find that SDO is a stronger predictor of negative immigration attitudes in contexts implicating economic scarcity or resource stress. As mentioned previously, Cohrs and Stelzl (2010) found that SDO is a stronger predictor of anti-immigration attitudes in countries with a higher unemployment rate among immigrants. Similarly, Davidov, Meuleman, Billiet, and Schmidt (2008) found that self-transcendence values, which are inversely related to SDO (Cohrs, Moschner, Maes, & Kielmann, 2005; Duriez & Van Hiel, 2002), are a stronger predictor of immigration attitudes in countries with lower GDP. By contrast, Sibley and colleagues

(2013) found that perceptions of low social trust were associated with negative attitudes toward immigration among people who lived in *affluent* neighborhoods. As Sibley and colleagues (2013) argue, perceptions of low social trust serve as a proxy for competitive-worldview beliefs that are associated with SDO. Indeed, people who are low in social trust are more likely to adopt a competitive orientation, whereas those with higher social trust tend to be more cooperative (Parks, Henager, & Scamahorn, 1996). All of these findings are consistent with the general idea that SDO (and related individual differences associated with preference for group-dominance and hierarchy over egalitarianism) interacts with economic conditions to influence immigration attitudes. However, the current literature is unclear about which specific economic conditions matter most, or whether negative immigration attitudes are more likely to emerge among high-SDO individuals when resources are scarce or abundant.

The Compound Threat Sensitivity Hypothesis

Despite laudable efforts to assess "person X context" effects in shaping immigration attitudes, there are currently many ambiguities in the literature surrounding the precise societal conditions that interact with individual differences. Some of these ambiguities may be the result of a general tendency for researchers to assess these "person X context" interactions using a *single* focal contextual variable at a time, rather than assessing the influence of *multiple* contextual factors. This is problematic because prior research and theory suggest that the influence of any given societal condition is likely contingent on concurrent changes in society. For example, the combination of high levels of immigration and negative economic conditions may facilitate particularly negative attitudes toward immigration (Quillian, 1995). There is also some evidence that

demographic diversity and crime at the local level interact to influence attitudes toward immigrants. When local crime is low, greater neighborhood diversity may actually be associated with more positive attitudes toward immigrants (see Van Assche et al., 2014). These interactions suggest that contextual factors should not just be considered in isolation, but also in combination.

To the extent that different objective conditions in society interactively shape immigration attitudes, it is important to consider the psychological effects of multiple contextual variables. This is a primary goal of the present research. I build on the DPM's differential-moderation hypothesis by proposing and testing a novel prediction regarding differential sensitivity to *compound* contextual threats. The core idea is that population change should exacerbate the DPM's differential moderation predictions. I label this the ***compound-threat-sensitivity*** hypothesis. By testing multiple contextual variables in interaction with the focal individual difference dimensions addressed by the DPM, the present research can elucidate the particular societal conditions that influence immigration attitudes with greater specificity than prior research. Finally, because prior research suggests that *changes* in societal conditions (rather than stable differences) are particularly important in shaping intergroup attitudes (Coenders & Scheeper, 2008; Hjerm, 2009; Hopkins, 2010), the present research emphasizes the influence of *changes* in society while controlling for stable differences across countries, as a means of better isolating the effect of specific changes in society.

In summary, Study 1 offers the following contributions to the study of "person X context" interactions in the domain of immigration attitudes: (1) assessment of objective changes in society that are exogenous to individuals; (2) assessment of change in multiple

contextual variables while controlling for stable differences across contexts as a means of isolating the unique effects of each contextual factor; (3) more comprehensive and integrative assessment of cross-level interactions between individual differences and societal changes; and (4) assessment of a novel hypothesis about differential sensitivity to concurrent changes in society. In the following section, I provide a brief empirical overview of Study 1 and a more formal statement of research hypotheses at the operational level.

Study 1 Overview and Hypotheses

Study 1 uses data from Round 7 of the European Social Survey (ESS; 2014), which includes over 40,000 participants from 20 European countries. The dataset was chosen because it contains a cross-nationally validated and reliable measure of two value dimensions that map clearly onto SDO and authoritarianism (Cohrs, Moschner, Maes, & Kielmann, 2005; Duriez & Van Hiel, 2002). Additionally, the ESS contains a large battery of questions assessing attitudes toward immigrant groups, immigration policy, and the perceived consequences of immigration. The ESS multi-level dataset also includes country-level data indexing changes in population composition, economic wellbeing, and crime. This allows me to estimate person X context interactions using multi-level (i.e., mixed-effects) models. Regarding the influence of population change, I test the following hypotheses:

*H1a) Higher rates of net migration will predict reduced support for immigration (**general-intergroup-threat** hypothesis)*

*H1b) Higher rates of net migration will predict reduced support for immigration to a greater extent among individuals who express value preferences associated with high authoritarianism (**social-stability-threat** hypothesis)*

*H1c) Higher rates of net migration will predict reduced support for immigration to a greater extent among individuals who express value preferences associated with high SDO (**status-threat** hypothesis)*

In addition to the direct and interactive effects of population change, the present research also offers an integrative test of the DPM's differential-moderation hypothesis. This hypothesis has two components, which are stated at the operational level as follows and given separate labels:

*H2a) Increasing crime will predict reduced support for immigration only among individuals who express value preferences associated with high authoritarianism (**differential-security-threat-sensitivity** hypothesis)*

*H2b) Economic decline will predict reduced support for immigration only among individuals who express value preferences associated with high SDO (**differential-scarcity-threat-sensitivity** hypothesis)*

I test the ***differential-security-threat-sensitivity*** hypothesis (H2a) by estimating cross-level interactions between changes in crime rates and both of the focal individual difference dimensions in the DPM. Similarly, I test the ***differential-scarcity-threat-sensitivity*** hypothesis (H2b) by estimating cross-level interactions between changes in

economic conditions and these same individual difference dimensions. The strong form of the differential moderation hypothesis states that information about crime should *only* interact with authoritarianism (and not SDO) and that information about a declining economy should *only* interact with SDO (and not authoritarianism) to predict immigration attitudes. The weak form of this hypothesis states that the *SDO * economic decline* and *authoritarianism * increasing crime* interactions should be stronger than the *authoritarianism * economic decline* and *SDO * increasing crime* interactions.

The differential moderation hypothesis is less clear about the effect of these changes in society on those individuals who are especially low in values associated with SDO and authoritarianism. It is possible that the effects would reverse, such that contexts characterized by increasing crime would be associated with increased support for immigration among those lowest in authoritarianism, and contexts characterized by economic decline would be associated with increased support for immigration among those lowest in SDO. The present research estimates the effects of changes in society across the spectrum of these individual difference dimensions, but makes no explicit predictions about the effect of these societal changes among those lowest in authoritarianism and SDO.

For the purpose of testing differential moderation, values associated with preferences for self-enhancement (i.e., power, achievement) over self-transcendence (i.e., universalism, benevolence) serve as a proxy for SDO. Similarly, values associated with preferences for conservation (i.e., security, conformity, tradition) over openness to change (i.e., stimulation, self-direction, hedonism) serve as a proxy for authoritarianism. These value dimensions are strongly related to the focal individual difference dimensions

in the DPM, both theoretically and empirically (Cohrs, Moschner, Maes, & Kielmann, 2005; Duriez & Van Hiel, 2002).

Assessing Compound Threat Sensitivity

The broader goal of the present analysis is to integrate insights from literature assessing the influence of population change with the Dual Process Model's predictions regarding individual differences in responsiveness to perceived societal threats. In real-world contexts, many different changes in society occur simultaneously. If researchers want to get a handle on how these changes interact with the unique needs and values of individuals to shape intergroup attitudes, it is important to study societal threats both in isolation and in combination. With this idea in mind, the present research offers a set of novel hypotheses regarding sensitivity to compound threats. At the broadest level, the ***compound-threat-sensitivity*** hypothesis proposes that individuals differ in sensitivity to compound psychological threats in response to population change and concurrent changes in society (i.e., economic wellbeing, crime).

More specifically, I hypothesize that population change acts as an amplifier of the DPM differential moderation predictions (the ***population-change-amplifier*** hypothesis). High authoritarians may indeed respond to perceptions of social danger (e.g., crime) by exhibiting greater intergroup hostility, generally speaking. But in the context of immigration, this tendency should be especially pronounced in contexts of increasing immigration or when increases in immigration are made salient. Correspondingly, high-SDO individuals may indeed respond to perceptions of scarcity or resource competition (e.g., economic decline) by exhibiting greater intergroup hostility. But again, this

tendency should be greater in contexts of increasing immigration. These predictions are stated operationally below:

*H3a) Higher rates of net migration will exacerbate the negative influence of increasing crime on immigration attitudes among individuals who express value preferences associated with high authoritarianism (**crime-threat-amplification** hypothesis)*

*H3b) Higher rates of net migration will exacerbate the negative influence of economic decline on immigration attitudes among individuals who express value preferences associated with high SDO (**economic-threat-amplification** hypothesis)*

The above predictions are together labeled the ***population-change-amplifier*** hypothesis. Again, the central idea is that information about population change influences the strength of the differential moderation patterns. But it is also important to consider the possibility that the effects of population change might differ depending on societal conditions. When people believe that their society is characterized by increasing crime or economic decline, increasing immigration might be seen as particularly threatening, especially to those who are predisposed toward sensitivity to a given societal threat. By contrast, when societies are characterized by decreasing crime or an improving economy, increasing immigration might not be seen as threatening, particularly among those who are predisposed to be most responsive to those societal changes. In this way, societal conditions could function as an amplifier of differential effects of population change on

individuals across the spectrum of SDO and authoritarianism (and related value preferences). I refer to this as the ***societal-threat-amplifier*** hypothesis. There are two predictions associated with this hypothesis that are described at the operational level below:

> *H4a) Increasing crime will exacerbate the negative influence of net migration on immigration attitudes among individuals who express value preferences associated with high authoritarianism (**crime-threat-amplifier** hypothesis)*
>
> *H4b) Economic decline will exacerbate the negative influence of net migration on immigration attitudes among individuals who express value preferences associated with high SDO (**economic-threat-amplifier** hypothesis)*

To summarize, Hypothesis 3 assesses the role of net migration as an amplifier of differential moderation effects on immigration attitudes. Correspondingly, Hypothesis 4 assesses the role of societal conditions (i.e., economic decline/improvement, crime increase/ decrease) in amplifying or attenuating differential responses to net migration. All of these hypotheses fall under a general umbrella hypothesis, the ***compound-threat-sensitivity*** hypothesis, which proposes three-way interactions between multiple sources of societal threat and individual differences.

Chapter 5: Study 1 Methods

Participants

Data for Study 1 were drawn from the 7th round of the European Social Survey (ESS, 2014). The present analysis includes all participants who have data available assessing immigration attitudes and who live in countries with data available for relevant country-level variables.[2] This includes a total of 37,073 participants from the following 20 countries: Austria (N = 1,776), Belgium (N = 1,767), Czech Republic (N = 2,114), Denmark (N = 1,493), Estonia (N = 2,036), Finland (N = 2,069), France (N = 1,898), Germany (N = 3,023), Hungary (N = 1,661), Ireland (N = 2,372), Lithuania (N = 2,138), Netherlands (N = 1,908), Norway (N = 1,429), Poland (N = 1,583), Portugal (N = 1,256), Slovenia (N = 1,194), Spain (N = 1,827), Sweden (N = 1,770), Switzerland (N = 1,512), and the United Kingdom (N = 2,247). Participants were recruited using a stratified, two-stage random probability design, and the participant pool within each country is nationally representative of all persons aged 15 and older (see ESS, 2016, for details on sampling design).

Measures

Schwartz Value Dimensions

Study 1 assesses value dimensions that are theoretically and empirically closely related to authoritarianism and SDO (Cohrs, Moschner, Maes, & Kielmann, 2005; Duriez & Van Hiel, 2002). Both of these dimensions were extracted from a 21-item version of

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[2] Relevant country-level variables were not available for Israel, but were available for the remaining 20 countries in the ESS Round 7 dataset. Within these 20 countries, there are 37,623 participants in the full dataset. Of these participants, 550 (1.5%) have missing data for immigration attitudes.

the Schwartz Value Survey (SVS; Schwartz, 1992). Each item on the SVS describes a hypothetical person with characteristics corresponding to each of the 10 values in Schwartz's value circumplex. Participants used a scale ranging from 1 (*very much like me*) to 6 (*not at all like me*) to indicate the extent to which this hypothetical person is similar to them. The scale includes three items assessing universalism, and two items assessing each of following values: self-direction, power, achievement, security, stimulation, conformity, tradition, hedonism, and benevolence. As recommended by Schwartz (1992), value items were mean-centered (i.e., mean endorsement of all value items was subtracted from endorsement of each individual item) to account for acquiescence bias in responses.

The two value dimensions were operationalized in a manner similar to prior cross-national research (see Malka, Soto, Inzlicht, & Lelkes, 2014). The first dimension, *Conservation versus Openness* values (C/O), which loads on a common factor with authoritarianism and the social/cultural dimension of ideology (see Duriez & Van Hiel, 2002), includes the following values: security, conformity, tradition, stimulation, self-direction, and hedonism. Conservation values (security, conformity, tradition) were coded such that higher scores indicate greater endorsement of these values. Openness values (stimulation, self-direction, hedonism) were coded such that higher scores indicate lower endorsement of the values. These items were averaged and then recoded to range from 0 (greatest preference for Openness over Conservation values) to 1 (greatest preference for Conservation over Openness values). The overall reliability of this 12-item scale in Round 7 of the ESS was fairly good ($\alpha = .73$; $M = .51$, $SD = .12$), and its

reliability within countries ranged from α = .66 in the United Kingdom to α = .80 in Lithuania.

The second value dimension is *Self-Enhancement versus Self-Transcendence* (SE/ST), which loads on a common factor with SDO and the economic dimension of ideology (see Duriez & Van Hiel, 2002). This value dimension was operationalized using the following values: benevolence, universalism, power, and achievement. Self-Enhancement values (power, achievement) were coded such that higher values indicate greater endorsement, whereas Self-Transcendence values (benevolence, universalism) were coded such that higher values indicate lower endorsement of the items. These items were averaged and recoded to range from 0 (greatest preference for Self-Transcendence over Self-Enhancement values) to 1 (greatest preference for Self-Enhancement over Self-Transcendence values). The 9-item scale demonstrates acceptable reliability in the ESS (α = .70; *M* = .46, *SD* = .11), and its reliability within countries ranges from α = .56 in Lithuania to α = .74 in Finland. Despite some variance in the reliability of both value dimensions across countries, prior measurement work has shown that Schwartz value dimensions exhibit configural and metric invariance across countries (Davidov, Schmidt, & Schwartz, 2008; Steinmetz, Schmidt, Tina-Booh, Wieczorek, & Schwartz, 2009), and these value dimensions have been shown to similarly predict immigration attitudes across ESS countries (Davidov, Meuleman, Billiet, & Schmidt, 2008).

Immigration Attitudes

Attitudes toward immigration were assessed using four items. The first item stated the following: "To what extent do you think [country] should allow people of the same race or ethnic group as most [country]'s people to come and live here?" Following up on

this first item, the second question asked participants the following: "How about people of a different race or ethnic group from most [country] people?" The third item was worded in the following way: "And how about people from the poorer countries in Europe?" The fourth item stated the following: "How about people from the poorer countries outside Europe?" Participants responded to all four items on a response scale with the following options: 1 (*allow many to come live here*), 2 (*allow some*), 3 (*allow a few*), or 4 (*allow none*). All items were reverse coded so that higher values indicate more open immigration attitudes. They were then averaged to create a single scale, and recoded to range from 0 (the most restrictive immigration attitudes) to 1 (the most open immigration attitudes). These four items demonstrate strong internal consistency overall ($\alpha = .90$; $M = .53$, $SD = .26$), and reliability coefficient range from $\alpha = .83$ in Hungary to $\alpha = .96$ in Spain.

Demographic Covariates

The following demographic covariates were assessed: age, ethnicity, citizenship (i.e., is the respondent a natural-born citizen of his or her country of residence or an immigrant?), gender, education, religiosity, employment status, and income decile.[3] Continuous (or multi-category) measures of income, education level, religiosity, and age were coded to range from 0 to 1. Central tendencies and variability for these covariates were as follows: income ($M = .48$, $SD = .31$), education ($M = .48$, $SD = .31$), religiosity ($M = .43$, $SD = .31$), and age ($M = .35$, $SD = .19$). Indicator variables were created for gender (1 = men), ethnicity (1 = ethnic minority), and employment status (1 =

[3] Because 7,473 respondents were missing data for income decile, including all data from Estonia, this variable is not retained in the primary analyses. However, controlling for income does not influence substantive results.

unemployed), and citizenship (1 = non-citizen). In total, 1598 participants were unemployed (4.3%) and 2,037 participants were not citizens in their country of residence (5.5%).

Contextual Predictors

Methodological Considerations

Before describing contextual measures, a few important methodological considerations are worth addressing. First, contextual predictors can either be assessed in terms of static differences across contexts or in terms of change over time. There are advantages and disadvantages of both approaches. On the one hand, static differences are likely to covary with a number of other contextual factors, making it difficult to draw inferences about the contextual predictor in question (e.g., overall levels of crime may be contingent on economic development). By contrast, changes over time in a given contextual factor are less likely to be as highly correlated with (or dependent on) other contextual factors. Additionally, although people may be oblivious to longstanding base-rate contextual differences, people might pay attention to changes over time (Hopkins, 2010; Kahneman & Tversky, 1979). On the other hand, for many contextual factors, there is far less variance within contexts over time than there is between contexts. Without sufficient variance in any given predictor, it is not possible to detect its influence on any outcome of interest.

Therefore, in the present research, both static differences between contexts and changes within contexts were assessed for each variable. The focal contextual predictors are those assessing change over time, while controlling for stable cross-national differences in these predictors. To measure stable differences across contexts, raw scores

for each contextual variable were averaged over a specified period of time. To estimate change over time, year-to-year change was computed by subtracting raw values for each year from those of the subsequent year. These changes were averaged over a specified period of time to compute a measure of average yearly change in each contextual factor (for a similar approach, see Ruelens, Meuleman, & Nicaise, 2018). In the absence of clear evidence regarding specific weights that individuals place on more recent changes as compared with those in the past, the present analysis relies on average year-to-year change over a specified timeframe, without weighting the most recent changes more heavily.

It is also important to consider the period of time over which change should be assessed. On the one hand, as a general principle, aggregating over multiple data points is likely to yield greater reliability in measurement, at least to the extent that a given variable has some degree of stability over time. For example, if unemployment has generally been increasing over the past ten years, this will be more accurately assessed using year-to-year change over those ten years, rather than relying only on the past two years. On the other hand, if rates of change vary drastically over time, such aggregation might introduce error, as changes that were occurring a decade ago might be inconsistent with the change trajectory in recent years. Because more recent contextual changes—compared to more distal changes—might have a stronger effect on politically relevant outcomes at the individual level (e.g., Jennings & Wlezien, 2016), it is important to capture changes that occurred close to the time that the survey was conducted. In the case of the ESS Round 7, data collection occurred between August 2014 and December 2015, though most surveys were conducted in 2014. For the present analysis, the benefits of

aggregation over multiple years were balanced with the potential costs by assessing changes over time in a given contextual predictor from 2000–2014. Variables estimating stability over time (i.e., average levels of a given variable, rather than year-to-year change) were assessed over these same time periods.

A final factor to consider is whether to use national or regional-level data. On the one hand, there are a number of potential benefits associated with using regional data. First, this increases the number of higher-level units, which increases precision in estimating effects of contextual predictors, as well as interactions between contextual predictors and individual-level characteristics. Additionally, some research and theory suggests that the effects of regional predictors should be more pronounced than those of country-level predictors, at least under certain conditions. For example, realistic conflict perspectives claim that the presence of outgroups in sufficient numbers will likely trigger feelings of threat. Geographic proximity to these outgroup members may increase the salience of this threat, and lead to political competition (Glaser, 1994). However, in order for effects of contextual variables to emerge at the local level, individuals must perceive these local contextual changes. In actuality, people are often oblivious to local context (e.g., Chiricos, Hogan, & Gertz, 1997; Wong, 2007). More important, self-selection at the regional level may present problems for causal inference. If, for example, people select into regions with varying migration rates as a function of pre-existing immigration attitudes, it would be difficult to cleanly estimate the effect of regional migration rates. Finally, as a practical matter, region-level variables are not available for all of the relevant contextual predictors. For these reasons, I rely on country-level variables.

Population Composition

Net Migration Rate

Changes in population composition were assessed using the yearly net migration rate. These data are compiled by Eurostat, which is the official statistical office of the European Union. Eurostat computes the net migration rate by taking the difference between each country's actual population change and natural change due to births and deaths. This is then divided by the population size and multiplied by 1000. Thus, the net migration rate captures population change due to net immigration, expressed per 1000 inhabitants in the population. As with the other contextual predictors, this was averaged from 2000–2014 (M = 2.42, SD = 3.60) and then recoded to range from 0 to 1 (M = .691, SD = .221).

Proportion Foreign

The stable component of population composition was assessed as the proportion the total population that is foreign. This was computed by dividing the number of foreigners (which includes citizens of other EU-member states, as well as non-EU citizens) by the total population. Eurostat also provided these data. As with all other contextual predictors, this figure was averaged from 2000–2014 (M = .066, SD = .022), and then recoded to range from 0 to 1 (M = .306, SD = .247).

Economic Wellbeing

An index of economic wellbeing was created using GDP, unemployment, and inequality. Before describing the economic wellbeing index, a description of each of the component variables is shown below:

Gross Domestic Product (GDP). Gross Domestic Product (GDP) data in the ESS are drawn from the United Nations statistics division. The present research uses a measure of GDP per capita, at current market prices in U.S. dollars. This measure takes total economic production (weighted by the cost of goods and services) and divides this figure by the number of people in a given country. The use of current market prices in U.S. dollars allows equivalent comparisons, because it standardizes differences in the value of currency across countries (see Vachris & Thomas, 1999). Per capita GDP was averaged from 2000–2014 (M = 34,303; SD = 18,295) and then recoded to range from 0 to 1 (M = .38, SD = .28). To calculate change in GDP, the GDP in 2000 was subtracted from the GDP in 2014, and this figure was then divided by the average per capita GDP over this same time period. Thus, change in GDP from 2000 to 2014 was expressed as a proportion of average GDP in each country (M = .73, SD = .23). This figure was then recoded to range from 0 to 1 (M = .30, SD = .27).

Economic Inequality. Economic inequality was assessed using country-level Gini coefficient data from Eurostat. The Gini coefficient is defined as the area between the Lorenz curve – which plots the cumulative percentage of the population from the poorest to the richest, against the cumulative share of income that they receive – and a 45-degree line. The theoretically possible values of the Gini coefficient range from 0 (i.e., income distributed completely evenly) and 1 (i.e., all income going to one person). To account for effects of differences in size and composition of different households, incomes are "equivalized" by dividing total household income by an equivalization factor that weighs each person in the household using OECD standards (i.e., a weight of 1 for the first person 14 years of age or older, a weight of 0.5 for each additional person 14 years of age

or older, and a weight of 0.3 for each person younger than 14). Eurostat expresses the Gini coefficient as a percentage, rather than a proportion, so the *theoretically* possible raw values range from 0 to 100. Gini coefficients were averaged from 2000–2014 (M = 28.68, SD = 3.73) and then recoded to range from 0 to 1 (M = .43, SD = .30). Change in inequality was estimated by averaging year-to-year change in the Gini coefficient from 2000–2014 (M = -.05, SD = .23). This was then recoded to range from 0 to 1 (M = .46 SD = .24).

Unemployment. Unemployment rates in the ESS are also drawn from Eurostat. In the present research, unemployment was assessed as the total percentage of the active population that is unemployed (i.e., without work during the reference week, available for work at the time, and actively seeking work). These data are also available for long-term unemployment (12 months or more) only, and excluding citizens under the age of 25. However, within each year, these different unemployment figures are almost perfectly correlated, thus the most straightforward measure were chosen for the sake of simplicity. Stable unemployment was estimated by averaging unemployment rates from 2000–2014 (M = 7.87, SD = 3.04). This was recoded to range from 0 to 1 (M = .37, SD = .26). Changes in unemployment were estimated by computing average year-to-year change in unemployment between 2000 and 2014 (M = .07, SD = .34). This was recoded to range from 0 to 1 (M = .46, SD = .27).

Economic Wellbeing Index. Rather than separately estimating the interactive effects of each economic predictor, an index of economic wellbeing was computed. The index considers greater economic wellbeing to be associated with higher GDP per capita, lower unemployment, and lower economic inequality. These three economic variables

covaried highly and formed a fairly reliable index (α = .78). Therefore, stable country-level differences in economic wellbeing were computed as follows:

Mean Economic Wellbeing = (Mean GDP + (1–Mean Gini) + (1–Mean Unemployment))/3

Each of the above economic variables represented an average from 2000–2014, recoded to range from 0 to 1. The overall index was fairly reliable (α = .78; *M* = .45, *SD* = .27). Changes in economic wellbeing were computed in the same manner, but using change variables instead of averages (α = .66; *M* = .46, *SD* = .27). Higher values on this variable therefore indicate countries with increasing GDP per capita, decreasing inequality, and decreasing unemployment.

Violent Crime

Per Capita Violent Crime. Violent crime rates were assessed using Eurostat data on crimes reported by police. This includes yearly totals for all of the following crimes: homicide, assault, robbery, rape, and sexual assault. These totals were divided by population size and then multiplied by 100,000 to provide a measure of violent crime per 100,000 inhabitants. Yearly per capita violent crime rates were averaged from 2000–2014 (*M* = 362.75, *SD* = 256.85) and then recoded to range from 0 to 1 (*M* = .27, *SD* = .28). Changes in violent crime were estimated by computing average year-to-year change from 2000–2014 (*M* = -11.23, *SD* = 14.76), which was then recoded to range from 0 to 1 (*M* = .54, *SD* = .28). Here, it is worth noting that most countries in the sample experienced a decrease in violent crime between 2000 and 2014. Increases in violent crime over this time period were only observed in four countries. Thus, although the measure is coded so that higher values indicate greater increases in violent crime, this variable primarily captures variance in the extent to which crime has decreased.

Chapter 6: Study 1 Results and Discussion

Analytic Strategy

I tested all hypotheses by estimating multi-level (i.e., mixed-effects) linear models in Stata 15. These models assess support for immigration as the dependent variable and all include the following country-level fixed effects: average proportion of the foreign-born population (2000–2014), average economic wellbeing (2000–2014), average violent crime rate (2000–2014), average net migration rate (2000–2014), change in economic wellbeing (2000-2014), change in violent crime rate (2000–2014), and total population size. These models also include all of the following individual-level fixed effects: education, ethnicity (1 = ethnic minority), sex (1 = male), age, religiosity, employment (1 = unemployed), citizenship (1 = non-citizen), Self-Enhancement versus Self-Transcendence (SE/ST) values, and Conservation versus Openness (C/O) values.

The models include random intercepts, which account for random country-level variation in immigration attitudes, as well as random slopes to account for random cross-national variation in the effects of the two focal individual difference variables: SE/ST values and C/O values. Additionally, I include post-stratification survey weights, which correct for cross-national differences in sampling design, reduce sampling error, and correct for systematic non-response bias (see Little, 1993). The post-stratification weights in the ESS use a multivariate weighting function to produce survey estimates that are nationally representative of population characteristics for age, gender, education, and region (see Vehovar, Slavec, & Kralj, 2014).

Relations Among Predictor Variables

Table 1 shows the pairwise correlations between country-level predictors. Countries with higher rates of net migration tend to have a higher proportion of the foreign population, as net migration is a primary contributor to the size of the foreign population (United Nations, 2017). Net migration also tends to be greater in countries with stronger economies (i.e., high GDP, low unemployment), as most migration is driven by labor market opportunities (IOM, 2020). European countries with more prosperous economies on average tended to see less improvement in their economies between 2000 and 2014, which may be due to a variety of factors, including greater growth potential in countries with smaller economies initially (Balcerowicz, Laszek, Rzonca, & Kalina, 2013). Similarly, countries with higher crime on average tended to experience greater reductions in crime over time.

Table 1: Pairwise Correlations Between Country-Level Predictors

	Prop. Foreign	Net Mig.	Econ (mean)	Crime (mean)	Econ (change)	Crime (change)
Prop. Foreign	1					
Net Migration	0.403*	1				
Economy (mean)	0.144*	0.555*	1			
Crime (mean)	-0.060*	0.293*	0.333*	1		
Economy (change)	-0.098*	-0.701*	-0.354*	-0.285*	1	
Crime (change)	0.124*	-0.154*	-0.295*	-0.439*	0.054*	1
Population Size	0.004	0.156*	-0.147*	0.213*	-0.336*	0.175*

Note: *p < .001

Pairwise correlations between individual-level predictors are shown in Table 2. Most predictors are significantly inter-correlated, albeit modestly so. The two focal individual difference dimensions are slightly negatively correlated because they have been ipsatized, following the recommendations of Schwartz (1992). Consistent with prior research on correlations between Schwartz value dimensions and demographic factors (e.g., Verkasalo, Lonnqvist, Lipsanen, & Helkama, 2009), C/O values tend to be higher among older individuals, women, those with lower educational attainment, and those who are religious. By contrast, SE/ST values tend to be higher among younger individuals, men, and those who are less religious.

