Immigration in Our Heads:

The Political Relevance of Mental Schemas about Immigrants

by

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Table of Contents

List of Figures

List of Tables

List of Appendices

Abstract

In this dissertation, I explore public attitudes toward immigration in the United States and Britain, focusing on several controversies in the literature. First, voters in industrial democracies diverge in terms of preferences for immigration policies while agreeing about what kinds of immigrants should be admitted. Second, the literature identifies sociotropic threats as the key predictor of opinions on immigration, but individual differences in threat perception remain unexplained. Third, studies disagree on the role of immigrants' race/ethnicity in sparking anti-immigration backlash.

To address these controversies, I rely on the schematic model of political cognition. It postulates that, in order to form attitudes toward political categories people connect them to familiar concepts and attributes. Schemas are mental connections linking different categories and/or attributes in memory. Individual differences in schemas about "who the immigrants are," therefore, predict whether immigration is perceived as more or less harmful.

Due to measurement challenges, the application of the schematic model in political science has been limited: people are unable to assess or unwilling to admit the degree to which schemas influence their political preferences. In my dissertation, I address these methodological challenges by developing two original unobtrusive measurement instruments for individual-level

schemas about political categories based, respectively, on the implicit association test (IAT) and conjoint experiments.

In Chapter II, I review the basic tenets of the schematic model and develop a new objective timed-response measure of group schemas in politics based on the IAT architecture. The measure proves valid in two empirical studies examining schematic links between social groups and political objects. In Study 1, gender–party schemas impact respondents' feelings towards the two major parties in the United States. In Study 2, I revisit the "racialization of welfare" hypothesis, finding that race–poverty schemas are related to support for income redistribution.

In Chapter III, I hypothesize that there is variation in the degree to which natives think of immigrants in racial terms, and that this variation has implications for attitudes toward immigration. Using original surveys carried out in the United States and Britain, I demonstrate that, on average, respondents tend to think of immigrant origins in racial terms but substantial variation in these perceptions exists. According to my correlational analyses, individual differences in racialized images of immigrant origin groups are associated with group-specific prejudice, attitudes toward immigration, and partisan affect.

In Chapter IV, I propose a procedure to estimate multidimensional individual-level schemas as respondent-specific marginal component effects from conjoint experiments. The proposed strategy does not require any additional assumptions compared to the standard conjoint analysis, although some changes to the task design are recommended. Using this method, I find that schemas about immigration in the United States are dominated by immigrants' race/ethnicity. Also, I present results from a priming experiment that suggest causal primacy of schemas with respect to attitudes.

Overall, my dissertation makes several important contributions to political psychology and public opinion by exploring previously unmeasured variance in natives' schemas about immigrants. To measure these schemas, I develop novel measurement techniques. With these measures, I demonstrate that schemas about "who the immigrants are" vary within the U.S. and British publics and that this variation is politically consequential. My results also indicate that immigrants' race/ethnicity can be more important for immigration policy preferences than some recent studies suggest.

Chapter I

Introduction

1.1 Political Conflict on Immigration

Citizens of developed democracies are generally willing to admit immigrants who have valuable skills, know or are willing to learn the host country language, and enter the country legally (Hainmueller and Hopkins 2015; Naumann, Stoetzer, and Pietrantuono 2018; Valentino et al. 2019). This phenomenon has been labeled a "hidden consensus," perhaps because conflict around immigration in these very same countries persists—if not grows. Indeed, the rise of immigration as a contentious political issue has been observed across developed democracies. In Western Europe, the rise of immigration as a political issue has catalyzed electoral growth of radical right parties (Zhirkov 2014), and forced mainstream parties to pay more attention to immigration and immigrant integration (Green-Pedersen and Otjes 2019; but see Lutz 2019). Growing importance of immigration politics in the UK caused white Britons to abandon the Labour Party (Evans and Chzhen 2013), impacted vote on the Brexit referendum (Goodwin and Milazzo 2017; also see Schwartz et al. 2020), and might affect British politics for years to come (Sobolewska and Ford 2019). Put bluntly, contention over immigration openness has profoundly transformed the politics of developed democracies for two decades. The policies of

multiculturalism, once a point of consensus among political moderates, are now routinely rejected by right-to-center politicians in West European countries.

American politics is no exception, even though U.S. institutional design effectively blocks emergence of new parties similar to anti-immigrant populist right in Western Europe. Nevertheless, popular anxiety about immigration plays in important role in American politics. Changing demographics of the United States due to immigration—most importantly, decreasing share of the white population—has been transforming partisan politics during the last decades by profoundly affecting racial identity, issue positions, and partisan loyalties among non-Hispanic whites. White Americans increasingly align their political attitudes and behaviors with their ingroup identification strength (Jardina 2019), oppose policies aimed at reducing social and economic inequalities (Abrajano and Hajnal 2015), and abandoning the Democratic Party in large numbers (Hajnal and Rivera 2014; Ostfeld 2019; Zingher 2018). Mass opposition to immigration prevented any significant legislation in the area since the Immigration Reform and Control Act of 1986 and contributed to the failure of the Gang of Eight bill in 2013. The most recent political manifestation of the anti-immigrant backlash in U.S. politics has been the successful presidential campaign of Donald Trump. Outspoken and often controversial calls for more restrictive entry policies as well as stricter enforcement of immigration rules within the country constituted an important aspect of his electoral appeal (Reny, Collingwood, and Valenzuela 2019).

But how do people form immigration policy preferences? Where do attitudes about immigrants come from in the first place? One point of scholarly consensus is that material self-interest does not have a lot to do with it: personal material concerns about losing one's job or paying more in taxes as a result of more open immigration laws do not seem play a major role in

predicting policy opinions (for a comprehensive review, see Hainmueller and Hopkins 2014; but cf. Bearce and Roosevelt 2019; Hickel and Bredbenner 2020; Pardos-Prado and Xena 2019). Instead, people appear to think about immigration in sociotropic terms: whether it hurts or benefits the country as a whole (Hainmueller and Hiscox 2010; McLaren and Johnson 2007; Sniderman, Hagendoorn, and Prior 2004). Researchers have distinguished between the two major types of such threats. One is economic: natives are concerned that immigrants can be a fiscal burden and take advantage of welfare systems (Garand, Xu, and Davis 2017; Naumann, Stoetzer, and Pietrantuono 2018; Valentino et al. 2019). The other threat is cultural, emphasizing fears about immigrants' negative impact on societal cohesion and national identity (Citrin, Reingold and Green 1990; Ivarsflaten 2005; Sides and Citrin 2007).

There is a problem with this conclusion, however, as the two variables in question—perceptions of immigration as harmful and the desire to restrict it—are conceptually too close. Even though attitudes towards an object and opinions on a policy issue are differentiated within political psychology, it is unclear whether voters are making the same clear-cut distinction. Moreover, even if it is accepted that sociotropic threat affects mass opinions on immigration, the origins of threat perceptions remain unclear. In other words, instead of explaining the roots of public opposition to immigration, sociotropic theories simply change the question. They also do not offer a solution to the "hidden consensus" paradox: why voters are strongly divided on entry and integration policies while mostly agreeing on the desirable qualities of immigrants.

1.2 Mental Schemas of Immigrants

In my dissertation, I develop and test an explanation rooted in the cognitive-psychological approach to public opinion: conflicting immigration preferences are produced by variation in people's beliefs about "who the immigrants are." Abstract preferences for high-skilled and law-

abiding immigrants translate into policy positions depending on whether newcomers are seen as actually possessing these qualities. A person who favors immigrants with higher education should endorse permissive immigration policies only if one also believes that most people coming to the country have college degrees—and vice versa. Differences in these beliefs explain why voters cannot agree on immigration policies despite agreeing on normative requirements for immigrants.

As noted almost 100 years ago by Lippmann (1922), the realities of political life in a modern society create an essential gap between people's cognitive abilities and the amount of information they have to acquire and process to make informed policy judgments. To cope with these challenges of information processing and storage, people form political opinions by using shortcuts. One particularly important set of these contains group identity and group affect. Converse (1964) has noticed that citizens do not usually think about politics in ideological terms. Specifically, voters lack ideological consistency as they often simultaneously express support for both liberal and conservative positions on various issues—even when such positions contradict to each other. Similarly, individual opinions have relatively low reliability over time, suggesting that they are not deeply held but rather heavily influenced by short-term political forces. Instead, voters often decide based on what is good or bad for their cherished groups. This conjecture has held up over time: group attachments drive an array of relatively distant political opinions (Nelson and Kinder 1996).

1.2.1 Defining Schemas

But how, exactly, are group attachments translated into political preferences? To answer this question, I rely the schematic model of social cognition (Fiske and Linville 1980; Taylor and Crocker 1981). The schematic model begins with the observation that humans have limited

cognitive capacity and thus prefer not to spend additional efforts on relatively unimportant tasks—including making complex judgments in brief social interactions. To decrease their effort, individuals rely on schemas, defined as "cognitive structures of organized prior knowledge, abstracted from experience with specific instances" that "guide the processing of new information and the retrieval of stored information" (Fiske and Linville 1980, 543). Social schemas organize information specifically about groups (e.g., "immigrants") and people's attributes or types (e.g., "introverts"). Originally, schemas were understood as complex and hierarchically structured networks of associations (Taylor and Crocker 1981, 92). However, this definition is too broad and, relatedly, makes it difficult to operationalize (and measure) schemas empirically.[1]

Here, I propose a narrower definition that still relies on the associative model of human memory as a network of cognitive linkages connecting various categories and attributes (Anderson 1983). I define schemas as sets of paired mental associations between categories and/or attributes in human memory. Figure 1.1 illustrates this new definition. Category A and Category B are schematically associated if exposure to one of the two categories invokes the other one in memory with some non-trivial probability.

[1] These exact criticisms of the schema concept have been expressed early on (Fiske and Linville, 544–45), and lack of its application in empirical research suggests that the points raised are generally valid. For a recent attempt to measure cultural schemas in sociology as full associative networks, see Hunzaker and Valentino (2019).

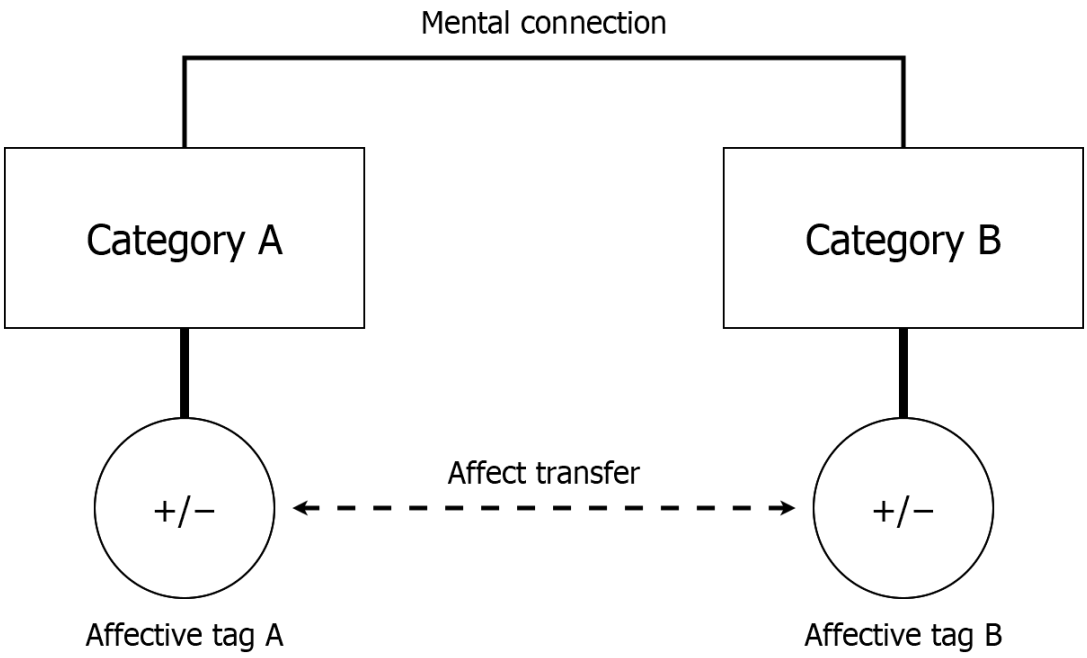


Figure 1.1 Abstract representation of one linkage in a mental schema

Note that the term "schema" denotes the whole mental structure: categories and the connections between them. However, schema as a measurable variable constitutes only the connection itself. Such connections are characterized by their strength: effectively, the high (strong schema) vs. low (weak schema) likelihood of Category B being triggered in memory upon exposure to Category A. Whenever the categories of interest can be thought of as bipolar, the schema also has a direction: for instance, one can think of "professors" as "extroverts" vs. "introverts" since these two traits are mutually exclusive.

An important question concerns the relationship between schemas and affect. The original conceptualization has emphasized that "schemas are cognitive structures" and thus "do not require affect or value relevancy as preconditions for activation" (Taylor and Crocker 1981, 125). However, schemas play an extremely important role in activating affect and transferring it from one category onto another (Fiske 1982). Social categories usually have affective tags

attached to them. Such affect can be positive or negative and strong or weak. Whenever schematic associations connect categories with affective tags that are different in strength, affect toward a category with a strong tag should get transferred onto a category with a weak tag. The phenomenon of often unnoticed emotional cues influencing short-term information processing, even effortful one, is known as affective contagion (Erisen, Lodge, and Taber 2014). Here, I assume that similar effects can build over time as feelings toward familiar social categories get to color political opinions. Consider the famous example of race and politics of welfare in the United States (Gilens 1999). When Americans start to think of welfare recipients as African Americans, their positions on income redistribution are increasingly influenced by attitudes toward blacks as a social group.

What is the relationship between schemas and stereotypes? According to the definition put forward in this section, stereotypes are a subclass of schemas. Stereotype are mental connections linking a social category to a specific set of characteristics, attributes, and behaviors (Hilton and Von Hippel 1996, 240). In other words, stereotypes are hierarchically organized with the category of interest (i.e., a social group) at the center and attributes associated with it at the periphery. Schemas, in turn, can connect two categories of equal prominence or importance. Additionally, stereotypes are often thought of as inherently evaluative while schemas can represent non-affective associations (even though, as noted above, they can transfer affect from one category to the other). For instance, a classic example of stereotypes in political science is the question battery from the American National Election Studies asking respondents to rate blacks and whites as "hard-working" vs. "lazy." An example of a schema that is not a stereotype, again using the example from racialized politics of welfare in the United States, would be one

connecting African Americans and welfare recipients: two social categories that may evoke dissimilar affective reactions from different people.

It is also important to list some popular notions in political psychology that are not schemas according to the proposed definition. First, attitudes are not schemas. Attitudes are evaluations of specific objects in memory, whereas schemas are mental connections between those objects. Social categories and attributes sometimes have strong, nearly universal affective tags (e.g., "criminals"), but they also can evoke only weak affect (e.g., "engineers"), or have strong but contested evaluations (e.g., "social activists").

Second, identities are not schemas. Even though individuals can create and maintain mental associations linking their self-concepts to social categories (which is the definition of a social group identity), "self" is not a general category or attribute and thus does not adhere to the definition above. Moreover, intermixing identity and schema concepts creates confusion.

Third, ideological orientations are not schemas. The foundational application of the schema concept in political psychology actually concerned belief systems (Conover and Feldman 1984), but did so using the original, and to my mind overly broad, definition. Within the narrow definition put forward in this dissertation, however, one can hold a schema about "conservatives" as a social and political category, while "conservatism" as a belief system is not represented by distinct mental associations between categories and/or attributes.

Associations between social categories and/or attributes formed within schematic structures allow people to interpret new information about any object efficiently and use it to make guesses about other characteristics of interest. In other words, schemas can increase the overall efficiency of social cognition (Moskowitz 2005). However, their use is associated with several problems. Most importantly, schemas lead individuals to process information in a biased

way whereby counter-schematic evidence is discounted, if not dismissed altogether. For instance, consistency biases change stories in the process of multiple transmissions (re-telling) by altering them to fit pre-existing cultural schemas. When presented with a story about an unemployed person wrongfully accused of shoplifting, respondents often unintentionally change minor elements of the story following common negative stereotypes about the unemployed. Specifically, they become less likely to remember that the unemployed person helped the salesclerk—even though it was part of the original story (Hunzaker 2016). As a result, schemas may be self-reinforcing, and therefore relatively stable after their formation.

1.2.2 Schemas and Politics

All the features of schemas discussed above make their application particularly relevant for the study of political cognition (Conover and Feldman 1984; also see Axelrod 1973). Politics often forces people to make judgments about abstract policies that are both unfamiliar and of negligible or unclear direct personal impact. Schemas become particularly useful in such situations. At the same time, the nature of the political process amplifies the cost of schema-based decision making: they can harden political loyalties, increasing the incentive for political actors to misrepresent information in order to persuade, and can often be used to undermine the direct and short-term interests of voters.

The early application of the schema concept to politics has been extremely broad, making the added theoretical value unclear. Later, the schematic approach has been applied specifically to understand the role of social groups in political thinking (Conover 1988). In this dissertation, I push on this application of schemas to politics. Politics by its nature exploits existing social categories like race and gender—but also produces new ones. Possibly, the best-known categories created by politics are parties that powerfully structure attitudes and behaviors within

the American electorate (Campbell et al. 1960; Green, Palmquist, and Schickler 2002; Lazarsfeld, Berelson, and Gaudet 1948).

There is, however, another important set of social categories produced by the political process: populations targeted by government policies. Indeed, most government policies can be thought of in terms of target populations: taxpayers, welfare recipients, veterans, immigrants, and so on (Schneider and Ingram 1993). The standard definition of a social group requires its membership to serve as a basis for individuals' self-concepts (Turner and Oakes 1986), which is not necessarily the case for policy target populations. Such populations are socially and politically constructed categories: for instance, "immigrants" are defined by government policies on entry/admission, citizenship, and integration. In other words, immigrants form a collection of people with certain membership boundaries—someone can be defined as a member or not on the basis of shared characteristics, i.e. a social category (Macrae and Bodenhausen 2000). Therefore, one can speak of social schemas about immigrants—or taxpayers, welfare recipients, military veterans, and so on. These schemas often connect policy target populations to categories (social groups) and attributes (characteristics) that voters have strong feelings about. Such schematic connections condition the translation of social affect into political attitudes and, ultimately, into policy opinions.

Consider the example in Figure 1.2 that applies the schema concept as defined in the previous section to the categories of "immigrants" as a policy target population and "Latinos" as a social group. There exists a strong relationship between attitudes toward Latinos and opinions on immigration in the United States (Valentino, Brader, and Jardina 2013). The schematic model offers a straightforward explanation for this observation. As members of the public develop mental schemas connecting the categories "Latinos" and "immigrants," affect toward Latinos (as

a more familiar category) gets translated into attitudes toward immigrants (as a less familiar category): specifically, anti-Latino prejudice starts to inform opposition to immigration.

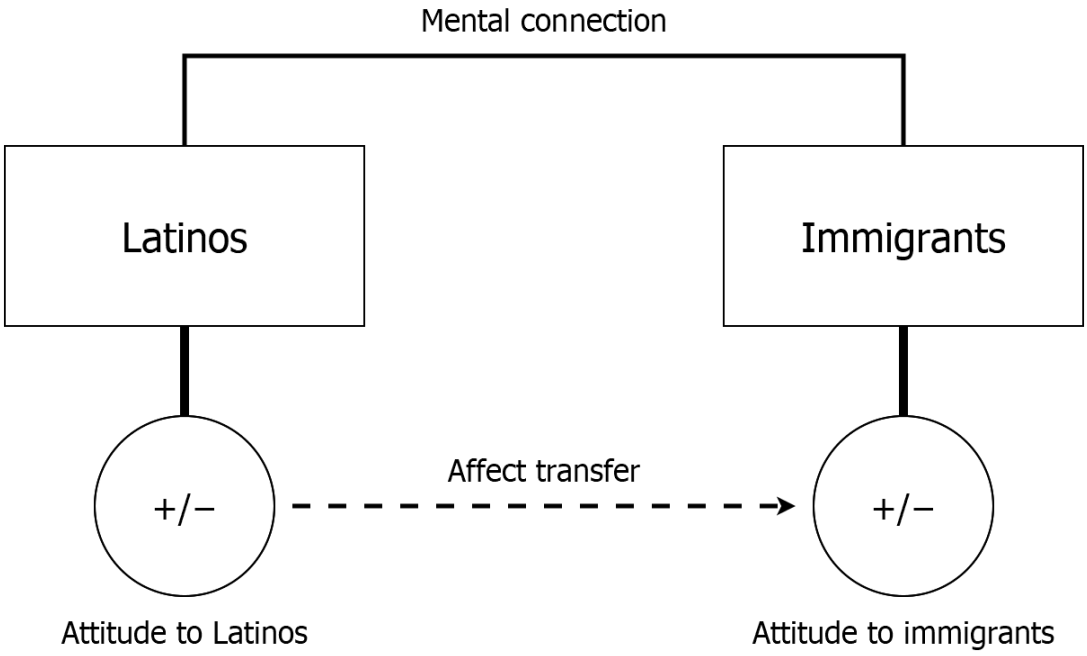


Figure 1.2 Example of a mental schema in politics: Latinos and immigrants

1.3 Methodological Challenges

Studying schemas carries a number of methodological challenges. The usage of standard survey questions to directly measure automatic mental connections between political objects and attributes is problematic for a number of reasons. The first is social desirability bias, a tendency to underreport attitudes and behaviors considered socially inappropriate, rude, or uncouth (Nederhof 1985). Another problem is demand effects that arise when respondents face questions they have not thought about before, but still feel obligated to answer in order to behave as "faithful participants" (Nichols and Maner 2008). Finally, self-reported mental associations, especially for attributes involving strong affect, can be rationalizations of pre-existing attitudes rather than their antecedents (Lodge and Taber 2013).

To address these problems, I design and implement an implicit measure of schemas about political categories based on the implicit association test (IAT; Greenwald, McGhee, and Schwartz 1998). The IAT has a well-developed architecture that corresponds closely to the underlying quantities of interest: the direction and strength of the association between a category and an attribute. The IAT is a computer-based sorting task that asks respondents to rapidly classify stimuli representing target categories (e.g., "flowers" vs. "insects") and a bipolar attribute (e.g., "pleasant" vs. "unpleasant"). Faster reaction times in matching an object to a positive or negative stimulus word is thought to indicate a stronger affective reaction in one direction or another.

This measurement principle based on response latencies in categorizing stimuli is based on two insights from social and cognitive psychology. First, a substantial part of cognitive associations that individuals have, as well as judgments that they make on the basis of such associations, are not consciously acknowledged and thus cannot be measured with self-reports (Greenwald and Banaji 1995). Second, the relative speed with which such associations are pulled from memory in a behavioral task, such as classification of stimuli, reveals the strength and direction of these associations (Fazio et al. 1995). These two conjectures underlie the usage of response latencies to implicitly measure attitudes and stereotypes using computer-based technques such as the IAT. Also, the task is highly customizable and can be applied to almost any categories and attributes as soon as they can be represented in terms of simple word or picture stimuli.

I validate this method using two examples not directly related to immigration: associations between (a) gender and parties and (b) race and poverty in the United States. I find that, on average, Americans associate the Democratic Party with women and the Republican

Party with men. At the same time, there is in-group projection: people tend to think of the in-party as representing their own gender. The effect of gender–party schemas on partisan affect is conditional upon gender attitudes: schemas are most consequential for those who are low in sexism whereas more sexist individuals tend to prefer Republicans over Democrats independently of the underlying schema. I also find that an average respondent in the U.S. has a schema linking poverty to African Americans and that those who exhibit this schema to a greater extent are less supportive of welfare programs. Then, I use the same IAT-based method to measure racialized schemas about immigrant groups in the U.S. and Britain. I then estimate the political consequences of variation in these schemas.

The IAT as a measure has several important limitations that potentially restrict its broad application in representative public opinion surveys. The IAT is a noisy measure given existing technology, and the task itself is lengthy and cognitively demanding. This makes it difficult to include more than one IAT task in a given survey. This is a problem because schemas are multidimensional: each target object is associated with multiple attributes. Consider the target category "immigrants." The group can be associated with a host of attributes such as race/ethnicity, occupational skills, language, religion, willingness to assimilate, and law-abidingness. The IAT can measure the association between the target category and only one attribute at at time.

To address this limitation of the IAT, I develop a measure of multidimensional schemas based on conjoint survey-experimental design (Hainmueller, Hopkins, and Yamamoto 2014). Originally, conjoint experiments were developed to study multidimensional choices. Possibly the best-known application of conjoint analysis in politics of immigration explores respondents' preferences with regard to qualities of potential immigrants by asking them to make hypothetical

decisions on their admission to the United States (Hainmueller and Hopkins 2015). Recently, behavioral researchers have also started using them to study respondents' beliefs about the social world by categorizing profiles rather than expressing preferences. One such application finds that place of origin and criminality make important parts of Americans' beliefs about illegal/undocumented immigration (Flores and Schacter 2018). Another reports that people associate Republican politicians with Evangelicalism, military experience, and attention to national security issues (Goggin, Henderson, and Theodoridis 2019).

The conjoint design effectively allows respondents to "conceal" the characteristics most impactful for their classification decisions since the profiles they are asked to categorize differ on multiple dimensions—in a way somewhat similar to list experiments (Kuklinski, Cobb and Gilens 1997). However, list experiments are focused on measuring attitudes: they allow respondents to express socially undesirable opinions, such as racial prejudice, without explicitly stating their individual answers to sensitive questions. Conjoint experiments are more flexible in this regard as they can be used to study both preferences and stereotypes (schemas).

Additionally, unlike standard survey questions that require respondents to rate schemas on all dimensions of interest, conjoint designs can tap judgments on the basis of a few dimensions relevant for each respondent while ignoring others. Consider the example with American parties and politicians (Goggin, Henderson, and Theodoridis 2019). Imagine that some respondent associates Republican politicians with military experience and also thinks that job creation is a major priority for both parties. Then, he or she will consistently classify profiles with military experience as Republicans but not pay attention to job creation being listed among politician's issue priorities. And these choices will show up in the results as a significant effect of military experience on a politician being classified as a Republican but a null effect for job

creation issue priority. Importantly, conjoint tasks infer schemas indirectly from observed choices, meaning that concerns about rationalization are decreased as well.

Currently, the estimated effects from conjoint experiments only describe aggregate schemas in studied populations. For instance, the conjoint study by Flores and Schachter (2018) has found that Americans are more likely to think of a Latino person as an unauthorized immigrant. However, exploring the political consequences of individual level variation in schemas about immigration requires individual-level data. Therefore, I propose a procedure to estimate respondent-specific marginal component effects from a conjoint experiment. The proposed strategy does not require any additional assumptions compared to the standard conjoint analysis, although some changes to the task design are recommended. I also develop methods to account for uncertainty of resulting individual-level estimates. Using the proposed procedure, I measure multidimensional schemas about immigrants among American respondents and explore their prevalence as well as relative contributions to anti-immigration attitudes.

1.4 Outline of the Dissertation

In Chapter II, I lay out the general approach to studying political cognition based on the associative view of human memory. I argue that individuals imagine abstract political categories by constructing schemas, i.e. by connecting them to more concrete social and demographic attributes. These schemas, not the underlying social reality, then powerfully define policy preferences. I also develop an original implicit measurement technique for measuring schemas about political objects based on the implicit association test (IAT) architecture. Using original survey studies on gendered images of political parties and the racialization of poverty in the United States, I document both the promise and limitations of timed-response tasks as measures of cognitive associations in politics.

In Chapter III, I apply the schematic model and the proposed IAT-based measurement strategy to address an essential controversy in the existing literature concerning the importance of racial animosity in public opposition to immigration. Recent experimental studies suggest that, contrary to massive observational evidence, distinctively racial cues play a limited role in driving anti-immigration attitudes. I suggest that variation in racialized schemas about immigrants—i.e., the degree to which natives think of immigrants in racial terms—is an integral part of opposition to immigration in developed democracies, but existing studies have failed to capture it. Using original survey studies in the United States and Britain, I demonstrate that variation in the racialized schemas of immigrant origin groups is strongly associated with group-specific prejudice, attitudes toward immigration, and partisan affect.

In Chapter IV, I study multidimensional beliefs about immigration and immigrants in the United States. I start by developing a method to estimate individual-level schemas about politically relevant categories using conjoint experiments. Then, I use the proposed method to assess perceptions about immigrant population on a number of important dimensions: age, gender, race/ethnicity, skills, dependency on welfare, and respect for laws. I demonstrate that, on the aggregate level, schemas about immigration among Americans are strongly dominated by race/ethnicity: respondents rated profiles described as Hispanics and Asians as much more likely to belong to the category "immigrant." Then, I show that, on the individual level, variation in these schemas strongly predicts attitudes toward immigration. Confirming results regarding the importance of race and immigrant origins, mental linkages between "immigrants" and "Hispanics" are significantly related to anti-immigration attitudes—even when other schema dimensions such as skills, welfare dependence, and criminal record are held constant. I also

implement a relatively simple priming experiment to demonstrate that schemas about immigrants are likely causally prior with respect to attitudes toward immigration.

In Chapter V, I recapitulate the main findings of the dissertation, discuss its contribution to existing debates in the literature, and outline implications for scholarship across political science disciplines. I summarize how my dissertation addresses some of the key controversies in the literature on public attitudes toward immigration. I also consider the promise of the schematic model to answer some of the broader questions in public opinion—most importantly, its ability to explain the exact psychological mechanism the phenomenon of group centrism in political preferences. Finally, I suggest how the measurement techniques proposed in my dissertation can be used in future research in political psychology.

Chapter II

Mental Schemas in Politics

2.1 Introduction

In his groundbreaking paper, *The Nature of Belief Systems in Mass Publics*, Converse (1964) raised a number of questions that political scientists continue to ponder. The central finding, defying the conventional wisdom at the time, was that very few people think of politics in ideologically coherent ways. This result has held up nicely over the last fifty years (Kinder and Kalmoe 2017). Instead of some coherent, unidimensional ideology, most citizens rely on social group identities and attitudes as helpful cues for constructing political judgments. Policy opinions, in other words, are group-centric, driven strongly by attitudes towards social categories seen to benefit or pay (Nelson and Kinder 1996; Winter 2008). Group-centrism implies that policies benefiting "deserving" groups—effectively, the ones a respondent belongs to, identifies with, or likes—receive greater support. Some of the psychological mechanisms underlying this straightforward conjecture, however, remain unclear. For example, how exactly do individuals connect social groups to relatively complicated political objects like policies, parties, and candidates running for office? And how are feelings about those groups translated into political preferences?

The premise that individuals develop strong emotional ties to social groups is uncontroversial. The assumption is central to the social identity theory: group membership represents one of the key components of an individual's self-concept and an important source of positive self-esteem (Tajfel and Turner 1979). But how exactly does group affect enter political thinking? In this chapter, I conceptualize and measure the core variable in question: the degree of cognitive overlap between social groups and political objects. I draw on existing approaches about how people organize social and political information in memory: the schematic model of political beliefs. The key implication of the model is that the presence of group-related schemas is necessary for the transfer of emotions about a social group onto a political object like a party, candidate, or policy.

The schematic model integrates various streams of research in political psychology that point to the same conclusion: social groups are central to the formation of political opinions. For instance, the classic theory of partisanship considers it an aggregator of "primary" social group memberships, such as social class, religion, race/ethnicity, and so on (Campbell et al. 1960; Green, Palmquist, and Schickler 2002; Lazarsfeld, Berelson, and Gaudet 1948). To test that theory precisely, one would need to measure the degree of cognitive association between social groups and parties. Another well-known instance of group-centrism in U.S. politics involves social welfare policy opinion (Gilens 1999; also see Brown-Iannuzzi et al. 2017). However, most studies that explored this important type of schema simply assume a strong mental association between policies and groups (e.g., welfare prograns and African Americans), rather than measure individual variation in those linkages. My approach captures this critical variation in the cognitive representation of "typical" welfare beneficiaries. This variation is then shown to have significant consequences for policy preferences.

The chapter proceeds as follows. First, I discuss the theoretical foundation of the schematic model of political beliefs. Next, I review the challenges of tapping the strength of group schemas with survey self-reports. Then, I introduce a novel method for measuring schema implicitly based on a simple response-time task. To validate the measure, I carry out two independent studies. Study 1 concerns gendered schemas of the two major parties in the United States, whereas Study 2 revisits the racialization of social welfare policy in American public opinion. The results of both studies support my core conjecture: mental schemas linking groups and political objects such as parties and policies vary considerably across individuals, and this variation strongly predicts related political attitudes. Finally, the limits and promise of the approach for the study political psychology worldwide are discussed.

2.2 The Schematic Model of Political Cognition

Schemas are cognitive structures that organize prior knowledge and guide the collection of new information (Fiske and Linville 1980; Taylor and Crocker 1981). The schematic model was imported to political science from social psychology, in order to reconcile different approaches to the dynamics of political beliefs within the mass publics. Specifically, the goal was to integrate elements of sociological and psychological theories explaining the origins of belief systems (Conover and Feldman 1984). The original formulation of the schematic model for political behavior was relatively broad: it was thought to encompass the way the brain stored basic values, broad ideological principles, and domain-specific political beliefs. However, the approach was later narrowed to specify the way attitudes about social groups mapped onto political preferences (Conover 1988).

The model rests on a series of assumptions that are now widely accepted in behavioral political science. It begins with the premise that human cognitive resources are limited, and

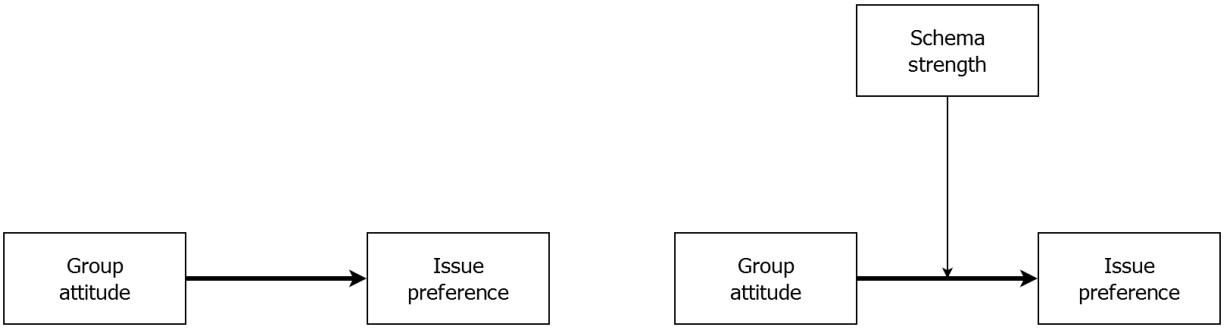
people generally prefer not to deliberate very extensively about politics. Therefore, in order to make fast and relatively consistent judgments about political objects, individuals rely on schemas.[2] A large share of these schemas represent links between political objects—policies, parties, and candidates—and social groups, about which people maintain a lot of experience, knowledge, and emotional energy. As a group and a political issue become schematically linked, emotions about the group are transferred into issue preferences.

The model has a number of important advantages over alternative explanations for public opinion formation. First, it is grounded in a large literature in social and cognitive psychology. Second, it is based on intuitive assumptions that are largely uncontroversial. Third, it illuminates a psychological mechanism that may underlie the long observed statistical association between opinions about social groups and preferences over political issues. Finally, it is general: the schematic model can help explain public opinion formation in cultural contexts around the world, over time, and among different groups.

To date, however, applications of the schematic model in empirical research on public opinion have been surprisingly limited. The measurement of schemas has been the core challenge. Consider the elements of the model as presented in Figure 2.1. Figure 2.1a represents the model as it has been tested in a variety of studies, including the original paper by Conover (1988). Researchers estimate a regression model predicting issue preferences with group

[2] My use of the term is different from Conover's. Instead of accepting the original broad conceptualiztion of a schema as any cognitive structure that contains prior knowledge in abstract form, I use the definition from Chapter I of this dissertation: schemas are sets of paired mental associations connecting categories and/or attributes in human memory.

attitudes and interpret a statistically significant coefficient as support for the underlying schematic linkage.



(a) Additive model **(b)** Interactive model

Figure 2.1 The two variants of the schematic model

This approach is problematic because the key variable within the model—the strength of cognitive associations between a group and an issue, i.e. strength of the schema—is never measured. By omitting it, researchers essentially assume schema strength to be constant at a relatively high level across the population. A strong test of the model must include an individual-level measure of schema strength (as in Figure 2.1b). Conceptually speaking, schema strength moderates the effect of group attitudes on issue preferences. The difficulty lies in capturing individual-level variation in schema strength with standard techniques like self-reports, a problem I turn to next.

2.3 Measuring Schemas in Politics

2.3.1 Limitations of Self-Reports

Validly tapping politically relevant schemas via self reports faces well-known challenges. As Lodge and Taber (2013) point out, "the reliance on direct, explicit measures of political beliefs and attitudes is intensely problematic, assuming as it does that people have accessible beliefs and attitudes, that they are willing and able to voice them, and that these self-reports are causally

related to their political behaviors" (2). I concentrate on the problems related to the measurement process itself: the cognitive accessibility of schemas, the individual's willingness and ability to report them, and the abstract character of schemas complicating the degree to which standard survey questions can be used to tap them.

The dual-process model of human reasoning has become dominant in social and cognitive psychology over the last several decades (Evans 2008; Kahneman 2011; Stanovich and West 2000). The model is based on the essential distinction between explicit and implicit modes of cognition. When applied to politics, the explicit mode corresponds to the standard view of decision-making: voters weigh various considerations—be those policy opinions, group attitudes, or partisan loyalties—and make conscious choices as a result. Implicit cognition is fundamentally different as it captures the processing of stimuli that do not enter conscious awareness but still affect behavior via automatic brain systems (Lodge and Taber 2013).

It is unclear whether schemas operate on either explicit or implicit level of cognition—or may operate on any of the two depending on the situation. There is no consensus in social and cognitive psychology on how much exactly of human judgment and decision-making is automatic, i.e. happens without crossing the conscious awareness threshold (Bargh and Chartrand 1999; Dijksterhuis and Bargh 2001). However, there is agreement that mental associations (schemas) not not have to be available for introspection before they start to affect attitudes and behaviors, including politically relevant ones.

Another common problem in the self-reported measurement of schemas is social desirability bias—a tendency to misreport attitudes and behaviors based on whether they are socially desirable or inappropriate, polite or rude (Nederhof 1985). This concern is acute for measuring group schemas in politics, since they involve questions about the associations

between groups—for instance, race—and political objects. This kind of bias could lead researchers to underestimate the strength of the linkage between a group on the one hand and a party or an issue on the other hand. One might believe, for example, that an outgroup is less hardworking than one's ingroup, but still be unwilling to admit to holding that belief on a survey.

Demand effects can also bias the estimation of schema consistency when explicit measures are used (Nichols and Maner 2008). This bias arises when respondents face questions they have not thought about before—but still answer them in order to behave as "faithful participants." Consider the example of schemas about welfare recipients. Some respondents would have only vague representations of the beneficiaries of such government programs. When faced with a survey question on this topic, they may start to think about it effortfully and even come up with some answers. However, their answers will not really reveal deeply held and stable mental associations. This means that explicit questions might prompt respondents to over-report the strength and/or certainty of associations they make between groups and political attitude objects.

The final obstacle is error springing from the ambiguity of survey questions. Even relatively straightforward survey questions can be misunderstood by respondents, leading to measurement error (Achen 1975). With schemas, this problem is likely amplified due to the abstract nature of the group–party linkage. Suppose researchers are interested in measuring the association between government policy X and the group Y. They effectively have two options. First, a survey question can be formulated so that a precise numerical answer is expected, such as the percentage of policy X beneficiaries who belong to group Y. Unfortunately, the innumeracy of the average citizen—his inability to estimate and manipulate probabilities and percentages—renders such measures unreliable (Kahneman and Tversky 1979). Moreover, errors of this type

are likely non-random, since the innumerate might have strong group schemas and be more reliant on them for making political decisions. To account for this lack of precision, one might use an ordinal level measure by asking whether "almost all," "virtually none," or somewhere in between, of policy X beneficiaries belong to group Y. This approach, however, is vulnerable to differential item functioning (Aldrich and McKelvey 1977). This problem arises when individuals have dissimilar definitions of each response category, so that options like "almost all" represent different quantities to different respondents.

2.3.2 Timed-Response Measures

Given these problems in measuring the strength of cognitive associations between social groups and political objects with self-reports, I turn to implicit measures based on timed-response tasks (Fazio and Olson 2003). Such measures do not require group schemas to be consciously acknowledged by respondents, nor do they assume respondents' willingness or ability to describe schemas explicitly. The purpose of the task is difficult for respondents to recognize, and it is hard for respondents in these exercises to consciously misrepresent automatic associations between social groups and political objects.