Table 2: Pairwise Correlations Between Individual-Level Predictors

	Educ.	Eth. Min.	Male	Age	Relig.	Un-Emp.	Non-Citizen	C/O Values
Education	1							
Ethnic Min.	0.018*	1						
Male	-0.018*	0.008	1					
Age	-0.146*	-0.074*	-0.035*	1				
Religiosity	-0.098*	0.096*	-0.145*	0.175*	1			
Unemployed	-0.037*	0.025*	0.024*	-0.109*	-0.024*	1		
Non-Citizen	0.031*	0.293*	0.003	-0.068*	0.067*	0.041*	1	
C/O Values	-0.183*	0.041*	-0.113*	0.369*	0.262*	-0.039*	0.016*	1
SE/ST Val	0.000	0.063*	0.147*	-0.217*	-0.058*	0.010	0.016*	-0.151*

Note: * $p < .01$

Hypothesis Testing

I test interactions between contextual factors and individual differences in two different ways. In Table 3, interactions are estimated using change predictors for violent crime and the state of the economy from 2000–2014. In Table 4, interactions are estimated using average levels of violent crime and the state of the economy from 2000–2014. For the sake of clarity, I provide a list of each hypothesis, along with the location of its corresponding inferential test in the tables that follow:

Population Change Hypotheses

H1a: The ***general-intergroup-threat*** hypothesis states that higher rates of net migration will predict reduced support for immigration. I tested this simply by assessing the effect of net migration in a model that includes no interaction effects (Model 1: Table 3). As a variant of this hypothesis, I also tested whether the stable proportion of the foreign-born population predicts reduced support for immigration (Model 1: Table 3).

H1b: The ***social-stability-threat*** hypothesis states that higher rates of net migration will predict reduced support for immigration to a greater extent among individuals who express value preferences associated with high authoritarianism. I tested this by estimating an interaction between net migration and C/O values (Model 2: Table 3).

H1c: The ***status-threat*** hypothesis states that higher rates of net migration will predict reduced support for immigration to a greater extent among individuals who express value preferences associated with high SDO. I tested this by estimating an interaction between net migration and SE/ST values (Model 2: Table 3).

Differential Moderation Hypotheses

H2a: The ***differential-security-threat-sensitivity*** hypothesis states that increasing crime will predict reduced support for immigration only among individuals who express value preferences associated with high authoritarianism. I tested this by estimating an interaction between violent crime change and C/O values (Model 3: Table 3). As a variant of this hypothesis, I also tested whether or not there is a similar interaction between C/O values and average levels of crime (Model 6: Table 4).

H2b: The ***differential-scarcity-threat-sensitivity*** hypothesis states that economic decline will predict reduced support for immigration only among individuals who express value preferences associated with high SDO. I tested this by estimating an interaction between economic health change and SE/ST values (Model 3: Table 3). As a variant of this hypothesis, I also tested whether or not there is a similar interaction between SE/ST and average economic health (Model 6: Table 4).

Compound Threat Sensitivity Hypotheses

H3a & H4a: The ***crime-threat-amplification*** hypothesis states that higher rates of net migration will exacerbate the negative influence of increasing crime on immigration attitudes among individuals who express value preferences associated with high authoritarianism. Correspondingly, the ***crime-threat-amplifier*** hypothesis states that increasing crime will exacerbate the negative influence of net migration on immigration attitudes among individuals who express value preferences associated with high authoritarianism. I tested both of these hypotheses by estimating a three-way interaction

between net migration, violent crime change, and C/O values (Model 4: Table 3). As a variant of these hypotheses, I tested a similar interaction using average violent crime, rather than change (Model 7; Table 4).

H3b & H4b: The ***economic-threat-amplification*** hypothesis states that higher rates of net migration will exacerbate the negative influence of economic decline on immigration attitudes among individuals who express value preferences associated with high SDO. Correspondingly, the ***economic-threat-amplifier*** hypothesis states that economic decline will exacerbate the negative influence of net migration on immigration attitudes among individuals who express value preferences associated with high SDO. I tested both of these hypotheses by estimating a three-way interaction between net migration, economic change, and SE/ST values (Model 5; Table 3). As a variant of these hypotheses, I also tested a similar interaction using average economic health, rather than change (Model 8; Table 4)

The estimates for Models 1–5 are displayed in Table 3 below with the inferential tests of each hypothesis shown in bold:

Table 3: Interactive Effects of Individual Differences and Contextual Changes on Support for Immigration

Fixed Effects	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Prop. Foreign	**.129 (.119)**	.125 (.116)	.130 (.117)	.116 (.116)	.104 (.110)
Economy (mean)	.066 (.062)	.065 (.059)	.067 (.059)	.060 (.058)	.098 (.076)
Crime (mean)	-.048 (.049)	-.047 (.047)	-.044 (.048)	-.045 (.043)	-.040 (.049)
Economy (change)	-.139 (.139)	-.129 (.135)	-.191 (.143)	-.111 (.133)	-.043 (.188)
Crime (change)	-.072 (.083)	-.067 (.081)	-.070 (.089)	-.453 (.476)	-.052 (.078)
Population	.076 (.068)	.077 (.066)	.070 (.067)	.078 (.069)	.077 (.062)
Education	.147*** (.011)	.147*** (.011)	.147*** (.011)	.147*** (.011)	.147*** (.011)
Ethnic Minority	.036*** (.008)	.036*** (.008)	.036*** (.008)	.036*** (.008)	.036*** (.008)
Male	.005 (.005)	.005 (.005)	.005 (.005)	.005 (.005)	.005 (.005)
Age	-.168*** (.022)	-.168*** (.022)	-.168*** (.022)	-.168*** (.022)	-.168***(.022)
Religiosity	.040*** (.008)	.040*** (.008)	.040*** (.008)	.040*** (.008)	.040*** (.008)
Unemployed	-.017** (.006)	-.017** (.006)	-.017** (.006)	-.017** (.006)	-.017** (.006)
Non-Citizen	.049** (.014)	.049** (.014)	.049** (.014)	.049** (.014)	.049** (.014)
Net Migration	**.032 (.166)**	.097 (.172)	.016 (.158)	-.202 (.410)	.186 (.155)
SE/ST Values	-.434*** (.032)	-.170* (.083)	-.599*** (.066)	-1.09*** (.287)	-.509* (.221)
C/O Values	-.340*** (.024)	-.301*** (.085)	-.348*** (.076)	-1.23** (.431)	-.276 (.199)
Migration * SE/ST		**-.304*** (.114)**		.798* (.403)	.015 (.255)
Migration * C/O		**-.054 (.129)**		1.22* (.562)	-.127 (.228)
Migration * Crime				.524 (.667)	
Migration * Econ					-.662 (.487)
SE/ST * Crime			**.084 (.085)**	1.47** (.468)	
SE/ST * Econ			**.265* (.106)**		.221 (.143)
C/O * Crime			**-.062 (.095)**	1.50* (.696)	
C/O * Econ			**.095 (.113)**		-.172 (.240)
SE/ST * Migration * Crime				**-1.90** (.667)**	
SE/ST * Migration * Econ					**-.251 (.173)**
C/O * Migration * Crime				**-2.08* (.878)**	
C/O * Migration * Econ					**.499 (.328)**
Constant	.880*** (.127)	.829*** (.132)	.912*** (.124)	1.05*** (.278)	.503** (.168)
Random Effects					
Intercept (country)	.005 (.003)	.005 (.002)	.005 (.002)	.005 (.002)	.003 (.002)
SE/ST Values	.013 (.006)	.007 (.002)	.008 (.003)	.005 (.002)	.002 (.002)
C/O Values	.009 (.003)	.009 (.003)	.009 (.003)	.006 (.003)	.004 (.002)
Error Variance	.053 (.002)	.053 (.002)	.053 (.002)	.053 (.002)	.055 (.004)
Model Details					
N	35942	35942	35942	35942	35942
Pseudo-Likelihood	1755.71	1761	1760.59	1766.54	1112.69

Note: *p < .05, **p < .01, ***p < .001. Robust standard errors are shown in parentheses. Interaction terms with 'Crime' refer to increases in violent crime. Interaction terms with 'Econ' refer to improvement in economic wellbeing. Coefficients that test formal hypotheses are in bold, whether or not they are statistically significant.

Population Change Hypotheses

The ***general-intergroup-threat*** hypothesis predicts that net migration will be associated with reduced support for immigration. As shown by the bold coefficients in Model 1, this hypothesis is not supported in the present study (b = .032, SE = .166). Using the proportion of the foreign population as an alternative measure, I also find no support for this hypothesis (b = .129, SE = .119).[4]

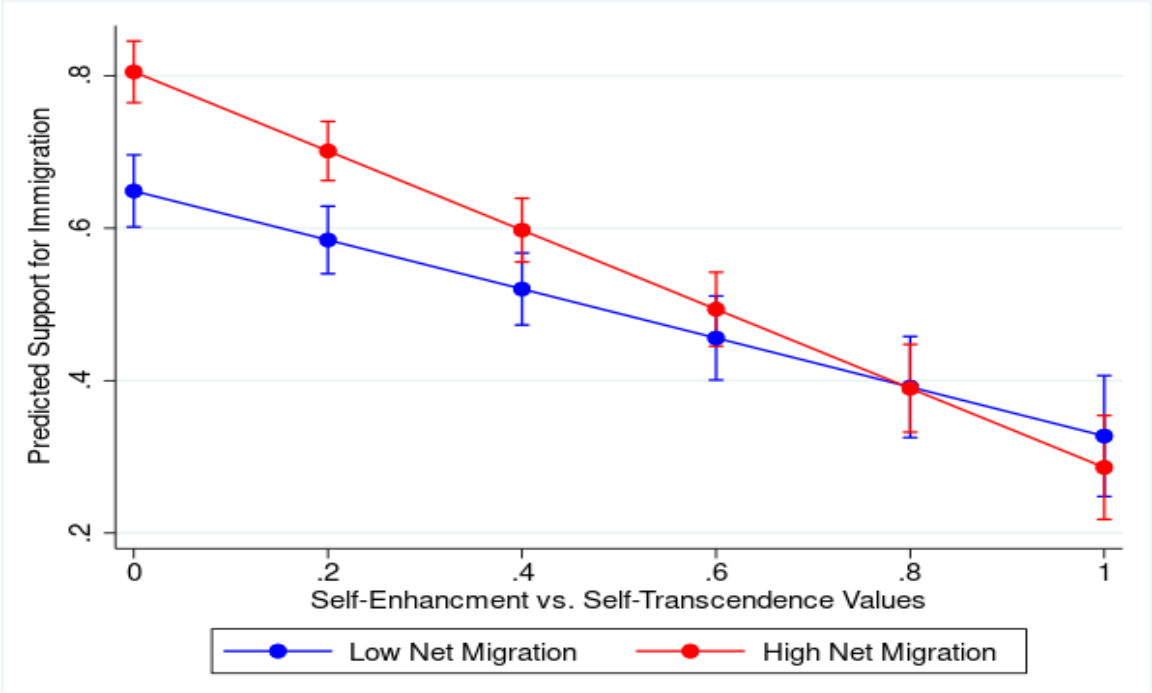
The ***social-stability-threat*** hypothesis predicts that net migration will be associated with reduced support for immigration among those highest in C/O values. The critical inferential test of this hypothesis is the interaction between migration and C/O values, shown in bold in Model 2. Contrary to this hypothesis, there is no significant variation in the effect of net migration as a function of C/O values (b = -0.054, SE = .129).

The ***status-threat*** hypothesis predicts that net migration will be associated with reduced support for immigration among those highest in SE/ST values. The critical inferential test of this hypothesis is the interaction term between migration and SE/ST values, which is statistically significant (b = -0.304, SE = .114, p < .001). I break down this hypothesis by displaying marginal predicted support for migration across the spectrum of SE/ST values in high and low net migration contexts. This is shown in Figure 1. Among those highest in SE/ST values, there is no difference in predicted

[4] When estimating a model with only one population composition variable at a time, the findings for the effect of net-migration (b = .141, SE = .080, p = .078) and proportion-foreign (b = .139, SE = .082, p = .090) do not change substantively.

average support for immigration between low net migration ($\hat{y}$ = 0.327, *SE* = .020, $p <$ .001) and high net migration ($\hat{y}$ = 0.286, *SE* = .035, $p <$ .001) contexts. However, among those lowest in SE/ST values, there is greater support for immigration in high net migration contexts ($\hat{y}$ = 0.805, *SE* = .021, $p <$ .001) than in low net migration contexts ($\hat{y}$ = 0.649, *SE* = .024, $p <$ .001). Thus, rather than net migration predicting reduced support for immigration among those highest in SE/ST values (as hypothesized), it appears to predict increased support for immigration among those lowest in SE/ST values.

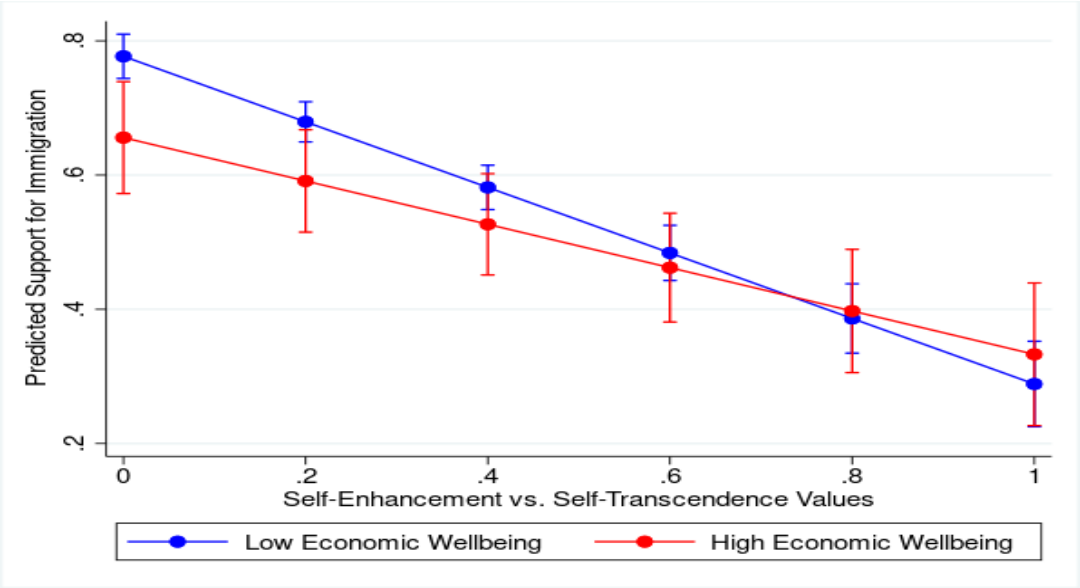
Figure 1: Support for Immigration as a Function of SE/ST Values and Net Migration



Differential Moderation Hypotheses

The differential moderation hypothesis makes two separate predictions, which I have given different labels for the sake of clarity. The ***differential-security-threat-sensitivity*** hypothesis predicts that increasing crime will result in reduced support for immigration especially among those highest in C/O values. The ***differential-scarcity-threat-sensitivity*** hypothesis predicts that economic decline will result in reduced support for immigration especially among those highest in SE/ST values. Differential moderation thus implies relatively strong *C/O values * crime* and *SE/ST values * economic wellbeing* interactions and relatively weak (or null) *C/O values * economic wellbeing* and *SE/ST values * crime* interactions. As shown in Model 3 (Table 3), there is no evidence for an interaction between changes in violent crime and either value dimension, contrary to the ***differential-security-threat-sensitivity*** hypothesis. However, there is evidence of an interaction between SE/ST values and economic wellbeing ($b = .265$, $SE = .106$, $p < .05$), as predicted by the ***differential-scarcity-threat-sensitivity*** hypothesis. This interaction indicates that economic wellbeing decreases the effect of SE/ST values on immigration attitudes. I break down this interaction by estimating predicted average support for immigration across the spectrum of SE/ST values, with separate estimates for the ten countries with relatively low improvement in economic wellbeing and the ten countries with relatively greater improvement in economic wellbeing. These estimates are shown in Figure 2.

Figure 2: Support for Immigration as a Function of SE/ST Values and Change in Economic Wellbeing

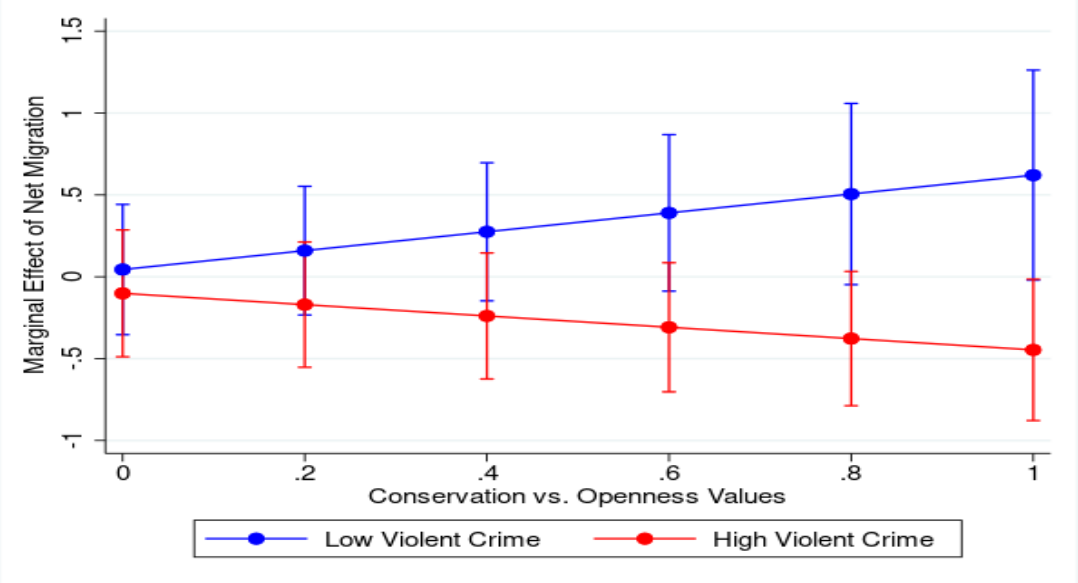


As shown in Figure 2, in contexts in which the economy is in relative decline, predicted support for immigration is especially high among those lowest in SE/ST values ($\hat{y}$ = .777, *SE* = .017, $p < .001$) and it is much lower among those highest in SE/ST values ($\hat{y}$ = .289, *SE* = .032, $p < .001$). In contexts with relatively higher improvement in economic wellbeing, support for immigration does not differ as much between those lowest in SE/ST values ($\hat{y}$ = .656, *SE* = .043, $p < .001$) and those highest in SE/ST values ($\hat{y}$ = .333, *SE* = .054, $p < .001$). This is consistent with the ***differential-scarcity-threat-sensitivity*** hypothesis in the sense that reduced economic wellbeing (i.e., greater scarcity) increases the effect of SE/ST values on immigration attitudes. However, the interaction between SE/ST values and change in economic wellbeing appears to be driven by particularly high support for immigration among those lowest in SE/ST values in contexts of economic decline, rather than particularly reduced support for immigration among those highest in SE/ST values.

Compound Threat Sensitivity: Crime Threat

The ***crime-threat-amplification*** and ***crime-threat-amplifier*** hypotheses both predict a three-way interaction among net migration, increases in violent crime, and C/O values. As shown in bold in Model 4 (Table 3), this three-way interaction is statistically significant (b = -2.08, SE = .878, $p < .05$). I break down this interaction in two ways. To test the ***crime-threat-amplifier*** hypothesis, I estimate the marginal effect of net migration on support for immigration across the spectrum of C/O values, with separate estimates for countries with high and low increases in violent crime. This is displayed in Figure 3.

Figure 3: Net-Migration * C/O Values * Violent Crime Change

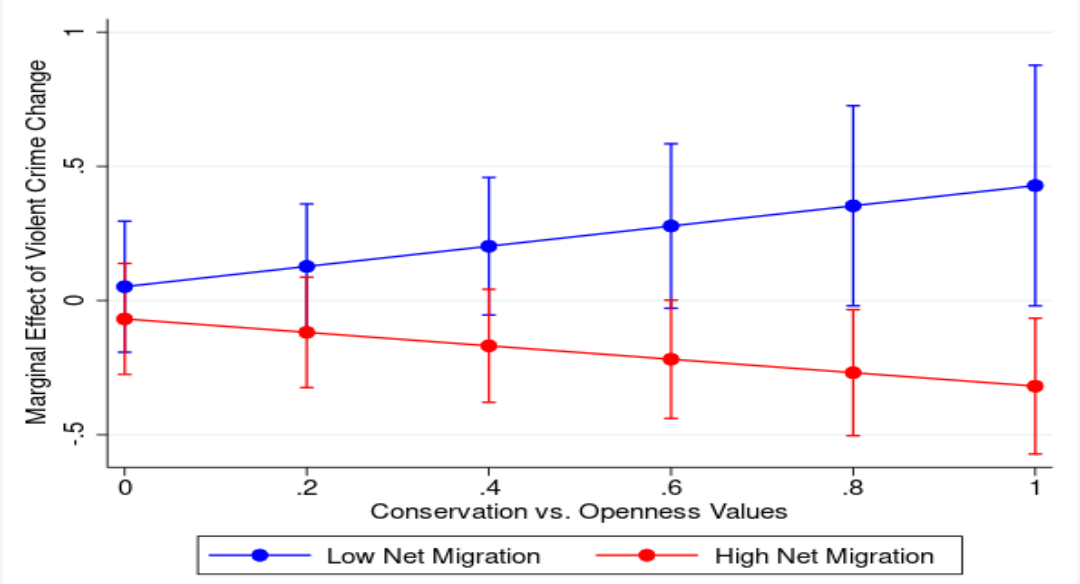


Consistent with the ***crime-threat-amplifier*** hypothesis, the negative effect of net migration on support for immigration among those highest in C/O values is highly contingent on changes in violent crime. In the ten countries in which violent crime decreased the most, net migration does not significantly predict immigration attitudes at any level of C/O values. Among those lowest in C/O values, the point estimate for the

effect of net migration is close to zero (b = .044, SE = .203, p = .827). Among those highest in C/O values, net migration is actually associated with more *positive* attitudes toward immigration, though this effect is not statistically significant at conventional levels (b = .620, SE = .327, p = .058). However, in countries with relatively higher violent crime (i.e., increasing violent crime or relatively little decrease in violent crime), this pattern reverses. Among those lowest in C/O values, net migration does not predict immigration attitudes (b = -.101, SE = .198, p = .609). However, among those highest in C/O values, net migration predicts decreased support for immigration (b = -.447, SE = .220, p = .043).

To test the ***crime-threat-amplification*** hypothesis, I estimate the marginal effect of violent crime on support for immigration across the spectrum of C/O values, with separate estimates for countries with high and low net migration. This is displayed in Figure 4.

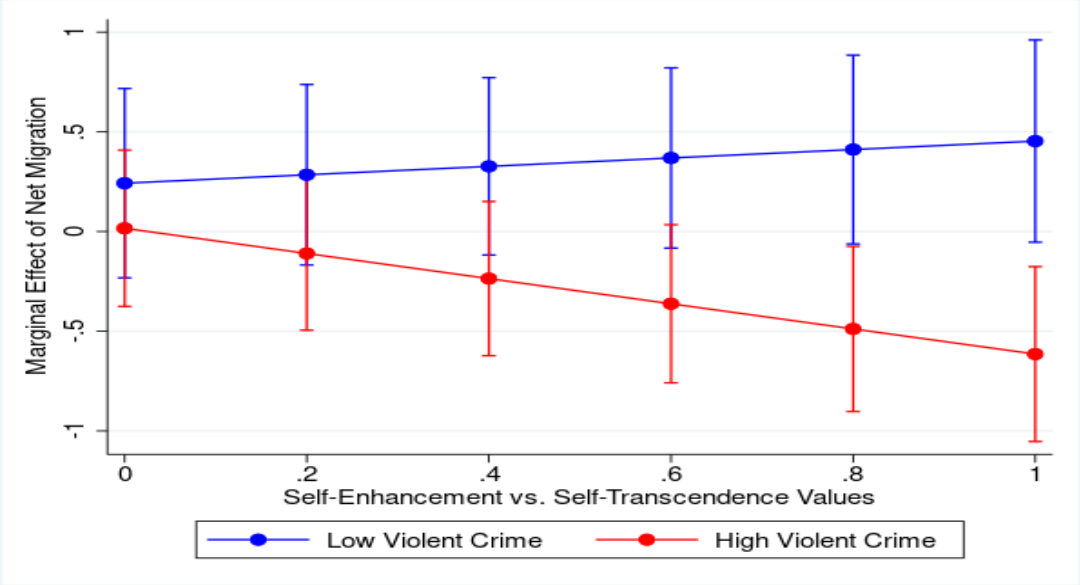
Figure 4: Violent Crime Change * C/O Values * Net-Migration



Consistent with the ***crime-threat-amplification*** hypothesis, the negative effect of increases in violent crime on immigration attitudes among those highest in C/O values is contingent on migration rates. Among those lowest in C/O values, increases in violent crime have no effect on immigration attitudes in either low net migration (b = .052, SE = .123, p = .678) or high net migration (b = -.068, SE = .105, p = .517) contexts. However, among those highest in C/O values, the effect of increases in violent crime depends on concurrent migration rates. In countries with low net migration, violent crime predicts greater support for immigration among those highest in C/O values (b = .429, SE = .229, p = .061), though this effect is not statistically significant at conventional levels. By contrast, in countries with higher net migration, increasing violent crime predicts reduced support for immigration among those highest in C/O values (b = -.319, SE = .129, p = .013). Because violent crime decreased in most European countries from 2000 to 2014, it would perhaps be more accurate to say that greater decreases in violent crime predict increased support for immigration among those with high C/O values in high net migration contexts.

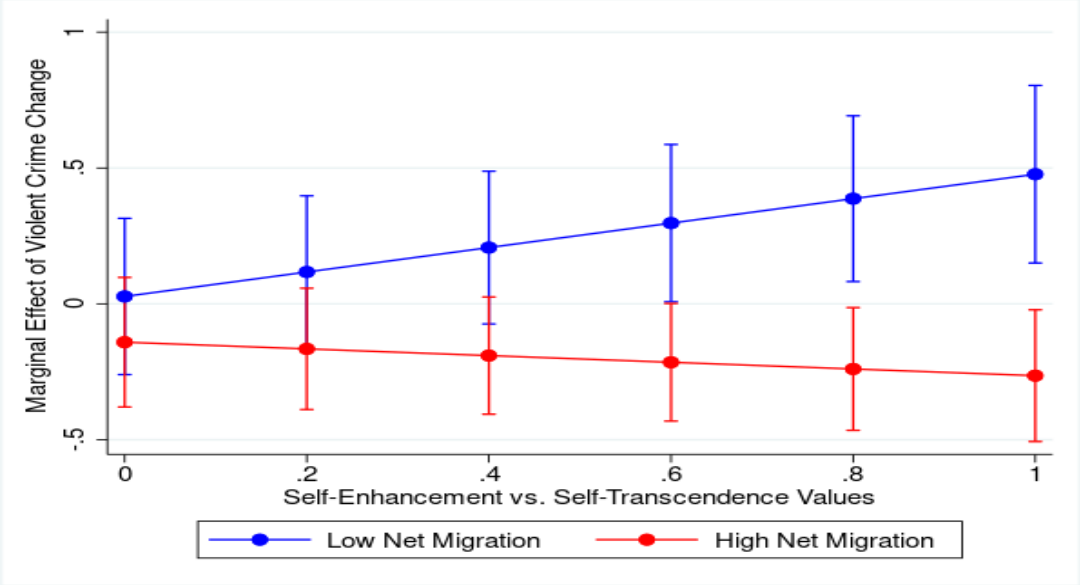
Unexpectedly, I also find evidence of a three-way interaction among violent crime, net migration, and SE/ST values (b = -1.90, SE = .667, $p < .01$). This interaction is not predicted by the compound threat sensitivity hypothesis. I break down this interaction in the same manner as the interaction between violent crime, net migration, and C/O values described above. The marginal effect of net migration across the spectrum of SE/ST values in contexts of relatively low and high violent crime change is displayed in Figure 5.

Figure 5: Net-Migration * SE/ST Values * Violent Crime Change



As shown in Figure 5, in countries with a greater decrease in violent crime, increasing net migration is generally associated with greater support for immigration, though the 95% confidence interval includes zero across the spectrum of SE/ST values. The point estimate is closer to zero for those lowest in SE/ST values (b = .242, SE = .242, p = .317) and is larger for those highest in SE/ST values (b = .454, SE = .259, p = .080). By contrast, among those in the ten European countries with greater violent crime (i.e., increasing or relatively stable violent crime), the effect of net migration depends on SE/ST values. Among those lowest in SE/ST values, net migration has no effect on immigration attitudes (b = .016, SE = .200, p = .935). Among those highest in SE/ST values, greater net migration predicts reduced support for immigration (b = -.615, SE = .224, p = .006). I also break down this interaction in terms of the marginal effect of violent crime, across the spectrum of SE/ST values, with separate estimates for lower and higher net migration countries. This is shown in Figure 6.

Figure 6: Violent Crime Change * SE/ST Values * Net-Migration



As shown in Figure 6, in countries with lower net migration, violent crime is generally associated with positive attitudes toward immigration and this effect varies as a function of SE/ST values. Among those lowest in SE/ST values, there is no effect of violent crime on immigration attitudes (b = .027, SE = .147, p = .853). Among those highest in SE/ST values, increases in violent crime are associated with more positive attitudes toward immigration (b = .477, SE = .167, p = .004). In higher net migration countries, the opposite pattern is observed. Here, violent crime is generally associated with reduced support for immigration, and this varies as a function of SE/ST values. Among those lowest in SE/ST values, violent crime is unassociated with immigration attitudes (b = -.141, SE = .122, p = .246). Among those highest in SE/ST values, increases in violent crime are associated with reduced support for immigration (b = -.264, SE = .124, p = .033).