A variety of timed-response tasks have been developed in order to tap cognitive associations in memory. Here, to measure the strength of group schemas in political cognition I adopt a modified version of the implicit association test (IAT; Greenwald, McGhee, and Schwartz 1998). The original IAT is a fairly simple task that requires respondents to press one button on their keyboard as quickly as possible when they see a picture, symbol, or word representing one category (e.g., "flower") on the screen and another button when they see a picture, symbol, or word representing another category (e.g., "insect"). Once each category is associated with a button, respondents learn to associate those same keyboard buttons with two

attributes. In the original IAT, these attributes are affective in nature (positive and negative words, such as "pleasant" vs. "unpleasant"). After these associations are learned, the measurement task begins in earnest. A picture or word representing one of the learned categories ("flower" vs. "insect") or attributes ("pleasant" vs. "unpleasant") is flashed on the screen, and the respondent must press the button associated with either of the categories or attributes. The purpose of these measures has been to see if people respond more quickly when affectively consistent stimuli were paired with the same button. If an attitude object is positively affectively valenced ("flower"), an individual will more quickly press a button that pairs the object with an affectively positive word ("pleasant") compared to an affectively inconsistent one ("unpleasant"). The normalized difference between sorting times in affectively consistent versus inconsistent pairs is known as the D-score.

The IAT has been validated repeatedly in psychological research (Greenwald et al. 2009), and its creators maintain a comprehensive online infrastructure to assist practical applications. The use of the IAT and related measures is not new to the field of political psychology. To date, timed-response tasks have been predominantly applied to measure implicit affective evaluations of social groups and political objects, with these measures then being used to predict explicit evaluations of candidates and policies as well as voting behavior (for a comprehensive review, see Gawronski, Galdi, and Arcuri 2015). The IAT architecture has also been used to measure implicit partisan identities (Hawkins and Nosek 2012; Theodoridis 2017). This particular use of the measure is closest to mine because, unlike the classic IAT, it does not involve affective evaluations of the stimuli. However, it is distinct because it taps links between the self and the party, not associations between social categories and political attitude objects.

The IAT has also attracted criticism as a measurement instrument. Some have suggested that differences in sorting times may simply tap the awareness of a group's social stigma, not an internalized dislike or intention to discriminate (Arkes and Tetlock 2004). In addition, the measure often returns relatively low test–retest reliability, i.e. low correlations of the IAT scores from the tests taken by the same person over time (Nosek, Greenwald, and Banaji 2005). It has been also argued that the ostensibly objective character of the IAT scores (response times) can lead researchers to believe that it can serve as a non-arbitrary metric for the underlying psychological dimension, i.e. prejudice (Blanton and Jaccard 2006). In other words, it is unclear how observed D-scores map onto the measured theoretical concept, except to ordinally rank individuals in the sample. A positive score of any given size on the race IAT, therefore, does not indicate some absolute level of prejudice. Finally, IAT results depend on the specific stimuli used: for instance, average D-scores are higher when categories and attributes are represented using the same type of stimuli, e.g. words and words rather than words and pictures (Meissner and Rothermund 2015). Similarly, IAT scores are affected by salience of the categories: when a specific set of stimuli is, or is made, salient, they are easier to classify—meaning that the corresponding latencies are lower (Rothermund and Wentura 2004).

None of the problems discussed above fundamentally affect the current application. Most importantly, I am not using the task to measure negative affect or prejudice. My test's architecture measures cognitive associations between social groups and political objects, regardless of their affective valence. So rather than pairing attitude objects with affectively valenced words, the technique records reaction times to schema-consistent versus inconsistent pairs. In Study 1 below, for example, I measure the response times for female gendered words with Democratic Party symbols and male gendered words with Republican Party symbols, and

then subtract the average time it takes to categorize the schema inconsistent pairs: female words with Republican symbols and male words with Democratic symbols. The resulting D-score is a measure of the strength of the gender–party schema. Using this measure, I can then see whether strong schemas boost affective reactions toward the parties, which are measured separately.

So, to be clear, the new measure is not designed to categorize respondents as prejudiced or not—D-scores simply rate respondents in terms of their group–party schema relative strength. Random measurement error, another problem often associated with IAT scores, will tend to suppress associations with outcomes such as partisan affective polarization (King, Keohane, and Verba 1994, 164–67). Therefore, statistically associations likely represent conservative estimates of the true relationship in the population. Finally, whether the IAT measures "true" cognitive linkages between groups and parties or just the "awareness" that many others believe such linkages exist is an empirical question. If I am simply tapping beliefs about the societal prevalence of such associations, and those are orthogonal to an individual's own schema, then the measure will not predict affect toward the parties or other relevant policy views.

An IAT requires precision in capturing time elapsed between stimulus onset and response in order to achieve acceptable levels of measurement reliability. As a result, the use of the IAT online—the most cost-effective mode of data collection in the social sciences—has been limited until recently. The most important obstacle is the impact of Internet connectivity on the measure of response times. Errors in this domain are likely non-random with respect to essential demographic characteristics: poorer households have slower Internet connection speeds. Fortunately, technical solutions exist. Specifically, I use Inquisit Web, software developed especially for implementation of the timed-response tasks in online studies. Respondents download a browser plugin that implements the task on their local hard drive and then transfers

recorded data to a server. As a result, response latencies are not affected by the user's network connection speed.[3]

2.4 Study 1: Gender and Parties

I begin by examining the political consequences of the cognitive association between gender and each of the major parties in the United States, which I refer to as the "gender–party schema." Gender schemas were explored in the original test of the group-schematic model that demonstrated a powerful relationship between sympathy for women and support for government policies in various domains (Conover 1988). Currently, many Americans hold gendered images of the two major parties: the Republican Party is associated with stereotypically masculine qualities, whereas the Democratic Party is associated with feminine ones (Winter 2010). Here, I use the measure of group schemas based on the IAT architecture to replicate and partially extend these findings. My goals are to validate the proposed measurement strategy and to test whether gendered images of parties are consequential for partisan feelings.

2.4.1 Data and Measures

To tap the gender–party schema, I recruited a sample of respondents using Amazon Mechanical Turk (MTurk). While MTurk respondents exhibit more variation on important population parameters than most convenience samples comprised of college students, they also tend to be more politically interested and liberal (Berinsky, Huber, and Lenz 2012). In order to balance the sample in terms of political ideology, moderates and conservatives were oversampled. In January

[3] Response time measures are also potentially affected by heterogeneity in local computer processing power. However, the Inquisit software is compatible only with newer operating systems (Windows Vista or higher and Mac OS X 10.7 or higher). The browser plugin is lightweight and works seamlessly on most computers. System requirements can be found here: https://www.millisecond.com/products/inquisit5/requirements.aspx.

2017, I carried out a web-based survey designed and implemented on the Qualtrics platform. The timed-response component was administered using the Inquisit software mentioned above. The sample included only those who responded from the United States, had unique IP addresses, and showed acceptable error rates in the IAT component (less than 30%).[4] This left me with 639 valid cases out of 703 submitted questionnaires. In the analyzed sample, 84.4% respondents were non-Hispanic whites whereas the rest belonged to some other ethnic or racial category (including multiple ones). The sample was balanced in terms of gender (54% female), but overrepresented the highly educated, with nearly half having Bachelor's degrees or higher (48%). The modal household income was between $40,000 and $50,000. The mean age was 39.8 years. In terms of partisanship, 36.9% of respondents identified as Democrats, 34.6% as Republicans, and 26.3% as Independents.

To measure the gender–party schema, I borrowed the stimuli for gender from the "gender–science IAT" that measured the association of gendered terms on the one hand with science and liberal arts terms on the other (Nosek, Banaji, and Greenwald 2002). The gender stimuli were nouns that denoted males and females, often in familial relationships: man, woman, girl, boy, father, mother, wife, husband, father, mother, grandma, and grandpa. For the symbols of the Democratic Party and the Republican Party, I used a collection of publicly available images representing official as well as unofficial logos and mascots (elephants vs. donkeys), campaign buttons, and posters (see Appendix A for the stimuli). If respondents find it easier to make classifications when the word "mother" and a donkey symbol belong to the same side of the screen, a mental schema linking women and the Democratic Party is present. IAT D-scores

[4] For each unique IP address, I left only the first (earliest) response. This procedure was applied in both Study 1 and Study 2.

were calculated from the observed response latencies automatically by the Inquisit software according to the improved scoring algorithm (Greenwald, Nosek, and Banaji 2003). Theoretically, D-scores can assume values in the interval from −2 to 2 but in practice they almost never approach these extremes.

For the purpose of validation, an explicit measure of this same gender–party schema was collected for each respondent. Specifically, respondents estimated the shares of men and women in the Democratic and Republican Parties, respectively. I used these answers to calculate the individual-level perceived gender gap scores for the two parties as the share of women minus the share of men. The Republican gender gap was subtracted from the Democratic gender gap to obtain a difference-in-difference score to get the explicit measure of the gender–party schema.

Gender attitudes—or, more specifically, negative attitudes towards women—were assessed using the hostile sexism scale (Glick and Fiske 1996). Attitudes towards political parties were measured using an 11-point party attitude scale, similar to one employed in the Comparative Study of Electoral Systems. The Democratic and Republican attitude sliders were presented in random order but on the same screen so that the respondents could control the desired affective distance between the two parties. I subtracted the Democratic thermometer from the Republican one. The resultant score— the affective preference for the Republican Party vs. the Democratic Party—represents the dependent variable in the regression analysis. For exact question wordings, see Appendix A.

2.4.2 Results

Figure 2.2 presents the empirical density of D-scores in the analyzed sample. The distribution is bi-modal; the Shapiro–Wilk test rejects normality on the 99.9% confidence level ($z = 3.25$, $p < .001$). One mode coincides with the neutral point, i.e. the one corresponding to being no faster in

associating the Democratic Party and females compared to the Republican Party and males. Another mode indicates a cluster of respondents holding pro-stereotype schema (feminine Democrats, masculine Republicans) with moderate strength. The overall mean D-Score is positive ($b = 0.16$, $p < .001$), indicating that the average respondent implicitly associates the Democratic Party with women and the Republican Party with men—in agreement with Winter (2010). Almost 60% of the sample return positive D-scores, meaning they sort pro-stereotypic pairs of stimuli (female words and Democratic images, male words and Republican images) faster than counter-stereotypic pairs. This proportion is significantly different from the 50/50 ratio ($F_{1,638} = 25.4$, $p < .001$).

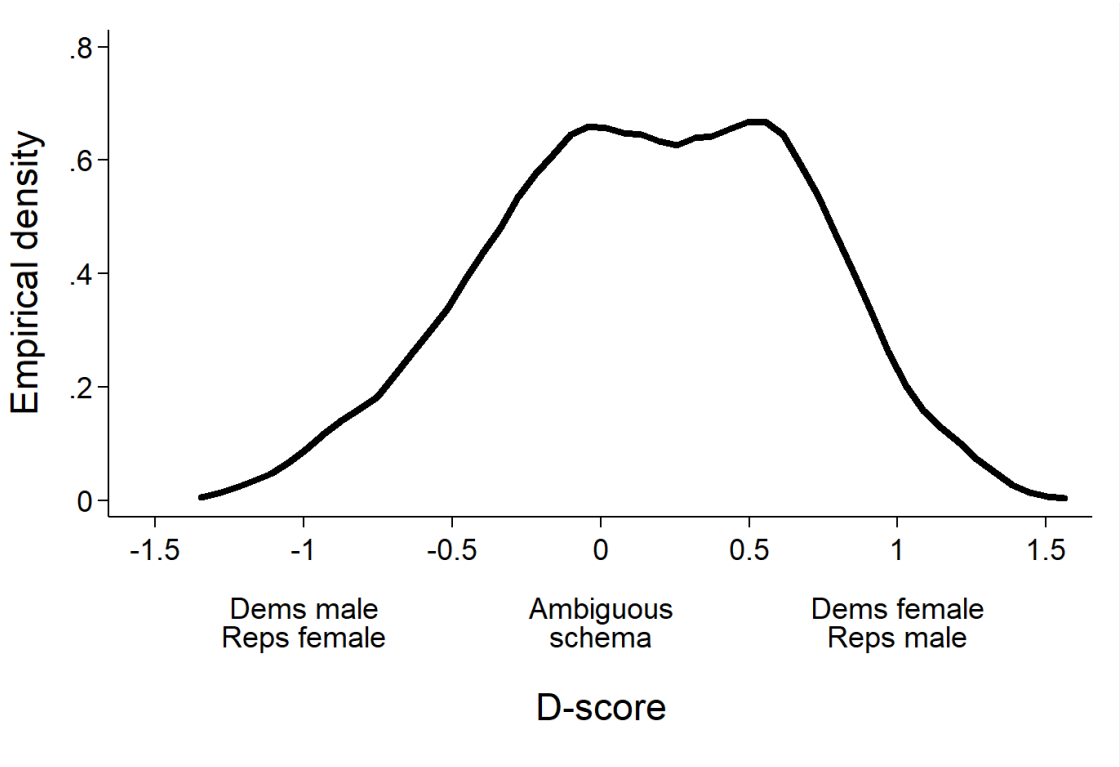


Figure 2.2 Distribution of gender–party schemas
$N = 590$

Next, I turn to a test of a substantive hypothesis regarding the impact of gender–party schemas on partisan affect. I first estimate regression models independently for males and

females. If the schematic model is correct, the more strongly one associates one's gender with a given party, the greater should be one's affective preference for that party. Results of the regression analysis presented in Table 2.1 (see Model 1) show strong support for this conjecture. In both cases, gender–party schemas have statistically significant effects on partisan affect in the predicted direction. Specifically, men who think of the Republican Party as male and the Democratic Party as female express stronger affective preference for the Republicans. For women, the effect is the complement: having a masculine image of the Republicans and feminine image of the Democrats leads women to feel relatively warmer towards the Democratic Party. As a politically disadvantaged group, women may be expected to have more consequential gender–party schemas. However, I find only weak support for this conjecture. The magnitude (absolute size) of the implicit schema coefficient is indeed somewhat larger for women than for men but the difference is not significant ($\Delta b = 1.30$, $p = .118$). The explained variance in partisan affect is almost twice as large for women than for men in the sample, but variables other than gender–party schema clearly contribute to this difference. For instance, the effects of age, education, and race on affective preference for the Republicans are significant among women—but not among men.[5]

[5] See Philpot (2018) for evidence of a similar significant race–gender interaction in the 2016 election.

Table 2.1 OLS regression results predicting affective preference for Republicans over Democrats: males and females

	Model 1		Model 2		Model 3	
	Males	Females	Males	Females	Males	Females
Gender–party schema						
Implicit	5.62***	−7.22***			5.73***	−6.95***
	(0.93)	(0.73)			(0.95)	(0.77)
Explicit			0.56	−4.89***	−1.03	−1.32
			(1.55)	(1.30)	(1.49)	(1.23)
Age	−0.01	0.08***	0.01	0.06*	−0.01	0.08**
	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)
Education	−0.37	−0.66**	−0.36	−0.76**	−0.37	−0.65**
	(0.25)	(0.23)	(0.26)	(0.25)	(0.25)	(0.23)
Income	0.02	0.18	0.07	0.19	0.02	0.18
	(0.11)	(0.10)	(0.12)	(0.11)	(0.11)	(0.10)
Black	−1.82	−3.57***	−2.47*	−4.55***	−1.87	−3.63***
	(1.18)	(1.03)	(1.25)	(1.14)	(1.18)	(1.03)
N	294	343	294	343	294	343
R^2	0.130	0.292	0.021	0.125	0.132	0.294

Note. Cell entries are regression coefficients. Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Models 2 and 3 in Table 2.1 compare the impact of the implicit vs. explicit measures of gender–party schemas on affective preference for the Republicans vs. the Democrats. The implicit measure substantially outperforms the explicit one, both in terms of size and explained variance. In Model 2, the explicit measure of the degree to which Republicans are viewed as male and Democrats female is negatively associated with affective preference for Republicans, but only among women. This is in line with my expectations, given the problems with explicit measures: being a more socially and politically powerful group, men are expected to have a more difficult time recalling, or admitting, the importance of gender in the party system. In addition, human cognition is often androcentric: men are commonly seen as prototypical humans whereas women are gendered (Bailey, LaFrance, and Dovidio 2020). If so, this should depress variance in gender–party schemas and, subsequently, reduce the association between the schema and party affect among men. Moreover, in Model 3, when the two schema variables are in the model

simultaneously, implicit measures remain statistically significant and are substantively undiminished while the effect of the explicit measure disappears. These results show that the implicit cognitive linkage between gender and party is quite consequential for partisan affect, and it accounts for almost all the shared variance with the explicit measure of the schema.

Group schemas are not the only moving part in the schematic model. The other is group affect. According to the model, group attitudes should interact with schema strength to impact political preferences. To test this prediction, I estimate the interaction between implicit schema (i.e., the D-scores) with attitudes toward women as a group measured via the hostile sexism battery. Results are presented in Table 2.2. The interaction was significant and in the predicted direction: pro-stereotypical chemas amplify the relationship between sexism and the affective preference for Republicans over Democrats. This suggests that schemas indeed facilitate the translation of group affect into political attitudes.

Table 2.2 OLS regression results predicting affective preference for Republicans over Democrats: interactive effect of schema and sexism

	Estimate
Gender–party schema	−3.19***
	(0.95)
Sexism	11.31***
	(0.68)
Schema * Sexism	4.20*
	(1.76)
Age	0.06***
	(0.02)
Education	−0.26
	(0.15)
Income	0.12
	(0.07)
Black	−2.88***
	(0.70)

Note. Cell entries are regression coefficients. Standard errors in parentheses
$N = 637$
* $p < .05$, ** $p < .01$, *** $p < .001$

In order to interpret these results substantively, I present the interaction in the graphical form (Brambor, Clark, and Golder 2006). Figure 2.3 demonstrates that respondents with high levels of sexism tend to express affective preference for the Republican Party over the Democratic Party regardless of the strength of their gender–party schemas. On the other hand, the schema matters substantially for those low in sexism. Non-sexists feel much more warmly toward the Democratic Party as their gender–party schemas become more aligned with the "masculine Republicans, feminine Democrats" stereotype but are almost indifferent toward the two parties when the schemas are counter-stereotypic.

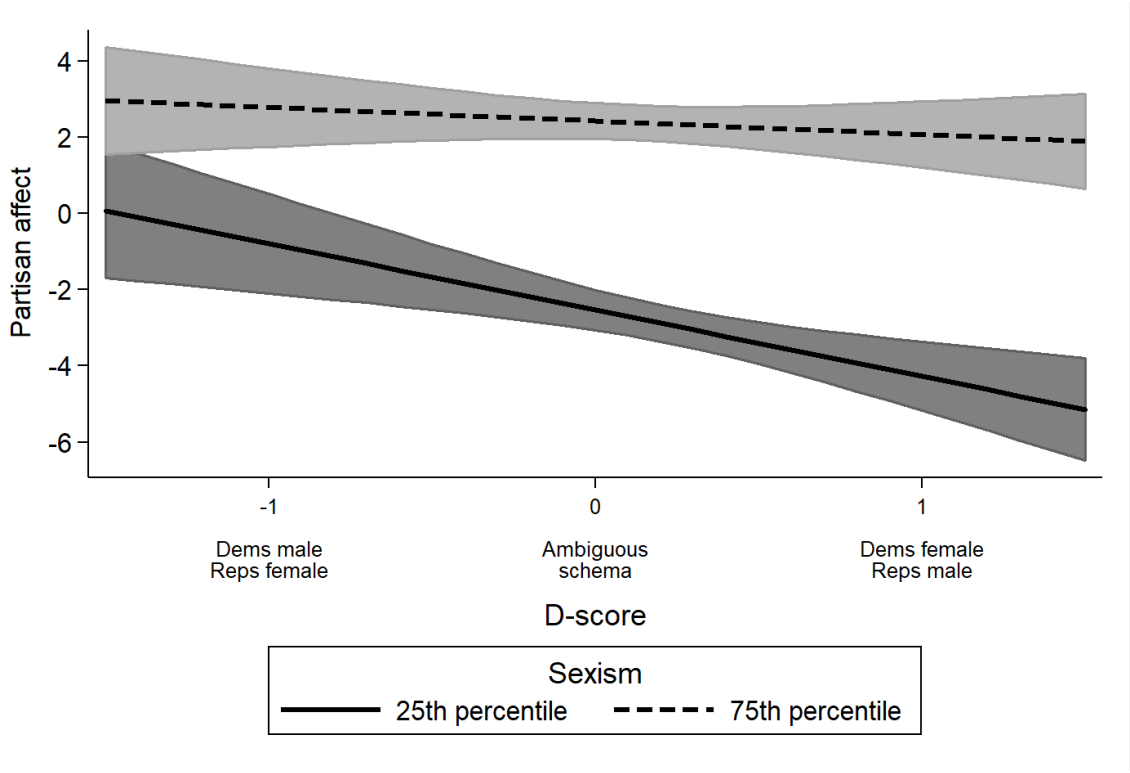


Figure 2.3 Interactive effect of gender–party schemas and sexism on party affect
Plot is based on estimation results presented in Table 2.2

The timing of the data collection also allowed me to estimate the effect of a high salience political event on the average strength or salience of the gender–party schema in the sample as a whole. Data collection began on January 18 and completed it on January 24, 2017. The fielding

period was therefore split by the Women's March which took place on January 21. The march, estimated by several national news outlets to be the largest single-day protest in U.S. history, was highly publicized. It also took aim at the Republican President-elect Donald Trump and was supported by several notable members of the Democratic Party. I would speculate that this event might strengthen gender–party schemas directly, or prime them as a predictor of partisan affective polarization. I coded respondents into "control" and "treatment" conditions depending on whether they were interviewed before or after January 21.

To balance the two sub-samples, I use propensity score matching with age, education, income, race/ethnicity, and ideology as the covariates. Contrary to my speculation, I find no change in the strength of gender–party schemas ($b < 0.01$, $p = .984$), and no increase in their effect on partisan preferences ($b = -0.12$, $p = .894$). These results suggest that group schemas are resistant to change over short periods of time, even after highly salient, relevant political events. Schemas are likely built incrementally over time, and thus unlikely to change as a result of one event or piece of new information. It is also possible that gender identities were already highly politicized during the 2016 presidential campaign, and thus resistant to change via exposure to the Women's March.

2.4.3 Discussion

The results of Study 1 support the schematic model with regard to gender and partisan affect. First, I have found that respondents had consistent gender–party schemas: individuals, on average, are more likely to see the Democratic Party as feminine and the Republican Party as masculine. Second, the strength of this schema is a significant predictor of partisan affective polarization. Respondents are significantly warmer towards the party that they perceive closest to their gender identity. Finally, the gender–party schemas interact significantly with attitudes

towards women. Specifically, schemas are most consequential for respondents low in sexism, perhaps because highly sexist voters are likely to also have ideological reasons for preferring the Republican Party.

Study 1 does not help to understand the exact origins of gender–party schemas. However, I suspect that these schemas are built during early political socialization, potentially in pre-adulthood (Sears and Valentino 1997). When an individual's social environment is politically homogenous, it creates imbalanced impressions with respect to the parties' demographic composition. For instance, a woman socialized in a conservative area may be more likely to develop a female–Republican schema because most of her female friends and relatives identify with the Republican Party. This speculation is indirectly supported by my finding that even a high-profile political event such as the 2017 Women's March affected neither the strength nor salience of gender–party schemas. Group schemas in politics, therefore, are likely quite stable, at least in adulthood. If true, this increases normative concerns about an increasingly polarized political climate and growing social isolation along party lines in the United States.

2.5 Study 2: Race and poverty

In Study 2, I apply the schematic model to a widely debated puzzle in U.S. politics: why do many citizens who would benefit from wealth redistribution and a robust social safety net strongly oppose policies designed to bring about those outcomes? A race-centric explanation for welfare policy opinion postulates that news coverage disproportionately depicts African Americans as poor resulting in whites' opposition to social welfare (Gilens 1999). The assumption is that news depictions alter the cognitive schema regarding the poor held by the public. Here, I revisit this theoretical ground, both to validate my measurement and to see if the political consequences of poverty racialization have persisted. The analysis uses the proposed

measurement strategy based on the IAT architecture to test the power of race–poverty schemas in predicting opposition to welfare spending at the individual level.

2.5.1 Data and Measures

The sample was recruited using Amazon MTurk, as in Study 1. In February 2017, 500 respondents answered a web-based survey on the Qualtrics platform with the IAT administered using Inquisit. After removing duplicated IP addresses, cases with too many errors in the timed-response task, and those who completed the survey from outside of the United States, the final sample contained of 446 observations. The demographics of the sample deviated from national parameters as expected. The sample was disproportionately female (61.4%) and college educated (50.7%). The modal household income was between $50,000 and $60,000. The sample was also relatively young, with the mean age between 35 and 44 years. In terms of partisanship, 35.1% of respondents were Democrats, 33.0% were Republicans, and 31.8% were Independents (non-liberals were again oversampled). Finally, 82.7% of the sample self-identified as non-Hispanic whites.

To measure the race–poverty schema, I one more time used the IAT architecture. I took the stimuli for the racial groups from the standard "race IAT" intended to measure automatic preference for white vs. black faces (Nosek et al. 2007). The stimuli were pictures: morphed young black and white faces cropped at forehead and chin.[6] Following previous arguments regarding stimuli recognition (Newheiser and Olson 2012), pictures rather than words were used to depict poverty vs. wealth in this task. This choice minimizes confounding with vocabulary size since the latter might be correlated with both schemas of interest and support for welfare. Specifically, 12 pictures were found representing categories of objects that people of different

[6] The stimuli are available at: https://www.projectimplicit.net/stimuli.html.

income levels might possess: expensive vs. dilapidated houses, fancy new vs. rusted old cars, fine vs. tattered clothing, and so on (see Appendix A for the stimuli).

To measure support for government spending, respondents were asked 11 questions regarding the proper use of the public's tax dollars. Spending categories included welfare, public safety, military and intelligence, and infrastructure. Answers were given on a 7-point scale, from 1 = *Decreased substantially* to 7 = *Increased substantially*. The key alternative to racial animus for opposition to welfare is the endorsement of conservative ideological values, such as individualism and self-reliance (Sniderman and Carmines 1997). In order to measure these attitudes, the economic individualism scale was used (Feldman 1988). For the exact question wordings, see Appendix A.

2.5.2 Results

Figure 2.4 presents empirical densities of the race–poverty schemas measured via the IAT D-scores. The distribution is effectively normal according to the Shapiro–Wilk test ($z = 0.12$, $p = .453$). The mean is positive, indicating that the average respondent is faster associating poverty with blacks and wealth with whites ($b = 0.20$, $p < .001$). The proportion of D-scores greater than zero—i.e. respondents who were faster in associating poverty with African Americans—is 71%, significantly different from 50/50 ($F_{1,445} = 93.7$, $p < .001$). Additionally, the extreme left tail of the empirical density is empty indicating that no respondents in the sample were fast in associating blacks with wealth and whites with poverty. These results suggest that the image of poverty as an African American problem persists—even within a relatively liberal and educated MTurk sample.

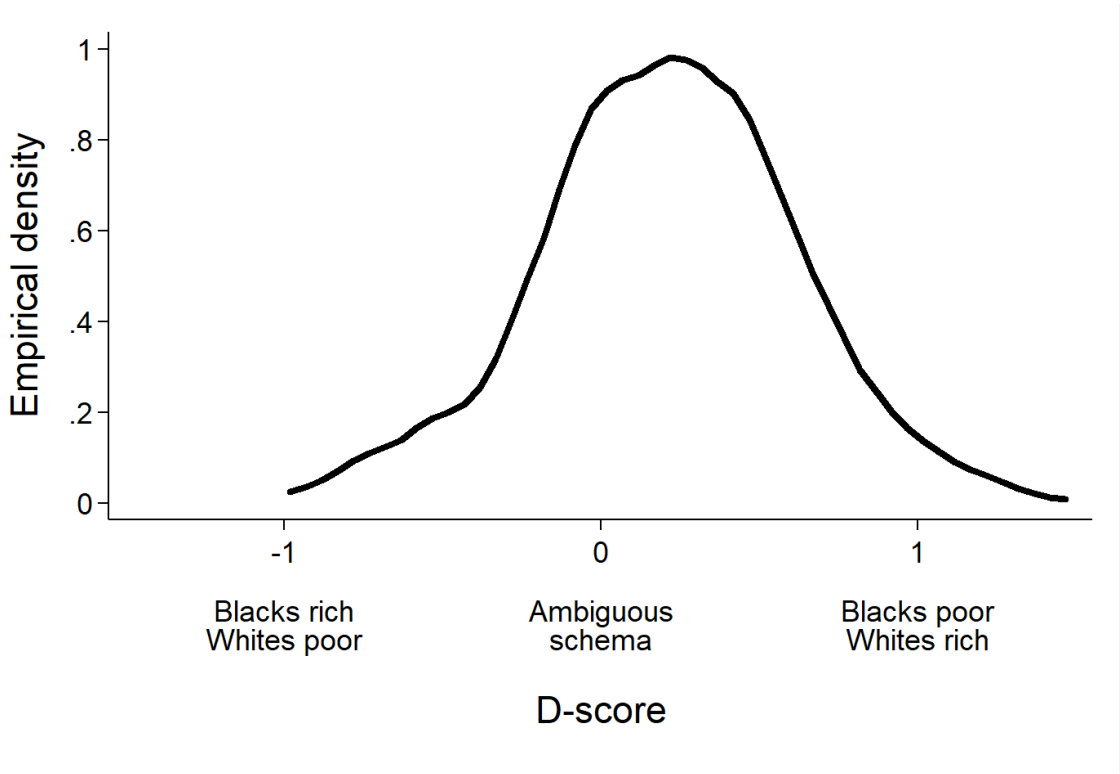


Figure 2.4 Distribution of race–poverty schemas
N = 376

Next, I turn to inferential analysis. Since two of the three core variables in the study have been measured using multi-item batteries, I use the structural equation modeling framework (Kline 2010). Its key advantage is the simultaneous estimation of structural and measurement parts of the model in order to isolate question-specific errors in multi-item constructs. I first estimate the direct effects of the race–poverty schema on spending preferences. Control variables include age, gender, education, income, and race/ethnicity. The model and results are presented in Figure 2.5. Results confirm the race-centric explanation: the race–poverty schema significantly predicts welfare spending preferences but is unrelated to spending in other domains. Those with racialized images of poverty prefer less support for spending on welfare. The effect is large: the difference in support between individuals with very weak and very strong race–poverty schemas amounts to nearly one point on the 7-point scale welfare support scale.

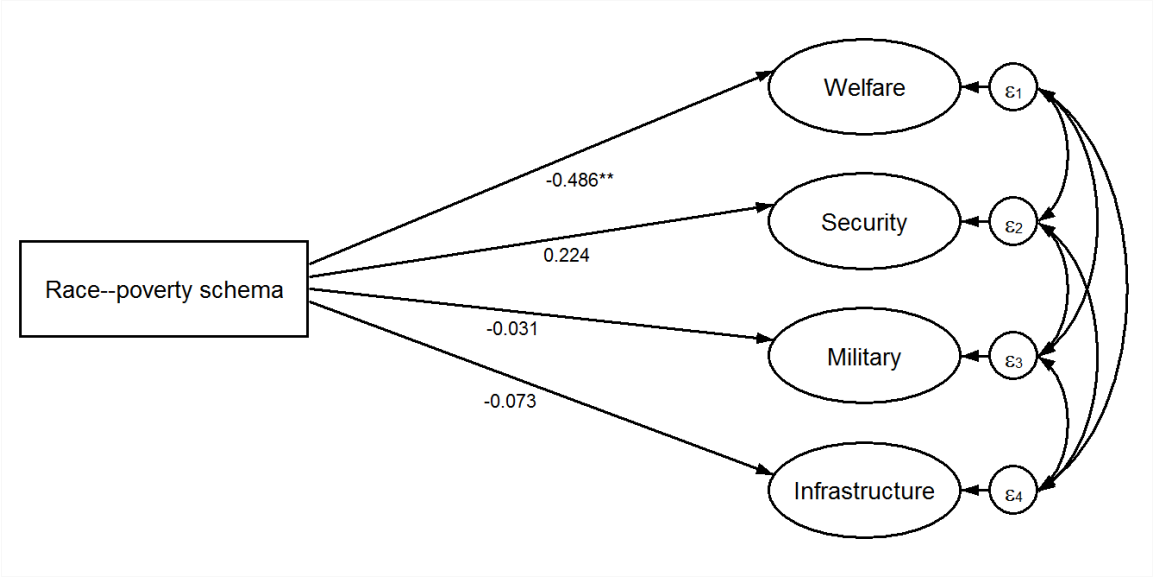


Figure 2.5 Race–poverty schemas and support for spending programs
N = 446
Fit indices: RMSEA = .054, CFI = .954, SRMR = .033
Measurement parts and controls omitted for space considerations
* $p < .05$, ** $p < .01$, *** $p < .001$

I next explore the role of individualism in the model, to see whether endorsing the values of self-reliance have a larger influence on policy support than the race–poverty schema (see Figure 2.6). Its inclusion in the model leads to noticeable changes the strength of various relationships. Specifically, the effect of the race–poverty schema on support for welfare spending dramatically decreases in magnitude and becomes statistically insignificant. At the same time, individualism is significantly associated with all forms of government spending. The effects are negative for welfare and infrastructure and positive for internal security and military/intelligence. It is unclear, though, to what extent some of these effects are produced by general support for both economically and socially conservative policies among individuals who endorse the creed of self-reliance. Some other variable, such as partisanship, can explain the effects of individualism on non-welfare spending. Republicans should be more likely to both hold individualist values, as evidenced by their greater responsiveness to individualistic frames

(Barker 2005), and support spending on law enforcement. Finally, the race–poverty schema strongly predicted individualism. The estimated difference between those with the weakest and strongest schemas is greater than one point on the 7-point individualism scale. This is a very important result as it suggests that the race-party schema and individualist values are not independent drivers of opinions about antipoverty policy. Instead, appeals to self-reliance may be a rationalization for those who oppose welfare because of its racially redistributive consequences.

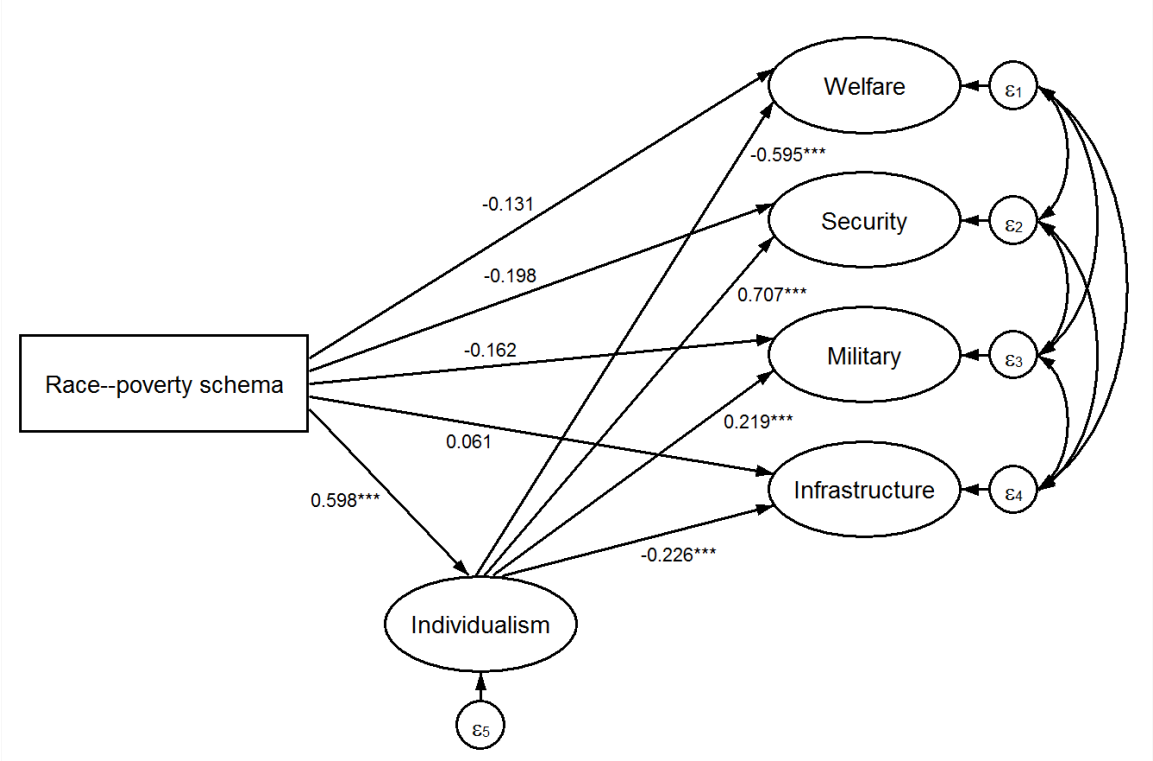


Figure 2.6 Race–poverty schemas, individualism, and support for spending programs
N = 446
Fit indices: RMSEA = .069, CFI = .910, SRMR = .044
Measurement parts and controls omitted for space considerations
* $p < .05$, ** $p < .01$, *** $p < .001$

2.5.3 Discussion

In Study 2, I have applied the schematic model to a puzzle well known to students of political behavior: how do group attitudes come to drive preferences on welfare spending? Results have provided strong support for the schematic approach to formation of political preferences: individuals with more stereotypical schemas (i.e., those who associate African Americans with poverty) tend to oppose spending on welfare—but not spending in other domains. Furthermore, this effect is fully mediated by another variable, endorsement of economic individualism. It suggests that values may themselves be downstream consequences of who one believes is benefiting from government policies.

This last result is particularly interesting. It questions the two leading explanations for the relationship between racial attitudes, individualism, and support for income redistribution. One posits that values like individualism are blended with anti-black attitudes to produce the new form of racism tightly linked to policy views (Kinder and Sears 1981). The alternative argument considers ideological considerations to be the strongest predictor of opposition to policies like income redistribution that is also independent from racial animus (Sniderman et al. 1991). My findings, however, suggest that adherence to the values of self-reliance may be—either consciously or unconsciously—a rationalization for opposition to welfare based on group-centric grounds. This result is consistent with the argument that individualism is a legitimizing myth designed to substantiate the existing social hierarchy (Sidanius and Pratto 1999). In other words, the invocation of self-reliance values springs from motivated social cognition born of the need to justify inequality across racial lines (Jost et al. 2003).

It is necessary to note, however, that the logic discussed above is not the only possible explanation for the relationship between race–poverty schemas, individualism, and opinions on

spending that I have found. The implicit measurement of schemas makes reverse causality unlikely by preventing on-the-fly rationalization of individualistic orientations via schemas. It is extremely difficult for respondents to fake their IAT response times in order to match previously expressed levels of individualism. However, long-term forces can still be at work. For instance, respondents high on individualism may gradually form negative beliefs about both poor people and African Americans. This might then lead to the formation of a schematic connection between these two categories in the first place. Still, the mechanism assuming the causal primacy of race–poverty schemas vis-a-vis individualism is more parsimonius and also more in line with existing literature on racial politics in the U.S. (e.g., Kinder and Sanders 1996). Moreover, even if the direction of causality is unclear, the fact that racialization of poverty may play a role in justification of individualistic values and opposition to welfare represents an important finding.

2.6 Conclusion

Over the last half century, from Converse (1964) to Kinder and Kalmoe (2017), empirical research has found that voters lack coherent ideological worldviews when constructing their issue preferences. Instead, policy opinions are consistently and powerfully influenced by group identities and attitudes. At the same time, there is no generally accepted theory about how group-related feelings get translated into political preferences. In this chapter, I have offered a synthetic approach to the conceptualization and measurement of group thinking in politics that builds on classic contributions in the discipline as well as on recent developments in measurement of implicit social cognition. Following the schematic model of public opinion formation, I have argued that the direction and strength of a group schema—a stable cognitive linkage between a social group and a political object of interest—condition the transfer of emotions about the group onto the political attitude object. In order to assess the degree of cognitive overlap between a

social group and a political object for each individual respondent, I have relied on a timed-response sorting task based on the IAT architecture.

My results strongly support the schematic model with respect to gender and partisanship in the United States. First, respondents have stereotype-consistent gender–party schemas: on average, they tend to perceive the Democratic Party as feminine and the Republican Party as masculine. Second, this schematic overlap significantly impacts partisan affect as respondents consistently feel warmer towards the party that is linked to their own gender. Third, the relationship between gender–party schema and partisan affective polarization is moderated by attitudes towards women, as predicted by the schematic model. Specifically, schemas are particularly important for the least sexist respondents, probably because highly sexist respondents tend to prefer the Republican Party for reasons other than group schemas.