Compound Threat Sensitivity – Economic Threat

The ***economic-threat-amplification*** and ***economic-threat-amplifier*** hypotheses both predict a three-way interaction among changes in economic wellbeing, net migration, and SE/ST values. There is no evidence of this three-way interaction pattern using the economic wellbeing change variable, as shown in Model 5 (Table 3).

Hypothesis Testing Using Stable Contextual Predictors

In addition to testing the compound threat sensitivity hypotheses using measures of *change* in economic wellbeing and crime, I also test these predictions using stable average levels of economic wellbeing and crime from 2000–2014. The result is a series of models that substitute average levels of economic wellbeing and crime for their respective change variables in all of the interaction terms. These models are otherwise equivalent to the specifications shown in Table 3 and described at the beginning of the chapter. The results of this model specification using stable contextual predictors are shown in Table 4.

Table 4: Testing Compound-Threat-Sensitivity Using Stable Contextual Predictors

Fixed Effects	**Model 6**	**Model 7**	**Model 8**
Proportion Foreign	.124 (.117)	.118 (.113)	.104 (.100)
Economy (mean)	.084 (.071)	.086 (.065)	.279 (.307)
Crime (mean)	-.051 (.053)	-.062 (.533)	-.042 (.048)
Economy (change)	-.134 (.135)	-.139 (.138)	-.116 (.141)
Crime (change)	-.069 (.082)	-.054 (.076)	-.057 (.073)
Population	.075 (.066)	.086 (.061)	.072 (.064)
Education	.147*** (.011)	.147*** (.011)	.147*** (.011)
Ethnic Minority	.036*** (.008)	.036*** (.008)	.036*** (.008)
Male	.005 (.005)	.005 (.005)	.005 (.005)
Age	-.168*** (.022)	-.168*** (.022)	-.168*** (.022)
Religiosity	.040*** (.008)	.040*** (.008)	.040*** (.008)
Unemployed	-.017** (.006)	-.017** (.006)	-.017** (.006)
Non-Citizen	.049** (.014)	.049** (.014)	.049** (.014)
Net Migration	.029 (.156)	.089 (.204)	.166 (.197)
SE/ST Values	-.323*** (.069)	-.076 (.058)	-.075+ (.041)
C/O Values	-.388*** (.051)	-.248** (.081)	-.229*** (.055)
Migration * SE/ST		-.496*** (.090)	-.431*** (.067)
Migration * C/O		-.157 (.116)	-.255*** (.068)
Migration * Crime		.004 (.671)	
Migration * Econ			-.277 (.371)
SE/ST * Crime	**-.026 (.069)**	-1.35** (.521)	
SE/ST * Econ	**-.227+ (.120)**		-.828*** (.229)
C/O * Crime	**.052 (.068)**	-.710 (.652)	
C/O * Econ	**.077 (.104)**		-.361 (.290)
SE/ST * Migration * Crime		**1.73** (.645)**	
SE/ST * Migration * Econ			**-.828*** (.229)**
C/O * Migration * Crime		**1.04 (.804)**	
C/O * Migration * Econ			**.664+ (.355)**
Constant	.873*** (.122)	.825*** (.149)	.774*** (.163)
Random Effects			
Intercept (country)	.005 (.002)	.005 (.002)	.004 (.002)
Slope (SE/ST Values)	.009 (.004)	.005 (.002)	.004 (.002)
Slope (C/O Values)	.008 (.003)	.006 (.003)	.006 (.003)
Error Variance	.053 (.002)	.053 (.002)	.053 (.002)
Model Details			
N	35942	35942	35942
Log Pseudo-Likelihood	1759.69	1765.04	1767.70

Note: +p < .10, *p < .05, **p < .01, ***p < .001. Robust standard errors are shown in parentheses. Interaction terms with 'Crime' refer to average levels of violent crime. Interaction terms with 'Econ' refer to average levels of economic wellbeing.

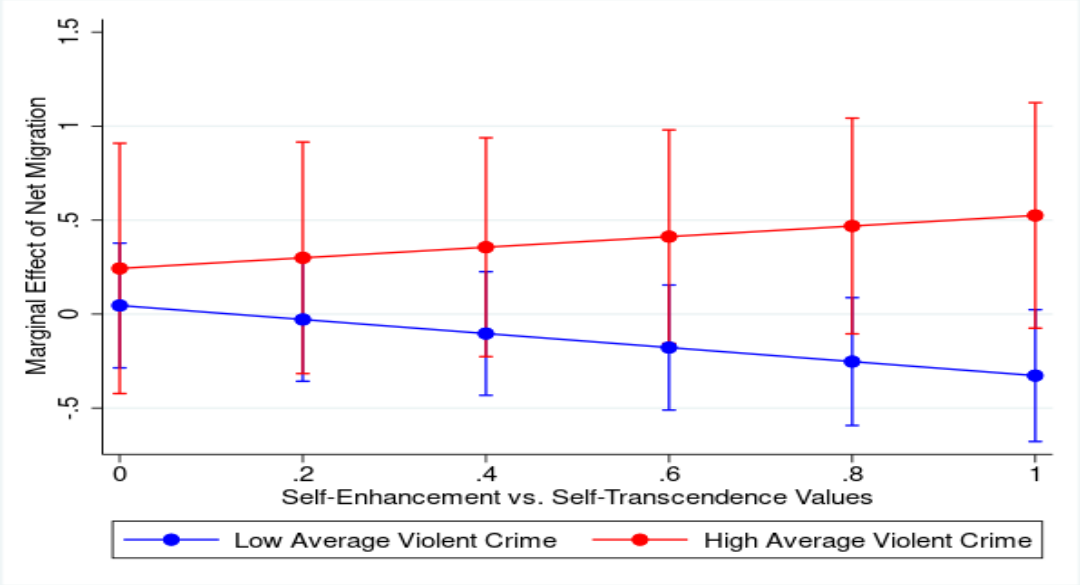
Differential Moderation Hypotheses

Model 6 (Table 4) tests the differential moderation hypotheses using stable contextual differences in economic wellbeing and violent crime. Contrary to the differential moderation hypothesis, there is no evidence of a statistically significant interaction between SE/ST values and stable differences in economic wellbeing, nor is there evidence of an interaction between C/O values and stable cross-national differences in violent crime.

Compound Threat Sensitivity Hypothesis: Average Violent Crime

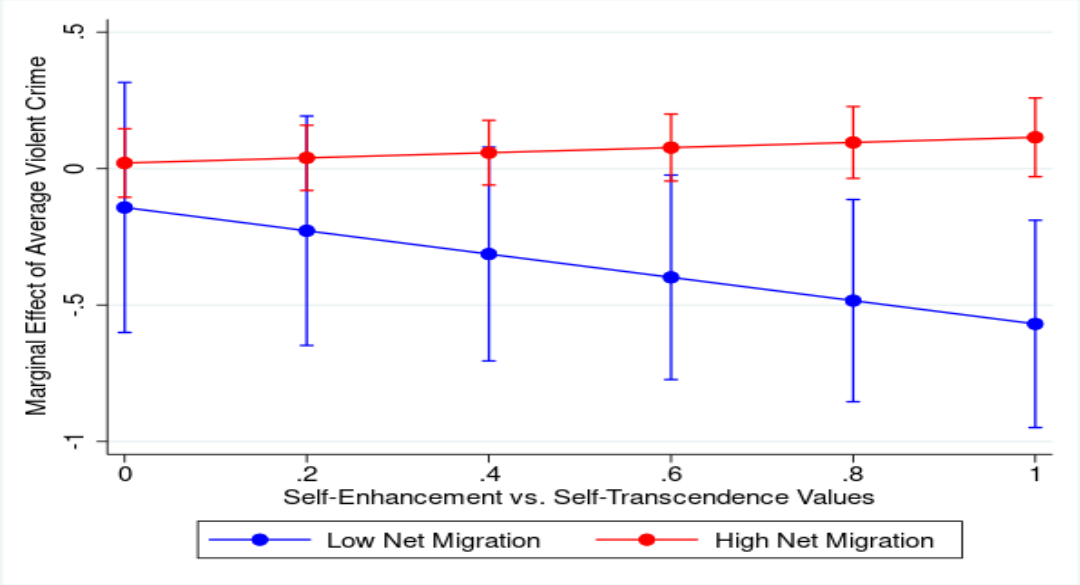
The ***crime-threat-amplification*** and ***crime-threat-amplifier*** hypotheses both predict a three-way interaction among net migration, violent crime, and C/O values. As shown in Model 7 (Table 4), there is no evidence of such a three-way interaction. Contrary to the research hypotheses, there is evidence of a three-way interaction among net migration, average violent crime, and SE/ST values. As with the previous interactions using change variables, I break down these interactions in terms of the marginal effect of net migration (Figure 7) and the marginal effect of violent crime (Figure 8).

Figure 7: Net-Migration * SE/ST Values * Average Violent Crime



As shown in Figure 7, the effect of net migration across the spectrum of SE/ST values varies as a function of average violent crime. Among those lowest in SE/ST values, there is no effect of net migration in countries with lower average violent crime (b = .046, SE = .169, p = .786) or in countries with higher average violent crime (b = .243, SE = .340, p = .474). However, among those highest in SE/ST values, the effect of net migration differs depending on average violent crime. In countries with low average violent crime, net migration is associated with marginally reduced support for immigration among those highest in SE/ST values (b = -.327, SE = .179, p = .067). In countries with relatively higher violent crime, net migration is associated with marginally greater support for immigration among those highest in SE/ST values (b = .525, SE = .306, p = .086).

Figure 8: Average Violent Crime * SE/ST Values * Net-Migration



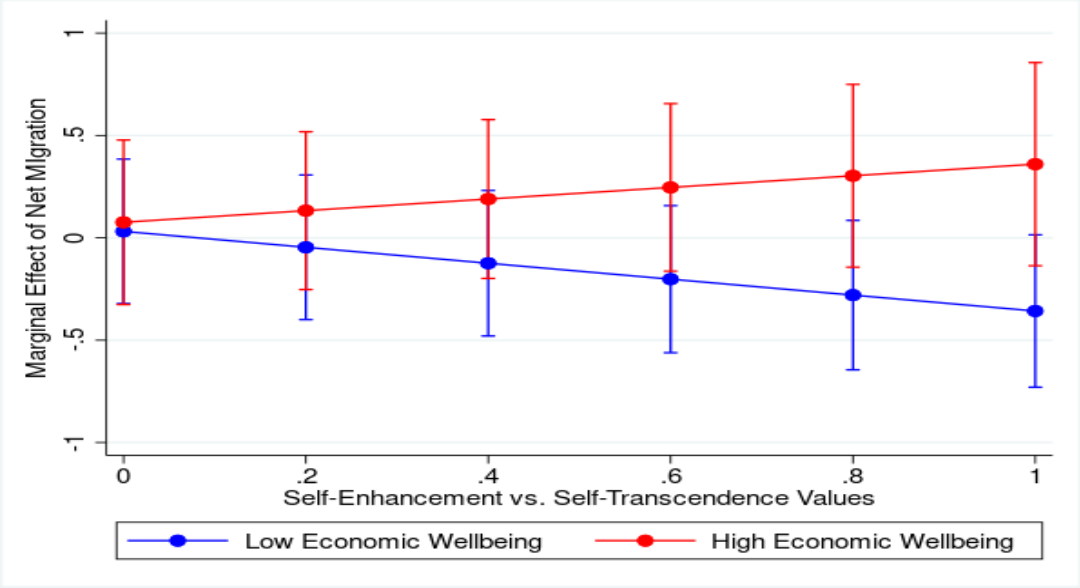
As shown in Figure 8, the effect of average violent crime on support for immigration across the spectrum of SE/ST values also depends on migration rates. In countries with high net migration, violent crime has no effect on immigration attitudes among those lowest in SE/ST values (b = .021, SE = .064, p = .748) or among those highest in SE/ST values (b = .115, SE = .074, p = .119). However, in lower net-migration countries, average violent crime has no effect on immigration attitudes among those lowest in SE/ST values (b = -.142, SE = .234, p = .542) but predicts reduced support for immigration among those highest in SE/ST values (b = -.569, SE = .194, p = .003). These findings suggest that those highest in SE/ST values tend to be more supportive of immigration when they are in relatively safe contexts in which existing rates of migration are relatively lower.

Compound Threat Sensitivity Hypothesis: Average Economic Wellbeing

The ***economic-threat-amplification*** and ***economic-threat-amplifier*** hypotheses both suggest a three-way interaction among average economic wellbeing, net migration,

and SE/ST values. As shown in Model 8 (Table 4), this interaction is statistically significant (b = -.828, SE = .229, p < .001). I break down these interactions in terms of the marginal effect of net migration (Figure 9) and the marginal effect of economic wellbeing (Figure 10).

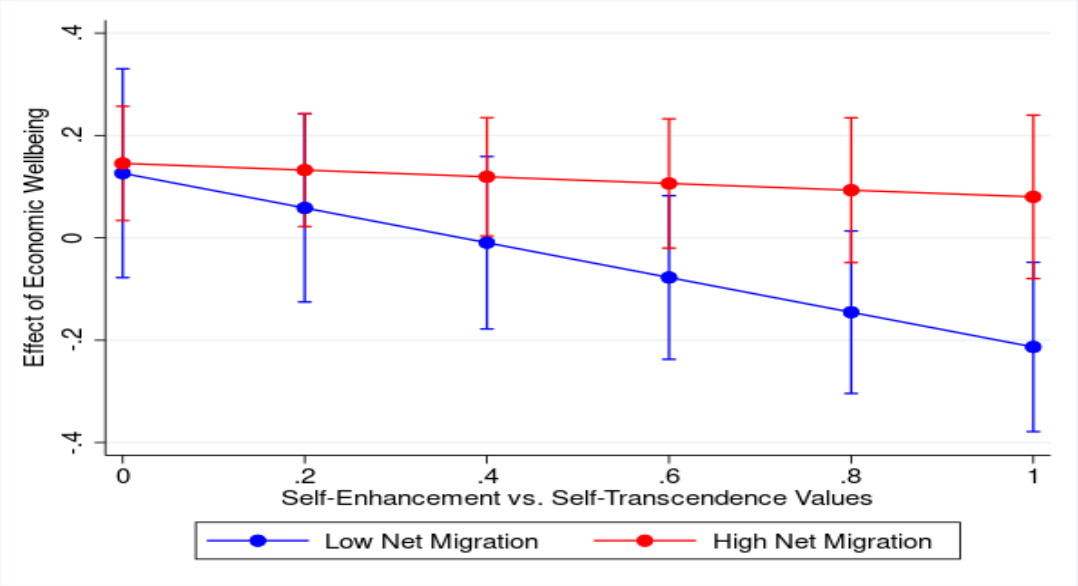
Figure 9: Net-Migration * SE/ST Values * Average Economic Wellbeing



As shown in Figure 9, among those lowest in SE/ST values, net migration has no effect on immigration attitudes in either low economic wellbeing contexts (b = .032, SE = .180, p = .861) or high economic wellbeing contexts (b = .076, SE = .205, p = .711). Among those highest in SE/ST values, net migration has a marginally negative effect on immigration attitudes in contexts of low economic wellbeing (b = -.358, SE = .190, p = .060). In contexts of high economic wellbeing, the point estimate for the effect of net migration is positive, though not statistically significant (b = .360, SE = .253, p = .155). This evidence suggests that among those highest in SE/ST values, net migration might reduce support for immigration when economic wellbeing is relatively low, but increase

support for immigration when economic wellbeing is relatively high. This pattern is consistent with the ***economic-threat-amplifier*** hypothesis.

Figure 10: Average Economic Wellbeing * SE/ST Values * Net-Migration



As shown in Figure 10, in countries with lower net migration, economic wellbeing has no discernible effect on immigration attitudes among those lowest in SE/ST values (b = .126, SE = .104, p = .225). However, among those highest in SE/ST values, economic wellbeing predicts reduced support for immigration in low net-migration countries (b = -.213, SE = .084, p = .012). In countries with higher net migration, economic wellbeing is associated with greater support for immigration among those lowest in SE/ST values (b = .146, SE = .057, p = .011) but is unassociated with immigration attitudes among those highest in SE/ST values (b = .080, SE = .081, p = .326).

Summary and Discussion

Study 1 offers a cross-national assessment of the real-world dynamics of immigration attitudes. The results suggest that immigration attitudes are shaped by an interactive combination of contextual characteristics and individual differences. Contrary to the ***general-intergroup-threat*** hypothesis, I find no evidence to support the assertion that either the proportion of the foreign population or rates of migration induce negative attitudes toward immigration. Neither do I find support for the ***social-stability-threat*** hypothesis. Although a number of prior studies have found evidence that factors related to population change (e.g., increasing ethnic diversity, demographic change, foreign-born population share) are associated with a variety of negative intergroup attitudes only among those high in authoritarianism (Johnston, Newman, & Velez, 2015; Van Assche et al., 2014, 2018, 2019; Velez & Lavine, 2017), much of this research considers local level population factors. The effect of population change at the local level may differ from its effect at the national level (e.g., Weber, 2015). Additionally, much of this prior work emphasizes contextual variation in ethnic diversity, rather than rates of migration. A higher rate of migration is likely to increase ethnic diversity in the population, but perhaps individuals high in authoritarianism (or C/O values) perceive ethnic diversity specifically as a threat to social stability, rather than generally viewing an influx of immigrants as threatening.

I do find evidence in support of the ***status-threat*** hypothesis, which has not been investigated sufficiently in prior work. Van Assche and colleagues (2018) did find that neighborhood-level diversity was associated with greater support for right-wing populist parties in the Netherlands. However, to the best of my knowledge, interactions between

values associated with status/dominance and country-level demographic factors have not been explored in prior literature. In the present research, net migration was associated with particularly positive attitudes among those lowest in SE/ST values, rather than particularly negative attitudes among those highest in SE/ST values. This suggests that more egalitarian individuals become especially supportive of immigration in contexts characterized by greater migration.

I find very little support for the DPM's ***differential-moderation*** hypothesis. Many prior tests of this hypothesis have experimentally manipulated information about the consequences of immigration or the characteristics of fictitious immigrant groups (Cohrs and Asbrock, 2009; Costello & Hodson, 2011; Duckitt & Sibley, 2010). A few studies have examined differential moderation using contextual variables (e.g., Cohrs & Stelzl, 2010; Sibley et al., 2013), but these studies have not examined the role of objective levels of crime. Ignoring the role of net migration, I find that neither changes in violent crime nor stable levels of violent crime interact with C/O values to predict immigration attitudes. I do, however, find evidence of an interaction between SE/ST values and changes in economic wellbeing, consistent with differential moderation. However, this interaction appears to be driven by particularly high support for immigration among those lowest in SE/ST values in contexts of economic decline, rather than particularly reduced support for immigration among those highest in SE/ST values. As with the interaction between SE/ST values and net migration, the observed interactions between SE/ST values and economic wellbeing underscore the importance of considering the effects of contextual factors among those *lowest* in status/dominance values and motivations, rather

than just thinking about the effects of these factors among those highest in status/dominance motives.

At the broadest level, I found support for the ***compound-threat-sensitivity*** hypothesis in the present analysis, though the evidence is mixed. Individual differences both SE/ST and C/O values were associated with sensitivity to *concurrent* contextual factors. This was particularly evident when considering the effects of changes in violent crime. Both the ***crime-threat-amplification*** and ***crime-threat-amplifier*** hypotheses were supported. In countries with relatively greater increases in violent crime, net migration predicted reduced support for immigration among those highest in C/O values. But in countries with greater reductions in violent crime, net migration predicted increased support for immigration among those highest in C/O values. Correspondingly, increases in violent crime predicted more negative attitudes toward immigration among those highest in C/O values, but only in countries with higher net migration. Increasing violent crime actually predicted greater support for immigration among those highest in C/O values in lower net-migration countries. Thus, the evidence is consistent with the view that simultaneous net migration and increases in crime are perceived as threatening to those who are especially inclined to value security, conformity, and tradition. Decreasing crime may increase perceptions of public safety and social order, thereby mitigating a general tendency among high C/O individuals to feel threatened by high rates of migration. It is also possible that high C/O individuals may "err on the side of caution" by assuming a causal link between migration and changes in crime when none exists in reality.

However, contrary to the research hypotheses, I also found a similar interaction pattern with SE/ST values. Thus, it appears that individual differences in C/O values do not uniquely predict sensitivity to concurrent changes in crime and rates of migration. Given that SE/ST values are associated with individual differences in egalitarian versus self-enhancing motives, it is not surprising that changes in violent crime would be more of a concern for those who are driven more so by self-enhancing motives. Violent crime might not solely implicate security and social stability–perhaps it also potentially implicates social conditions in which individuals don't feel as free to pursue self-enhancing goals. Indeed, there is a well-documented empirical association between economic conditions and crime (see Rosenfeld, 2009). Individuals might assume that increasing crime is an indicator of economic downturn, or vice versa, leading to difficulty in disentangling the effects of economic change and crime. At the very least, more research is needed on the precise contextual factors that induce negative attitudes toward immigration selectively among individuals as a function of security and conformity related values, rather than status/dominance motives.

Also, the interactive effect of average levels of contextual variables differed from that of the change variables. There was no evidence for an interaction among *average* violent crime, net migration, and C/O values. Thus, any differential sensitivity to concurrent net migration and crime as a function of C/O values seems to be associated with changes in crime, but not with stable preexisting differences. Although prior studies have used both stable contextual differences and change predictors, the present research emphasizes change variables for a few reasons. First, some research suggests that changes in society are especially important in shaping attitudes (Coenders & Scheeper,

2008; Hjerm, 2009; Hopkins, 2010), perhaps because people are used to stable conditions but more sensitive to change. Nonetheless, in Study 1, I did find evidence of interactions between stable conditions and value dimensions. Moreover, the interaction among average violent crime, net migration, and SE/ST values was different from the corresponding interaction using the crime change predictor. Among high SE/ST individuals, increases in violent crime predicted more negative attitudes toward immigration in high net-migration countries, whereas stable levels of violent crime predict more negative attitudes toward immigration in low net-migration countries. The latter finding may be due to the fact that countries with higher average levels of crime tended to see greater reductions in crime between 2000 and 2014. In other words, countries with higher average crime are also those in which crime tended to be going down the most. To the extent that changes are more salient that stable differences, such changes may be driving the apparent effect of average levels of violent crime. However, this explanation is speculative and post-hoc. More research is needed to disentangle the effect of stable differences from that of changes in crime.

Similarly, although I did not find evidence to support compound threat sensitivity to economic conditions in the primary model using the economic change variable, there was a three-way interaction among average economic wellbeing, net migration, and SE/ST values. Consistent with the ***economic-threat-amplifier*** hypothesis, net migration predicted reduced support for immigration among high SE/ST individuals only in countries with relatively low economic wellbeing. In contexts of scarcity, individuals oriented toward dominance and status seeking might be more likely to view migration as threatening.

The marginal effect of average economic wellbeing differs a bit from my predictions. Whereas the ***economic-threat-amplification*** hypothesis predicted that a combination of *high* net migration and *low* economic wellbeing should decrease support for immigration, the results suggest that a combination of *low* net migration and *high* economic wellbeing are associated with reduced support for immigration among those highest in SE/ST values. The findings are thus similar in character to the predictions, but are more consistent with high SE/ST individuals behaving in a protectionist way in contexts of economic abundance, rather than responding in a threatened way in contexts of economic scarcity. The latter finding speaks to conflict in the literature over the extent to which SDO (and related value preferences) predict negative intergroup attitudes in contexts of economic scarcity (e.g., Davidov, Meuleman, Billiet, & Schmidt, 2008) or in contexts of economic abundance (e.g., Sibley et al., 2013). Status-oriented individuals may seek to protect abundant resources or they may become more competitive in contexts of scarcity.

Overall, these findings suggest that we cannot consider contextual factors or individual differences in isolation, nor can we think exclusively about interactions between a single focal contextual variable and associated individual difference dimensions. Rather, concurrent contextual changes interact with individual differences to predict immigration attitudes in the real world. Although these findings are instructive, there are a number of limitations to address. First and foremost, because these data are correlational, the causal influence of contextual factors cannot be ascertained. I attempted to control for other relevant contextual factors to isolate the effects of the predictors of central interest. However, given that there are only 20 countries in the present study, it

was not possible to include an exhaustive list of contextual controls in any given model. Relatedly, the relatively small number of contextual units may result in low power to detect cross-level interaction effects. Although it is advantageous to assess the effects of country-level factors for a variety of reasons (e.g., mitigating the influence of geographic self-selection), future research should examine these interactions at a more local level of analysis with a greater number of contextual units. Finally, the present research leveraged preexisting variance in contextual predictors. This allows estimation of the effects of relative change in violent crime and economic conditions, but there is likely to be restricted range on these variables. Most of the countries in the ESS experienced reductions in crime from 2000–2014. Most of these countries also experienced economic growth over this time period. Thus, the estimated effects of "increasing" violent crime are perhaps better described as variance in the extent to which crime decreased or remained stable. In any case, the use of existing cross-national variance in economic conditions and crime to estimate cross-level interactions does not allow for clear differentiation between the effects of increasing versus decreasing crime, nor does it allow for differentiation of the effects of economic improvement versus economic decline.

Finally, to the extent that objective conditions shape individual attitudes, mass media and elite political discourse likely play a role in connecting objective conditions with subjective perceptions. It is thus important to understand the influence of *information* about changing societal conditions on people's attitudes toward immigration. Given these limitations, I will now turn to Study 2, which is designed to directly assess the causal influence of information about changes in society on attitudes toward immigration.

Chapter 7: Study 2 Overview

Introduction: From the Real World to the Lab

Study 2 is an experimental analogue to Study 1. Whereas Study 1 addresses the influence of real-world societal changes on immigration attitudes, Study 2 experimentally manipulates information about these societal changes. There are several advantages to adopting this experimental approach. First and foremost, this allows for more direct causal inferences about the ways in which societal changes interact with individual differences to shape immigration attitudes. In real-world contexts, changes in society are non-independent. For example, a variety of economic factors can influence rates of migration, including: economic recession reducing rates of migration (Villarreal, 2014), higher GDP increasing rates of migration (Van der Gaag & Van Wissen, 2008), or high unemployment temporarily decreasing rates of immigration (Dobson, Latham, & Salt, 2009). Moreover, because changes in rates of migration are influenced by immigration policies that are at least *partially* responsive to public opinion (see Ford, Jennings, & Somerville, 2015), it is possible that real-world changes in rates of immigration are partially endogenous to aggregate public opinion on immigration.

Although the modeling strategy adopted in Study 1 deals with these issues as best as possible using cross-sectional data, taking an experimental approach allows for completely orthogonal manipulation of information about different changes in society. This approach also bolsters confidence that any observed effects of experimental manipulations of information about changes in society are specific to those societal changes, rather than being due to unmeasured changes (e.g., the content of elite

discourse) or reverse causal processes (e.g., public sentiment influencing societal changes).

Beyond the obvious advantage of experimental manipulation for the purpose of causal identification, Study 2 offers a couple of other advantages. First, to the extent that objective changes in society influence immigration attitudes, this influence might be largely indirect and mediated through the political information environment (Jacobs, Hooghe, & de Vroome, 2017; Valentino, Brader, & Jardina, 2013; van Klingeren, Boomgaarden, Vliegenthart, & de Vreese, 2015). Although people sometimes directly experience the effects of societal changes (i.e., higher crime implies higher average probability of crime victimization and higher unemployment implies greater average likelihood of difficulty securing employment) these direct experiences are often highly localized. For example, although perceptions of local crime are strongly influenced by objective neighborhood-level crime (Hipp, 2013), perceptions of nation-level crime are not strongly linked with objective crime levels and are more influenced by media exposure (Lowry, Nio, & Leitner, 2003; Mohan, Twigg, & Taylor, 2011). Because political-information environments play a large role in shaping public perceptions of societal changes, experimental manipulations of information about changes in society offers an arguably more direct and ecologically valid mechanism by which these societal changes influence immigration attitudes.

Study 2 also benefits from precise measurement of the focal individual-difference measures in the Dual Process Model of Prejudice (DPM; Duckitt & Sibley, 2009). Whereas Study 1 uses value dimensions to assess individual differences in support for hierarchy versus egalitarianism (i.e., Self-Enhancement vs. Self-Transcendence values)

and support for conformity/tradition versus novelty/change (i.e., Conservation vs. Openness values), Study 2 measures these individual difference dimensions using the corresponding focal variables in the DPM: SDO and authoritarianism. This allows for a more direct test of the DPM's differential-moderation hypothesis, as well as the role of population change in qualifying the differential moderation hypothesis. Additionally, Study 2 includes more robust set of individual difference covariates than are available in the ESS, thus increasing precision in isolating the effects of SDO and authoritarianism.

Brief Overview

Study 2 experimentally manipulates information about changes in rates of immigration and also independently manipulates information about either changes in the economy (improving economy vs. worsening economy) or changes in crime (increasing crime vs. decreasing crime). Before describing the nature of this experiment in detail, I will first briefly contextualize the unique contributions of the present research. Because I have already provided a general review of relevant theory and literature, the following overview focuses exclusively on relevant *experimental* work in this domain. Given that the present research seeks to integrate research on population change with the DPM, this overview will be organized in two sections: one on experimental tests of the effect of population change and another experimental tests of the DPM's differential moderation hypothesis. After briefly reviewing these two areas of research, I will propose a synthesis and a detailed explanation of research hypotheses for Study 2.

Experimental Effects of Population Change

A growing body of research examines the effects of experimental manipulations of the salience of demographic change on political and intergroup attitudes. Consistent with macro-level research in this domain, this experimental work is grounded in a long tradition of sociological perspectives on group threat (e.g., Blalock, 1967; Blumer, 1958), which suggest that people form inferences about a group's relative power based on its size (Blalock, 1967; Blumer, 1958; see Outten, Schmitt, Miller, & Garcia, 2012). According to these perspectives, increasing immigration (which is one of the primary mechanisms underlying demographic change) might represent a general intergroup threat, leading to opposition to immigration among native citizens. Although these theoretical ideas should apply broadly to a variety of forms of population change, most of the recent experimental work assessing these ideas has focused on the influence of racial demographic change manipulations on political attitudes (e.g., Craig & Richeson, 2014) or feelings of intergroup anger and fear (e.g., Outten et al., 2012). This research also tends to focus on the attitudes of White Americans, though Craig and Richeson (2018) also find that an experimental manipulation that increases the salience of the growing Hispanic population results in conservative political attitudes among non-Hispanic racial minority groups. The latter finding suggests that intergroup distinctions concerning perceived foreignness may play a role in the effects of population change, rather than these effects being reducible solely to racial dominance motives among Whites (see also Zou & Cheryan, 2017).

Despite fairly robust evidence that experimental manipulations of demographic change influence *some* political and intergroup attitudes among native citizens, most of

the available research does not directly assess the influence of these manipulations on attitudes toward immigration. When assessing policy attitudes separately, Craig and Richeson (2014) do not find any effect of their demographic-shift manipulation on White's attitudes toward increasing the number of immigrants or on beliefs about the required time to be eligible for citizenship, which are the two policy items that they use to assess immigration attitudes.[5] In a different paper, Craig and Richeson (2018) do find that an experimental manipulation that increases the salience of the growing Hispanic population in the U.S. reduces support for immigration among Black-American and Asian-American participants. Thus, despite a theoretical focus on the attitudes of White Americans, it seems as though the effects of demographic change apply more broadly to natives from other racial and ethnic groups in the United States. However, despite accumulating evidence on the influence of experimental manipulations of demographic change on political attitudes generally, there is not much evidence of the effect of these manipulations on immigration attitudes, specifically. More broadly, although the theoretical perspective offered by Craig and Richeson (2014, 2018) focuses on racial demographic change in the United States (i.e., becoming a "majority-minority" country), this perspective implies that experimental manipulations of information about population change (e.g., increasing rates of immigration) should result in reduced support for immigration (i.e., the **general-intergroup-threat** hypothesis).

In additional to getting a better sense of these basic effects, it is also important to consider individual-difference moderators of the effect of population-change

[5] This finding is relegated to an endnote in the original paper (see Craig & Richeson, 2014, p. 1196), and contrary to their actual finding, the authors later cite this paper as evidence that their demographic-shift manipulation results in more negative immigration attitudes among Whites (see Craig, Rucker, & Richeson, 2018, p. 191).

manipulations. Surprisingly, very little extant work has assessed interactions between individual differences and population-change manipulations. However, there are a few notable exceptions. One recent study found that ethnic identification moderated the influence of a demographic-shift manipulation, such that Whites who identify strongly with their ethnic group exhibited greater support for anti-immigration policies in response to a demographic-shift manipulation, whereas Whites who do not identify strongly with their ethnic group did not show this effect (Major, Blodorn, & Blascovich, 2018). In another study, Johnston, Newman, and Velez (2015) found that an experimental manipulation of demographic shift interacted with individual differences in Need for Cognitive Closure (NFC; Webster & Kruglanski, 1994) to shape attitudes toward immigration. Among high-NFC participants, the experimental manipulation resulted in greater perceptions of cultural threat from immigrants, and correspondingly greater support for restrictive immigration policies. Among low-NFC participants, the manipulation reduced perceptions of cultural threat from immigrants and led to correspondingly reduced support for restrictive immigration policies. These findings are consistent with the idea that the influence of population change on immigration attitudes is contingent on individual differences in aversion to uncertainty (see Johnston et al., 2015). For individuals who are averse to uncertainty, such as those high in authoritarianism or NFC, population change might be perceived as threating and socially destabilizing. These individuals might therefore respond by supporting protectionist policies, such as more restrictive immigration attitudes (i.e., the **social-stability-threat** hypothesis).

One other recent line of research has found that individual differences associated with perceived legitimacy of the ingroup's status moderate of the influence of demographic change on anti-immigration attitudes (Outten, Lee, Costa-Lopes, Schmitt, & Vala, 2018). Outten and colleagues found that an experimental manipulation of demographic shift caused members of dominant groups (in this case, native Portuguese in Portugal) to perceive greater intergroup threat and to be more willing to engage in anti-immigration behaviors. However, this only occurred among dominant group members who perceived their relatively high status to be legitimate. When dominant group members did not perceive their high status to be legitimate, the demographic-shift manipulation had no effect (see Outten et al., 2018). Although the authors framed their predictions in terms of Social Identity Theory (SIT; Tajfel & Turner, 1979), they also discussed the ways in which their predictions regarding perceived status legitimacy could be derived from Social Dominance Theory (SDT; Sidanius & Pratto, 1999). Indeed, individual differences in Social Dominance Orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994) tap directly into the extent to which individuals perceive intergroup inequality as legitimate. Thus, among high-SDO individuals, who tend to perceive intergroup status differences as legitimate, demographic shift might be seen as a status threat. If true, we would expect demographic-change manipulations to result in opposition to immigration particularly among those high in SDO (i.e., the **status-threat** hypothesis).

In summary, despite fairly robust evidence that experimental manipulations of the salience of population change *can* influence political attitudes, very little is known about *when* these experimental manipulations influence immigration attitudes. Some scholars

are beginning to explore individual-difference moderators of the influence of demographic shift (uncertainty aversion, status legitimacy perceptions, ethnic identification), but there is a dearth of research in this area. Moreover, much of this research relies on a single manipulation of the salience of the growing Hispanic population. If researchers wish to make broader generalizations about the influence of population change or migration flows, it is important to consider a wider set of manipulations of these changes in society.

Finally, to the extent that manipulations of information about increasing population change result in intergroup threat and negative attitudes toward immigration among native citizens, it is important to explore the corollary of this effect. Namely, does information about *decreasing* immigration or reduced population change alleviate these threat perceptions or result in more positive attitudes toward immigration? Some politicians and pundits appear to endorse this idea. For example, in a 2018 interview with *The Guardian*, Hillary Clinton recommended that Europe curb migration as a means of reducing the spread of the right-wing populism (Wintour, 2018). If perceptions of increasing migration result in intergroup threat and anti-immigrant political views, it seems possible that perceptions of decreasing migration or stricter immigration law enforcement would have the opposite effect, assuaging threat and reducing anti-immigrant sentiment (subsequently called the ***reduction-mitigation*** hypothesis). However, to the best of my knowledge, prior research has not explored this question. The present research is designed to directly address these gaps in prior research on the experimental effects of population change and test the aforementioned hypotheses. However, the primary goal of this research is to integrate the effects of population change

with the predictions of the Dual Process Model of Prejudice (DPM). Consequently, before offering a detailed explanation of the research hypotheses concerning population change, I will first review experimental work on the key predictors in the DPM.

Literature Review: Experimental Tests of the DPM

The DPM offers a wide range of predictions about the conditions under which we should expect opposition to immigration, but only a few of these predictions have been tested experimentally. Many of these manipulations focus on descriptions of the behavior or intentions of (real or fictitious) immigrant groups. For example, Thomsen, Green, and Sidanius (2008) experimentally manipulated information about the willingness of an immigrant to assimilate into the host culture. They found that this manipulation differentially influenced immigration attitudes as a function of RWA and SDO. When an immigrant was depicted as willing to assimilate, high-RWA participants reported less punitive and restrictive immigration attitudes, whereas high-SDO participants reported more punitive and restrictive immigration attitudes (see Thomsen, Green, & Sidanius, 2008). One interpretation of this finding is that individuals high in RWA seek to preserve and protect societal norms (which are bolstered by assimilation), whereas individuals high in SDO seek to protect status boundaries (which are challenged by assimilation). Consistent with this interpretation, experimental manipulations that induce participants to focus on similarities between immigrants and natives lead to more negative immigration attitudes among high-SDO individuals (see Danso, Sedlovskaya, & Suanda, 2007). Focusing on such similarities may blur group or status boundaries, which could be perceived as threatening to high-SDO individuals.

Although the above findings speak to ways in which SDO and authoritarianism differentially predict attitudes toward immigrants who are depicted as similar or dissimilar to members of the dominant culture, they don't say much about how these individual differences influence responses to broader changes in society. As discussed previously, the DPM provides some fairly precise predictions about the influence of societal changes. Specifically, the DPM's ***differential-moderation*** hypothesis predicts that contexts characterized by increased resource scarcity, intergroup competition, or attention to status hierarchy should induce anti-immigration attitudes among those high in SDO. Correspondingly, the differential moderation hypothesis predicts that contexts characterized by increased threats to physical safety, security, or social order should lead to anti-immigration attitudes among those high in authoritarianism.

There are relatively few experimental tests of these interactions between societal conditions and SDO/authoritarianism. In one study, Esses, Jackson, and Armstrong (1998) found that an experimental manipulation of perceived competition for scarce jobs resulted in more negative attitudes toward immigrants and more support for restrictive immigration policies in Canada. However, contrary to the differential-moderation hypothesis, this manipulation of job competition did not interact with SDO to predict immigration attitudes. In another study of Flemish natives, an experimental manipulation discussing potential economic threat posed by Turkey's entrance in the European Union resulted in greater willingness to discriminate against Turkish immigrants (Meeus et al., 2009). However, across two studies, Meeus and colleagues found no evidence that either RWA or SDO interacted with experimental manipulations of realistic and symbolic threat in predicting immigration attitudes.

In a more comprehensive experimental test of the Dual Process Model of Prejudice (DPM), Cohrs and Asbrock (2009) presented German natives with descriptions of Turkish immigrants as either competitive (i.e., well-educated, motivated to compete for jobs), threatening (violence-prone, interested in aggressively promoting Muslim cultural values), low-status (i.e., marginalized, uneducated), or an integrated control condition (i.e., adopting the norms/practices of German culture and building positive relations in German society, while maintaining their own cultural/familial traditions). Participants exhibited greater negative emotionality and willingness to discriminate against Turkish immigrants when they were described as threatening, and also espoused more negative attitudes toward these immigrants when they were described as low-status or competitive. Although the researchers expected that SDO would interact with the competitive condition and RWA would interact with the threatening condition to predict these attitudes, they found evidence only of the latter. Specifically, among high-RWA participants, the threat and competition conditions were particularly likely to result in discriminatory attitudes, but the effect of experimental condition did not depend on SDO.

Contrary to Cohrs and Asbrock's (2009) findings regarding the interaction between competitive threat and SDO, Costello and Hodson (2011) found that SDO interacted with both symbolic threat (i.e., depicting an immigrant group as introducing conflicting values and practices) and realistic threat (i.e., depicting this immigrant group as competing with host citizens for jobs, requiring government assistance, and increasing tax burdens) to predict decreased willingness to help immigrants. Similarly, Duckitt and Sibley (2010) found that depicting a fictitious immigrant group as economically competitive or disadvantaged resulted in greater opposition to these immigrants among

people high in SDO. In the same study, depicting this immigrant group as culturally threatening (or economically competitive) resulted in greater opposition toward this immigrant group (relative to depicting the group as disadvantaged or similar to natives), especially among people highest in RWA. Thus, Duckitt and Sibley's (2010) findings are consistent with the differential-moderation predictions.

In general, notwithstanding the aforementioned studies, there are relatively few experimental tests of the DPM's differential-moderation hypothesis. Moreover, there are discrepant findings across prior studies, which may be due to a variety of factors, including: different operationalizations of threat, the use of fictitious versus actual immigrant groups, and assessment of different outcome variables (i.e., willingness to discriminate, willingness to help, immigration policy attitudes). In many cases, different types of threat are combined together into a single manipulation; for example, some studies include manipulations of perceived threat from immigrants that capture both threats to cultural values and threats to safety/security (e.g., Duckitt & Sibley, 2010). Combinations of different sources or types of threat might indeed result in more psychologically powerful manipulations, but this also leads to uncertainty regarding the specific threats that individuals are responding to.

Additionally, there is a gap between the correlational/cross-national tests of differential moderation, which focus on the influence of *objective changes* in society (e.g., unemployment rates), and experimental tests, which generally manipulate information about different kinds of threats posed by immigrants, rather than beliefs about (or the salience of) societal conditions. Experimental manipulations that portray immigrant groups as representing different kinds of societal threats surely elucidate our

understanding of the ways in which political rhetoric shapes immigration attitudes. These studies also allow us to understand differential sensitivity to different kinds of perceived threats as a function of SDO and authoritarianism, as predicted by the DPM. But it is also important to understand of the process by which contextual factors that are not directly related to immigration or immigrants (e.g., changes in the state of the economy) can influence immigration attitudes. Presumably, under harsher societal conditions, people perceive greater threat, at least to the extent that individuals are sensitive to a given threat. These perceptions of threat subsequently lead to more group-centric and discriminatory attitudes and behavior, at least among individuals who are predisposed to respond to threat in this manner. Following this causal logic, Study 2 is an attempt to experimentally manipulate perceptions of societal threats independent of arguments or information about immigrants (or the effects of immigration). In doing so, Study 2 offers a novel experimental variant of the differential-moderation hypothesis in the DPM.

Study 2 Overview and Hypotheses

Study 2 represents an integrative test of the experimental effects of population change and the experimental predictions of the DPM's differential-moderation hypothesis. Whereas manipulations containing information about societal changes typically either discuss singular changes (e.g., demographic shift) or discuss multiple changes in a confounded manner (i.e., single manipulations that combine information about multiple potential sources of societal threat), the present research proposes that different *independent* sources of threat have *compound* effects, and that there are individual differences in sensitivity and responsiveness to these compound threats. To

test this, the present research orthogonally manipulates information about multiple sources of threat.

The Role of Population Change

First, this research experimentally manipulates information about changes in overall rates of immigration. Specifically, participants are assigned to one of three conditions: information about increasing immigration, information about decreasing immigration, or a no-information baseline-condition. This baseline-condition is useful only for the purpose of independently assessing the effects of information about increasing immigration and information about decreasing immigration. This design allows for assessment of two sets of hypotheses concerning the effects of population change:

> *H1a) Relative to a no-information baseline-condition, information about increasing immigration over time will reduce support for immigration (**general-intergroup-threat** hypothesis)*
>
> *H1b) The negative effect of information about increasing immigration will be greater among participants high in authoritarianism (**social-stability-threat** hypothesis**)***
>
> *H1c) The negative effect of information about increasing immigration will be greater among participants high in SDO (**status-threat** hypothesis)*

The ***general-intergroup-threat*** hypothesis is compatible with Craig and Richeson's (2014) framework. Although they use a different manipulation of population change that focuses on racial demographics, their theoretical perspective on intergroup threat should apply more broadly to the dynamics of population change (and to manipulations that increase the salience of population change). The ***social-stability-threat*** hypothesis is derived from the work of Johnston, Newman, and Velez (2015; these researchers refer to this as the differential-adaptation hypothesis). This prediction is also consistent with research on the interaction between increasing diversity and authoritarianism (Velez & Lavine, 2017). Among high-authoritarians, population change may be perceived as potentially destabilizing and threatening to cultural uniformity. The ***status-threat*** hypothesis is derived from research showing that members of dominant social groups who perceive their status in society to be legitimate are more threatened in response to a demographic-change manipulation, and subsequently more likely to exhibit negative immigration attitudes (Outten, Lee, Costa-Lopes, Schmitt, & Vala, 2018). Increasing immigration might be seen as a potential threat to intergroup status hierarchies. Among high-SDO individuals, who are motivated to preserve these status hierarchies, increasing immigration may therefore be more threatening.

In addition to assessing the effect of information about increasing immigration, it is also important to consider the corollary: What is the influence of information about decreasing immigration or increasingly restrictive immigration policy and enforcement? The set of hypotheses listed below mirrors hypotheses 1a–1c above, but considers the possibility that information about decreasing immigration has an effect that is opposite that of increasing immigration:

*H2a) Relative to a no-information baseline-condition, information about decreasing immigration will increase support for immigration (**general-intergroup-threat-mitigation** hypothesis)*

*H2b) The positive effect of information about decreasing immigration will be greater among participants high in authoritarianism (**social-stability-threat-mitigation** hypothesis)*

*H2c) The positive effect of information about decreasing immigration will be greater among participants high in SDO (**status-threat-mitigation** hypothesis)*

To the best of my knowledge, no studies have assessed these corollary hypotheses (2a–2c), which predict mitigation of these threats when immigration is described as decreasing. The above hypotheses have broad political implications. If the evidence supports these hypotheses, it suggests a thermostatic view of the effects of migration, whereby increases in migration tend to induce more negative attitudes and whereby decreases in migration (e.g., enforcing or passing more restrictive immigration policies) tend to result in more positive immigration attitudes among citizens. If the evidence does not support the latter set of hypotheses, the findings would run contrary to the commonsense intuition that "curbing immigration" will assuage threat among far-right anti-immigrant political parties and activists (e.g., Wintour, 2018).

Experimental Assessment of Differential Moderation

Following experimental manipulations of information about changing rates of immigration (increasing vs. decreasing), participants were randomly assigned to read about changes in one of two specific aspects of the social context: the state of the

economy or levels of crime. Specifically, participants were assigned to one of five experimental conditions: improving economy, declining economy, increasing crime, decreasing crime, or a no-information baseline-condition. Only those participants who received information about changes in immigration received subsequent information about changes in the economy or crime – those who received no information about changes in immigration did not receive any subsequent information. One purpose of the latter manipulation of information about changes in the economy or changes in crime was to provide a novel test of the DPM's ***differential-moderation*** hypothesis. This hypothesis has two components, which are stated at the operational level below and given separate labels:

> *H3a) Information about increasing crime will result in more negative immigration attitudes among high authoritarians, but not among low authoritarians (**differential-security-threat-sensitivity** hypothesis)*
> *H3b) Information about economic decline will result in more negative immigration attitudes among high-SDO participants, but not among low-SDO participants (**differential-scarcity-threat-sensitivity** hypothesis)*

These hypotheses are tested by creating interaction terms between experimental conditions and individual differences in SDO/authoritarianism, and assessing the effect of the manipulations across the spectrum of these individual-difference variables. The strong form of the differential-moderation hypothesis states that information about crime should interact *only* with authoritarianism (and not SDO) and that information about a

declining economy should interact *only* with SDO (and not authoritarianism) to predict immigration attitudes. The weak form of this hypothesis states that the *SDO * economic decline* and *authoritarianism * increasing crime* interactions should be stronger than the *authoritarianism * economic decline* and *SDO * increasing crime* interactions.

The differential-moderation hypothesis is less clear about the effect of these changes in society on those lowest in SDO and authoritarianism. It is possible that the effects would reverse, such that information about increasing crime would increase support for immigration among those lowest in authoritarianism, and information about economic decline would increase support for immigration among those lowest in SDO. The latter of these seems more plausible than the former but I make no predictions about the effects of these manipulations among those lowest in SDO and authoritarianism.

The differential moderation hypothesis is also unclear about the effects of information about decreasing societal threat. The hypothesis concerns differential sensitivity to perceptions of different kinds of societal threat. A natural corollary of this hypothesis is that information about decreasing threat would mitigate / assuage perceptions of threat among those who are most responsive to a particular societal threat, thereby reducing intergroup prejudice and decreasing opposition to immigration. However, to the best of my knowledge, this has not been tested in prior research. These hypotheses are stated below:

> *H3c) Information about decreasing crime will result in more positive immigration attitudes among high-authoritarians, but not among low-authoritarians (**security-threat-mitigation** hypothesis)*

*H3d) Information about economic improvement will result in more positive immigration attitudes among high-SDO participants, but not among low-SDO participants (**scarcity-threat-mitigation** hypothesis)*

Relatively few experimental studies have assessed the DPM's differential moderation hypothesis, especially in the domain of immigration. Duckitt and Sibley (2010) do offer such a test, but their manipulations confound multiple sources of societal threat, leaving ambiguity regarding the specific societal conditions that interact with SDO and authoritarianism to shape immigration attitudes. Moreover, prior research and theory are unclear about the effects of societal threats implicating resource scarcity/competition and those implicating danger/social instability among those lowest in SDO and authoritarianism, respectively. Perhaps most important, to the extent that immigration attitudes are influenced by differential responsiveness to social threats, it is important to consider whether or not information about positive societal changes can mitigate these psychological threats, thereby increasing support for immigration. In the present research, tests of the hypotheses described above (3a–3d) resolve these ambiguities and offer a more comprehensive assessment of differential moderation.

Assessing Compound Threat Sensitivity

The broader goal of the present analysis is to integrate insights from literature assessing the influence of population change with the Dual Process Model's predictions regarding individual differences in responsiveness to perceived societal threats. In real-world contexts, many different changes in society occur simultaneously. If researchers

want to get a handle on how these changes interact with the unique needs and values of individuals to shape intergroup attitudes, it is important to study societal threats both in isolation and in combination. Experimental manipulations that confound multiple sources of threat do not allow researchers to do this. By the same token, experimental manipulations that discuss only a single change in society (e.g., demographic shift) do not allow for assessment of the possibility that different sources of perceived societal threat could have compounding effects. The primary contribution of this research is to develop a framework for understanding these compound effects. In the following paragraphs, I elaborate two sets of hypotheses, all of which provide more specific tests of the broader idea that individuals differ in sensitivity to compound psychological threats in response to population change and concurrent changes in societal stability (i.e., economic wellbeing, crime).

The differential moderation hypothesis suggests individual differences in responsiveness to different societal threats. However, the influence of population change in this framework is unclear. In the context of a compound-threat framework, I hypothesize that population change acts as an amplifier of the DPM differential moderation predictions (the ***population-change-amplifier*** hypothesis). High authoritarians may indeed respond to perceptions of social danger (e.g., crime) by exhibiting greater intergroup hostility, generally speaking. But in the context of immigration, this tendency should be especially pronounced in contexts of greater immigration or when increases in immigration are made salient. Correspondingly, high-SDO individuals may indeed respond to perceptions of scarcity or resource competition (e.g., economic decline) by exhibiting greater intergroup hostility. But in the context of

immigration, this tendency should be greater when increases in immigration are salient. These predictions are stated operationally below:

*H4a) Information about increasing (vs. decreasing) immigration will increase the negative influence of information about economic decline on immigration attitudes among high-SDO individuals (**economic-threat-amplification** hypothesis)*

*H4b) Information about increasing (vs. decreasing) immigration will increase the negative influence of information about increasing crime on immigration attitudes among highly authoritarian individuals (**crime-threat-amplification** hypothesis)*

*H4c) Information about increasing (vs. decreasing) immigration will increase the positive influence of information about economic improvement on immigration attitudes among high-SDO individuals (**economic-threat-attenuation** hypothesis)*

*H4d) Information about increasing (vs. decreasing) immigration will increase the positive influence of information about decreasing crime on immigration attitudes among highly authoritarian individuals (**crime-threat-attenuation** hypothesis)*

The above predictions are together labeled the ***population-change-amplifier*** hypothesis. The central idea is that information about population change influences the strength of the differential moderation hypothesis. But it is also important to consider the possibility that the effects of population change might differ depending on societal conditions. When people believe that their society is characterized by increasing crime or economic decline, increasing immigration might be seen as particularly threatening, especially to those who are predisposed toward sensitivity to a given societal threat. By

contrast, when societies are characterized by decreasing crime or an improving economy, increasing immigration might not be seen as threatening, particularly among those who are predisposed to be most responsive to those societal changes. In this way, societal conditions could function as an amplifier of differential effects of population change on individuals across the spectrum of SDO and authoritarianism. I refer to this as the ***societal-threat-amplifier*** hypothesis. There are four predictions associated with this hypothesis that are described at the operational level below:

*H5a) Information about increasing (vs. decreasing) immigration will reduce support for immigration to the greatest extent among high-SDO individuals who are provided information about economic decline (**economic-threat-amplifier** hypothesis)*

*H5b) Information about increasing (vs. decreasing) immigration reduce support for immigration to the greatest extent among highly authoritarian individuals who are provided information about increasing crime (**crime-threat-amplifier** hypothesis)*

*H5c) Information about increasing (vs. decreasing) immigration will increase support for immigration to the greatest extent among high-SDO individuals who are provided information about economic improvement (**economic-threat-attenuator** hypothesis)*

H5d) Information about increasing (vs. decreasing) immigration increase support for immigration to the greatest extent among highly authoritarian individuals who

*are provided information about decreasing crime (**crime-threat-attenuator** hypothesis)*

To summarize, the predictions described in Hypothesis 4a–4d assess the role of population change as an amplifier of differential moderation effects on immigration attitudes. Correspondingly Hypothesis 5a–5d assesses the role of societal conditions (i.e., economic decline/improvement, crime increase/ decrease) in amplifying or attenuating differential responses to population change. All of these hypotheses fall under a general umbrella hypothesis, the ***compound-threat-sensitivity*** hypothesis, which proposes three-way interactions among multiple sources of societal threat and individual differences.

Chapter 8: Study 2 Methods

Experimental Design

Participants were randomly assigned to one of eleven conditions. One condition was a baseline, in which no content about immigration, crime, or the economy was presented to participants. In the remaining ten conditions, participants were first assigned to read about either an increase or a decrease in immigration to the United States over time. After reading about changes in immigration, participants in the increasing-immigration and decreasing-immigration conditions (but not the baseline-condition) were subsequently randomly assigned to either a no-information condition or to one of four experimental conditions in which participants read information about one of the following changes in society: increasing crime, decreasing crime, improving economy, or worsening economy. Thus, to summarize, the eleven experimental conditions are as follows: (1) no information/baseline-condition, (2) increasing immigration only, (3) decreasing immigration only, (4) increasing immigration + increasing crime, (5) increasing immigration + decreasing crime, (6) increasing immigration + improving economy, (7) increasing immigration + worsening economy, (8) decreasing immigration + increasing crime, (9) decreasing immigration + decreasing crime, (10) decreasing immigration + improving economy, (11) decreasing immigration + worsening economy. The study design can therefore be thought of as 2 (Immigration Increase, Immigration Decrease) X 5 (Increasing Crime, Decreasing Crime, Improving Economy, Worsening Economy, No Information), plus one baseline-condition.

Participants

A total of 2,525 participants were recruited using Amazon's Mechanical Turk, a platform that is widely utilized in contemporary social science research, and one that has been shown to yield participant pools that are more demographically diverse than undergraduate student samples or other in-person convenience samples (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, & Gosling, 2011). With 11 experimental conditions, G*power (Faul, Erdfelder, Buchner, & Lang, 2009) estimated that a total sample size of 2,424 was required in order to achieve 95% power to detect main effects and interactions that explain at least 1% of the variance in immigration attitudes, at the conventional (α = .05) level of statistical significance. The sample size in the current study (N = 2,525) thus has sufficient statistical power to detect effects of substantive interest. Participants were provided $0.50 compensation and the study was advertised to participants as a "Survey on Current Events and Social Issues." Participants ranged in age from 18 to 83 (M = 37.9, SD = 12.9). The gender distribution of the sample was 58.7% women and 40.6% men (there were 19 participants who identified as gender non-binary). The racial demographics of the sample were as follows: Latino (6.5%), Black (12.8%), Asian (6.6%) White (70.4%), Native American (1%), and Mixed Race (2.6%). In terms of partisanship, 53% of the sample identified as Democrats (or Independents who lean toward the Democratic Party), 36% identified as Republicans (or Independents who lean toward the Republican Party), and 11% identified as true Independents. Participants completed the study in a single session, with an average duration of 19.86 minutes. All data were collected between 07/14/2019 and 07/18/2019.

Measures

Social Dominance Orientation

Social Dominance Orientation (SDO) was measured using the 8-item SDO_7 scale developed by Ho and colleagues (2015). This measure correlates highly with the original 16-item SDO scale (see Pratto, Sidanius, Stallworth, & Malle, 1994), it has demonstrated strong psychometric properties, and it has been validated extensively across a variety of samples, including nationally representative data (see Ho et al., 2015). Additionally, although the original SDO scale was designed to be unidimensional, prior factor analytic work has shown that this measure comprises two distinct subscales: dominance (SDO-D) and egalitarianism (SDO-E; see Ho et al., 2015). Whereas SDO-D predicts aggressiveness toward low-status outgroups, SDO-E is more strongly associated with opposition to intergroup equality. Because of the differential predictive utility of these factors, the SDO_7 scale was designed specifically to tap these different facets of SDO. In this measure, there are two Pro-trait items and two Con-trait (i.e., reverse coded) items assessing both SDO-D and SDO-E (see Ho et al., 2015). This measure therefore allows for more clear adjudication of the extent to which either of these specific facets accounts for a given effect of SDO. In the current sample, this measure demonstrated strong reliability overall ($\alpha = .87$), as well as adequate reliability for the SDO-D ($\alpha = .77$) and SDO-E subscales ($\alpha = .78$). All 8 items were coded so that higher values indicate higher SDO. The items were then averaged and recoded so that the full scale ranged from 0 to 1 ($M = 0.30$, $SD = 0.19$).