I also find strong support for the racialization of poverty in the United States: Respondents who associate the poor with African Americans are more opposed to welfare—but not to other forms of spending. Moreover, this effect is not independent from the alternative explanation emphasizing the values of economic individualism and self-reliance. Instead, the impact of the race-poverty schema on spending is entirely mediated by individualism, implying that individualism might itself be a rationalization for opposing government spending among those who believe it might benefit racial others.

Altogether, my findings support the schematic model of political beliefs formation and validate the proposed measurement strategy based on the IAT technique. The method has several limitations, chiefly concerning the amount of time and cognitive effort involved with completing an IAT task. This effectively limits the number of the such tasks that can be included in a given survey. At the same time, the proposed measurement method is universal and can be applied to

almost any potential linkage between social groups and political objects—as soon as the categories of interest can be represented by visual and/or textual stimuli. Therefore, the method is not confined to a relatively narrow topic of race/ethnicity in U.S. politics and, as the discipline becomes internationalized, its applicability in comparative research on political psychology can become a very important advantage.

In Chapter III, I apply the schematic model of political cognition and the proposed measurement method based on the IAT architecture to explore the recent controversy in politics of immigration concerning the role of racial stereotypes and racial prejudice in anti-immigrant attitudes.

Chapter III

Racialized Schemas of Immigrant Origins

3.1 Introduction

A recurring topic in both scholarly and public debate about the contemporary anti-immigrant backlash in the United States and Western Europe concerns the role of racial animosity. The argument that racist sentiments underlie preferences for strict immigration policy and enforcement is commonly expressed by left-leaning political figures, activist groups, and media outlets. Existing social scientific evidence, however, is decidedly mixed. On the one hand, there is a strong correlation between public opposition to immigration and individual-level orientations responsible for racial prejudice, such as ethnocentrism (for a review, see Hainmueller and Hopkins 2014). On the other hand, survey experiments that manipulate immigrant race directly often find that it has little to no effect on immigration policy opinions or readiness to admit individual immigrants—especially when compared to other relevant characteristics, such as language proficiency, level of assimilation, and skills (Hopkins 2015; Ostfeld 2017; Valentino et al. 2019). At the same time, results of the most recent experiments question the race-neutral character of attitudes toward immigrants suggesting that racially charged stereotypes may still indirectly structure immigration policy preferences (Newman and Malhotra 2018).

In this chapter, I contribute to the ongoing debate about the role of race in immigration opinion using the schematic model of political cognition. Specifically, I propose and validate a novel approach to measuring the cognitive link between race and immigration that individuals might have based on the idea of mental schemas. My measurement strategy draws upon recent work that emphasizes the role of imagination in how people make sense of the political world (Petersen and Aaroe 2013). Like other political categories, "immigrants" are imagined by voters who think about them in more concrete social and demographic attributes (Blinder 2015). Given that humans rely on visual stimuli when collecting and storing information (Stokes and Biggs 2015), race should play an important role in schemas of immigration. However, the degree to which voters ascribe racial characteristics to immigrants have never been directly measured, so the distribution and correlates of these schemas are unknown.

Following these insights, I apply the method discussed in Chapter II to measure the mental schemas linking race and immgration. Due to measurement challenges, I focus on specific immigrant origin groups rather than "immigrants" in general. In two original survey studies carried out in the United States and Britain, I investigate how these schemas relate to outcomes of interest including anti-immigrant prejudice, policy opinions, partisan affect, and support for candidates. My results demonstrate that racialized schemas of immigrant origin groups among natives vary in content, and that this variation is relevant for immigration policy opinions and other political attitudes.

3.2 Race and Immigration: A Review

Anti-immigration attitudes are correlated with group-specific racial attitudes and ethnocentrism more generally (Burns and Gimpel 2000; Clark and Legge 1997; Kinder and Kam 2009). At the same time, recent attempts to causally isolate the effect of immigrants' race on natives' attitudes

toward immigration have returned mixed results. Several studies that manipulate the race of individual immigrants using visual stimuli have found almost no impact on support for immigration policy. For instance, when Americans are asked about support for an immigration amnesty proposal after being exposed to a video of an unauthorized immigrant speaking in favor of the policy, the immigrant's skin tone does not have an effect (Hopkins 2015). Likewise, exposure to immigrants with Afrocentric facial features does not affect support for allowing the immigrants to stay in the U.S. or attitudes toward immigration more generally (Ostfeld 2017).[7] An analogous hypothesis has been tested in 11 developed democracies and revealed no impact of immigrants' skin tone on natives' readiness to admit them (Valentino et al. 2019). In a similar vein, immigrants' country of origin—a characteristic that might serve as a cue for race—also appears much less powerful for immigration attitudes than often assumed (Hainmueller and Hopkins 2015; but see Ford and Mellon 2020).

The null experimental findings concerning the effect of immigrants' race on attitudes toward immigration are contested in the discipline. There are studies suggesting that immigration policy preferences are not completely race-neutral—even though immigrant race is not directly manipulated using visual stimuli. Cultural, not economic threat has been consistently found to be the most important predictor of anti-immigration attitudes in Europe (Sides and Citrin 2007; Sniderman, Hagendoorn, and Prior 2004). Additionally, voters in Britain, Switzerland, and other developed democracies distinguish between more and less desirable immigrant groups on the basis of their origin (Ford 2011; Hainmueller and Hangartner 2013, 2019; Konitzer et al. 2019).

[7] Ostfeld does find a small but significant effect of immigrants' facial features on one of the three dependent variables: perceived social distance.

Possibly, the best-known case of group-specific immigration preferences is the link between prejudice against Hispanics and anti-immigration attitudes in the United States. Negative attitudes toward Hispanics/Latinos strongly predict perceptions of immigration as economically and culturally harmful as well as support for restrictive immigration policies among Americans (Ayers et al. 2009; Citrin et al. 1997; Lu and Nicholson-Crotty 2010; Valentino, Brader, and Jardina 2013). Mentioning Latinos in news about the costs of immigration provokes stronger negative emotions and boosts anti-immigrant attitudes among white Americans—compared to when Europeans are featured (Brader, Valentino, and Suhay 2008). Most recently it has been suggested that the expressed preference for high-skilled immigrants may mask prejudice against Hispanics/Latinos who are stereotypically associated with low-skilled occupations in the U.S. (Espana-Najera and Vera 2020; Newman and Malhotra 2018).

White Americans, while being ready to accept members of most immigrant groups as neighbors and friends, continue to see non-white immigrants as culturally and symbolically different (Schachter 2016). A similar finding has been reported in Australia (Thai et al. 2020). Prejudice also appears to dominate white Americans' attitudes toward groups that migrate for non-economic reasons, such as Syrian refugees (Nassar 2020). Finally, negative attitudes toward immigration in the United States is associated with dehumanization of immigrants (Utych 2018), a phenomenon with well-documented ethnic and racial connotations (Haslam 2006; Kteily et al. 2015).

Overall, there is plenty of observational evidence for the connection between racial animosity and anti-immigrant sentiments. However, an extremely important source of variance in the model remains unmeasured: the degree to which natives think of immigrant origins in

racial terms. As a result, it is difficult to unambiguously attribute opposition toward specific immigrant origins specifically to racial prejudice. The origin of an immigrant might inform guesses about characteristics other than race, such as skill, language, culture, religion, and willingness to assimilate. For instance, Anglos' attitudes about Hispanics are strongly affected by concerns related to culture and language (Citrin, Reingold, and Green 1990; Newman, Hartman, and Taber 2012). Origin can even cue commitment to legal entry and abiding the law since illegal immigration is strongly linked to Latinos in the minds of white Americans (Flores and Schachter 2018).

In this chapter, I propose and validate an individual-level measure of the mental schemas linking race and specific immigrant origins. Then, in two critical tests, I use this measure to reveal whether racial prejudice is an important force in rejecting non-European immigrants. First, if racial schemas are at the root of immigration policy opinion, I should discover variance in the degree to which natives think of immigrant origins in racial terms. Second, those who think of prevalent immigrant groups as racially distinct (non-white) should express stronger prejudice toward these groups and be more negative toward immigration.

Importantly, in this chapter I do not engage with two other important questions: the degree to which race/ethnicity dominate the content of schemas about immigrants and the primacy of race/ethnicity dimension in schemas' effects on attitudes toward immigration. These questions are addressed in Chapter IV using a different measure that allows capturing multidimensional mental schemas—something that the IAT method cannot do. I also do not test an interactive model, in which the effect of racial schema on attitudes toward immigration depends on respondent's level of racial prejudice. An important reason behind this decision is the absence of a universal measure for affect toward non-whites (or dark-skinned people) validated

across immigration-receiving countries. By omitting interaction from the estimated model, I effectively make an assumption that bias against darker skin tone is common across human societies—in line with existing empirical evidence (for a review, see Dixon and Telles 2017).

3.3 Race–Immigration Schemas

The political world is too large and too distant from most voters, so to make sense of politics they must rely on "images in their heads" (Lippmann 1922). Recently, a theoretical framework has been proposed for the role of imagination in politics (Petersen and Aaroe 2013). The theory is based on the idea that individuals form mental representations—i.e., schemas—of politically relevant categories, such as welfare recipients, and come up with policy opinions based on these schemas.

This approach should be applicable to the politics of immigration since "immigrant" is an abstract category that most voters have only scant and inconsistent knowledge about (Blinder 2015; Citrin and Sides 2008). Therefore, individuals should develop simplified mental schemas of immigrants as a category focusing on its defining features. One such feature is national origin: for instance, immigrants to the U.S. in the last two decades have been predominantly represented as coming from Latin America (Branton et al. 2011; Hartman, Newman, and Bell 2014; Valentino, Brader, and Jardina 2013).

Even though immigrant origin bundles together a lot of essential traits, it is often assumed to have a commonly accepted racial meaning. Following this assumption, results showing that attitudes toward individual immigrants are affected by their origin group memberships—on top of some other relevant variables, such as skill or legal status—have been interpreted as racial prejudice. However, there are essential disagreements with regard to racial interpretations of the origin categories. For instance, the perceived position of immigrants from

Latin America in the U.S. racial order is a matter of contention within the Latino community as well as within wider society (Frank, Redstone Akresh, and Lu 2010). This contention perfectly corresponds to the core idea of the cognitive approach to public opinion formation: there exist important interpersonal differences in mental schemas of politically relevant social categories. In other words, the degree to which individuals ascribe meanings—including racial ones—to categories like immigrant origins should differ from person to person.

To understand how the racialized schemas of immigrant origin groups are stored in memory—and, respectively, how they can be measured—I build upon insights from the social cognition literature. It is well established that people tend to think of others in terms of categories, i.e. sets or classes of individuals defined by information about members' essential features or attributes (Macrae and Bodenhausen 2000). This knowledge is stored in human memory in the form of networks that connect categories and attributes as nodes with cognitive associations as edges (Moskowitz 2005).

Within this model of human memory, racialized schemas of immigrant origin groups can be seen as simple cognitive associations. An origin category (such as Hispanics/Latinos) can be linked to a racialized attribute (such as a specific phenotypic trait used for racial categorization). An association like this is characterized by both direction and intensity: one can think of a specific immigrant origin as relatively more similar or dissimilar to natives (i.e., whites/Anglos in the U.S.) and this perception can be either strong or weak. Describing racialized schemas of immigrant origin groups and exploring their political relevance, therefore, requires measuring these associations.

3.4 Measuring Racialized Schemas

The most straightforward method of measuring the schemas linking immigrant origin groups and racialized attributes is simply to ask respondents about them. However, this measurement strategy has a number of limitations. First, it is unclear whether the associations of interest exist and operate on explicit or implicit level of cognition (Lodge and Taber 2013), so that people may not be consciously aware of them. Second, even if schemas are acknowledged by respondents, explicit measures can be characterized by both random measurement error related to question ambiguity and response biases such as social desirability. These concerns are relevant here due to the abstract character of measured associations and sensitivity of race and immigration as a topic.

Among a number of popular measures developed to indirectly capture various elements of cognition, I rely on the implicit association test (IAT; Greenwald, McGhee, and Schwartz 1998). As discussed in Chapter II, the IAT is a computer-based task that requires users to rapidly classify stimuli representing two target categories (e.g., "insect" and "flower") and a bipolar attribute (e.g., pleasant vs. unpleasant feelings). Most existing applications of the IAT, including in politics of immigration (Perez 2010), have been focused on measuring implicit attitudes. However, the key measurement principle of the IAT is more general: fast pairings (low response latencies) are interpreted to mean the individual holds a stronger mental association than slow pairings (high response latencies). Therefore, the IAT architecture is a good tool for measuring cognitive associations by recording reaction times to association-consistent (fast) versus association-inconsistent (slow) pairs.[8] It can be used to measure associations between origin groups (stereotypically immigrant vs. stereotypically native) and almost any unidimensional

[8] The specific IAT procedure used is described in Study 1 design section.

attribute (including race), without regard to their affective charge. For instance, as I have demonstrated in Chapter II, the IAT architecture can be used to measure cognitive (but not necessarily affective) associations between gender and parties or race and poverty.

Another difficulty involves choosing the attributes that are both central to the racialized schemas of immigrant origin groups and can be represented in terms of the IAT stimuli. It requires operationalizing race, which remains a vaguely defined concept in the social sciences. In the most general sense, the term "race" can refer to any social grouping as soon as it is based on members' physical similarities (Barnshaw 2008). Practically speaking, race is often defined through closed sets of categories borrowed from national statistics, such as the U.S. Census, or existing surveys. However, these classifications are not exhaustive and ignore potentially important divisions within the categories as well as fluidity of racial boundaries across time and space (DaCosta 2020; Davenport 2020). For instance, darker skinned blacks and Latinos in the United States experience higher levels of discrimination across the social domains including education (Branigan et al. 2013), employment (Espino and Franz 2002), friendship (Hebl et al. 2012), job market (Hersch 2011), criminal justice (King and Johnson 2016), and healthcare (Monk 2015). Here, I employ the "bundle of sticks" definition: race is a socially and politically constructed phenomenon consisting of multiple interrelated dimensions that, nevertheless, can be disaggregated and analyzed separately (Sen and Wasow 2016).

Among several dimensions that constitute race as a social category, I specifically concentrate on light vs. dark skin tone.[9] I do so for several reasons. First, I follow the survey-experimental studies that manipulated race of potential immigrants specifically using skin tone

[9] Even though human skin color can vary on multiple dimensions, the lightness vs. darkness one is widely considered to be the most socially consequential (Dixon and Telles 2017).

(Hopkins 2015; Valentino et al. 2019). Second, skin tone serves as possibly the single most powerful criterion for racial categorization (Dunham et al. 2015; Maddox and Gray 2002). Third, unlike some other traits linked to race in the "bundle of sticks" model, like dialect or neighborhood, skin tone a is purely phenotypic trait devoid of any inherent social meaning. Finally, due to its unidimensional character, skin tone lightness vs. darkness can be easily represented in terms of the IAT stimuli.

At the same time, the IAT format makes it almost impossible to represent "immigrants" and "natives" as the target categories. There are not enough potential word stimuli that would both unambigouously signify these categories and, at the same time, be sufficiently familiar to all respondents. Using visual stimuli (such as pictures of actual immigrants and natives) cannot solve the problem because such stimuli would necessarily represent facial features and, as a result, also signal race/ethnicity—thus confounding the sorting task.

Therefore, in the empirical part of the chapter I use the method based on the IAT architecture to measure racialized schemas of two specific groups—Hispanics in the U.S. and Arab Muslims in Britain—that are (a) often seen as stereotypical immigrants in the respective countries and (b) originally defined on non-racial bases such as place of origin, language, and/or religion. Since bias against dark skin tone is well documented across modern societies (Maddox 2004; Messing, Jabon, and Plaut 2016; Terkildsen 1993), I expect that perceptions of immigrant origin groups as darker-skinned are associated with negative opinions about immigration among natives.

3.5 Study 1: United States

In Study 1, I measure racialized schemas of Hispanics/Latinos the United States. This choice is based on two considerations. First, Americans' preferences with regard to immigration are

heavily influenced by attitudes toward Latinos indicating that immigrants to the U.S. are commonly perceived as coming from Latin America (Valentino, Brader, and Jardina 2013). Second, U.S. respondents perceive the same face as darker-skinned when it is assigned with a distinctively Hispanic name vs. a non-Hispanic one—in other words, the category "Hispanic" is currently racialized even though it has been originally defined in terms of the region of origin (Garcia and Abascal 2016). My goals in Study 1 are to replicate these findings using the IAT-based measure and extend them by testing whether racialized schemas of Hispanics are associated with individual-level political attitudes, most importantly with opposition to immigration.

3.5.1 Data and Measures

I recruited the study participants using Amazon Mechanical Turk (MTurk). MTurk is a convenient and inexpensive way of obtaining high-quality survey data that also tends to be more diverse compared to common convenience samples, such as ones consisting of college students (Berinsky, Huber, and 2012). In June 2017, I carried out a web-based survey implemented on the Qualtrics platform. The analyzed sample included only respondents who answered the survey from the U.S., had unique IP addresses, and showed acceptable error rates in the IAT component (less than 30%). This left me with 446 valid cases out of 503 submitted questionnaires. The sample was highly educated, with nearly half having Bachelor's degrees or higher (49.2%). The modal age was between 25 and 34 years. Ideologically, the sample was predominantly left-wing, with 48.6% of respondents being liberal.

The survey consisted of three parts. Respondents started by answering questions about their attitudes toward Hispanics and opinions on immigration. Then, they were asked to rate their feelings toward the Democratic Party and the Republican Party as well as direction and strength

of partisan identity. After completing this block of questions, respondents were redirected to the IAT page. The IAT component of the survey was administered using Inquisit Web software.[10] After completing the IAT, respondents were automatically redirected to answer the final block of questions that included demographics and the 7-point ideology scale.

Racialized schemas of Hispanics vis-a-vis Anglos have been measured using an original modification of the IAT. It has used the standard IAT architecture that consists of seven blocks. In the first block, a respondent is asked to categorize names as either Hispanic or Anglo (English).[11] Specifically, a participant sees a screen with the words "Hispanic name" in the top left corner and the words "English name" in the top right corner. Names belonging to the two categories randomly appear in the center of the screen and a respondent is asked to quickly sort them by pressing pre-defined left- or right-hand key. In the second block, the same sorting procedure is done for the face stimuli and the "Dark-skin face" and "Light-skin face" categories. In the third block, respondents are asked to perform a combined sorting task that includes both name and face stimuli appearing in the center of the screen. This time, task screen has the words "Hispanic name or Dark-skin face" in the left corner and the words "English name or Light-skin face" in the right corner. The fourth block repeats the combined sorting task from the third block but with more twice stimuli to be sorted. The fifth block repeats the task from the first block but the positions of the target categories in the screen are reversed: "Hispanic name" appears in the top right corner and "English name" appears in the top left corner. The sixth and seventh blocks repeat tasks from blocks three and four respectively with changed pairings. Specifically, the

[10] https://www.millisecond.com/products/inquisit5/weboverview.aspx

[11] In the IAT, I use the term "English" rather than "Anglo" to make sure that it would be familiar to all participants.

words “Hispanic name or Light-skin face” appear in the top right corner and the words “English name or Dark-skin face” appear in the top left corner. Using recorded response latencies, the Inquisit Web software calculates the IAT D-scores that reflect stronger associations between Hispanic names and dark-skinned faces for positive values, and vice versa.