Authoritarianism

Conventionally, authoritarianism has been measured using Altemeyer's (1981) Right-Wing Authoritarianism (RWA) scale. Although Altemeyer conceptualized RWA as comprising three sub-dimensions, the original measure did not attempt to assess these dimensions separately. However, considerable subsequent research has demonstrated the multidimensionality of RWA, and a number of researchers have developed alternative measures to capture these distinct facets (Duckitt, Bizumic, Krauss, & Heled, 2010; Funke, 2005; Van Hiel, Cornelis, Roets, & De Clrecq, 2007).

Distinguishing among these dimensions is important, because different facets of authoritarianism have been shown to predict different types of prejudice. For example, Duckitt and Bizumic (2013) label the three RWA dimensions as follows: Authoritarianism (corresponding with authoritarian aggression), Conservatism (corresponding with authoritarian submission), and Traditionalism (corresponding with conventionalism). Evidence suggests that Authoritarianism predicts negative attitudes toward groups perceived as dangerous, whereas Conservatism predicts attitudes toward groups perceived as dissident (see Duckitt & Bizumic, 2013).

In addition to the issue of multi-dimensionality, the RWA scale has been criticized on two primary grounds. First, many of the items on Altemeyer's RWA scale are double-barreled or triple-barreled (see Funke, 2005). For example, one items reads as follows: "Our country will be great if we honor the ways of our forefathers [conventionalism], do what the authorities tell us to do [submission], and get rid of the 'rotten apples' who are ruining everything [aggression]" (Altemeyer, 1996, p. 13). Such items assess multiple facets of authoritarianism, and they also leave ambiguity over

which component of the statement with which given participant is agrees. Second, a number of scholars have criticized RWA and related measures of authoritarianism for conflating authoritarianism with specific political content (e.g., attitudes toward criminal justice policy) and religious beliefs, rather than representing a general psychological predisposition that shapes political attitudes (e.g., Feldman & Stenner, 1997; Hetherington & Weiler, 2009; Stenner, 2005). To the extent that one is using measures of authoritarianism to predict political attitudes, RWA measures that include political content are somewhat tautological.

Because of the criticisms mentioned in the prior paragraph, authoritarianism was assessed two different ways. First, to capture the three separate dimensions of RWA in a manner that avoids double-barreled question wording, the present research uses the 18-item ACT scale (Duckitt, Bizumic, Krauss, & Heled, 2010). This measure contains six items for each of the three dimensions of authoritarianism in Duckitt and colleague's tripartite model (i.e., Authoritarianism, Conservatism, Traditionalism). In the current sample, this measure demonstrated strong reliability overall ($\alpha = .93$), as well as adequate reliability for the authoritarian aggression ($\alpha = .79$), authoritarian submission ($\alpha = .85$), and traditionalism ($\alpha = .86$) subscales. All 18 items were coded so that higher values indicate higher authoritarianism. The items were then averaged and recoded so that the full scale ranged from 0 to 1 ($M = 0.44$, $SD = 0.19$).

Second, to avoid conflating authoritarianism with political or religious content, Stenner's (2005) child-rearing values measure was included as an alternative index of authoritarianism. This measure asks participants to choose between four pairs of desirable qualities, and to indicate which are more important for children to have. These pairs are

as follows: (1) obedience vs. self-reliance, (2) respect for elders vs. independence, (3) good manners vs. curiosity, and (4) being well behaved vs. being considerate. As written in the previous sentence, choice of the former value indicates high authoritarianism and choice of the latter value indicates low authoritarianism. The scale was computed by counting the number of items for which participants chose the value indicating higher authoritarianism, and then dividing by 4. The resulting scale thus ranges from 0 to 1 and represents the average tendency to prefer more authoritarian child-rearing values (M = 0.34, SD = 0.33). This measure demonstrated fairly low reliability ($\alpha = .67$), but was retained as an alternative measure of authoritarianism for the sake of robustness checks.

Schwartz Values

The present research also includes the Twenty-Item Value Inventory (TwIVI; Sandy, Gosling, Schwartz, Koelkebeck, 2017) as a measure of Schwartz value dimensions. The TwIVI is derived from the Portrait Values Questionnaire (PVQ-40; Schwartz, 2003). The PVQ offers a description of a person and asks participants to use a scale ranging from 1 (*not at all like me*) to 6 (*very much like me*) to evaluate the extent to which this person is similar to them. This measure assesses all of the following values in Schwartz's (1992) circumplex model: Power, Achievement, Hedonism, Stimulation, Self-Direction, Universalism, Benevolence, Tradition, Conformity, and Security. The TwIVI was designed by taking the 20 items from the PVQ-40 that optimize reliability, patterns of external correlates, and magnitude of external correlations. For each value, it is highly correlated with the full PVQ-40 and is associated with personality dimensions and demographic factors to roughly the same degree as this instrument. Moreover, the TwIVI

has stronger psychometric properties than the PVQ-21, which is the measure currently utilized in the ESS and other cross-national data (see Sandy et al., 2017).

As in Study 1, participant's responses to the value items were first ipsatized, following the recommendations of Schwartz (1992; see also Hinz, Brahler, Schmidt, & Albani, 2005) and two dimensions were computed assessing (1) *self-enhancement vs. self-transcendence* (SE/ST) values and (2) *conservation vs. openness* (C/O) values. The computation of these dimensions was the same as Study 1 and is consistent with Schwartz's (1992) theoretical conceptualization of these value dimensions, as well as prior empirical work (e.g., Malka, Soto, Inzlicht, & Lelkes, 2014). In the present sample, adequate reliability was achieved for both C/O values (α = .79; *M* = .45, *SD* = .13) and SE/ST values (α = .78; *M* =.43, *SD* = .17). As with the other measures, both of these value dimensions were coded to range from 0 to 1.

Covariates

The following demographic factors were assessed as covariates: income, highest level of education, religiosity, religious affiliation, gender, race, citizenship, country of birth, and age.[6] Income, education, religiosity, and age were coded to range from 0 to 1. Central tendencies and variability for these covariates were as follows: income (*M* = .40, *SD* = 24), education (*M* = .55, *SD* = .22), religiosity (*M* = .43, *SD* = .37), and age (*M* = .31, *SD* = .20). Indicator variables were created for gender (1 = men), race (1 = non-white), and country of birth (1 = born in the United States), and citizenship (1 = non-

[6] The survey also contained measures of partisanship, ideology, and political knowledge. Because the effects of focal individual differences may be partially mediated through partisanship and ideology, the present analyses exclude these variables, as a means of estimating the full effect of SDO and authoritarianism. Descriptions of these measures are available in the appendix.

citizen). In the present sample, 159 participants were born outside of the United States and 47 participants were not U.S. citizens.

Support for Immigration

General immigration policy attitudes were assessed using three items. First, participants used a scale ranging from 1 (*greatly reduced*) to 7 (*greatly increased*) to report whether they think current levels of immigration should be kept the same, reduced, or increased. Second, they used a scale ranging from 1 (*very bad idea*) to 7 (*very good idea*) to indicate whether a more lenient (i.e., "open borders") immigration policy would be a good or bad idea. Third, they used the same 7-point scale to indicate whether a more restrictive (i.e., "closed borders") policy would be a good or bad idea. The third item was reversed so that higher values on all items indicate greater support for immigration. These three items demonstrated adequate reliability ($\alpha = .84$), so they were averaged and recoded to range from 0 to 1 ($M = .44$, $SD = .27$).

Discriminatory Immigration Preferences

Because some research demonstrates that immigration attitudes depend on the level of education and country of origin of particular immigrants (see Hainmueller & Hopkins, 2015), the present research also assessed the possibility of differentiated attitudes toward different types of immigrants. Specifically, participants were given the following text: "An immigrant's eligibility for citizenship might depend on a number of factors. Please indicate the extent to which you think immigrants from each of the following groups should be given citizenship in the United States." Participants then rated perceived citizenship eligibility for each of the following: immigrants without a high school education, immigrants with a high school education, immigrants with a

college degree, immigrants with a doctorate, immigrants from African countries (e.g., Kenya, Nigeria, Ghana), immigrants from Middle Eastern countries (e.g., Iraq, Iran, Pakistan), immigrants from Latin American countries (e.g., Mexico, Columbia, Peru), immigrants from Asian countries (e.g., China, Vietnam, South Korea), and immigrants from European countries (United Kingdom, Germany, Italy).

The order of the questions for education and continent of origin was counter-balanced, such that half of participants were randomly assigned to receive the education questions first and half were assigned to receive the continent-of-origin questions first. Additionally, questions for levels of education were given in ascending order of educational attainment (for ease of interpretation and comprehension) but questions for continent of origin were randomized, as a means of cancelling out any potential question order effects. For all immigrant groups, participants indicated their responses as follows: Never Grant Citizenship (1), Rarely Grant Citizenship (2), Sometimes Grant Citizenship (3), Usually Grant Citizenship (4), Always Grant Citizenship (5).

An index of preferences for highly educated immigrants was created by creating a difference score between all pairs of items assessing immigrant groups with differing levels of education. This resulted in the following six difference scores: (1) immigrants with a doctorate – immigrants with a college degree, (2) immigrants with a doctorate – immigrants with a high-school degree, (3) immigrants with a doctorate – immigrants without a high-school education, (4) immigrants with a college degree – immigrants with a high-school education, (5) immigrants with a college degree – immigrants without a high-school education, and (6) immigrants with a high-school education – immigrants without a high-school education. These six difference-score items demonstrated high

reliability (α = .85) and they were averaged and recoded to range from 0 to 1 (*M* = .50, *SD* = .15).

A measure of Eurocentric immigration preferences was also created in a similar manner as the one for preferences for educated immigrants. Specifically, the following four difference scores were computed: (1) immigrants from Europe – immigrants from the Middle East, (2) immigrants from Europe – immigrants from Africa, (3) immigrants from Europe – immigrants from Latin America, and (4) immigrants from Europe – immigrants from Asia. Together, these four items capture discriminatory preferences for European immigrants over immigrants from other regions of the world. These difference-score items demonstrated high reliability (α = .88) and they were averaged and recoded to range from 0 to 1 (*M* = .53, *SD* = .09).

Although both the Eurocentric immigration-preference measure and the educated-immigrant-preference measure demonstrated high reliability, this appearance of internal consistency may be artificially inflated because the items are non-independent (e.g., ratings for the eligibility of immigrants from Europe are used in the computation of all four items assessing Eurocentric immigration preferences). When all individual items (not difference-scores) assessing attitudes toward immigration (i.e., support for immigration, willingness to grant citizenship for immigrants at each education level and from each continent of origin) are included in a factor analysis (using principal-factors extraction), all items load most strongly on a single factor, which explains 84% of the variance (λ = 6.42). Including a second factor would only explain 12.8% of the variance (λ = 0.98). Only the items assessing overall attitudes toward immigration load highly on this second factor. Therefore, there is not strong evidence to justify the use of

independent measures of Eurocentric immigration preferences or preferences for highly educated immigrants. Despite the plausibility of differentiated immigration attitudes as a function of education level or continent of origin, the present analysis uses only the three-item measure of overall support for immigration.[7]

Experimental Manipulation

As stated previously, participants were randomly assigned to one of the following 11 conditions: (1) no information/baseline-condition, (2) increasing immigration only, (3) decreasing immigration only, (4) increasing immigration + increasing crime, (5) increasing immigration + decreasing crime, (6) increasing immigration + improving economy, (7) increasing immigration + worsening economy, (8) decreasing immigration + increasing crime, (9) decreasing immigration + decreasing crime, (10) decreasing immigration + improving economy, (11) decreasing immigration + worsening economy. Participants in the baseline-condition did not receive any information about immigration, crime, or the economy. Participants in the remaining conditions were randomly assigned to read information about trends in the United States. They were given the following text: "We are interested in your opinions about various changes happening in the United States. We are going to present you with information about some of these changes. To make your task easier, we are providing you with a brief summary of these changes, rather than a comprehensive report. Additionally, you will be randomly assigned to read about only *two* [*one*] of these changes, out of a much larger pool of possibilities. All of

[7] The survey also included measures of the perceived consequences of immigration with respect to crime, economic wellbeing, and cultural life. Participants completed these measures after the aforementioned items assessing support for immigration. These measures were not used in the present analyses, so they are not described in detail here. However, descriptions of these measures are available in the appendix.

the following information comes from reliable, unbiased sources, and it has been carefully checked to ensure that it is accurate. We would like you to read this information carefully, and you will be asked questions about the information afterward." Participants in conditions that received information about two trends in U.S. society were shown this information on separate pages. A description of the information in each condition is shown below:

Increasing Immigration

"A huge boom in immigration, legal and illegal, over the past 16 years has increased the total immigrant population to over 44 million in the United States, according to recent federal immigration data. This includes over 11 million unauthorized immigrants, which represents a 323% increase in unauthorized immigrants since 1990. And when the American-born children of immigrants are added, the total number grows to over 60 million, making the immigrant community nearly one-fifth of the nation's population. Dramatic increases in immigration are expected to continue in the future."

Decreasing Immigration

"Recently, there has been a huge decrease in the rate of immigration in the United States, both legal and illegal. A number of administrative changes have drastically slowed down the visa process, resulting in increased scrutiny over foreign-born applicants for work visas. Additionally, a number of refugee admission programs have been stalled or suspended, which has reduced entrance of refugees into the United States by 74% percent between 2016 and 2018. Finally, increased customs enforcement has resulted in substantial increases in deportations–an average of nearly 400,000 removals per year over

the past 5 years, according to Department of Homeland Security data. Dramatic slowdowns in immigration are expected to continue in the future."

Increasing Crime

"Violent crime, including homicides, has increased considerably in recent years, especially in urban centers, according to FBI data. Violent crimes increased nationally last year by 4.1 percent and homicides rose by 8.6 percent, one year after violence increased by 3.9 percent and homicides jumped by 10.8 percent. In 2017 (the most recent year with complete records), a total of 17,284 people were murdered, and 1,247,341 people were victims of violent crimes. Law enforcement experts and criminologists expect increases in crime to continue in the coming decade. Researchers have investigated a variety of reasons for these increases in crime, but haven't yet determined which factors play the biggest role."

Decreasing Crime

"Violent crime, including homicides, has fallen dramatically over the past few decades. According to FBI data on police reports, the violent crime rate decreased by 50% between 1993 and 2017. According to the Bureau of Justice Statistics, which also includes unreported crimes in their data, violent crime has fallen by 70% during the past 25 years. By virtually any measure, Americans now live in one of the safest times in our nation's history. Law enforcement experts and criminologists expect reductions in crime to continue in the coming decade. Researchers have investigated a variety of reasons for these declines in crime, but haven't yet determined which factors play the biggest role."

Improving Economy

"The economy continues to show improvements across a variety of measures. Overall, the economy has continued to grow over the past few years, and this growth has increased to an average rate of 3.25% over the past year, according to U.S. Department of Commerce data. Additionally, U.S. stock markets, including the S&P 500 and the NASDAQ, have grown to record highs in recent years. Finally, private employers have added jobs for 7 straight years, resulting in current unemployment levels of 3.6%, which are close to record lows in the United States. Together, these factors indicate a strong and prosperous economy, and most official economic forecasts predict that the economy will continue to improve in the coming years."

Worsening Economy

"The economy continues to show signs of weakness and instability across a variety of measures. First, the U.S. trade deficit increased from $502 billion in 2016 to $622 billion in 2018, and the U.S. dollar lost 10% against the Euro between 2016 and 2018. Many professional forecasters predict a high likelihood of economic recession in the near future. For example, Vanguard, a $5 trillion asset management firm, estimates that the chances of a recession by late 2020 are at 50 percent. That's Vanguard's highest-ever estimate for that time frame. In terms of long-term trends, although worker productivity in the U.S. has increased by 246% since the early 1970's, average hourly pay has increased very little. Indeed, after adjusting for inflation, today's average hourly wage has just about the same purchasing power it did in 1978, according to U.S. Bureau of Labor Statistics data. These stagnating wages make it difficult for a sizeable share of American workers to afford basic living expenses. Together, these factors indicate an

unstable and declining economy, and most official economic forecasts predict that the economy will continue to weaken in the coming years."

Procedure

After consenting to participate, participants were first given items on political attitudes (partisanship, ideology), followed by items assessing political knowledge, which were randomized (see the Appendix for a description of these measures). They were then given items assessing authoritarianism (the ACT scale and Stenner's childrearing values measure were presented in separate question blocks) and SDO. The order of presentation of questions blocks on authoritarianism and SDO was randomized. Additionally, within each question block, individual questions were also randomized to cancel out any potential order effects. Participants were then asked to indicate their gender and they were then given Schwartz value items with questions worded in a manner consistent with their gender, as recommended by the instrument's developers (Sandy, Gosling, Schwartz, & Koelkebeck, 2017; Schwartz, 2006). The order of these value items was also randomized.

Subsequently, participants were randomly assigned to experimental conditions. A 30-second timer was placed on each experimental manipulation. Participants were given the following instructions above each experimental manipulation: "Please read the information below carefully, as you will be asked questions about it afterward. You will be able to continue the survey at your own pace once 30 seconds have passed." After reading the information in the experimental manipulation, participants were given manipulation checks. They were asked identify the basic topic discussed in the manipulation in a multiple-choice format (e.g., Immigration, Technology, Media, or

Weather). If they correctly identified the topic, they were asked to identify the specific trend discussed in the article (e.g., "immigration is decreasing"). Following the manipulation check, they were given items on general attitudes toward immigration policy (i.e., support for immigration), followed by items assessing continent-specific and education-specific immigration eligibility. Participants were then given questions about the perceived consequences of immigration with respect to crime, the economy, and U.S. culture.

After answering all questions assessing immigration attitudes, participants were again shown the information that they read in the experimental manipulation. While viewing this information again, participants were asked the following question: "How accurate do you think this information is?" They responded on a 6-point scale, ranging from 1 (*Completely True*) to 6 (*Completely False*). Participants who were given two different experimental manipulations assessed perceptions of accuracy separately for each manipulation.

Finally, they will be given demographic questions in the following order: age, gender, race, religiosity, religious affiliation, citizenship, country of birth, education, and income. After completing these questions, participants were thanked and debriefed.

Chapter 9: Study 2 Results and Discussion

Analytic Strategy

All hypotheses were tested by estimating ordinary least squares (OLS) linear regression models in Stata 15. These models assessed support for immigration as the dependent variable. Standard errors were estimated using the HC1 sandwich estimator, which is robust against violations of the assumption of homoscedasticity in OLS regression (see Hayes & Cai, 2007). All models that tested interactions between individual differences and experimental conditions controlled for the following covariates of the focal individual difference dimensions (i.e., SDO and ACT): income, education, race (1 = non-white), gender (1 = male), age, and religiosity. Experimental conditions were denoted by indicator variables, which are described in greater detail subsequently. Table 5 shows the number of participants in each experimental condition.

Table 5: Number of Participants in Each Experimental Condition

	Increasing Crime	Decreasing Crime	Improving Economy	Declining Economy	No Econ/ Crime Info	Total *N*
Increasing Immigration	226	224	219	227	229	1125
Decreasing Immigration	225	225	227	224	228	1129
No Immigration Info (Baseline)	--	--	--	--	224	224
Total *N*	451	449	446	451	681	2478

Note: These numbers include all participants, even those who failed manipulation checks. All participants who received information about changes in crime or changes in the economy also received information about increasing or decreasing immigration. There were 224 participants in a baseline-condition, in which participants received no information about any changes in society. This condition is primarily for assessment of population-change hypotheses.

Relations Among Predictor Variables

Table 6 shows pairwise correlations between individual-difference predictors of immigration attitudes. Individual-difference predictors that were correlated with either of the focal individual-difference measures (i.e., SDO and ACT) were retained. SDO tended to be higher among men, individuals with higher income, and those who are more religious. ACT tended to be higher among women, those who are less educated, older individuals, members of racial minority groups, and especially among highly religious individuals. As expected, SDO and ACT were positively correlated (see Duckitt & Bizumic, 2013), with approximately 26% of the variance shared between these two measures in the present sample.

Table 6: Pairwise Correlations Between Individual-Difference Predictors (Study 2)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Income	1						
(2) Education	0.298 ***	1					
(3) Non-White	-0.071 ***	0.051 *	1				
(4) Male	0.004 *n.s.*	0.052 **	0.042 *	1			
(5) Age	0.047 *	0.034 +	-0.202 ***	-0.100 ***	1		
(6) Religiosity	0.024 *n.s.*	0.047 *	0.123 ***	-0.015 *n.s.*	0.123 ***	1	
(7) SDO	0.057 **	-.002 *n.s.*	0.004 *n.s.*	0.124 ***	0.015 *n.s.*	0.274 ***	1
(8) ACT	0.009 *n.s.*	-.090 ***	0.056 **	-0.044 *	0.164 ***	0.572 ***	0.510 ***

Note: ACT refers the primary measure of authoritarianism. Asterisks displayed below each correlation coefficient denote p-values: + $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Manipulation Checks

Pilot Test

Experimental manipulations were pilot tested on Amazon's Mechanical Turk (N = 315) prior to the full study. After exposure to the experimental stimuli, participants were asked to identify the topic of the manipulation in multiple-choice format with four response options, including the correct topic (e.g., crime) and three incorrect answers (technology, media, weather), all presented in randomized order. Participants identified the correct topic were then asked to identify the trend described the manipulation, with four multiple-choice response options, presented in randomized order (e.g., increasing immigration, decreasing immigration, rates of immigration have not changed, changes in immigration are unknown). Participants passed the manipulation check if they correctly identified the topic and the trend described in each manipulation. In pilot testing, 86% of participants passed the manipulation checks.

The pilot test also included measures of perceived accuracy of the manipulations. There were no substantive differences in perceived accuracy between the improving and declining economy conditions (b = 0.07, p = .15, R^2 = .017) or between the increasing and decreasing crime conditions (b = -0.07, p = .19, R^2 = .014). People perceived information depicting increasing immigration as slightly more accurate than information depicting decreasing immigration, although this effect was fairly small (b = 0.075, p = .008, R^2 = 0.02). The pilot study also assessed participants' interest in the information described in the manipulation, as well as the extent to which they were surprised by this information. There were no differences in self-reported interest or surprise between any of the experimental conditions in the pilot study. Thus, evidence from the pilot study

(using the same manipulations) suggests that most participants correctly understand the manipulations, and that there were not substantive mean-level differences in perceived accuracy, interest, or surprise across experimental manipulations.

Manipulation Check in Study 2

Study 2 retained the manipulation checks from the pilot study, but did not ask questions about interest or surprise. In total 89.9% of participants passed the manipulation checks assessing knowledge of the societal trends described in the manipulation. Although most participants correctly identified the information in the manipulations, there were a few systematic differences in this tendency. In particular, participants in the decreasing-immigration condition (14.6%) were more likely than those in the increasing-immigration condition (8.7%) to fail the manipulation check (b = .587, SE = .134, $p < .001$), though this explained little overall variance in the predicted probability of failing the manipulation-check (ΔPseudo-R^2 = .012). There were not substantive differences in manipulation-check failure rates between any of the other conditions: increasing crime (10.5%), decreasing crime (11.71%), improving economy (12.64%), and declining economy (11.76%). There was also a tendency for high-SDO individuals to be more likely to fail the manipulation checks overall (b = .372, SE = .038, $p < .001$, ΔR^2 = .039). Variance in ACT was not systematically associated with failure of manipulation checks (b = -.051, SE = .039, p = .189, ΔR^2 = .0007). I present the primary results using models that exclude those who failed manipulation checks. However, because of these systematic differences in manipulation check failure, I also report relevant model results (i.e., coefficients that test central hypotheses) with all participants included.

Hypothesis Testing

For the sake of clarity, the section below describes the inferential test of each hypothesis, along with its corresponding location in the tables that follow:

Population Change Hypotheses

H1a & H2a) The ***general-intergroup-threat*** hypothesis states that information about increasing immigration will reduce support for immigration, relative to a no-information baseline-condition. Similarly, the ***general-intergroup-threat-mitigation*** hypothesis states that information about decreasing immigration will increase support for immigration, relative to a no-information baseline-condition. These hypotheses were tested in two ways. Model 1 (Table 7) regresses support for immigration on indicator variables for the immigration increase and immigration decrease conditions, and excludes participants who received any information about changes in the economy or changes in crime. Model 1 thus compares the effect of information about changes in immigration (with no subsequent information provided) to the baseline-condition (with no information provided). As an alternative model specification, Model 2 (Table 7) includes participants who received subsequent information about changes in crime or changes in the economy, but controls for the effect of these manipulations. Model 2 thus tests the average effects of information about increases or decreases in immigration, regardless of subsequent information about changes in crime or the state of the economy.

H1b & H2b) The ***social-stability-threat*** hypothesis states that the negative effect of information about increasing immigration will be greater among participants high in

authoritarianism. Similarly, the ***social-stability-threat-mitigation*** hypothesis states that the positive effect of information about decreasing immigration will be greater among participants high in authoritarianism. These hypotheses were tested by estimating interactions between authoritarianism (ACT) and indicator variables for immigration-increase and immigration-decrease conditions. In Model 3 (Table 7), these interactions were tested by including only participants who exclusively received information about changes in immigration and participants in the baseline-condition. Thus, the reference group is those who received no experimental stimuli. Model 4 (Table 7) includes participants who received subsequent information about changes in crime or changes in the economy, but controls for the effect of these manipulations. Model 4 thus tests interactions between authoritarianism and immigration change conditions, regardless of subsequent information about changes in crime or the state of the economy.

H1c & H2c) The ***status-threat*** hypothesis states that the negative effect of information about increasing immigration will be greater among participants high in SDO. Similarly, the ***status-threat-mitigation*** hypothesis states that the positive effect of information about decreasing immigration will be greater among participants high in SDO. These hypotheses were tested by estimating interactions between SDO and indicator variables for immigration-increase and immigration-decrease conditions. As with the interactions between immigration conditions and authoritarianism, these interactions were tested including only participants who exclusively received information about changes in immigration and participants in the baseline-condition (Model 3: Table 7), as well as in a

model that includes participants who received subsequent information about changes in crime or changes in the economy (Model 4: Table 7).

Differential Moderation Hypotheses

H3a & H3c) The ***differential-security-threat-sensitivity*** hypothesis states that information about increasing crime will result in more negative immigration attitudes among high authoritarians, but not among low authoritarians. Similarly, the ***security-threat-mitigation*** hypothesis states that information about decreasing crime will result in more positive immigration attitudes among high authoritarians, but not among low authoritarians. These hypotheses were tested by estimating interactions between authoritarianism and the crime-increase and crime-decrease conditions, in a model that includes participants from all conditions (Model 4: Table 7)

H3b & H3d) The ***differential-scarcity-threat-sensitivity*** hypothesis states that information about economic decline will result in more negative immigration attitudes among high-SDO participants, but not among low-SDO participants. Similarly, the ***scarcity-threat-mitigation*** hypothesis states that information about economic improvement will result in more positive immigration attitudes among high-SDO participants, but not among low-SDO participants. These hypotheses were tested by estimating interactions between SDO and the economic improvement and economic decline conditions, in a model that includes participants from all conditions (Model 4: Table 7).

All tests of the differential moderation hypotheses were included in a single model, which estimates interactions between both focal individual-difference dimensions and all experimental conditions. Consequently, the reference group for these tests of differential moderation includes participants in the baseline-condition (who received no information), as well as those who received information about increasing or decreasing immigration, but no subsequent information about changes in crime or the state of the economy.

Compound Threat Sensitivity Hypotheses

H4a & H5a) The ***economic-threat-amplification*** hypothesis states that information about increasing (vs. decreasing) immigration will increase the negative influence of information about economic decline on immigration attitudes among high-SDO individuals. Correspondingly, the ***economic-threat-amplifier*** hypothesis states that information about increasing (vs. decreasing) immigration will reduce support for immigration to the greatest extent among high-SDO individuals who are provided information about economic decline. These hypotheses were tested by estimating a three-way interaction among the immigration increase condition, the economic decline condition, and SDO.

H4c & H5c) The ***economic-threat-attenuation*** hypothesis states that information about increasing (vs. decreasing) immigration will increase the positive influence of information about economic improvement on immigration attitudes among high-SDO individuals. Correspondingly, the ***economic-threat-attenuator*** hypothesis states that

information about increasing (vs. decreasing) immigration will increase support for immigration to the greatest extent among high-SDO individuals who are provided information about economic improvement These hypotheses were tested by estimating a three-way interaction among the immigration increase condition, economic improvement condition, and SDO.

H4b & H5b) The ***crime-threat-amplification*** hypothesis states that information about increasing (vs. decreasing) immigration will increase the negative influence of information about increasing crime on immigration attitudes among highly authoritarian individuals. Correspondingly, the ***crime-threat-amplifier*** hypothesis states that information about increasing (vs. decreasing) immigration will reduce support for immigration to the greatest extent among highly authoritarian individuals who are provided information about increasing crime. These hypotheses were tested by estimating a three-way interaction among the immigration increase condition, crime increase condition, and ACT.

H4d & H5d) The ***crime-threat-attenuation*** hypothesis states that information about increasing (vs. decreasing) immigration will increase the positive influence of information about decreasing crime on immigration attitudes among highly authoritarian individuals. Correspondingly, the ***crime-threat-attenuator*** hypothesis states that information about increasing (vs. decreasing) immigration increase support for immigration to the greatest extent among highly authoritarian individuals who are provided information about decreasing crime. These hypotheses were tested by

estimating a three-way interaction among the immigration increase condition, crime decrease condition, and ACT.