The survey also included an embedded survey experiment, in which respondents were asked about likelihood of supporting an unnamed Representative running for re-election in the 2018 midterms. A Representative was randomly presented as either supporting or opposing a bipartisan compromise on immigration involving funding the border wall construction and limited amnesty for immigrants who were in the country illegally. Depending on respondents’ partisanship, a Representative was described as either liberal or conservative on immigration: Democrats were asked about support for a liberal Representative whereas Republicans were asked about a conservative one.[12]

3.5.2 Results

Figure 3.1 presents the empirical distributions of implicit racialized schemas, measured via IAT D-scores, in the studied sample. Theoretically, scores can range from −2 (fastest association of Hispanic names with light-skinned faces and Anglo names with dark-skinned faces) to 2 (fastest association of Hispanic names with dark-skinned faces and Anglo names with light-skinned faces). The D-score of 0 indicates no difference in speed of associating Hispanic names with light-skinned faces and Anglo names with dark-skinned faces. The distribution is unimodal, with the mode situated close to the D-score of one indicating a moderately strong pro-stereotypical racialized schema, i.e. Hispanics being perceived as darker-skinned than Anglos. Overall, the mean is significantly different from zero ($m = 0.74$, $p < .001$). Furthermore, positive D-scores

[12] See Appendix B for survey items, experimental conditions, IAT stimuli, and sample IAT screens.

indicating faster associations of Hispanic names with dark-skinned faces and Anglo names with light-skinned faces, rather than vice versa, are observed for 96% of respondents in the sample. Differences in D-score distributions between Democrats and Republicans are relatively small. Overall, it is possible to state that the pro-stereotypical racialized schema of Hispanics is almost universally shared within the sample.[13]

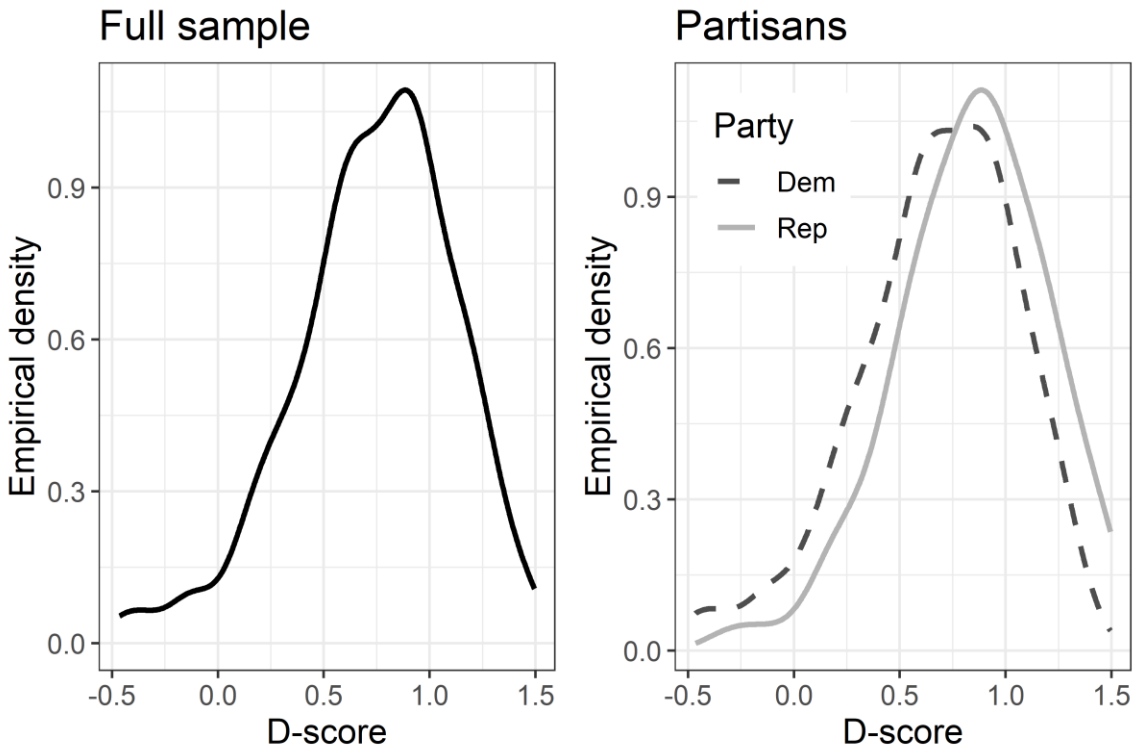


Figure 3.1 Distribution of racialized schemas about Hispanics
Measured via IAT D-scores in the full U.S. sample (left) and among self-identified Democrats and Republicans (right). Greater D-score = stronger pro-stereotypical racialized schema, i.e. faster association of Hispanic names with dark-skinned faces and Anglo names with light-skinned faces

[13] Since counter-stereotypical racialized schemas—Hispanics being perceived as lighter-skinned than Anglos—are effectively absent in the studied sample, I use the term "racialized schemas" throughout the chapter only referring to the pro-stereotypical ones.

With an individual-level measure of racialized schemas, it is possible to investigate their attitudinal and ideological correlates. Results are presented in Figure 3.2. The racialization of Hispanics is positively and significantly associated with anti-Hispanic attitudes and opposition to immigration. It also shows a significant relationship to the 7-point partisanship measure: respondents who see Hispanics as non-white are more likely to identify as Republicans. In terms of partisan affect, having racialized schemas of Hispanics is strongly and negatively related to the Democratic feeling thermometer but unrelated to the Republican feeling thermometer. No significant association with symbolic ideology is found: self-identified liberals and conservatives hold racialized schemas of Hispanics to approximately the same degree.

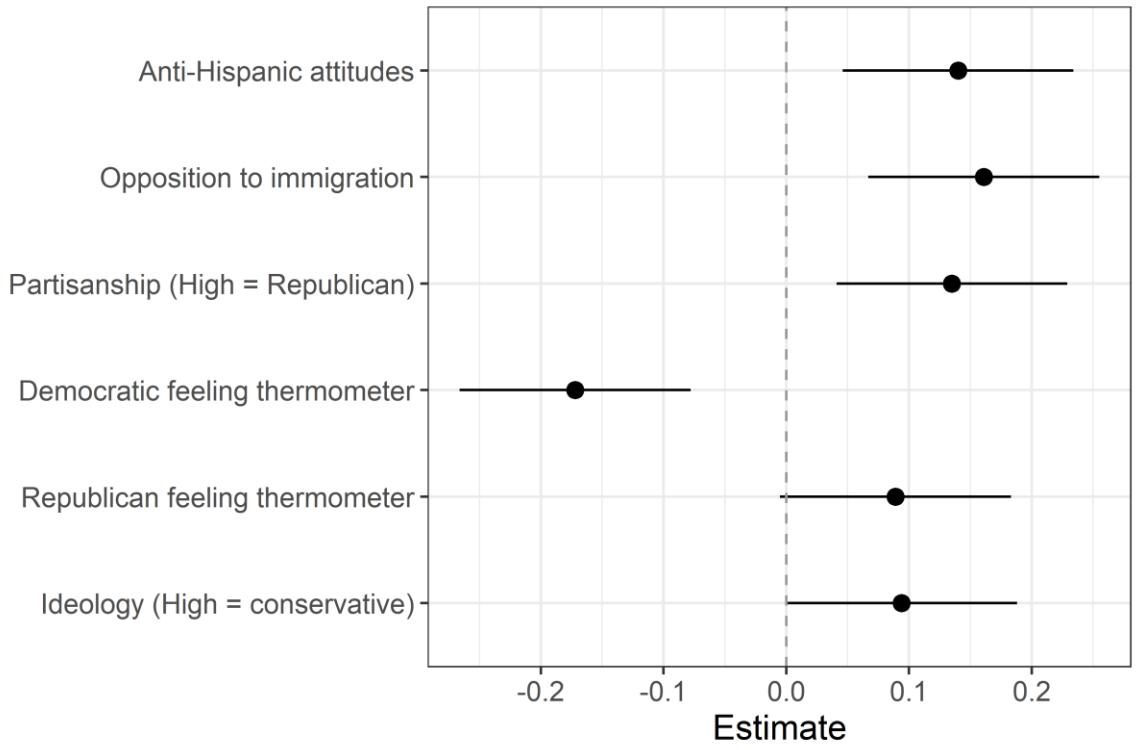


Figure 3.2 Covariates of racialized schemas about Hispanics
Standardized bivariate OLS regression coefficients with corresponding 95% confidence intervals

Finally, I investigate the political consequences of implicit racialized schemas of Hispanics using an embedded survey-experiment on support for a Representative depending on

the candidate's readiness to compromise on immigration. Results are presented in Figure 3.3. On average, partisans express significant preference for a non-compromising Representative vs. a compromising one. This preference seems to be stronger among Republicans but the difference is not statistically significant. To investigate potential heterogeneity of these effects, I split the two partisan groups by schemas of Hispanics that respondents have: those with D-scores below the modal value (weak racialized schemas) and above the modal value (strong racialized schemas). Among Democrats, there is an interesting difference between respondents along this dimension: the treatment effect is positive and significant for those with weak racialized schemas but effectively zero (and insignificant) for those with strong racialized schemas. In other words, Democrats who think about Hispanics in racial terms are indifferent with respect to the immigration compromise whereas those who do not strive for an unconditional amnesty. The number of Republicans in the sample is too small to detect significant effects when they are split by strength of racialized schemas. Effects' magnitudes in two Republican sub-groups, however, are rather close.

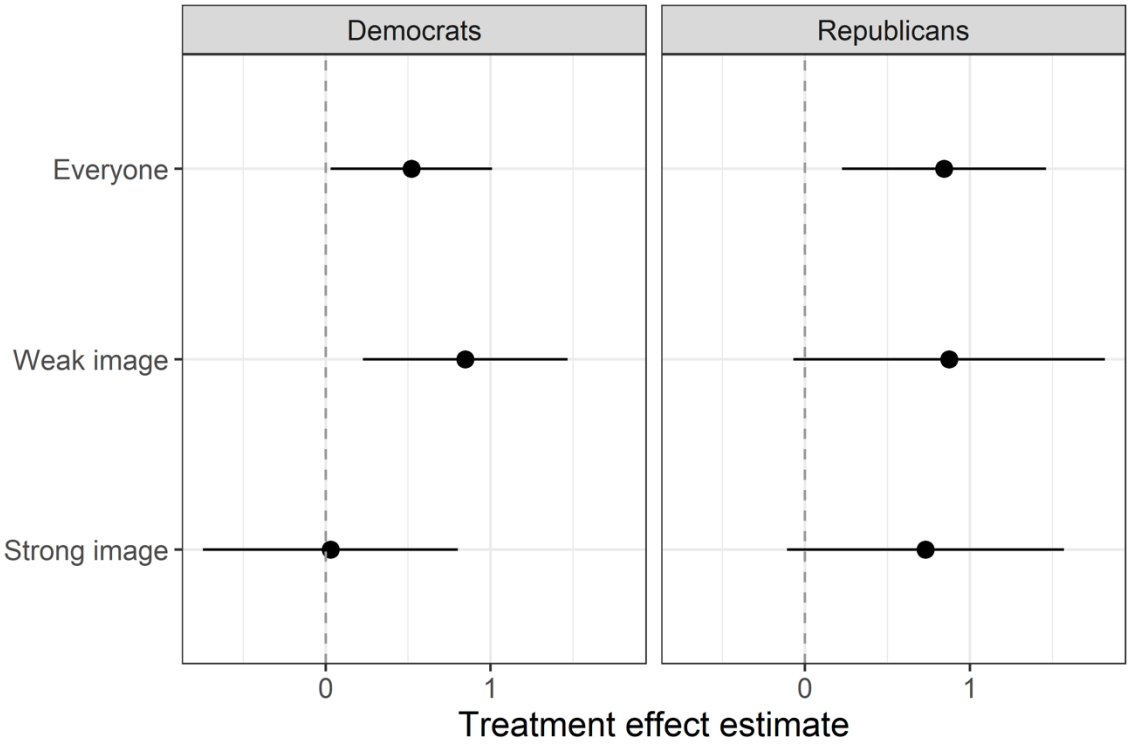


Figure 3.3 U.S. Representative experiment results by party and schema strength
Differences in support for a non-compromising vs. a compromising Representative by partisanship and strength of racialized schemas of Hispanics

3.5.3 Discussion

The goal of Study 1 has been to measure implicit racialized schemas of a stereotypically immigrant group and investigate their political relevance using Hispanics/Latinos in the U.S. as an example. Results of the analysis strongly indicate that respondents hold the assumed cognitive associations and that they are related to the political outcomes of interest in the expected direction. Respondents tend to have pro-stereotypical racialized schemas: on average, they associate Hispanic names with dark-skinned faces and Anglo names with light-skinned faces. Individual differences in these schemas are correlated with anti-Hispanic attitudes, opposition to immigration, and partisanship. In an embedded survey experiment, partisans prefer to elect Representatives committed to the party agenda—amnesty for Democrats and border wall for Republicans—but this is not the case for Democrats who think about Hispanics in racial terms.

Altogether, results of Study 1 confirm that Americans' perceptions of Hispanics as racially distinct from Anglos have important implications for group attitudes, opinions on immigration, and partisan loyalty. However, Study 1 measures implicit racialized schemas but not explicit ones, and concentrates on a single country. Given the historical importance of race for American politics and public opinion (Cramer 2020; Hutchings and Valentino 2004), as well as institutionalization of racial categories in the United States, it is unclear how well these findings can be generalized to other immigrant-receiving societies. I address these limitations in Study 2.

3.6 Study 2: Britain

In Study 2, I measure racialized schemas of Arab Muslims in Britain.[14] Choice of the stereotypically immigrant group, again, followed results reported in existing studies. Anti-immigration attitudes and immigrant discrimination in Europe are well known to be largely driven by perceived threat associated specifically with Islam and Muslims (Abdelgadir and Fouka 2020; Adida, Laitin, and Valfort 2016; Helbling and Traunmueller 2018; Simonsen and Bonikowski 2020). Also, Muslims, despite being a social group defined by religion, seem to be racialized: for instance, there is a strong overlap in representation of categories "Muslim" and "non-white" in British print media (Amer and Howarth 2018). The goals of Study 2, therefore, are to replicate results of Study 1 in a different political context and also extend them by adding an explicit measure of racialized schemas.

3.6.1 Data and Measures

The study participants were recruited using Prolific, a crowdsourcing platform similar to MTurk but oriented at academic researchers and over-representing West Europeans as potential respondents. According to a recent comparison, Prolific participants are also less experienced

[14] The sampling frame did not include Northern Ireland.

survey takers than ones on MTurk platform (Peer et al. 2017). In December 2017, I carried out a web-based survey designed and implemented on the Qualtrics platform. Pre-screening allowed by Prolific was used so that only British nationals born in the UK whose first language was English could participate in the study. As in Study 1, only respondents who answered the survey from Britain, had unique IP addresses, and showed acceptable error rates in the IAT component are kept in the sample. In total, 571 cases were included in the analysis. The analyzed sample, similar to the U.S. one, was highly educated, with nearly half having Bachelor's degrees or higher (49.7%). The mean age was approximately 38 years. Ideologically, the sample was again predominantly left-wing, with 53.4% of respondents identifying as left-to-center.

The survey included questions on attitudes toward Islam and Muslims, opinions on immigration, feelings toward the four national parties in the UK, the 11-point left–right ideology scale, the IAT task, and standard demographic questions. Attitudes to Islam and Muslims were measured using a shortened version of the Islamophobia scale (Imhoff and Recker 2012). Respondents were asked about their feelings toward the following parties: the Labour Party, the Conservative Party, the Liberal Democrats (Lib Dems), and the UK Independence Party (UKIP). The IAT component of the survey was administered using the survey-based IAT tool (Carpenter et al. 2019). It allowed running the IAT directly on Qualtrics using JavaScript, so completing the survey did not require any redirections between platforms. The IAT target categories were represented by Arab Muslim vs. Anglo Christian sounding names.[15] Apart from the changes in group categories and the corresponding name stimuli, the overall IAT procedure and the stimuli for race/skin tone were identical to Study 1.

[15] To decrease respondents' cognitive load, the categories are designated as simply "Muslim" and "Christian" within the IAT task.

Study 2 has also included an explicit measure of racialized schemas. As discussed in Chapter II, the implicit measurement approach is informed by the assumption that individuals may be unable or unwilling to report group schemas of political categories they have—which should be especially true for schemas related to race and immigration. However, social desirability barriers preventing respondents in developed democracies from admitting that they think of immigrants as non-white may be fading. In the United States, political messaging openly hostile to racial and ethnic minorities is no longer uniformly rejected by the public (Valentino, Neuner, and Vandenbroek 2018). In Western Europe, apparent "Trump effect" made voters more likely to openly express racial and ethnic bias in opinion surveys (Giani and Meon 2019). The goal, therefore, has been to compare performance of implicit and explicit measures of schemas using a relatively extreme example: perceptions of Arab Muslims as darker skinned.

To assess schemas explicitly, respondents were asked to estimate complexion of immigrants from two regions: Middle East and Eastern Europe. As the response scale, I used the 6-point numerical classification for human skin tone based on sensitivity to ultraviolet light (Fitzpatrick 1988). The scale contained verbal descriptions of the six categories: since colors could be presented differently on respondents' computer screens, having text anchors should have increased measurement reliability. These questions were asked immediately after the IAT.[16]

3.6.2 Results

Figure 3.4 presents empirical distributions of the racialized schemas of Arab Muslims in the British sample. The left panel displays estimated density of implicit schemas measured as IAT D-scores. Just as in the case of Hispanics in the U.S., the distribution is unimodal, with the mode situated close to the D-score of 1 that indicates a moderately strong pro-stereotypical racialized

[16] See Appendix B for survey items, Fitzpatrick skin color scale, IAT stimuli, and sample IAT screens.

schema, i.e. Muslims are perceived as darker-skinned than Christians. Mean is significantly different from zero ($m = 0.90$, $p < .001$). Furthermore, more than 99% of respondents in the sample have positive D-scores indicating faster associations of Muslim names with dark-skinned faces and Christian names with light-skinned faces.

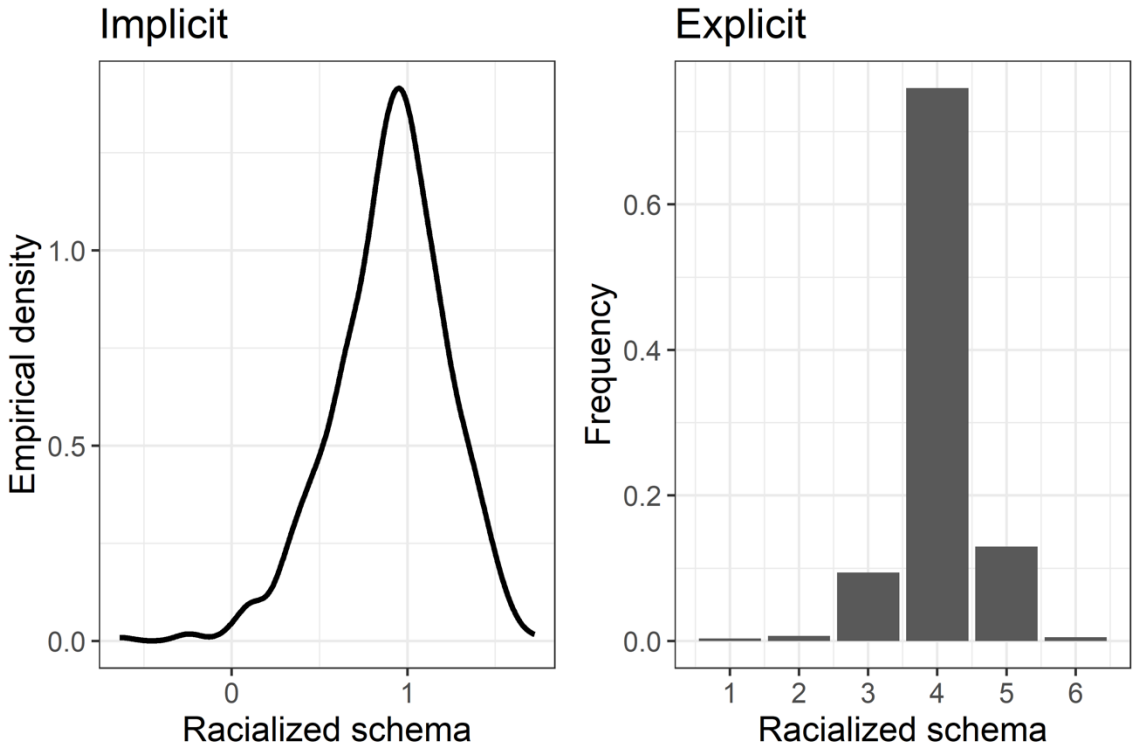


Figure 3.4 Distribution of racialized schemas about Arab Muslims

The right panel of Figure 3.4 presents histogram of explicit racialized schemas of "people from the Middle East" corresponding to the six values of the Fitzpatrick skin tone scale. The distribution is concentrated at the value of four (mid brown skin). Approximately 76% of respondents choose this answer option. Non-trivial shares of respondents also select values three (medium white skin) and five (dark brown skin). Other response categories are almost empty. The estimated mean is extremely close to the mode of four ($m = 4.02$, $p < .001$). Altogether,

respondents exhibit a relatively large degree of consensus on the explicit measure of racialized schemas although non-trivial variance in responses is observed as well.