All of the aforementioned ***compound-threat-sensitivity*** hypotheses (H4a–H5d) were tested in Model 5 (Table 8). This model excluded participants in the baseline-condition. Thus, the effect of the immigration-increase condition is relative to the immigration-decrease condition. The effects of economic-change and crime-change conditions are relative to participants who received no information about changes in the economy or changes in crime. These tests of compound threat sensitivity are also reported separately for White participants (Model 6: Table 8) and non-White (i.e., Black, Latino, Asian, and Native American) participants (Model 7: Table 8). Although I did not have strong *a priori* hypotheses concerning the influence of race on compound-threat-sensitivity, there are reasons to expect that these interaction effects may differ as a function of race. For example, some research suggests that the effect of authoritarianism on political attitudes varies across racial groups (e.g., Perez & Hetherington, 2014). Evidence also indicates racial differences in responses to threatening economic messages about immigration in the news (see Brader, Valentino, Jardina, & Ryan, 2010). Most prior work on immigration attitudes in the United States focuses primarily on the attitudes of White-Americans. However, it is also important to consider the extent to which influential theories and findings apply when assessing immigration attitudes among members of non-dominant racial groups. For these reasons, I assessed compound-threat-sensitivity effects separately by race in an exploratory manner. Because the estimated three-way interactions differed as a function of participant race, the interactions are subsequently broken down separately by participant race.

Table 7: Tests of Population-Change and Differential-Moderation Hypotheses

	Model 1	Model 2	Model 3	Model 4
Income			-.058+ (.034)	-.017 (.018)
Education			.135*** (.041)	.089*** (.020)
Non-White			.041* (.019)	.054*** (.010)
Male			-.018 (.017)	-.029*** (.009)
Age			-.111** (.040)	-.109*** (.021)
Religiosity			.052+ (.028)	.081*** (.015)
SDO			-.253** (.094)	-.235* (.094)
ACT			-.821*** (.081)	-.867*** (.077)
Imm Increase	-.083*** (.025)	-.075*** (.022)	-.151** (.054)	-.136** (.044)
Imm Decrease	-.007 (.026)	-.015 (.023)	-.029 (.048)	-.040 (.043)
Econ Improve		.023 (.020)		.069+ (.036)
Econ Decline		.014 (.019)		.051 (.037)
Crime Increase		.024 (.020)		.078* (.036)
Crime Decrease		.042* (.018)		.034 (.036)
Imm Increase * SDO			.122 (.131)	.057 (.116)
Imm Increase * ACT			.077 (.120)	.086 (.102)
Imm Decrease * SDO			-.131 (.121)	-.079 (.113)
Imm Decrease * ACT			.056 (.111)	.058 (.100)
Econ Improve * SDO				-.193* (.087)
Econ Improve * ACT				.028 (.087)
Econ Decline * SDO				-.081 (.095)
Econ Decline * ACT				-.035 (.088)
Crime Increase * SDO				-.029 (.087)
Crime Increase * ACT				-.077 (.084)
Crime Decrease * SDO				-.116 (.086)
Crime Decrease * ACT				.097 (.083)
Constant	.455*** (.017)	.455*** (.017)	.859*** (.041)	.870*** (.033)
Model Details				
N	637	2228	630	2201
R-squared	0.0202	0.0136	0.4673	0.5040

Note: Models 1 and 3 exclude participants who received information about changes in crime or changes in the economy, in order to test the effects of population change manipulations in isolation. Model 2 includes participants who received information about changes in the economy/crime but controls for the average effects of each experimental condition. Model 4 includes participants in all conditions. All models exclude those who failed the manipulation checks. Robust standard errors are shown in parentheses. + $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Population Change Hypotheses

As shown in Model 1 (Table 7), participants randomly assigned to read information about increasing immigration showed reduced support for immigration, relative to those in the baseline-condition (b = -.083, SE = .025, $p < .001$). In an alternative specification, participants in the immigration-increase condition tended to exhibit more negative immigration attitudes, regardless of the information that they subsequently received about changes in crime or the economy, as shown in Model 2 (Table 7: b = -.075, SE = .022, $p < .001$). This finding is consistent with the ***general-intergroup-threat*** hypothesis. Contrary to the ***general-intergroup-threat-mitigation*** hypothesis, there is no evidence that the immigration-decrease condition has any substantive influence on immigration attitudes in these data. Models 3 and 4 (Table 7) test hypothesized interactions between population change manipulations and the focal individual difference variables. Contrary to the ***social-stability-threat*** and ***social-stability-threat-mitigation*** hypotheses, there is no evidence of an interaction between authoritarianism and either immigration change condition. Similarly, contrary to the ***status-threat*** and ***status-threat-mitigation*** hypotheses, there is no evidence of an interaction between SDO and either immigration change condition.

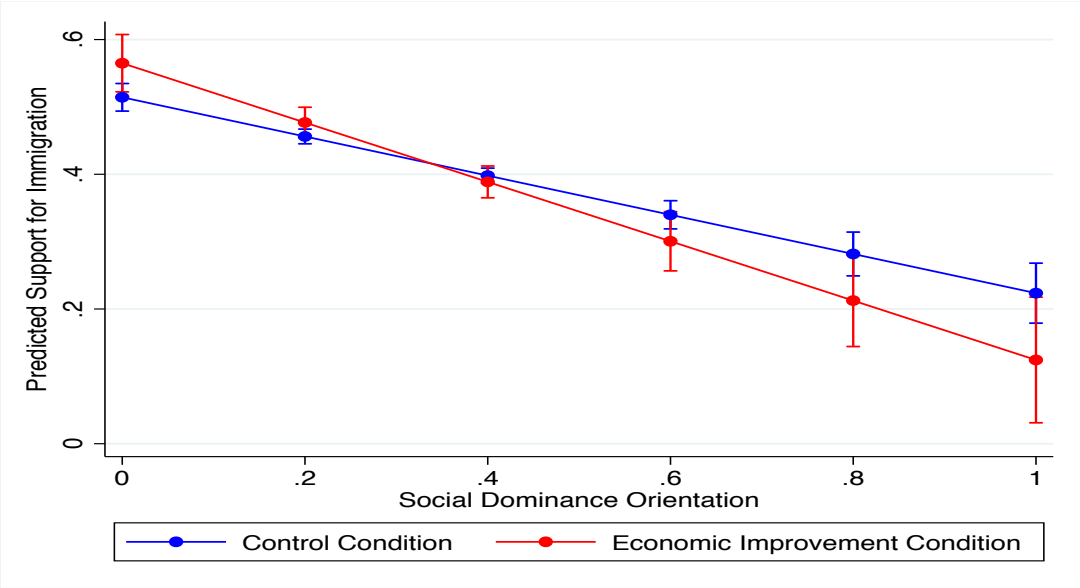
Differential-Moderation Hypotheses

Model 4 tests the differential moderation hypotheses. All participants who received information about changes in crime or the state of the economy also received information about changes in immigration. Thus, Model 4 also controls for the effects of immigration-change conditions and any potential interaction between these conditions

and the focal individual-difference dimensions. The reference group for these tests of differential moderation includes participants in the baseline-condition (who received no information) and participants who received only information about changes in immigration (but no subsequent information about changes in crime or the economy). Contrary to the ***differential-security-threat-sensitivity*** and ***security-threat-mitigation*** hypotheses, there is no evidence of an interaction between either the crime-increase or crime-decrease condition and authoritarianism. Contrary to the ***differential-scarcity-threat-sensitivity*** hypothesis, there is no evidence of an interaction between the economic-decline condition and SDO. However, there is evidence of an interaction between the economic-improvement condition and SDO (b = -.193, SE = .087, p = 027).[8] This interaction is broken down by estimating predicted support for immigration across the spectrum of SDO, with separate estimates for the economic-improvement and control (no economic or crime information) conditions, as shown in Figure 11.

[8] The interaction between the economic-improvement condition and SDO is similar in an alternative model that include participants who failed the manipulation checks (b = -.160, SE = .083, p = .053) but does not hold when SE/ST values are tested in place of SDO (b = .038, SE = .104, p = .716).

Figure 11: Support for Immigration as a Function of SDO and Economic-Improvement Condition



As shown in Figure 11, the effect of the economic-improvement condition varied as a function of SDO. Among those lowest in SDO, predicted support for immigration was greater in the economic improvement condition ($\hat{y}$ = .565, *SE* = .022) than in the control (no economic or crime information) condition ($\hat{y}$ = .514, *SE* = .010). By contrast, among those highest in SDO, predicted support for immigration was lower in the economic improvement condition ($\hat{y}$ = .124, *SE* = .048) than in the control (no economic or crime information) condition ($\hat{y}$ = .224, *SE* = .023). Thus, the economic improvement condition resulted in increased support for immigration among those lowest in SDO (*b* = .081, *SE* = .030, *p* = .007) and it resulted in (marginally) decreased support for immigration among those highest in SDO (*b* = -.111, *SE* = .062, *p* = .071). This interaction pattern is contrary to the ***scarcity-threat-mitigation*** hypothesis, which predicted that the economic improvement condition would increase support for immigration among those high in SDO.

Compound Threat Sensitivity Hypotheses

Tests of the compound threat sensitivity hypotheses are shown in Table 8. Because all participants who saw information about changes in crime or changes in the economy also saw information about changes in immigration, all of the models displayed in Table 8 exclude participants in the baseline condition. Thus, the effect of the immigration-increase condition is relative to the immigration-decrease condition, and the effects of all conditions representing information about changes in crime or changes in the economy are relative to participants who received information about changes in immigration but did not receive any information about changes in crime or the economy. In these data, the critical three-way interaction effects differed between White and non-white participants. Thus, in addition to presenting the aggregated results (Model 5), I also present the results separately for white participants (Model 6) and non-white participants (Model 7). As shown in Table 8, results for the three-way interaction terms testing compound threat sensitivity hypotheses differ substantially between White participants (Model 6) and Non-White participants (Model 7). Because of these differences, I break down these three-way interactions separately by race.

Table 8: Tests of Compound-Threat-Sensitivity Hypotheses (Study 2)

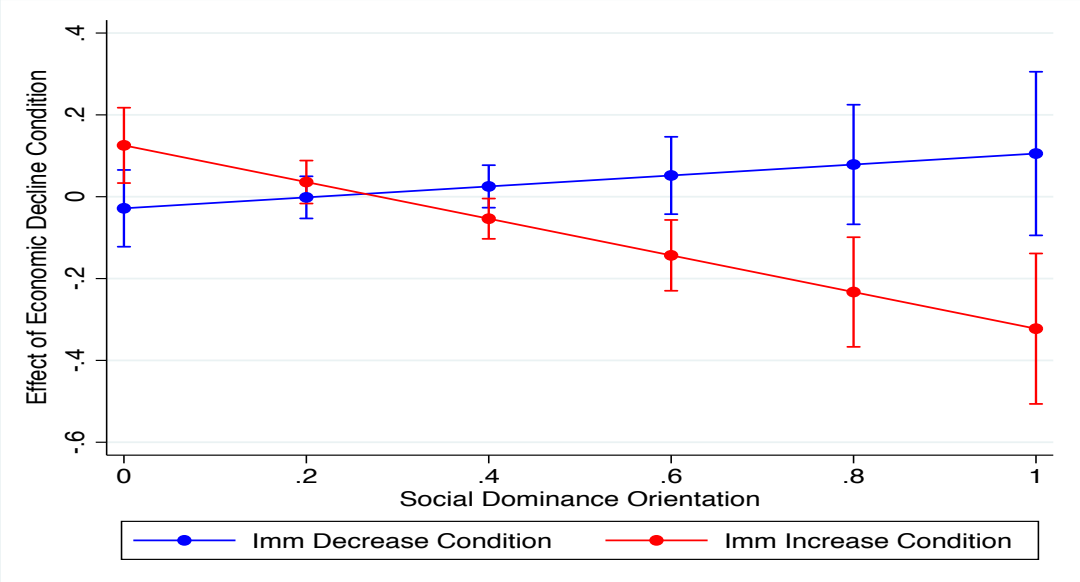
	Model 5	Model 6	Model 7
Income	-.019 (.019)	-.002 (.022)	-.067+ (.039)
Education	.080*** (.022)	.055* (.025)	.140*** (.044)
Non-White	.054*** (.011)	--	--
Male	-.031*** (.010)	-.028** (.011)	-.041* (.020)
Age	-.116*** (.023)	-.105*** (.025)	-.153** (.056)
Religiosity	.087*** (.016)	.081*** (.018)	.104*** (.032)
SDO	-.366*** (.073)	-.472*** (.089)	-.178 (.129)
ACT	-.817*** (.084)	-.677*** (.106)	-1.00*** (.119)
Imm Increase	-.124* (.058)	-.021 (.059)	-.469*** (.140)
Econ Improve	.028 (.047)	.080 (.055)	-.159 (.103)
Econ Decline	.038 (.049)	.050 (.060)	.038 (.068)
Crime Increase	.066 (.047)	.083 (.057)	.072 (.076)
Crime Decrease	.034 (.048)	.066 (.057)	-.072 (.096)
Imm * Econ Improve	.084 (.072)	-.022 (.075)	.471* (.192)
Imm * Econ Decline	.026 (.074)	-.056 (.081)	.314+ (.165)
Imm * Crime Increase	.026 (.073)	-.045 (.077)	.150 (.171)
Imm * Crime Decrease	-.0001 (.07)	-.096 (.077)	.351* (.169)
Imm * SDO	.245* (.115)	.336** (.127)	.143 (.226)
Imm * ACT	.024 (.124)	-.259+ (.136)	.744** (.259)
Econ Improve * SDO	-.136 (.128)	.041 (.147)	-.495* (.244)
Econ Improve * ACT	.086 (.130)	-.146 (.146)	.694* (.319)
Econ Decline * SDO	.100 (.121)	.134 (.142)	.174 (.212)
Econ Decline * ACT	-.119 (.117)	-.187 (.145)	-.164 (.158)
Crime Increase * SDO	.088 (.122)	.271+ (.144)	-.375 (.232)
Crime Increase * ACT	-.138 (.122)	-.311* (.151)	.091 (.183)
Crime Decrease * SDO	-.186+ (.109)	-.112 (.136)	-.279 (.179)
Crime Decrease * ACT	.168 (.109)	.034 (.136)	.410* (.178)
Imm * Econ Imp * SDO	-.119 (.176)	-.226 (.194)	.072 (.351)
Imm * Econ Imp * ACT	-.114 (.177)	.177 (.187)	-1.02* (.439)
Imm * Econ Dec * SDO	-.365* (.186)	-.582** (.194)	-.144 (.352)
Imm * Econ Dec * ACT	.179 (.174)	.482* (.193)	-.458 (.318)
Imm * Crime Inc * SDO	-.210 (.174)	-.396* (.195)	.255 (.374)
Imm * Crime Inc * ACT	.098 (.171)	.353+ (.191)	-.272 (.364)
Imm * Crime Dec * SDO	.157 (.167)	.176 (.193)	.072 (.320)
Imm * Crime Dec * ACT	-.151 (.164)	.014 (.183)	-.688* (.335)
Constant	.853*** (.040)	.835*** (.050)	.943*** (.059)
Model Details			
N	1980	1473	507
R-squared	0.5064	0.5541	0.3924

Note: Robust standard errors in parentheses. + p < .10, * p < .05, ** p < .01, *** p < .001

Compound Threat Sensitivity Among White Participants

The ***economic-threat-attenuation*** and ***economic-threat-attenuator*** hypotheses are predicated on a three-way interaction among the immigration-change condition, economic-improvement condition, and SDO. Contrary to these hypotheses, there is no evidence of such an interaction among White participants in these data *(b* = -.226, *SE* = .194, *p* = .244). However, consistent with the ***economic-threat-amplification*** and ***economic-threat-amplifier*** hypotheses, there is evidence of a three-way interaction among the immigration-change condition, economic-decline condition, and SDO (*b* = -.582, *SE* = .194, *p* = .003).[9] This interaction is broken down in Figures 12 and 13 below, which test the marginal effects of immigration change and economic improvement conditions, respectively.

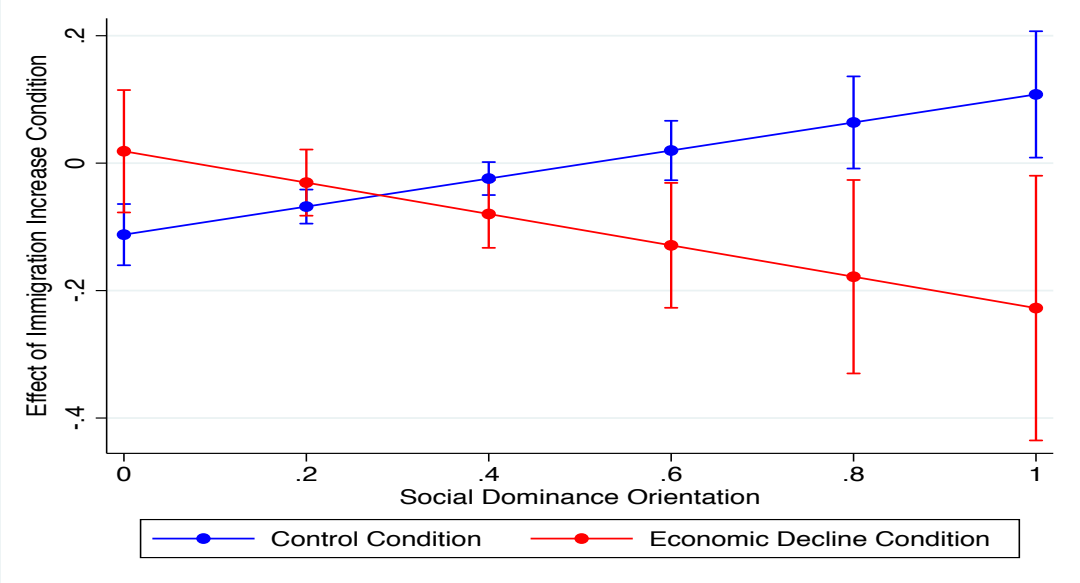
Figure 12: Experimental Test of the Economic-Threat-Amplification Hypothesis Among White Participants



[9] This interaction among immigration change, economic decline, and SDO holds when controlling for ideology and partisanship (*b* = -.463, *SE* = .176, *p* = .009) and when including participants who failed manipulation checks (*b* = -.531, *SE* = .179, *p* = .003), but not when using SE/ST values in place of SDO (*b* = -.108, *SE* = .237, *p* = .647).

As shown in Figure 12, information about economic decline has no effect on immigration attitudes among White participants who were given information about decreasing immigration. This is true among those lowest in SDO (b = -.028, SE = .048, p = .553), as well as those highest in SDO (b = .105, SE = .102, p = .301). However, among White participants who were given information about increasing immigration, subsequent information about economic decline results in greater support for immigration among those lowest in SDO (b = .125, SE = .047, p = .008), but reduced support for immigration among those highest in SDO (b = -.322, SE = .094, p = .001). This result is consistent with the ***economic-threat-amplification*** hypothesis.

Figure 13: Experimental Test of the Economic-Threat-Amplifier Hypothesis Among White Participants



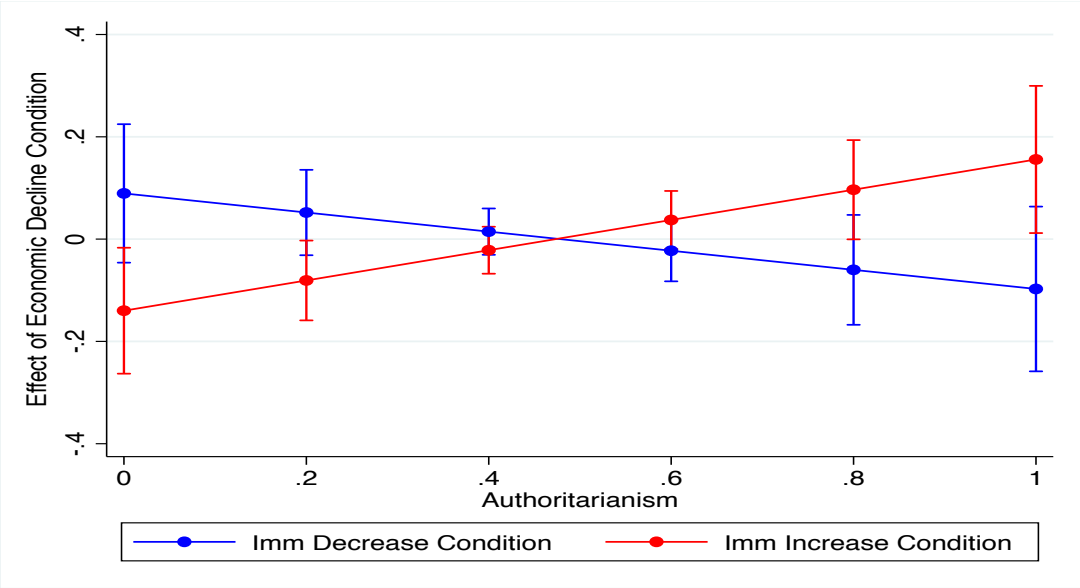
As shown in Figure 13, among White participants, the effect of information about increasing immigration (relative to information about decreasing immigration) depended on subsequent information about economic decline and individual differences in SDO. In

the control condition (in which participants only received information about changes in immigration and no information about the economy or crime), information about increasing immigration resulted in reduced support for immigration among those lowest in SDO (b = -.112, SE = .024, p < .001) and increased support for immigration among those highest in SDO (b = .107, SE = - .051, p = .033). However, among participants who received information about a declining economy, information about decreasing immigration had no effect on support for immigration among those lowest in SDO (b = .019, SE = .490, p = .703) but resulted in decreased support for immigration among those highest in SDO (b = -.227, SE = .106, p = .032). This result is consistent with the ***economic-threat-amplifier*** hypothesis.

Unexpectedly, there is also evidence for an interaction between the immigration-increase condition, economic-decline condition, and authoritarianism (b = .482, SE = .193, p = .013).[10] I break down this interaction in the same manner as the above interaction with SDO by separately plotting the marginal effects of the economic decline condition (Figure 14) and the immigration increase condition (Figure 15).

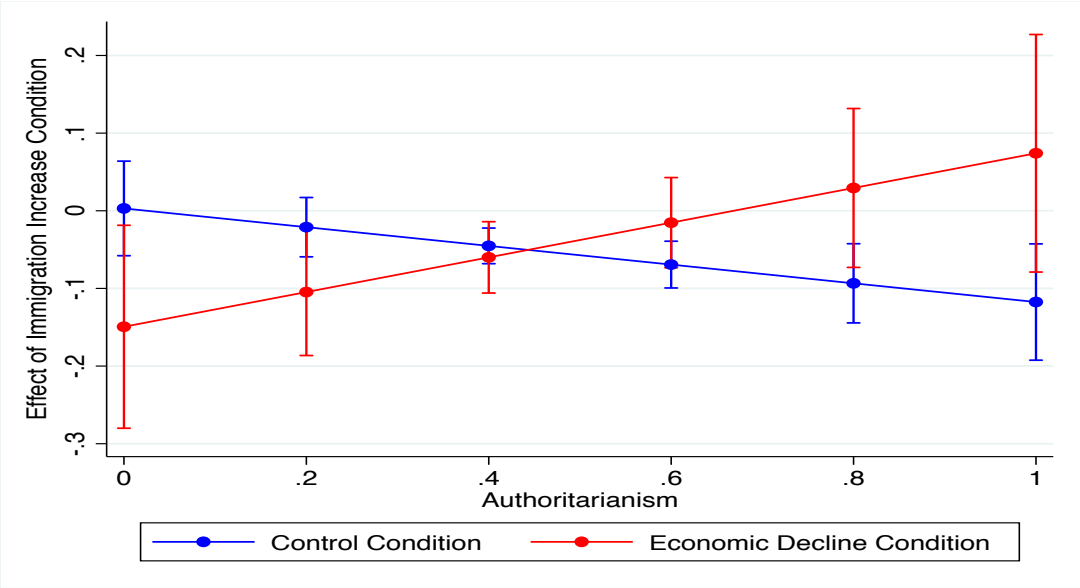
[10] This interaction among immigration change, economic decline, and authoritarianism holds when controlling for ideology and partisanship (b = .442, SE = .180, p = .014) and when including participants who failed manipulation checks (b = .566, SE = .192, p = .003), but not when using C/O values (b = .331, SE = .266, p = .214) or Stenner's (2005) child rearing values measure (b = .094, SE = 123, p = .444) in place of ACT.

Figure 14: Marginal Effect of the Economic-Decline Condition Across the Spectrum of Authoritarianism Among White Participants



As shown in Figure 14, among those in the immigration-decrease condition, there is no evidence of an effect of the economic-decline condition on immigration attitudes among those lowest (b = .089, SE = .069, p = .196) or highest in authoritarianism (b = -.097, SE = .082, p = .235). However, among White participants in the immigration-increase condition, the economic-decline condition resulted in reduced support for immigration among those lowest in authoritarianism (b = -.140, SE = .063, p = .026) and increased support for immigration among those highest in authoritarianism (b = .156, SE = .073, p = .034).

Figure 15: Marginal Effect of the Immigration-Increase Condition Across the Spectrum of Authoritarianism Among White Participants



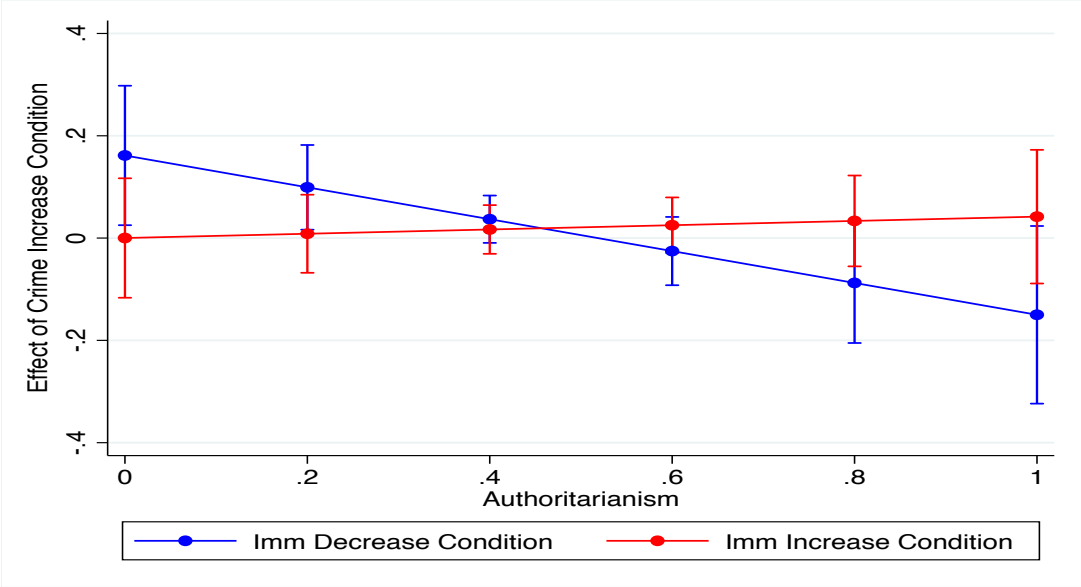
As shown in Figure 15, among White participants in the control (no economic or crime information) condition, the immigration-increase condition has no effect on support for immigration among those lowest in authoritarianism (b = .003, SE = .031, p = .923) but it results in reduced support for immigration among those highest in authoritarianism (b = -.118, SE = .038, p = .002). However, among White participants in the economic-decline condition, information about increasing immigration leads to more negative immigration attitudes among those lowest in authoritarianism (b = -.149, SE = .067, p = .025) and has no effect on immigration attitudes among those highest in authoritarianism (b = .074, SE = .078, p = .342).

Compound Threat: The Conditional Influence of Crime Info on White Participants

The ***crime-threat-amplification*** and ***crime-threat-amplifier*** hypotheses predict a three-way interaction among the immigration-increase condition, crime-increase

condition, and authoritarianism. Among White participants, there is (marginal) evidence of such an interaction (b = .353, SE = .192, p = .065).[11] This interaction is broken down separately in terms of the marginal effect of the crime-increase condition (Figure 16) and the marginal effect of the immigration-increase condition (Figure 17) across the spectrum of authoritarianism.

Figure 16: Experimental Test of the Crime-Threat-Amplification Hypothesis Among White Participants

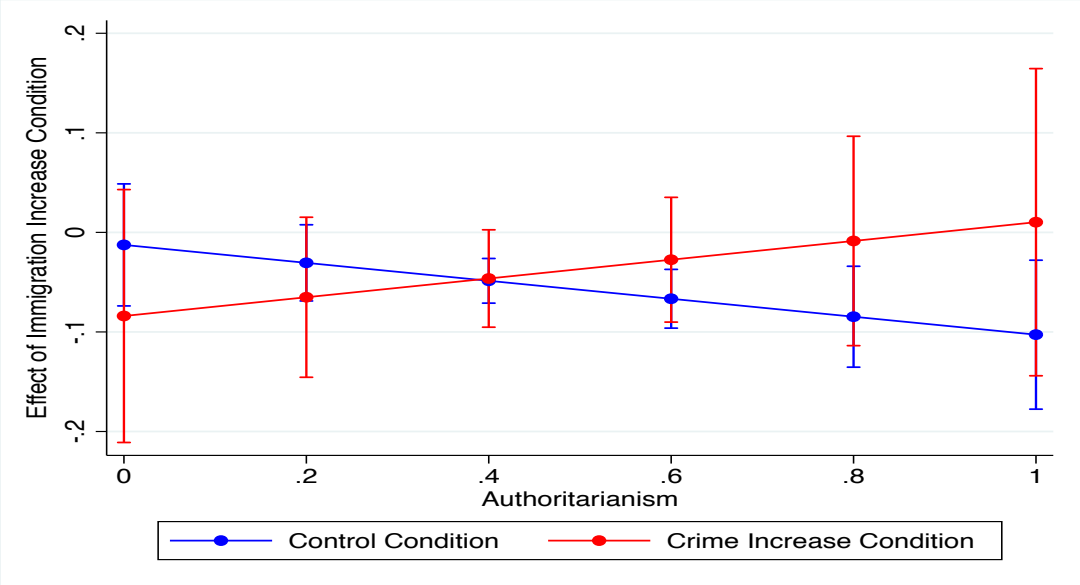


As shown in Figure 16, the crime-increase condition had no effect on immigration attitudes among White participants in the immigration-increase condition. This is true among those lowest in authoritarianism (b < .001, SE = .059, p = .998), as well as those highest in authoritarianism (b = .042, SE = .067, p = .530). However, among White

[11] This interaction among immigration change, crime increase, and authoritarianism holds when controlling for ideology and partisanship (b = .338, SE = .180, p = .061) and when including participants who failed manipulation checks (b = .386, SE = .188, p = .040), but not when using C/O values (b = .378, SE = .274, p = .167) or Stenner's (2005) child rearing values measure (b = .110, SE = 130, p = .397) in place of ACT.

participants given information about decreasing immigration, the crime increase condition resulted in more positive attitudes toward immigration among those lowest in authoritarianism (b = .162, SE = .069, p = .020) and marginally more negative attitudes toward immigration among those highest in authoritarianism (b = -.150, SE = .089, p = .090). These results are contrary to the ***crime-threat-amplification*** hypothesis.

Figure 17: Experimental Test of the Crime-Threat-Amplifier Hypothesis Among White Participants

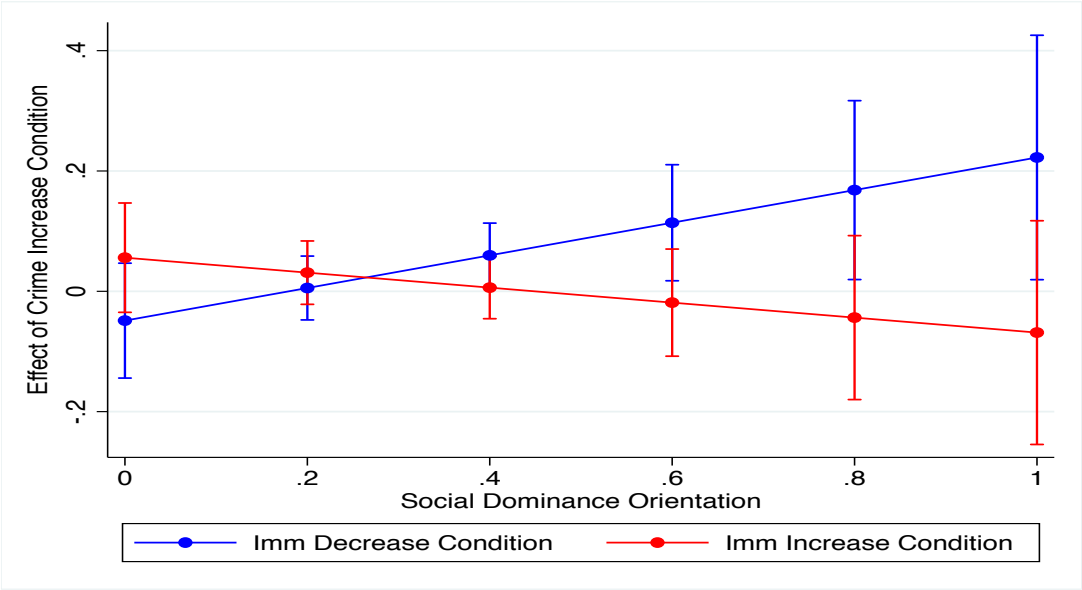


As shown in Figure 17, there is no evidence of an effect of the immigration-increase condition on support for immigration among White participants in the crime-increase condition. This is true among those lowest in authoritarianism (b = -.084, SE = .065, p = .195) and among those highest in authoritarianism (b = .010, SE = .079, p = .896). Among participants who received no information about changes in crime or the economy, the immigration-increase condition resulted in reduced support for immigration among those highest in authoritarianism (b = -.103, SE = .038, p = .007) but did not influence immigration attitudes among those lowest in authoritarianism (b = -.013, SE =

.031, p = .688). These results are contrary to the ***crime-threat-amplifier*** hypothesis. It appears that either increasing-crime or increasing-immigration information induces more negative attitudes toward immigration among those highest in authoritarianism, but the combination of these conditions does not have this effect.

Unexpectedly, there was also a three-way interaction among immigration conditions, the crime-increase condition, and SDO (b = -.396, SE = .195, p = .043).[12] This interaction is broken down in Figures 18 and 19 below, in the same manner as the previous interactions.

Figure 18: Marginal Effect of the Crime-Increase Condition Across the Spectrum of SDO Among White Participants

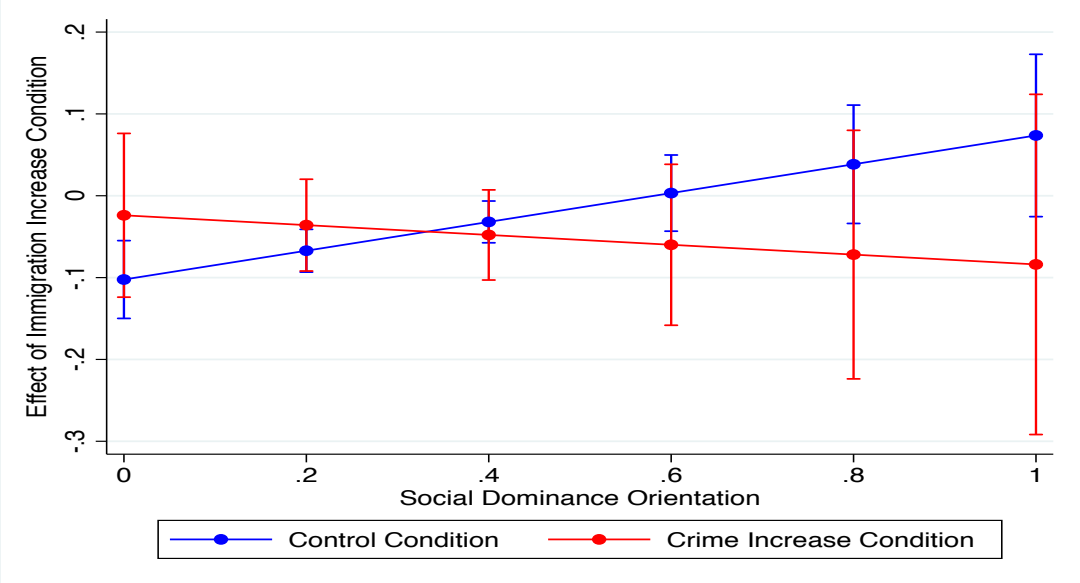


As shown in Figure 18, among White participants in the immigration-increase condition, the crime-increase condition has no effect on immigration attitudes among

[12] This interaction among immigration change, crime increase, and SDO holds when including participants who failed manipulation checks (b = -.409, SE = .187, p = .029), but not when controlling for ideology and partisanship (b = -.262, SE = .183, p = .152) or when using SE/ST values in place of SDO (b = .103, SE = .273, p = .706)

those lowest in SDO (b = .056, SE = .046, p = .228) or among those highest in SDO (b = -.068, SE = .095, p = .469). Among those in the immigration-decrease condition, the crime-increase condition has no effect on immigration attitudes among those lowest in SDO (b = -.049, SE = .049, p = .317) but it is associated with increased support for immigration among those highest in SDO (b = .222, SE = .104, p = .032).

Figure 19: Marginal Effect of the Immigration-Increase Condition Across the Spectrum of SDO Among White Participants



As shown in Figure 19, among White participants in the crime-increase condition, the immigration-increase condition does not influence immigration attitudes among those lowest in SDO (b = -.024, SE = .051, p = .640) or among those highest in SDO (b = -.084, SE = .106, p = .428). Among White participants in the control (no economic or crime information) condition, the immigration-increase condition is associated with reduced support for immigration among those lowest in SDO (b = -.102, SE = .024, p <

.001) and is unassociated with immigration attitudes among those highest in SDO (b = .074, SE = .051, p = .145).

Finally, the ***crime-threat-attenuation*** and ***crime-threat-attenuator*** hypotheses predict a three-way interaction among the immigration-change conditions, crime-decrease condition, and authoritarianism. Contrary to these hypotheses, there is no evidence of such an interaction among White participants in these data (b = .014, SE = .183, p = .941).

Summarizing Compound Threat Sensitivity Effects Among White Participants

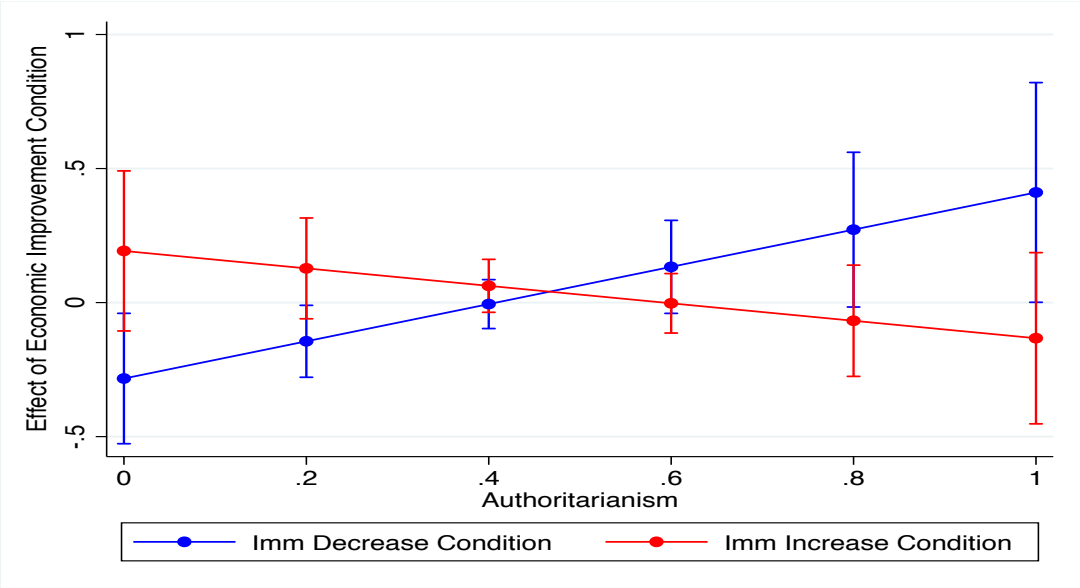
Among White participants, these data provide evidence to support the ***economic-threat-amplification*** and ***economic-threat-amplifier*** hypotheses. Information about economic decline results in reduced support for immigration among those highest in SDO only when participants were also given information about increasing immigration. Similarly, information about increasing immigration resulted in reduced support for immigration among those highest in SDO only when participants were also given information about economic decline. There is no support for such an interaction involving information about economic improvement. There is also evidence for compound threat sensitivity to information about increasing crime (but not decreasing crime). However, contrary to the ***crime-threat-amplification*** and ***crime-threat-amplifier*** hypotheses, these data suggest that *either* information about increasing immigration *or* information about increasing crime result in more negative immigration attitudes among those highest in authoritarianism, but the combination of this information attenuates these effects.

Compound Threat Sensitivity Among Non-White Participants

Among non-White participants (i.e., those who are Black, Asian, Latino, or Native American), there is also evidence of compound threat sensitivity, but the three-way interaction patterns are different from those of White participants. As mentioned previously, the ***economic-threat-attenuation*** and ***economic-threat-attenuator*** hypotheses predict a three-way interaction among the immigration change condition, economic improvement condition, and SDO. Concomitantly, the ***economic-threat-amplification*** and ***economic-threat-amplifier*** hypotheses predict a similar interaction with the economic-decline condition. Among non-White participants, there is no evidence to support either of these interaction patterns. However, there is an unexpected interaction between the immigration-increase condition, economic-improvement condition, and authoritarianism (b = -1.02, SE = .439, p = .021).[13] This interaction is broken down separately in terms of the marginal effect of the economic-improvement condition (Figure 20) and the marginal effect of the immigration-increase condition (Figure 21).

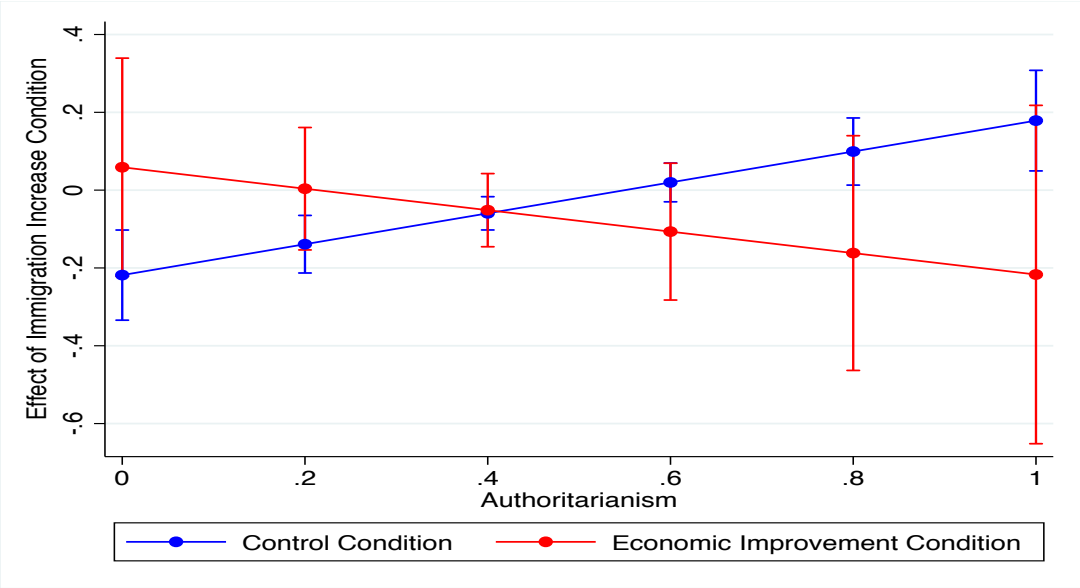
[13] This interaction among immigration-change, economic-improvement, and authoritarianism holds when controlling for ideology and partisanship (b = -.936, SE = .424, p = .028), when including participants who failed manipulation checks (b = -1.02, SE = .436, p = .020) and when using Stenner's (2005) child rearing values measure (b = -.528, SE = .197, p = .008), but not when using C/O values (b = -.162, SE = .620, p = .794) in place of ACT.

Figure 20: Marginal Effect of the Economic-Improvement Condition Across the Spectrum of Authoritarianism Among Non-White Participants



As shown in Figure 20, among non-White participants in the immigration increase condition, the economic-improvement condition had no effect on immigration attitudes among those lowest in authoritarianism (b = .193, SE = .124, p = .205) or among those highest in authoritarianism (b = -.133, SE = .163, p = .414). However, among those in the immigration-decrease condition, the economic-improvement condition decreased support for immigration among those lowest in authoritarianism (b = -.283, SE = .124, p = .022) and increased support for immigration among those highest in authoritarianism (b = .411, SE = .209, p = .049).

Figure 21: Marginal Effect of the Immigration-Increase Condition Across the Spectrum of Authoritarianism Among Non-White Participants



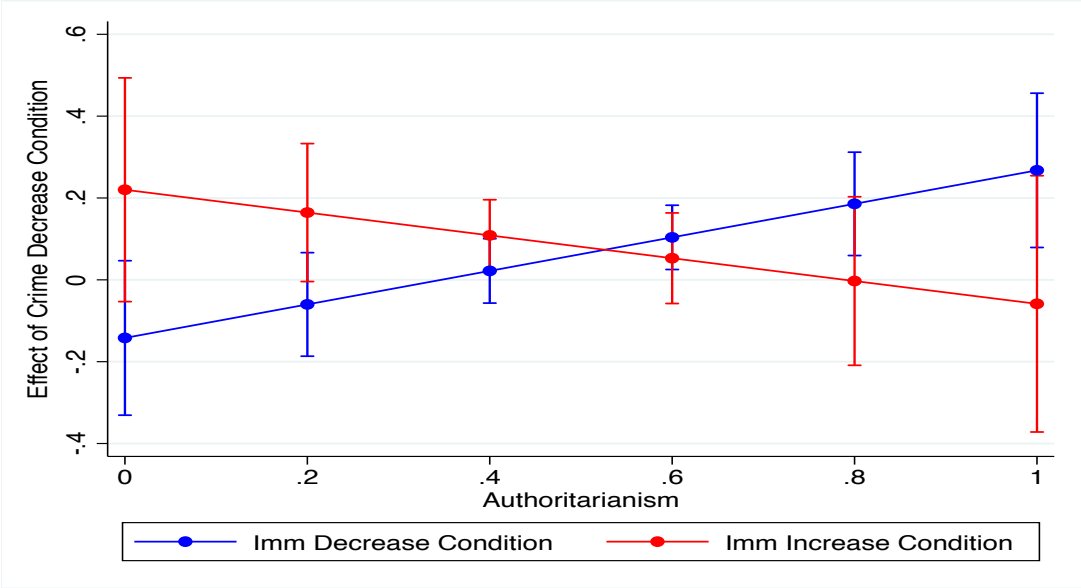
As shown in Figure 21, among non-White participants in the economic-improvement condition, the immigration-increase condition had no effect on immigration attitudes among those lowest in authoritarianism (b = .059, SE = .143, p = .681) or among those highest in authoritarianism (b = -.217, SE = .221, p = .327). However, among those in the control (no economic or crime information) condition, the immigration-increase condition resulted in decreased support for immigration among those lowest in authoritarianism (b = -.218, SE = .059, p < .001) and increased support for immigration among those highest in authoritarianism (b = .179, SE = .066, p = .007).

Compound Threat: The Influence of Crime Info on Non-White Participants

The ***crime-threat-amplification*** and ***crime-threat-amplifier*** hypotheses predict a three-way interaction among the immigration-increase condition, crime-increase condition, and authoritarianism. There is no evidence of such an interaction among Non-White participants. However, consistent with the ***crime-threat-attenuation*** and ***crime-threat-***

attenuator hypotheses, there is evidence for a three-way interaction among the immigration-change conditions, crime-decrease condition, and authoritarianism (b = -.688, SE = .335, p = .041).[14] This interaction is broken down in terms of the marginal effect of the crime-decrease condition (Figure 22) and the marginal effect of the immigration-increase condition (Figure 23).

Figure 22: Experimental Test of the Crime-Threat-Attenuation Hypothesis Among Non-White Participants

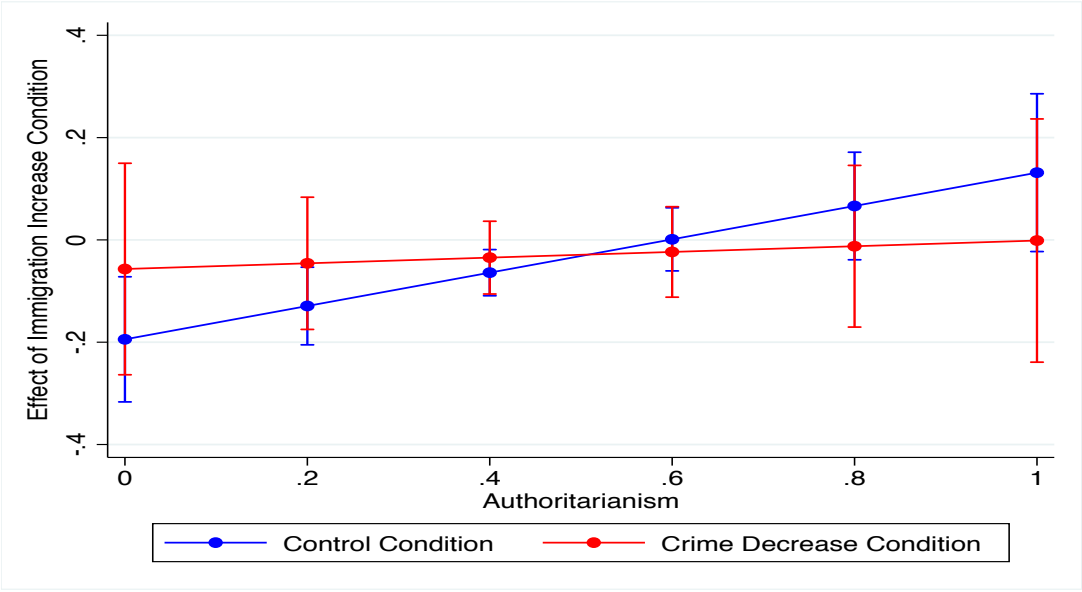


As shown in Figure 22, among non-White participants in the immigration-increase condition, the crime-decrease condition does not influence immigration attitudes among those lowest in authoritarianism (b = .220, SE = .139, p = .114) or among those highest in authoritarianism (b = -.059, SE = .159, p = .713). Among those in the immigration-decrease

[14] This interaction among immigration-change, crime-decrease, and authoritarianism holds when controlling for ideology and partisanship (b = -.583, SE = .335, p = .083), when including participants who failed manipulation checks (b = -.753, SE = .333, p = .024), but not when using Stenner's (2005) child rearing values measure (b = -.102, SE = .175, p = .562) or C/O values (b = -.243, SE = .520, p = .640) in place of ACT.

condition, the crime-decrease condition does not influence attitudes among those lowest in authoritarianism (b = -.142, SE = .097, p = .140) but it increases support for immigration among high-authoritarians (b = .268, SE = .096, p = .006).

Figure 23: Experimental Test of the Crime-Threat-Attenuator Hypothesis Among Non-White Participants



As shown in Figure 23, among non-White participants in the crime-decrease condition, the immigration-increase condition had no effect on immigration attitudes among those lowest in authoritarianism (b = -.057, SE = .105, p = .589) or among those highest in authoritarianism (b = -.001, SE = .121, p = .992). However, among those in the control (no economic or crime information) condition, the immigration-increase condition resulted in decreased support for immigration among those lowest in authoritarianism (b = -.194, SE = .062, p = .002) and marginally increased support for immigration among those highest in authoritarianism (b = .131, SE = .079, p = .095). This pattern of results is contrary to the ***crime-threat-attenuation*** and ***crime-threat-attenuator*** hypotheses.

Summarizing Compound Threat Sensitivity Effects Among Non-White Participants

In summary, whereas White participants exhibited compound threat sensitivity in response to information about *negative* changes in society (i.e., increasing crime, economic decline), non-White participants showed evidence of compound threat sensitivity in response to information about *positive* changes in society (i.e., decreasing crime, economic improvement). Among non-White participants lowest in authoritarianism, information about increasing immigration (with no subsequent information) resulted in more negative attitudes toward immigration, but this negative effect of information about increasing immigration was eliminated when participants were subsequently given information about an improving economy. Similarly, information about economic improvement was associated with more negative attitudes toward immigration among low-authoritarian non-White participants who were given information about decreasing immigration, but this effect was erased (or even reversed) when participants were given information about increasing immigration. Thus, a combination of increasing immigration and economic improvement was associated with more positive attitudes toward immigration among those lowest in authoritarianism.

For non-White participants highest in authoritarianism, a different pattern emerged. Here, information about increasing immigration resulted in more positive immigration attitudes, but only when no subsequent information is provided. When participants were subsequently given information about an improving economy, this effect was eliminated (or reversed). Similarly, information about an improving economy resulted in more positive attitudes toward immigration among those highest in authoritarianism when given information about decreasing immigration. However, the

positive effect of information about an improving economy was eliminated when participants were given information about increasing immigration. Thus, for high-authoritarian non-White participants, *either* information about an improving economy *or* information about increasing immigration resulted in more positive immigration attitudes, but not when this information was coupled.

There is also evidence of compound threat sensitivity to information about decreasing crime among non-White participants, though these effects also differ from the hypothesized pattern. Among those lowest in authoritarianism, information about increasing immigration was associated with reduced support for immigration, absent any other information. However, information about decreasing crime eliminated this effect. If anything, the combination of information about decreasing crime and increasing immigration resulted in more positive attitudes toward immigration among those *lowest* in authoritarianism. Among those highest in authoritarianism, information about decreasing crime was associated with more positive immigration attitudes when participants were given information about decreasing immigration. However, the positive effect of information about decreasing crime was eliminated when participants were given information about increasing immigration. Thus, for highly authoritarian non-White participants, *either* increasing immigration *or* decreasing crime information results in more positive immigration attitudes, but not when this information was combined.

These unexpected results underscore a few important points. First, the meaning and the effects of authoritarianism may differ across racial groups (Perez & Hetherington, 2014), and it is important to gain a more nuanced theoretical understanding of the political implications of authoritarianism among ethnic and racial minority groups.

Second, although the present evidence suggests that information about positive changes in society influences immigration attitudes among non-White participants, this varies as a function of individual differences in authoritarianism and concurrent information about changes in immigration. These results are consistent with the idea of compound threat sensitivity, even if the particular interaction patterns differed from the expected results The overall pattern of results among non-White participants suggests the following: Among high authoritarians, a combination of information about decreasing immigration (i.e., a recent crackdown on immigration) and positive changes in society (i.e., increasing economic wellbeing or decreasing crime) is most likely to boost support for immigration. By contrast, among low authoritarians, if anything, it seems to be a combination of information about increasing immigration and these positive changes in society that result in greater support for immigration.

Study 2 Discussion

Integrating across the findings for White and non-White participants, these experimental results offer a few key insights. First, these results support the idea that concurrent changes in society interact with individual difference predispositions to shape attitudes toward immigration. Whereas recent work on the effects of demographic change (e.g., Craig & Richeson, 2014) suggests that information about increasing migration might generally result in opposition to migration, these findings suggest that this is only true under particular conditions. Among White participants highest in SDO, information about increasing immigration only induced negative attitudes toward immigration when participants were given information about economic decline. Absent such information,

information about increasing immigration actually resulted in more *positive* attitudes toward immigration (relative to information about decreasing immigration) among those highest in SDO. Among Non-White participants highest in authoritarianism, information about increasing immigration similarly resulted in greater support for immigration when no other information about changes in society was provided to participants.

Regarding the predictions of the DPM (Duckitt & Sibley, 2009), there is little evidence to support the ***differential-moderation-hypothesis*** in these data. There is some evidence that information about economic improvement boosts support for immigration among those lowest in SDO and reduces support for immigration among those highest in SDO. This is consistent with the view that high-SDO should predict a tendency toward exclusionary immigration attitudes as a means of protecting economic abundance (e.g., Sibley et al., 2013), rather than in response to economic scarcity (e.g., Davidov et al., 2008). However, the results from Study 2 also suggest that patterns of differential moderation are contingent on concurrent information about changes in immigration. Among White participants, consistent with my ***economic-threat-amplification*** hypothesis, the DPM's prediction that economic decline will result in negative immigration attitudes among those highest in SDO was observed only among those who were given information about increasing immigration. By contrast, the DPM's prediction that information about increasing crime will result in negative immigration attitudes among those highest in authoritarianism was observed only among those who were given information about decreasing immigration. Similarly, among non-White participants, the prediction that information about decreasing crime would increase support for

immigration among those highest in authoritarianism was observed only among those who were given information about decreasing immigration.

Consistent with a ***compound-threat-sensitivity*** framework, these results suggest that the dynamics of immigration attitudes are best understood by examining interactions between concurrent societal changes and individual difference predispositions. However, there are also a number of limitation and caveats in the present analysis. First, because everyone who received information about changes in crime or the economy also received information about increasing or decreasing immigration, it is not possible to separately estimate compound threat sensitivity effects for increasing and decreasing immigration conditions. The effect of the increasing immigration condition is relative to the decreasing immigration condition, and vice versa. Thus, when discussing the effect of the increasing-immigration condition, it would make just as much sense to frame this in terms of the effect of information about decreasing immigration. Future research should investigate these processes using a fully crossed design to disentangle the interactive effects of information about increasing and decreasing immigration. Second, many of the observed three-way interaction effects were not consistent with the hypotheses. In the absence of prior research indicating particular interaction patterns between multiple concurrent societal changes and individual-difference predispositions, I assumed a synergistic interaction between population-change information and concurrent changes in society. This was observed only for the predicted interaction between the immigration-increase condition, economic-decline condition, and SDO. In a number of other cases, the observed interaction was antagonistic, rather than synergistic. For example, among non-White participants, either information about decreasing crime or information about

increasing immigration boosted support for immigration among those highest in authoritarianism, but the combination of the two did not have this effect. Far more research is needed to ascertain the precise form of ***compound-threat-sensitivity*** interaction effects, especially across different contexts and using different experimental manipulations. More generally, divergent effects as a function of participant race suggest that there is need for greater theorizing regarding the ways in which SDO and authoritarianism influence differential responsiveness to societal threats among racial minority group members.

Chapter 10: General Discussion

Integrating across both cross-national and experimental evidence, I find support for a compound threat sensitivity framework in the domain of immigration attitudes. By adopting a "person X context" approach, the present research complements and converges with a growing line of evidence on the complex ways in which individual differences in needs and values interact with changing social and political contexts to shape political attitudes and behavior. Whereas prior work in this domain has generally assessed interactions between single contextual variables and individual difference dimensions, the theory and evidence presented in this dissertation suggests that researchers would benefit from considering an expanded view of these interactions that emphasizes the influence of concurrent contextual changes. Such an analysis has the capacity to elucidate the boundary conditions of influential theories of intergroup attitudes and it offers a more nuanced, integrative perspective on the influence of contextual factors on political attitudes. In the sections that follow, I discuss key insights from this dissertation research, highlighting convergent and divergent findings, and focusing on their implications for understanding the role of population change, economic conditions, and crime in shaping immigration attitudes.