Figure 3.5 presents estimated relationships between the two measures of racialized schemas of Arab Muslims and the political covariates. Both implicit and explicit racialized schemas are significantly related to the key outcomes of interest: group-specific prejudice (Islamophobia) and anti-immigration attitudes. Implicit racialized schemas are also significantly related to positive affect toward UKIP, the major radical right and anti-immigrant party in Britain, and self-reported right-wing ideology. Neither of the two measures is significantly associated with feelings towards the three mainstream parties: Labour, Conservative, or Lib Dems.

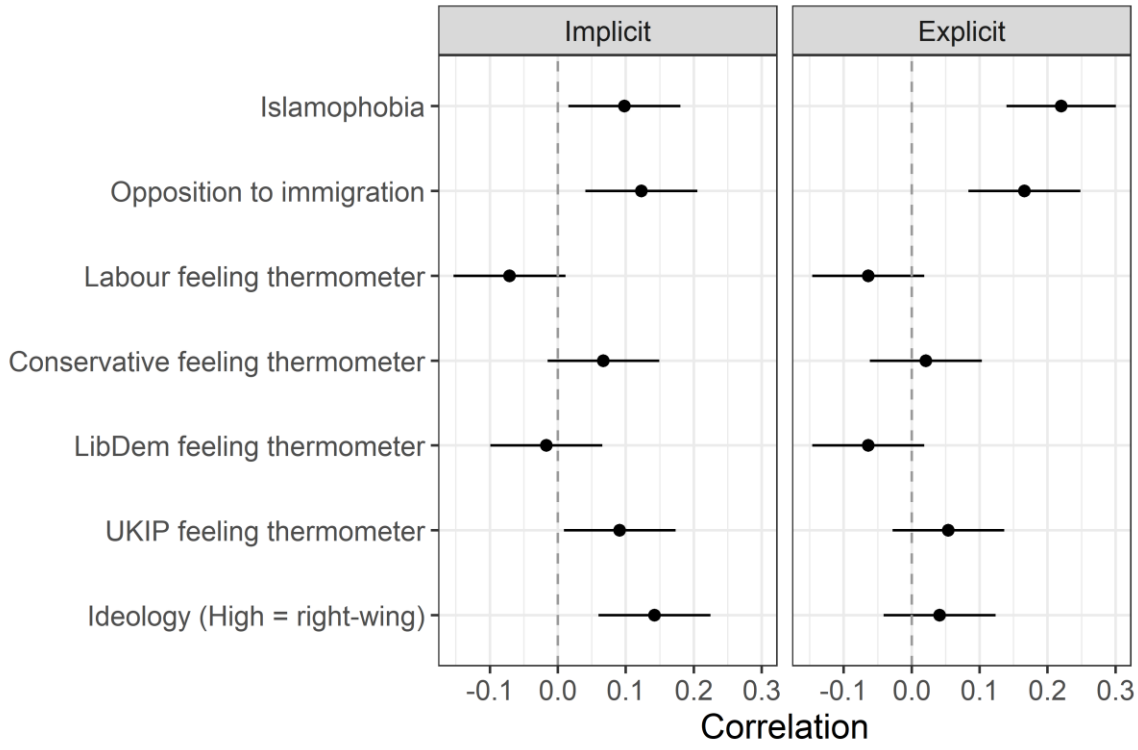


Figure 3.5 Covariates of racialized schemas about Arab Muslims
Standardized bivariate OLS regression coefficients with corresponding 95% confidence intervals

Since the distribution of explicit racialized schemas is heavily concentrated at the three central values, I conduct a robustness check in order to ensure that the estimated relationships are not driven by a handful of observations at the remaining extreme values. Specifically, I trichotomize the variable by collapsing all respondents into three categories: lower than the mode, modal answer, and greater than the mode. Then, I compare those who choose the modal value, four, to the other two categories in terms of opposition to immigration using three different methods: simple mean comparison, linear regression with controls, and propensity score matching.[17] I use the matching technique here without making any causality assumptions—I just employ it as an easily implemented non-parametric comparison method. Estimates are presented in Figure 3.6. Independently of the comparison method, the relationship between racialized schemas and opposition to immigration is driven exclusively by those perceive people from the Middle East as darker-skinned. Associating Middle Easterners with lighter skin tones than the modal response has no effect. Estimated difference in anti-immigrant attitudes between the modal value and those with pro-stereotypical racialized schemas is substantively large: more than one on the 10-point scale for all comparison methods.

[17] The overlap assumption was satisfied, i.e. any respondent had a positive probability to be in each of the conditions. See Appendix B for overlap plots.

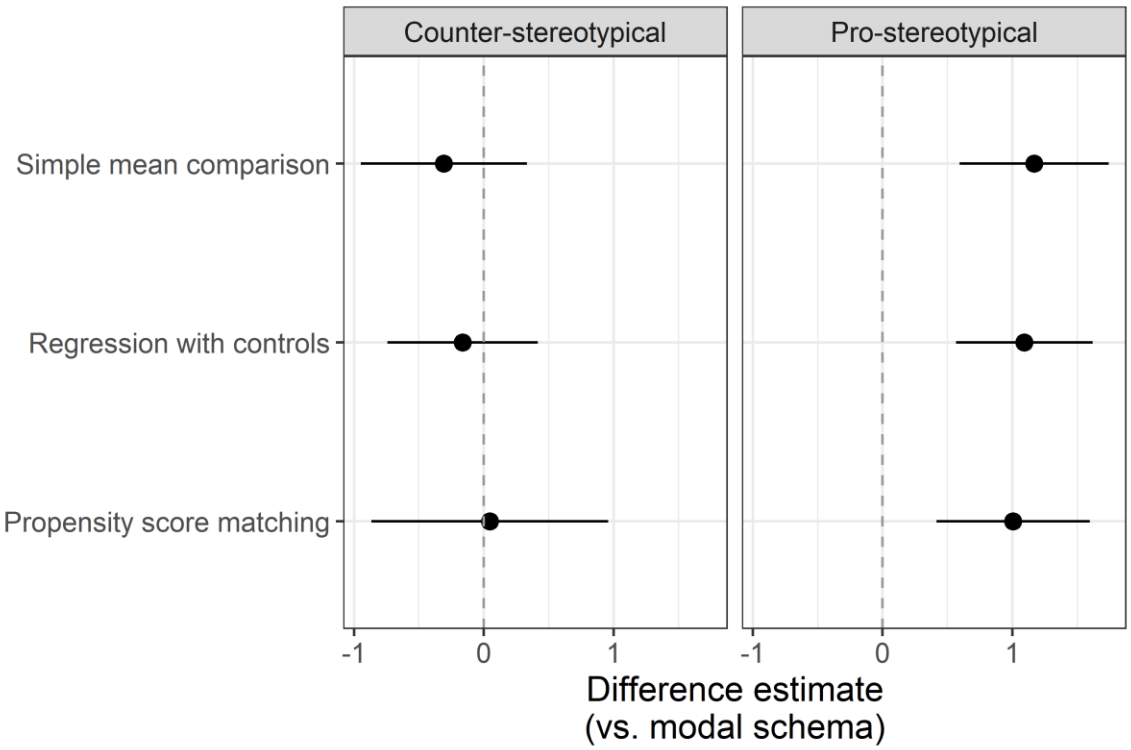


Figure 3.6 Explicit racialized schemas about Arab Muslims and anti-immigration attitudes
Estimated differences vs. the modal racialized schema with 95% confidence intervals

Finally, I run a variant of a placebo test to understand whether racialized schemas and their effects are group-specific. If the proposed model is correct, respondents should hold cognitive associations linking different attributes of Arab Muslims as a group: region of origin (Middle East), religion (Islam), and race (darker skin compared to white British). Racialized schemas of other groups seen as stereotypical immigrants in Britain, such as East Europeans, should be irrelevant for this particular associative network. To see whether these theoretical assumptions realize in the data, I estimate a regression model predicting Islamophobia with racialized schemas of both Middle Easterners and East Europeans controlling for left–right ideology, age, gender, and education.[18] Results are presented in Figure 3.7. The racialization of

[18] See Appendix B for the distribution of explicit racialized schemas of East Europeans.

people from the Middle East strongly and significantly predicts Islamophobia whereas racialization of East Europeans does not. In other words, associative networks are indeed group-specific and racialized schemas are related only to relevant out-group prejudice.

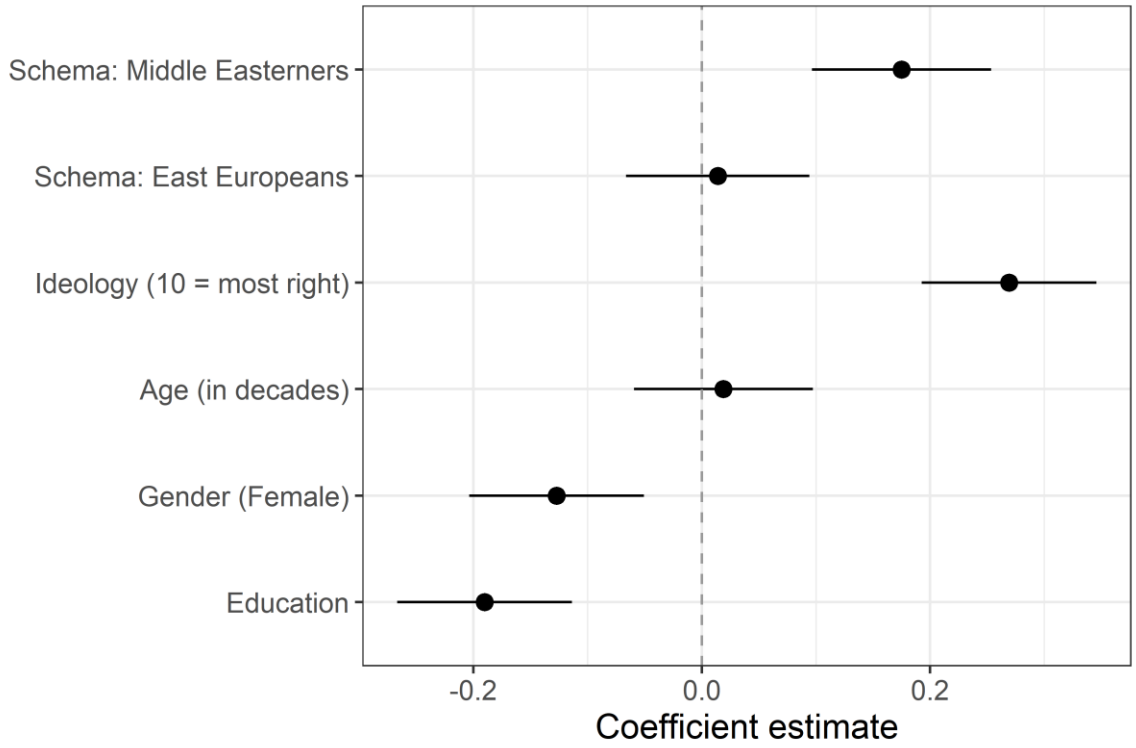


Figure 3.7 Islamophobia and racialized schemas about Middle Easterners and East Europeans
Standardized OLS regression coefficients with 95% confidence intervals

It is also important to note that the effect of explicit racialized schema of Arab Muslims on Islamophobia is relatively large in terms of magnitude. It is almost as strong as the effects of political ideology and education and remains statistically significant even after controlling for these variables. In other words, hostility toward Muslims among British respondents is clearly build on racial animosity toward people from the Middle East—even when expressed in seemingly race-neutral terms (for a similar argument about anti-Muslim prejudice in the United States, see Lajevardi and Oskooii 2018).

3.6.3 Discussion

Study 2 has replicated the results of Study 1 using a different country (Britain) and a different stereotypically immigrant group (Arab Muslims). It has strongly confirmed the basic findings: respondents think about stereotypically immigrant groups in racial terms and this pattern of thinking is related to opinions on immigration in general and other political attitudes. Respondents who think of Muslims and people from the Middle East as dark-skinned are more Islamophobic, perceive immigration to be more harmful, and self-identify as more ideologically right-wing. Results have also confirmed the group-specific character of cognitive associations: racialization of people from the Middle East is related to Islamophobia, whereas racialization of a different stereotypically immigrant group in Britain, East Europeans, is not.

Importantly, the relationships between racialized schemas on the one hand and social and political attitudes on the other hand are present independently of whether implicit or explicit measures of racialized schemas are concerned. This might indicate that standard survey questions might be used to measure schemas, even in such a sensitive area as race and immigration. This result is in contrast to the one reported in Chapter II where the implicit measure of gender–party schemas worked much better than the explicit one. The origins of this discrepancy are unclear. But note that the question about explicit racialized schemas was asked in the survey immediately after the IAT. This might have made schemas more accessible to respondents. It is also possible that, in line with recent results on explicit measures of racial attitudes (Axt 2018), social desirability concerns with respect to explicit measures of schemas have been exaggerated.

3.7 Conclusion

Recent experimental studies on public attitudes toward immigration have provoked a debate in the discipline about the causal effect of immigrants' race on support for immigration openness among natives. Contrary to the well-known powerful observational relationship between opposition to immigration and ethnocentrism, experimental manipulations of racial cues rarely seem to matter much. In this chapter, I help explain these distinct findings. The key problem is that the experiments average effects across individuals with a wide range of racialized schemas about immigrants. By developing a new method to measure racialized schemas of immigrant origin groups at the individual level, I show that these schemas are profoundly important for understanding who will support ant who will oppose open immigration policies. Building upon theoretical and methodological insights presented in Chapter II, I define these schemas as simple mental associations between categories (origin groups) and attributes (racialized traits, such as skin tone). Then, I design an instrument to measure the direction and strength of these linkages using an innovative modification of the implicit association test (IAT) architecture. Using this method, I measure the racialized schemas of the stereotypically immigrant groups in the U.S. and Britain, and estimate the relationships between these schemas and opinions on immigration.

Evidence from Studies 1 and 2 confirms that members of the public in the U.S. and Britain hold racialized schemas of the stereotypically immigrant groups in the two countries: Hispanics and Arab Muslims respectively. Moreover, I demonstrate that individual differences in racialized schemas of these immigrant groups are significantly related to group-specific prejudice, opposition to immigration, and support for right-wing political parties. Finally, in agreement with the proposed associative model, the consequences of these schemas are group-specific rather than general.

The results presented in this chapter have some limitations. First, despite using experimental and quasi-experimental techniques in my analysis, I do not directly engage with the question whether racialized schemas of immigrant origin groups are causally prior with respect to attitudes toward immigration. Similar to many other psychological variables, such as personality traits, mental representations of social categories cannot be randomly assigned or easily manipulated in the short term. Second, my empirical studies focus specifically on cognitive associations between immigrant origin groups and race—due to prominence of this topic in the current scholarly debate. Nevertheless, the proposed measurement method based on the IAT architecture can be used to investigate other potentially relevant dimensions of schemas about immigration among the public. Possibility to explore different dimensions of schemas is necessary to answer important questions in existing literature on politics of immigration: Is race a more important component in mental representation of immigrants than, for instance, skills? Are racial schemas about immigrants more consequential for opinions about immigration than other dimensions, including immigrants' skills or occupations? Third, it might be of interest to investigate the role of traits used for racial categorizations other than skin tone, such as physiognomy, in how stereotypically immigrant groups are imagined by natives. In doing so, however, researchers should consider an important limitation of the IAT as a measurement instrument: the task is relatively long and cognitively demanding, making it impractical to include more than one into any single survey.

Despite these limitations, the results bear on one of most important political questions of our time: when are democratic publics be willing to accept mass migration and integration of immigrants into the receiving societies. Recent experimental findings tend to be normatively positive by demonstrating that natives' attitudes toward immigration is only weakly, if at all,

affected by immigrants' race. By applying a direct individual-level measure for racialized schemas of stereotypically immigrant groups and estimating their relationships to anti-immigration attitudes, my study allows to explain why survey-experimental studies fail to detect the racial component in popular images of immigration. First, schemas are formed with respect to immigrant origin groups, not with respect to individual immigrants that are usually described in survey-experimental treatments. Second, categorical thinking is most cognitively powerful under the condition of incomplete information whereas common survey experiments provide an extensive list of immigrants' attributes leaving little to no space for respondents' guesses. In other words, race can still play an important role in the schemas of immigration held by the public but survey-experimental treatments used so far are unable to evoke those schemas. If anything, experiments might suppress the operation of the relevant schemas by focusing on individual immigrants and by providing enough information in treatments so that application of schematic information processing becomes unnecessary.

Overall, in this chapter I document variation in the racialized schemas of Hispanics in the U.S. and Arab Muslims in Britain as well as relationships between these schemas and a host of essential political outcomes. My results confirm presence of an important racial component in public attitudes toward immigration. I also demonstrate that this phenomenon is not confined to the U.S. and can be found in other developed democracies that experience political conflict around the immigration issue.

In Chapter IV, I address some of the limitations of the IAT-based measurement method by proposing and validating a measure of multidimensional schemas based on the conjoint design. I use this measure to measure other schemas about immigration, beyond race, and to jointly explore their political consequences. I also implement a priming experiment that aims to

isolate the direction of causality between schemas about immigrants and attitudes toward immigration. The IAT method for measuring schemas implemented in this chapter, despite addressing some concerns related to social desirability and rationalization, cannot really establish it. Fortunately, even though schemas cannot be manipulated, they can be made salient via priming. I take advantage of it by randomly assigning respondents to answer either immigration schema (schemas primed) or immigration attitudes (attitudes primed) questions first. This allows me to understand whether priming schemas changes attitudes (causal direction from schemas to attitudes) or vice versa.

Chapter IV

Using a Conjoint Experiment to Measure Immigration Schemas

4.1 Introduction

The IAT design, used in Chapters II and III, has a number of essential advantages as a measurement instrument for mental schemas. It can be applied to measure strength and direction of cognitive associations between almost any pair of political objects on the one hand and a bipolar attribute on the other hand as soon as they can be represented using word or picture stimuli. Implicit nature of the task allows capturing even schemas that may not be consciously acknowledged by respondents and eases essential concerns related to rationalization and social desirability. However, it also has major limitations. An IAT task can measure only one schema dimension at a time, such as the association between gender (female vs. male) and parties (Democratic vs. Republican). It is also lengthy and cognitively demanding so that inclusion of more than one task in a survey is not feasible.

It means that the IAT method can be used to measure only one schema dimension in any single survey study. However, schemas are by definition multidimensional. Consider "immigrants" as the target category. They can be associated with race/ethnicity, high vs. low skills, self-sufficiency vs. welfare dependency, law-abidingness vs. criminality, and so on. Without measuring different dimensions of these schemas, it is not possible to understand what

attributes dominate the content of natives' beliefs about immigrants and what are central for the effect of schemas on attitudes toward immigration. And these are the questions that, as discussed in Chapter I, inform one of the largest debates in modern literature on politics of immigration.

In this chapter, I address this limitation by proposing and validating an alternative measure of schemas based on the conjoint design. Conjoint experiments, a variant of survey-experimental design that allows one to estimate the relative importance of several factors in respondents' decisions (Hainmueller, Hopkins, and Yamamoto 2014), are increasingly popular in political research. In a standard conjoint experiment, respondents are asked to make choices from a set of options described using multiple attributes with randomized values. Each respondent is usually asked to make several choices with values of attributes for options in the set being independently randomized each time. On the basis of respondents' choices, scholars can make inferences about the importance of different attributes in the decisions of interest. Conjoint experiments also allow us to identify specific attribute values that make options most or least likely to be chosen.

Several studies on various methodological aspects of conjoint experiments have been carried out in recent years. A comparison between the results of a conjoint experiment and real-life choices made by voters has revealed a very close correspondence (Hainmueller, Hangartner, and Yamamoto 2015). More recently, conjoint experiments have been further validated using eye-tracking data: attributes found to be most important for respondents' decisions according to estimated conjoint effects are also the ones that respondents are fixating eyes on when completing the task (Jenke et al. 2020). Researchers have also investigated some aspects of the conjoint design, such as the numbers of choice tasks and attributes that can be included in an experiment before survey satisficing becomes an issue (Bansak et al. 2018, 2019). Finally,

recommendations for comparisons of conjoint-estimated preferences across groups of respondents have been made (Leeper, Hobolt, and Tilley 2020).

Most recently, researchers have started using the rich opportunities that conjoint analysis offers to study respondents' beliefs about the social and political world (Flores and Schachter 2018; Goggin, Henderson, and Theodoridis 2019), i.e. mental schemas. In such applications, respondents are asked not to choose preferred options but rather to classify profiles as belonging to certain social or political groups. Estimated average marginal component effects (AMCEs) effectively represent measures of the corresponding schemas' direction and strength. These measures incorporate the key advantages of the conjoint design: the ability to disentangle different dimensions of schemas and reduced concerns about social desirability.