The Direct Effect of Population Change

I find rather limited evidence for the effects of population change on its own. Although a number of prior studies find that the size of the immigrant population is associated with more negative attitudes toward immigration (Gijsberts & Hagendoorn, 2017; McLaren, 2003; Scheepers et al., 2002; Semyonov et al., 2008; Quillian, 1995), I

find no evidence to support a direct effect of either the size of the foreign-born population or net migration rates on immigration attitudes across European countries, using contextual predictors from 2000 – 2014. In Study 2, I do find evidence that an experimental manipulation of information about increasing immigration results in a slight reduction in support for immigration on average. This is consistent with experimental work on the influence of demographic change on political attitudes in the United States (e.g., Craig & Richeson, 2014). However, the presence of this "direct" effect obscures considerable heterogeneity in the effect of population change, as shown by tests of compound threat sensitivity.

Individual Differences in the Effect of Population Change

I also find limited evidence of two-way interactions between population change and the focal individual difference dimensions in the present research. Whereas some researchers have found that the effects of population change (or population composition) differ as a function of authoritarianism and related preferences for security/conformity over novelty (Fasel et al., 2013; Johnston et al., 2015; Van Assche et al., 2014, 2016, 2018; Velez & Lavine, 2017), I find no evidence of this two-way interaction in either an experimental context or in cross-national analyses using C/O values. Most prior work relies on local-level contextual variables and it also tends to focus on increasing racial or ethnic diversity specifically, rather than increasing immigration generally. Whereas high-authoritarians might perceive increasing ethnic diversity in their immediate environment as a threat to tradition, cultural uniformity, or social order, perhaps this does not apply broadly to country-level migration rates. This could be because high-authoritarians tend to overestimate objective diversity, at least at the local level (e.g., Van Assche et al.,

2016), so they may also assume high levels of immigration at the national level, regardless of objective changes or information provided in the context of an experiment. High authoritarians may also respond negatively only to immigrant groups regarded as (or depicted as) socially deviant or unwilling to assimilate to the dominant culture (e.g., Thomsen et al., 2008), rather than to immigrants more generally. More research is needed to understand the particular population changes that interact with authoritarianism in predicting immigration attitudes.

Although considerable prior research has explored differential sensitivity to population change as a function of authoritarianism, less work has assessed the role of individual differences in SDO (and related preferences for status/hierarchy). There is some evidence that perceived legitimacy of one's dominant group position moderates the effect of demographic shift manipulations (Outten et al., 2018) and that objective neighborhood diversity is associated with support for far-right parties in the Netherlands only among high-SDO individuals (Van Assche et al., 2018). Notwithstanding these important studies, there is little research examining interactions between status/dominance concerns and population-change variables. In Study 1, I find evidence that SE/ST values interact with net migration to predict immigration attitudes. However, in the present research, this interaction is explained by greater support for immigration among those who value universalism and benevolence in higher net-migration countries, rather than greater opposition to immigration among those who value power and achievement. Whereas prior research and theory has primarily focused attention on the effects of population change among those highest in authoritarianism, SDO, and related individual differences, it's also important to consider those at the low end of these

dimensions. Net migration may lead highly egalitarian individuals to direct their universalizing moral concerns toward immigrants. However, I do not find evidence of such an interaction between SDO and an experimental manipulation of immigration rates, so further research is needed to ascertain how and when information about increasing immigration might differentially influence attitudes as a function of SDO.

Differential Moderation: The Contingent Effects of Economic Conditions and Crime

I also find limited and contingent support for the differential-moderation hypothesis in the Dual Process Model of Prejudice (DPM; Duckitt & Sibley, 2009). Absent consideration of concurrent changes in net migration, I find no evidence that objective cross-national changes in violent crime interact with C/O values to predict support for immigration. Similarly, in Study 2, absent consideration of the effect of information about changes in immigration, there is no evidence that the experimental effect of information about violent crime varies as a function of authoritarianism. Consistent with the DPM, I do find evidence of a two-way interaction between economic conditions and SE/ST values. However, this interaction occurs because those lowest in SE/ST values are especially supportive of immigration in contexts of relatively low economic wellbeing. In Study 2, there is a corresponding interaction between information about an improving economy and SDO. Here, the economic improvement condition decreases support for immigration among those highest in SDO. Thus, rather than contexts of economic scarcity facilitating negative immigration attitudes among those highest in SDO, it appears that objective economic scarcity can facilitate especially positive immigration attitudes among low-SDO individuals, and information about

economic improvement can lead high-SDO individuals to be less supportive of immigration, perhaps as a means of protecting abundant resources (see also, Sibley et al., 2013). These findings elucidate the importance of considering the effects of economic conditions across the range of SDO (and related value preferences), rather than simply considering the economic conditions under which SDO should be a stronger or weaker predictor of immigration attitudes. If the effect of SDO is exacerbated in certain economic contexts, this could be due to the ways in which either low-SDO or high-SDO individuals are responding to economic conditions. Moreover, by separately manipulating information about economic scarcity and economic abundance, researchers can better ascertain the specific economic conditions under which high-SDO and low-SDO individuals are likely to engage in intergroup competition or support protectionist policies.

Compound Threat Sensitivity: The Role of Crime

Although I find rather limited evidence consistent with direct effects of contextual factors or two-way interactions between contextual predictors and individual differences, I find considerable evidence to support the compound threat sensitivity framework. That is, immigration attitudes are shaped by interactions between *concurrent* contextual factors/changes and individual differences. Study 1 provides strong support for differential sensitivity to concurrent changes in net migration and violent crime. Net migration predicts more negative attitudes toward immigration among those highest in C/O values *only* in contexts characterized by greater increases (or fewer reductions) in violent crime. In countries in which crime has decreased the most, net migration actually predicts more *positive* attitudes toward immigration among those highest in C/O values.

This is consistent with a compound threat sensitivity perspective and, more specifically, the ***crime-threat-amplifier*** hypothesis. Similarly, greater increases in violent crime predicted more negative immigration attitudes among those highest in C/O, but only in high-net-migration countries. Violent crime had the opposite effect in lower-net-migration countries, consistent with the ***crime-threat-amplification*** hypothesis. The finding for C/O values is also consistent with the differential moderation hypothesis, but *only* in higher-net-migration countries. Because most European countries in the ESS experienced decreasing crime between 2000 and 2014, it would perhaps be most accurate to say that greater decreases in violent crime predicted increased support for immigration among those highest in C/O values in high-net-migration countries. Where migration is low and crime is decreasing rapidly, those highest in C/O values may view greater migration as a potential threat to safety and social order. But when migration is high and crime is decreasing rapidly, those highest in C/O values might see immigration as a force that promotes safety and stability. I also observe a similar interaction with SE/ST values, suggesting that compound threat sensitivity to concurrent changes in migration and violent crime applies to both focal individual difference dimensions, rather than just C/O values. This set of findings is important for practical reasons, as well as theory. It suggests that in contexts with greater net migration, decreasing crime might assuage threat and result in greater support for immigration among those who are generally predisposed to be strongly opposed to immigration.

Though the cross-national results are relatively straightforward, the experimental results are a bit more complicated. In Study 2, I find racial differences in observed interactions between experimentally manipulated information about immigration,

information about crime, and individual difference dimensions. Among White participants, information about increasing immigration resulted in more negative attitudes toward immigration among those highest in authoritarianism, but only when no subsequent information was provided. When participants were subsequently given information about increasing crime, the prior information about increasing immigration had no effect. This could be due to the order of experimental manipulations. All participants were given information about changes in immigration first and then given information about changes in either the economy or violent crime. Perhaps the subsequent information about increasing violent crime loomed larger for highly authoritarian White participants or otherwise interfered with the effects of information about increasing immigration. Given this possibility, future research should manipulate the order of information presented about changes in crime and changes in immigration. I also observed an unanticipated interaction among immigration change, violent crime, and SDO among White participants in Study 2. Here, information about increasing immigration (relative to decreasing immigration) resulted in more negative attitudes toward immigration only among those lowest in SDO when they were given no subsequent information. However, this effect was not observed when participants were given subsequent information about increasing crime. One way to interpret this finding is that information about decreasing immigration (which discusses strict immigration enforcement) induced greater support for immigration among low-SDO individuals (perhaps by eliciting empathy), but only when these individuals were not given information about increasing crime. If anything, information about decreasing immigration (due to a recent crackdown on immigration) elicited more negative

immigration attitudes among White participants highest in SDO, consistent with the view that high SDO individuals experience counter-empathy in response to the suffering of outgroup members (Hudson, Cikara, & Sidanius, 2019).

Among non-White participants, the immigration-increase condition was associated with greater support for immigration among high authoritarians and reduced support among low authoritarians, absent any other information. An alternative way of framing this finding is that information about decreasing immigration (or a recent crackdown on immigration) resulted in more negative immigration attitudes among high authoritarians and more positive attitudes among low authoritarians. However, the effect of information about immigration was eliminated when participants were given information about decreasing crime. It is difficult to account for this effect. The information about decreasing crime may have cancelled out the effect of immigration information due to order effects. Alternatively, perhaps empathy was induced among low authoritarians in response to information about a recent crackdown on immigration, but this was attenuated by information about concomitantly decreasing crime. This could occur if participants reasoned that there is a causal association between recently decreasing immigration and decreasing crime. Highly authoritarian participants could also be more likely to assume that a recent crackdown on immigration must be for good reason, thus leading to reduced support for immigration absent other information. However, when information is given about decreasing crime, strict immigration policy may seem unwarranted and capricious to highly authoritarian Non-White participants. These ideas are all empirically possible but remain purely speculative at this stage. Future

research will need to ascertain the mechanisms by which these effects occur, including affective processes.

The presence of divergent experimental effects for White and Non-White participants highlights the importance of studying racial differences in the political implications of SDO and authoritarianism. Among those who received information about decreasing immigration, Non-White authoritarians became more supportive of immigration when given information about decreasing crime, whereas White authoritarians became less supportive of immigration when given information about increasing crime. Why is this the case? One explanation emphasizes the history and function of the criminal justice system. As Alexander (2010) argues, the criminal justice system in the United States has disproportionately targeted people of color, especially Black men (Alexander, 2010). This has resulted in widespread racial differences in perceptions of the criminal justice system. Although Black Americans vary considerably in perceptions of racial bias in the criminal justice system (Gabbidon, Jordan, Penn, & Higgins, 2014), Black Americans and other racial minority groups are less likely than White Americans to view the criminal justice system as fair and legitimate (Johnson, 2008; Rocque, 2011). Consequently, information about increasing or decreasing crime might be interpreted differently as a function of race. Future research is needed to unpack the role of race in the relation between authoritarianism and responses to different messages about threats implicating societal safety and stability, such as crime.

More generally, there is far too little research examining the influence of authoritarianism on political attitudes among members of racial minority groups. MacWilliams (2016) offers an important contribution in this domain, showing that

authoritarianism predicts similar policy preferences (e.g., opposition to immigration, support for punitive criminal justice policies), and worldviews (e.g., individual rather than structural attributions for racial inequality; see also Kam & Burge, 2018) among both White and Black Americans. However, even if authoritarianism has similar political functions for members of different racial groups, it remains the case that members of many racial minority groups are more likely than White Americans to experience *chronically* elevated perceptions of safety and security threat in the United States (Lane et al., 2014). Given mean-level differences in chronic perceptions of threat, it seems plausible that authoritarian Black Americans would be more responsive to information about reductions in threat (e.g., decreasing crime) rather than information about increasing threat (e.g., increasing crime).

Compound Threat Sensitivity: The Role of the Economy

The cross-national evidence for compound threat sensitivity was somewhat weaker with respect to the state of the economy. I did not find robust evidence of three-way interactions among value dimensions, net migration, and changes in economic wellbeing. However, there was evidence of compound threat sensitivity when testing average country-level differences in economic wellbeing. Among those highest in SE/ST values, net migration predicted decreased support for immigration only in contexts with relatively lower economic wellbeing. In contexts with higher economic wellbeing, net migration predicted marginally greater support for immigration. This is consistent with the ***economic-threat-amplifier*** hypothesis. In higher net-migration contexts, greater average economic wellbeing generally increased support for immigration, though the confidence interval included zero for all participants except those lowest in SE/ST values.

However, in lower net-migration contexts, greater economic wellbeing predicted reduced support for immigration among those highest in SE/ST values. This pattern is consistent with the idea that those high in SE/ST values seek to protect resources in contexts of abundance. If the economy is doing well while migration is low, perhaps those highest in SE/ST values are concerned that greater migration will have a negative effect on the economy or perhaps these individuals are averse to sharing a piece of the pie, so to speak.

Turning to the experimental results, there were also racial differences in compound threat sensitivity to information about economic change. As with the information on changes in crime, White participants exhibited compound threat sensitivity to information about negative changes (i.e., economic decline) whereas Non-White participants exhibited compound threat sensitivity to information about positive changes (i.e., economic improvement). For White participants highest in SDO, the combination of information about economic decline and increasing immigration resulted in reduced support for immigration. The results here were consistent with the ***economic-threat-amplification*** and ***economic-threat-amplifier*** hypotheses. Unexpectedly, there was also an interaction among authoritarianism, economic change, and net-migration. Among White participants, when immigration was described as increasing, information about economic decline led to more negative immigration attitudes only among those lowest in authoritarianism and more positive attitudes among those highest in authoritarianism. Thus, the effects of these conditions across the spectrum of authoritarianism were essentially opposite those across the spectrum of SDO. Because there is a positive relation between economic wellbeing and social/political stability (e.g., Alesina & Perotti, 1996; Alesina, Ozler, Roubini, & Swagel, 1996), it may be difficult to

disentangle societal threats that implicate economic conditions from those that implicate safety and stability. Immigration is generally understood as a net benefit to the economy (Boubtane, Dumont, & Rault, 2016; Peri, 2012) and only around 31% of Americans believe that immigrants make the economy worse (Jones, 2019). To the extent that immigration has the potential to buffer against threats to social and political stability that emerge from economic decline, high authoritarians may be especially likely to support immigration in response to information about economic decline, at least net of the effects of SDO and other relevant individual differences. Although it is plausible that high authoritarians might sometimes promote immigration as a buffer against economic decline, the observed effect was unanticipated and this phenomenon requires further research.

Compound threat sensitivity as a function of authoritarianism (but not SDO) was also observed among Non-White participants. Whereas White participants became more supportive of immigration when information about increasing immigration was paired with information about economic decline, Non-White participants exhibited this effect in response to information about decreasing immigration paired with information about economic improvement. Among non-White participants, either information about an improving economy or information about increasing immigration resulted in greater support for immigration, but not when this information was combined. This antagonistic interaction is unexpected and difficult to account for. One possible substantive explanation for the observed result is that, absent any other information, those who are high in authoritarianism might tend to assume that recent decreases in immigration due to stricter enforcement must be for good reason, whereas those lower in authoritarianism

might tend to assume that these measures are draconian. This is consistent with the influence of authoritarianism on attitudes toward immigration and strict policy enforcement among Black Americans, generally speaking (MacWilliams, 2016). However, when given information about an improving economy, strict immigration policy may seem unwarranted or unnecessary.

As with racial differences in compound threat sensitivity to information about changes in crime, it is important to better understand the reasons underlying racial differences in reaction to information about economic changes. Whites in the United States tend to possess a disproportionate share of wealth and resources, relative to members of racial minority groups (Baradaran, 2017). Whites who are high in SDO may therefore be more likely to exhibit sensitivity to threats associated with economic decline, as this could imply a loss of relatively abundant resources. For members of racial minority groups, concerns about protecting resources from immigrants may not be as salient. However, the broader impact of immigration on the economy has the potential to affect all citizens. Information about increasing economic wellbeing may therefore have implications for the immigration attitudes of racial minority groups, because greater economic wellbeing can facilitate financial, social, and political stability, thereby reducing perceptions of threat among those who most value security and structure (i.e., high authoritarians).

Limitations & Future Directions

Although this dissertation research offers an important contribution to the social psychological understanding of "person X context" interactions shaping immigration attitudes, there are a number of limitations worth mentioning. First, inferences made from

cross-national data are invariably influenced by choices in measures and model specification. There are some discrepancies between prior research and the present analysis, especially with regard to the direct effects of population composition/change. Whereas considerable prior work has tested the effects of population change at the regional or local level, the present research uses country-level predictors. There are advantages and disadvantages to this approach. On the one hand, using country-level predictors largely circumvents the problem of geographic self-selection. Natives may choose to live in regions or neighborhoods with a higher or lower proportion of immigrants *because* of preexisting immigration attitudes (e.g., Oliver, 2010). At the country-level, this is less of an issue because only 3.5% of the world's population lives outside of their country of origin (IOM, 2020). On the other hand, people may directly experience population change at a more localized level, and natives may perceive threat only in contexts in which they directly encounter immigrants (e.g., Schlueter & Scheepers, 2010). Thus, perhaps effects of population change are observable at the neighborhood or region level, but not at the country level. Future research should assess similar interactions at the regional and neighborhood levels of analysis.

Additionally, the present analysis uses contextual variables computed as averages and changes from 2000–2014. The rationale underlying this decision is that this time period is sufficient to capture broad, long-term trends, rather than fluctuations due to stochastic processes or transient geopolitical conditions. During other time periods, the findings may be different, though I do not find evidence of different effects using predictors over a shorter time span. Still, further research is needed to ascertain the timespan over which contextual changes are most likely to influence public attitudes. The

influence of these changes may not be linear, either. If, for example, greater net migration rates initially lead to negative immigration attitudes, but then promote positive attitudes after a longer period of time (perhaps due to changing norms or intergroup contact), then the effects of contextual predictors may be quadratic. This possibility should be explored in future research.

There are also a few key limitations in the experimental work that warrant further investigation. First, the experimental design was not fully crossed, as all participants who received information about changes in crime or the economy also received information about changes in immigration. The baseline-condition was therefore useful only for the purpose of assessing direct effects of information about increasing or decreasing in immigration (relative to no information), as well as interactions between this information and focal individual-difference variables. For the purpose of assessing compound threat sensitivity (i.e., three-way interactions between experimental conditions and individual difference variables), the effect of the immigration-increase condition is relative to the immigration-decrease condition. The rationale for this decision is that a fully crossed design would have doubled the number of inferential tests of compound threat sensitivity. In the absence of clear hypotheses regarding different interaction patterns for increasing and decreasing immigration conditions, I decided to simplify the experiment and the number of possible interactions. However, it will be necessary for future research to better disentangle compound threat sensitivity effects due to information about increasing immigration from those due to information about decreasing immigration.

Relatedly, the manipulation of information about decreasing immigration discusses strict immigration enforcement as a reason underlying reductions in the rate of

migration to the United States. People's responses to this manipulation may therefore be due to thoughts about the current political regime's enforcement of immigration policies, rather than decreasing immigration, *per se*. The content of this manipulation was designed to make decreases in immigration more believable, despite the reality of positive net migration to the United States. Even in the absence of explicit information about strict immigration enforcement, information about changes in migration is naturally confounded with the presumed causes of these changes. Information about decreasing immigration might imply that strict enforcement is responsible for these changes and information about increasing immigration might imply relatively lenient policies. When people are subsequently asked whether they support stricter or lenient immigration policies, their answers are likely relative to perceptions of the current policies. So perhaps the immigration-change manipulations are influencing people's perceptions of the immigration policy status quo, rather than just their perceptions of broader trends in immigration. This is a natural confound and it's likely impossible for an experimental manipulation to entirely disentangle information about changes in immigration from perceptions of the current immigration policy regime. However, future research should assess baseline assumptions about current immigration policy and perhaps offer a more specific dependent variable assessing support for particular immigration levels, using numerical figures.

Additionally, although the present research provides considerable evidence of compound threat sensitivity (as demonstrated by three-way interactions among multiple contextual predictors and individual difference variables), a number of the more specific compound threat sensitivity hypotheses were not supported. Across both studies, I found

support for the ***economic-threat-amplifier*** and ***economic-threat-amplification*** hypotheses, though only when using stable differences (rather than change) in economic wellbeing in Study 1 and only among White participants in Study 2. In Study 1, I also found cross-national evidence to support the ***crime-threat-amplification*** and ***crime-threat-amplifier*** hypotheses. However, in Study 2, rather than observing a synergistic interaction between increasing immigration and increasing crime conditions, the interaction was antagonistic: Either information about increasing immigration or information about increasing crime resulted in more negative immigration attitudes among high-authoritarian White participants, but not when this information was combined. Similarly, rather than a synergistic interaction between information about positive changes in society (improving economy or decreasing crime) and information about increasing immigration, as predicted by the attenuation/attenuator hypotheses, there was only evidence of an antagonistic interaction among non-White participants, such that either information about increasing immigration or information about these positive changes in society increased support for immigration, but not in combination. In the absence of prior research assessing these interaction patterns, I assumed synergistic interactions. Antagonistic interactions may instead occur because of order effects, such as more recent information resulting in participants forgetting earlier information. Perhaps there are also more substantive theoretical reasons for such interactions, as discussed previously. In any case, divergent findings underscore need for greater theoretical refinement and specificity regarding predicted sensitivity to compound threats. Furthermore, rather than simply assessing the effects of potentially threatening information about negative changes in society, it is important to gain a better

understanding of potentially threat-mitigating information about positive changes in society. The present research offers a step in this direction by demonstrating that both decreasing crime and an improving economy have the potential to increase support for immigration among those who are ordinarily predisposed to be particularly opposed to immigration, though these effects depend on concurrent migration rates.

Although these findings are promising, future research will need to elucidate the psychological mechanisms underlying observed compound threat sensitivity effects. Because these are complex interactions that have not been assessed in prior literature, the present research focused on establishing an understanding of basic effects. An important next step will be to assess candidate processes underlying these effects. Potential mediators include all of the following: beliefs about the consequences of immigration, feelings toward immigrants, perceptions of the immigration policy status quo, and/or affective responses, such as anxiety or fear. Many of these proposed mediators seem plausible. However, it is important to avoid the trap of simply assessing statistical mediation and then assuming that the observed "mediator" provides evidence of underlying causal mechanisms (see Bullock, Green, & Ha, 2010). Some of these potential mediators (e.g., beliefs about the consequences of immigration) may *follow* from general attitudes toward immigration, rather than predicting them (see Sniderman & Hagendoorn, 2007). It does seem theoretically plausible that perceived consequences and/or affective responses to immigrants would play a causal role in shaping immigration policy attitudes. However, longitudinal research would be helpful in establishing the causal order of these processes. Research could assess the influence of changes in society on a variety of

candidate mediators, and the subsequent influence of these mediators on immigration policy attitudes.

Concluding Thoughts

This dissertation aims to expand our understanding of the dynamics of immigration attitudes. The evidence that I've presented here qualifies the effects of population change and associated group-threat perspectives, and also suggests contingencies in the DPM's differential moderation hypothesis. By assessing sensitivity to concurrent societal changes, the present research offers an integrative framework, with considerable potential for refining the boundary conditions of influential theories of intergroup attitudes. In addition to these theoretical contributions, this research has practical implications for understanding the conditions under which people are likely to exhibit greater opposition or support for immigration. If we are able to understand how immigration attitudes are shaped through interactions between individuals and their political environments, we can better predict the conditions under which anti-immigration attitudes emerge. Moreover, the experimental component of my research demonstrates that messages about concurrent changes in society can decrease or increase support for immigration. This has the potential to inform the ways in which policymakers and public interest groups communicate about immigration. In an ever-changing and increasingly globalized world, migration policy plays a central role on the world stage, and political actors often exploit and exacerbate irrational anxieties and fears surrounding immigration. It is therefore critical to understand and assuage perceptions of threat in response to immigration, as a means of promoting more sensible, productive, and unbiased public discourse.

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Appendix

Additional measures in Study 2 that were included in the survey but not used in analyses:

Political Knowledge

Political knowledge was assessed as the number of correct responses to 14 questions about politics. Consistent with the measure used by Miller, Saunders, and Farhart (2016), this multiple-choice test assessed knowledge of the following political information: the political party with the most members in the House of Representatives, the major political party that is more conservative, the name of the Chief Justice of the Supreme Court, the current President of Russia, the current Speaker of the House, the current Vice President, the current Prime Minister of the UK, the person who is responsible for nominating judges to U.S. federal courts, the length of a term for U.S. Senators, the branch of government responsible for determining the constitutionality of a law, the size of a majority needed in Congress to override a Presidential veto, the current U.S. Secretary of State, and the current U.S. Secretary of the Treasury. The measure demonstrated adequate internal consistency ($\alpha = .80$), so the number of correct responses was averaged and recoded to range from 0 to 1 ($M = 0.68$, $SD = 0.27$).

Partisanship

Partisanship was assessed using the standard branched ANES measure. Participants were first asked to indicate whether they are a Democrat, Republican, or Independent. If they identified as a Democrat or Republican, they were then asked if they are a "strong Democrat [Republican]" or "not very strong Democrat [Republican]." If they identified as Independent, they were then asked whether they see themselves as closer to the Democratic Party, closer to the Republican Party, or do not lean toward

either party. Responses were coded to range from 0 (strong Democrat) to 1 (strong Republican) ($M = 0.44$, $SD = 0.36$).

Political Ideology

Consistent with a large body of prior research (see Jost, Federico, & Napier, 2009), political ideology was assessed as symbolic identification, using a seven-point scale ranging from 1 (*very liberal*) to 7 (*very conservative*). This item was recoded to range from 0 to 1 ($M = 0.44$, $SD = 0.28$).

Perceived Consequences of Immigration

The perceived consequences of immigration were assessed with respect to crime, economic wellbeing, and cultural life. For crime, participants were asked the following: "Do immigrants generally make the United States more dangerous or less dangerous?" They responded using a 7-point scale, ranging from 1 (much less dangerous) to 7 (*much more dangerous*). Additionally, participants were asked the following: "What effect do you think that immigration has on crime in the United States?" They responded using a 7-point scale, ranging from 1 (*immigrants greatly reduce crime*) to 7 (*immigrants greatly increase crime*). These two items were averaged ($r = .74$) to form a single measure of perceived negative consequences of immigration on crime. This measure was then recoded to range from 0 to 1 ($M = 0.55$, $SD = 0.18$).

To assess the perceived consequences of immigration on the economy, participants were given three items, in branched format. The first items stated the following: "Would you say that immigrants generally take jobs away from workers in the United States or generally help to create new jobs?" Participants responded to this item with one of the following three options: (1) "Immigrants generally take jobs away from

United States citizens" (2) "Immigrants generally create new jobs for United States citizens" (3) "Immigrants have no effect on jobs for United States citizens." If participants chose the first or second option, they were then given the following item: "How often do you think that immigrants *take away* [*create*] jobs for United States citizens?" Response options were as follows: 1 (*Rarely*), 2 (*Sometimes*), 3 (*Often*), or 4 (*Very Often*). A nine-point unidimensional measure was computed, ranging from 1 (immigrants take away jobs from U.S. citizens very often) to 9 (*immigrants create jobs for U.S. citizens very often*).

The second item assessing perceived consequences of immigration on the economy stated the following: "Would you say that immigrants generally make the economy better or worse?" Participants responded to this with one of three options: (1) "Immigrants generally make the U.S. economy better" (2) "Immigrants generally make the U.S. economy worse" (3) "Immigrants have no effect on the U.S. economy." As with the first item, participants who chose the first or section option were given a follow up question: "To what extent do you think that immigrants make the U.S. economy *better* [*worse*]?" Response options were as follows: 1 (*Slightly Better/Slightly Worse*), 2 (*A bit Better/A bit Worse*), 3 (*Better/Worse*), or 4 (*Much Better/Much Worse*). A nine-point unidimensional measure was computed, ranging from 1 (*immigrants make the economy much worse*) to 9 (*immigrants make the economy much better*).

The third item assessing perceived consequences of immigration on the economy stated the following: "Most immigrants who come to the United States work and pay taxes. They also use health and welfare services. On balance, do you think immigrants take out more than they pay in taxes or pay in more than they take out?" Participants first

responded with one of the following three options: (1) “Immigrants take out more than they pay in” (2) “Immigrants pay in more than they take out” (3) “Immigrants pay in exactly the same amount that they take out.” Participants who responded with one of the first two options were asked a branched follow-up question: “To what extent do you think that immigrants *take out more in services than they pay in taxes* [*pay in more taxes than they take out in services*]?” Response options were as follows: 1 (*Slightly*), 2 (*Somewhat*), or 3 (*A lot*). A 7-point unidimensional measure was computed, ranging from 1 (*immigrants take out a lot more in services than they pay in taxes*) to 7 (*immigrants pay a lot more in taxes than they take out in services*).

These three items assessing perceived consequences of immigration on the economy demonstrated adequate reliability ($\alpha = .77$), so they were averaged and recoded to range from 0 to 1 ($M = 0.49$, $SD = 0.25$) to form a single measure of perceived negative consequences of immigration on the economy.

To assess perceived cultural threat posed by immigrants, participants were given the following items: (1) “To what extent do you think that immigrants pose a threat to cultural values and traditions in the United States?” (2) “To what extent do you think that immigrants have a positive effect on culture in the United States?” Participants responded to both items using a 7-point scale, ranging from 1 (*not at all*) to 7 (*very much*). Item two was reverse coded and the items were averaged ($r = .46$) and recoded to range from 0 to 1 ($M = 0.36$, $SD = 0.27$) to form a single measure of cultural threat.

All three measures of the perceived consequences of immigration were highly inter-correlated: economy and crime ($r = .65$), economy and culture ($r = .70$), crime and culture ($r = .60$).