Since respondents in a conjoint experiment make multiple decisions, it is possible to obtain effects' estimates at the individual level. In this chapter, I suggest several modifications to the standard conjoint design that allow for the practical estimation of individual marginal component effects (IMCEs). The method that I put forward does not involve any statistical assumptions other than those required for the standard conjoint experiment. I also propose ways for dealing with uncertainty in the IMCEs when they are used as covariates in inferential analyses.

I apply the proposed method in two original survey studies to measure schemas about immigrants in the United States and Britain and investigate the political consequences of schemas. I show that, even when uncertainty is accounted for, schemas about immigrants exhibit strong and significant associations with attitudes toward immigration. I also demonstrate that schemas about immigrants' race/ethnicity dominates the content of schemas and is central for schemas' effect on attitudes.

4.2 Obtaining Individual Estimates

4.2.1 Formal Set-Up

Data that researchers obtain from conjoint experiments can be formally described in the following way. There is a sample of individuals (respondents) indexed $i = 1, \dots, I$. Each individual rates a pre-defined number of profiles indexed $j = 1, \dots, J$. Let $\mathbf{y} = (y_{11}, \dots, y_{IJ})$ be the vector of length $I \times J$ containing ratings given by individuals to presented profiles. Profiles are described in terms of attributes indexed $l = 1, \dots, L$. Let $\mathbf{x}_l = (x_{l11}, \dots, x_{lIJ})$ be the vector of length $I \times J$ containing values of attribute *l* from profiles presented to individuals. For simplicity and without loss of generality, assume that attribute *l* has only two possible values: $x_{ijl} \in \{0,1\}$.

As soon as the assumptions hold regarding (1) stability and no carryover effects, (2) no profile-order effects, and (3) completely independent randomization of the profiles, average marginal component effect (AMCE) for attribute *l*, defined as the marginal effect of the attribute averaged over the joint distribution of the remaining attributes, can be estimated using a simple regression model of the following form (for proofs and derivations, see Hainmueller, Hopkins, and Yamamoto 2014):

$$\mathbf{y} = \alpha_l + \beta_l \mathbf{x}_l + \boldsymbol{\varepsilon}_l, \tag{1}$$

where α_l and β_l are regression parameters to be estimated and $\boldsymbol{\varepsilon}_l$ is the vector of errors. Define a matrix containing a vector of ones and a vector of attribute *l* values:

$$\mathbf{X}_l = \left[\mathbf{1}_{I \times J}, \mathbf{x}_l\right], \tag{2}$$

where $\mathbf{1}_{I \times J}$ is an all-ones vector of length $I \times J$. Then, AMCE of attribute *l*, denoted π_l, can be estimated as:

$$(\hat{\alpha}_l, \hat{\beta}_l) = (\mathbf{X}_l^{\mathrm{T}}\mathbf{X}_l)^{-1}\mathbf{X}_l^{\mathrm{T}}\mathbf{y}, \tag{3}$$

$$\hat{\pi}_l = \hat{\beta}_l. \tag{4}$$

AMCE as a causal quantity is related to the concept of the average treatment effect (ATE): the difference in mean outcomes between units in treatment and control groups. Experimental researchers have to rely on averaging due to what is known as the fundamental problem of causal inference: The unit treatment effect (UTE) almost never can be recovered (Holland 1986). However, since respondents in a conjoint experiment rate multiple profiles with randomized attribute values, it is technically possible to obtain estimates of treatment effects for individual respondents. These quantities are of little interest when the goal is describing the prevalence of a schema in the general population. Nevertheless, individual-level estimates of schemas obtained from conjoint experiments can be used in further analyses. Such analyses can explore how specific dimensions of schematic associations expressed in conjoint tasks vary within the population and relate to broader political attitudes and behaviors.

These quantities can be operationalized and estimated from conjoint experiments using what I call the individual marginal component effect (IMCE). It relates to the AMCE the same way UTE relates to ATE: IMCE attempts to recover the effect of interest for each unit of analysis (i.e., the individual survey respondent) instead of relying on averages. The word "individual" in effect designation, therefore, refers to individual respondent (unit), not to individual profile, attribute, or value.

If the assumptions necessary to estimate AMCEs using simple regression hold, IMCEs can be estimated by running models similar in form to Equation 1 independently for each individual respondent. Let $\mathbf{y}_i = (y_1, \ldots, y_J)$ be the vector of length *J* containing ratings given by individual *i* to presented profiles. Let $\mathbf{x}_{il} = (x_{l1}, \ldots, x_{lJ})$ be the vector of length *J* containing

values of attribute *l* from profiles presented to individual *i*. Then individual-specific regressions take the form of:

$$\mathbf{y}_i = \alpha_l + \beta_l \mathbf{x}_l + \boldsymbol{\varepsilon}_l, \tag{5}$$

where α_{li} and β_{il} are individual-specific regression parameters to be estimated and $\boldsymbol{\varepsilon}_{il}$ is the vector of individual-specific errors. Define:

$$\mathbf{X}_{il} = \left[\mathbf{1}_J, \mathbf{x}_{il}\right], \tag{6}$$

where $\mathbf{1}_J$ is an all-ones vector of length *J*. Then, IMCE of attribute *l* for individual *i*, denoted π_{il}, can be estimated as:

$$\left(\hat{\alpha}_{il}, \hat{\beta}_{il}\right) = \left(\mathbf{X}_{il}^{\mathrm{T}} \mathbf{X}_{il}\right)^{-1} \mathbf{X}_{il}^{\mathrm{T}} \mathbf{y}_{\boldsymbol{i}}, \tag{7}$$

$$\hat{\pi}_{il} = \hat{\beta}_{il}. \tag{8}$$

4.2.2 Design Requirements

As shown in the previous section, it is technically possible to obtain IMCE estimates without making any additional assumptions compared to those necessary to estimate AMCEs. Estimation of IMCEs simply requires running regression models independently for each respondent and obtaining corresponding individual-level sets of estimates.

However, there are potential difficulties with practical estimation of IMCEs that might require certain adjustments to the standard conjoint design. First, estimation of AMCEs relies on relatively large samples with effective numbers of observations equal to the number of respondents, times the number of rated profiles. Estimation of IMCEs, in turn, has to rely on samples as small as the number of rated profiles per respondent that usually does not exceed two dozen. Low numbers of observations per individual mean that the IMCE estimator must have good small-sample properties. One such estimator is ordinary least squares (OLS): it is unbiased in small samples given that the exogeneity assumption holds. Since all attribute values in a

conjoint experiment are completely randomized, the exogeneity assumption holds by design and OLS estimates of IMCEs are indeed unbiased. However, the OLS estimator is known to work most efficiently with interval dependent variables. Therefore, conjoint experiments aimed at estimating IMCEs should rely on respondents' numerical ratings of profiles rather than on discrete choice responses.

Second, there is a limitation with respect to the number of potential attribute values that can be used in a conjoint experiment aimed at estimating IMCEs. Since attribute values are randomized, there is always a chance that an individual respondent is never presented with a profile containing a specific attribute value. In this case, IMCE cannot be estimated. To minimize such occurrences, the number of potential values for each single attribute in conjoint experiments aimed at estimating IMCEs should be as low as possible. Even with minimal numbers of attribute values, respondents with no variance will appear in the analysis anyway—but such cases will be rare and completely at random.

The third practical aspect of running conjoint experiments when IMCEs are of interest concerns the number of profiles that respondents are asked to rate. Increasing this number decreases the probability of cases when an individual respondent is never presented with a specific attribute value. Additionally, greater numbers of rated profiles improve reliability of estimated IMCEs. At the same time, there are limits to the number of rated profiles related to both survey costs and potential negative consequences for response quality. Surveys, especially ones that employ probability samples, are expensive—and the costs are usually proportional to the number of questions or survey length in time. In addition, when respondents are answering surveys that are too long, they start to employ strategies decreasing the amount of necessary effort. Possibly, the best-known of such strategies is satisficing whereby respondents choose the

first acceptable option from the available set of answers rather than the one that represents their views or beliefs best (Krosnick, Nuruyan, and Smith 1996; Vannette and Krosnick 2014). Therefore, the number of rated profiles should be maximized—but within the boundary such that survey costst are not prohibitive and satisficing does not become a problem. According to existing methodological research, this number is approximately 30 profiles per respondent (Bansak et al. 2018).

4.2.3 Accounting for Uncertainty

If the conjoint experiment is designed so that IMCEs can be feasibly estimated, such estimates are unbiased under complete randomization—but they are also uncertain. Since IMCE estimation relies on relatively small numbers of observations, the resulting measurement error, though random, can be large. Since the ultimate goal of obtaining IMCEs is using them in consequent analyses, treating point estimates as true values can inflate reliability of estimated associations. Here, I propose a method of accounting for uncertainty of IMCE estimates: instead of using point estimates, potential IMCE values are drawn multiple times from their estimated sampling distributions.[19]

The sampling distributions of IMCEs can be estimated either parametrically or nonparametrically. Parametric estimation relies on the normality assumption. When the errors have a normal distribution, the OLS estimator is also normally distributed even in finite samples with the mean equal to the true parameter value:[20]

$$\hat{\pi}_{il} = \hat{\beta}_{il} \sim N\left(\beta_{il}, \sigma_{il}^2\left(\mathbf{X}_{il}^{\mathrm{T}}\mathbf{X}_{il}\right)_{22}^{-1}\right). \tag{9}$$

[19] This procedure can also be motivated within the Bayesian approach by treating IMCEs as random variables.

[20] Another way to justify the normality assumption is that, under large sample theory, the OLS estimator is consistent and asymptotically normal independently of the error distribution.

Then, IMCE values can be drawn *M* times from this distribution with the OLS point estimate as the mean and standard deviation approximated using the standard error:

$$\hat{\pi}_{il1}, \ldots, \hat{\pi}_{ilM} \overset{i.i.d.}{\sim} N\left(\hat{\beta}_{il}, s_{il}^2\left(\mathbf{X}_{il}^{\mathrm{T}}\mathbf{X}_{il}\right)_{22}^{-1}\right). \tag{10}$$

The alternative way of estimating the sampling distribution of IMCEs makes use of a nonparametric bootstrap (Davison and Hinkley 1997). It assumes that observed values of pairs (x_{ijl}, y_{ij}) are independent draws from some underlying joint distribution denoted F_i:

$$(\mathbf{x}_{il}, \mathbf{y}_i) = \left[(x_{il1}, y_{i1}), \ldots, \left(x_{ilJ}, y_{iJ}\right)\right] \overset{i.i.d.}{\sim} F_i. \tag{11}$$

Using the sample at hand, it is possible to define an estimator for F_i, empirical distribution function $\hat{F}_i$, that puts equal probabilities at each observed value:

$$\hat{F}_i = \frac{1}{J}\sum_{j=1}^{J} \mathbf{I}\left(x_{ilj} < x,\ y_{ij} < y\right), \tag{12}$$

where $\mathbf{I}(\cdot)$ is an indicator function. To estimate the sampling distribution of $\hat{\beta}_{il}$, start from sampling pairs $\left(x_{ilj}, y_{ij}\right)$ from $\hat{F}_i$ (resampling with replacement):

$$(\mathbf{x}_{ilm}^*, \mathbf{y}_{im}^*) = \left[(x_{ilm1}^*, y_{im1}^*), \ldots, \left(x_{ilmJ}^*, y_{imJ}^*\right)\right] \overset{i.i.d.}{\sim} \hat{F}_i, \tag{13}$$

where $m \in \{1, \ldots, M\}$. Also, define:

$$\mathbf{X}_{ilm}^* = \left[\mathbf{1}_J, \mathbf{x}_{ilm}^*\right], \tag{14}$$

where $\mathbf{1}_J$ is an all-ones vector of length *J*. Then, plausible values of $\hat{\beta}_{ilm}$ can be obtained by re-estimating the OLS regression for each of the *M* samples from $\hat{F}_i$:

$$\left(\hat{\alpha}_{ilm}, \hat{\beta}_{ilm}\right) = [(\mathbf{X}_{ilm}^*)^{\mathrm{T}}\mathbf{X}_{ilm}^*]^{-1}(\mathbf{X}_{ilm}^*)^{\mathrm{T}}\mathbf{y}_{im}^*, \tag{15}$$

$$\hat{\pi}_{ilm} = \hat{\beta}_{ilm}. \tag{16}$$

Given the random character of the bootstrap process, some resamples can result in absence of variance on specific attribute values (meaning that corresponding IMCE cannot be estimated). In

such cases, resampling can be repeated as necessary to obtain the required number of complete replications.

Independently of how the sampling distributions are estimated, the plausible IMCE values can be employed in consequent analyses using the method proposed for multiple imputations (Rubin 1987). First, the quantities of interest are estimated for all datasets containing randomly drawn plausible values of IMCEs. Second, results of these estimations are aggregated using guidelines for calculating average point estimates, combined between- and within-imputation variances, and adjusted degrees of freedom.

4.3 Data and Measures

To evaluate the proposed method, I designed and fielded an original survey study in the United States. Participants were recruited using the Lucid panel. In terms of both demographic and political attributes, Lucid samples match the American National Election Study on a number of important benchmarks (Coppock and McClellan 2019). My sample characteristics were the following. Mean age was 44.9 years. Gender ratio was 48.5% male to 51.5% female. Median household income was $40,000 to $44,999. In terms of race/ethnicity, 70.6% of respondents self-identified as non-Hispanic whites. Finally, 38.2% of respondents were Democrats, 35.2% were Republicans, and 26.6% were independents. Responses were collected in March 2019. Overall, the survey—including the conjoint task and the remaining questionnaire—was completed by 1,019 respondents.[21] Respondents' demographics were provided by the Lucid panel.

In the conjoint experiment, each respondent rated 10 pairs of random profiles (20 total) by likelihood of being an immigrant using an interval scale from 0% to 100%. Profiles were

[21] This number excludes 28 participants who otherwise completed the survey but used the exact same rating scores for all profiles in the conjoint task.

described in terms of six attributes selected following the current literature on politics of immigration. They included age and gender (Ward 2019), race/ethnicity (Citrin et al. 1997; Newman and Malhotra 2018; Valentino, Brader, and Jardina 2013), occupational status (Hainmueller and Hiscox 2010; Hainmueller and Hopkins 2015; Valentino et al. 2019), welfare dependency (Garand, Xu, and Davis 2017), and criminal record (Hartman, Newman, and Bell 2014). In conjoint profiles shown to respondents I used varying attribute labels to make them more realistic (i.e., using specific occupation names rather than just "low-skilled" or "high-skilled"), but the analysis only contrasted dichotomized attribute values. The only exception was the race/ethnicity attribute with four randomized values that were included in the analysis this way. See Table 4.1 for the full list of attributes with potential values and Figure 4.1 for an example of conjoint profiles as presented to respondents. Attribute values were fully and independently randomized with uniform distributions, i.e. all distinct values for a specific attribute had equal probabilities of being presented. The conjoint part of the study was programmed on Qualtrics survey platform using the Conjoint Survey Design Tool (Strezhnev et al. 2014).

Table 4.1 Attributes for profiles in conjoint experiment

Attribute	Values
Age	In years, from 25 to 54
Gender	Female
	Male
Race/ethnicity	White
	Black
	Hispanic
	Asian
Occupation	*High-skilled:* Accountant, Engineer, Graphic designer, Nurse, Teacher
	Low-skilled: Cook, Day laborer, Gardener, Janitor, Waiter
Government benefits	*Not recipient:* None
	Recipient: Food stamps, Housing assistance, Medicaid, Supplemental income
Police record	*No:* None
	Yes: Assault, Drug possession, Drunk driving, Theft, Trespassing

Pair 1 out of 10.

Please carefully review the profiles detailed below, then answer the questions.

	Person 1	Person 2
Age	27	47
Gender	Male	Female
Race/ethnicity	Asian	White
Occupation	Engineeer	Waiter
Government benefits	None	Medicaid
Police record	Drunk driving	None

Please rate the probability of being an immigrant for each of the two persons.

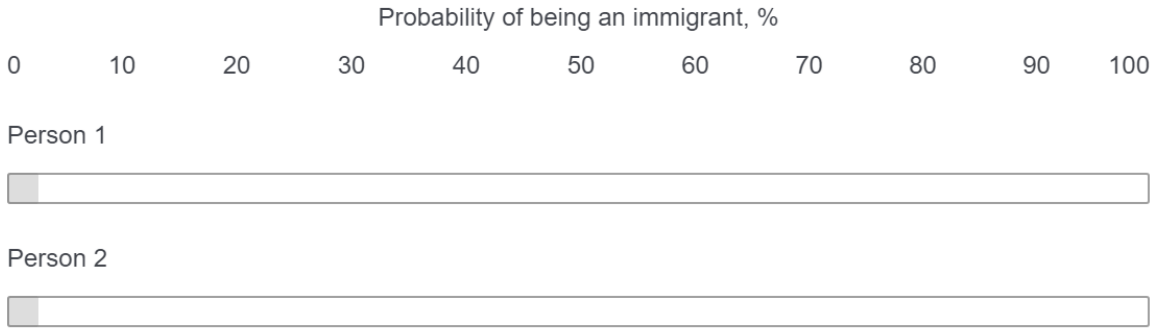


Figure 4.1 Sample screenshot from the conjoint task

I had to exclude some attributes used in previous conjoint studies on the politics of immigration, because they would not allow me to unambiguously categorize a profile as belonging to an immigrant. Examples include language proficiency, origin, and legal status. A person described in the conjoint task as speaking poor English or being in the U.S. without authorization is almost surely classified as foreign-born. The same is trivially true for anyone who is described as having a country of origin any other than the United States. I also did not use education as a randomized attribute due to its strong correlation with occupational status.

To explore the potential differences between implicit and explicit measurement of schemas, I also included standard questions on respondents' perceptions about composition of the U.S. immigrant population. Characteristics were chosen to correspond to ones included in the conjoint experiment: age, gender, race/ethnicity, occupational status, dependence on welfare, and police record. Respondents were asked to give percentage estimates of immigrants who, according to their best guesses, had the specified attributes, with possible answer scale ranging from 0% to 100%.

Attitudes toward immigration were measured using a three-item battery that asked respondents to assess the impact of immigrants on American economy, culture, and communities. Ethnocentrism was measured using a shortened 8-item version of the corresponding full battery (Bizumic and Duckitt 2012). See Appendix C for the exact formulations of all survey questions and answers used in the analysis.

The survey also included a priming experiment. Priming studies are a popular tool in research areas where deep-seated prejudices may impact expressed attitudes, such as race and politics in the United States (Hutchings and Jardina 2009). It is easy to see how this design might have been inspired by the schematic model of cognition. The priming framework effectively

assumes presence of latent stereotypes (i.e., schemas) that are difficult to measure due to social desirability and very hard to change due to resilience of group-based prejudices. Instead, researchers can make these schemas salient using treatments such as varying the race of welfare recipients (white vs. black) in political ads.

In my survey, the saliency of schemas about immigration was manipulated using a simple question order experiment. Specifically, respondents were randomly assigned with equal probabilities to one of the two conditions. In one condition, respondents completed the conjoint task after answering the questions about their attitudes toward immigration. In another condition, respondents answered the questions about their attitudes toward immigration after completing the conjoint task. In the analysis to follow, I use this experiment to understand whether activation of schemas (by completing the conjoint task that requires respondents to think about immigrants and natives as social categories) changes expressed attitudes toward immigration.

4.4 Results

4.4.1 Describing Schemas

I begin by implementing the standard procedure for conjoint experiments: estimating the average marginal component effects (AMCEs) of different profile attributes on the probability of being categorized as an immigrant in the full sample. Results are presented in Figure 4.2. According to recommendations (Hainmueller, Hopkins, and Yamamoto 2014), standard errors are clustered on the level of individual respondents. Estimates suggest that respondents' schemas about immigrants are dominated by race/ethnicity. Specifically, being Hispanic (compared to being white) increases profile's perceived likelihood to be an immigrant by 9.9 percentage points.[22]

[22] The baseline, i.e. the estimated likelihood of being an immigrant for a person described as older, female, white, high-skilled, not receiving welfare benefits, and without police record, is approximately 39.2%. This is much

The corresponding effect for being Asian is 7.3 percentage points. Occupational status also makes a significant component of schemas about immigrants. Profiles described as having low-skilled occupations are rated 5.1 percentage points higher by likelihood of being an immigrant. Age, gender, being black, and having police record do not have significant effects. Reliance on welfare is significant on the 95% confidence level but its estimated effect on probability of a profile to be categorized as an immigrant is less than one percentage point.

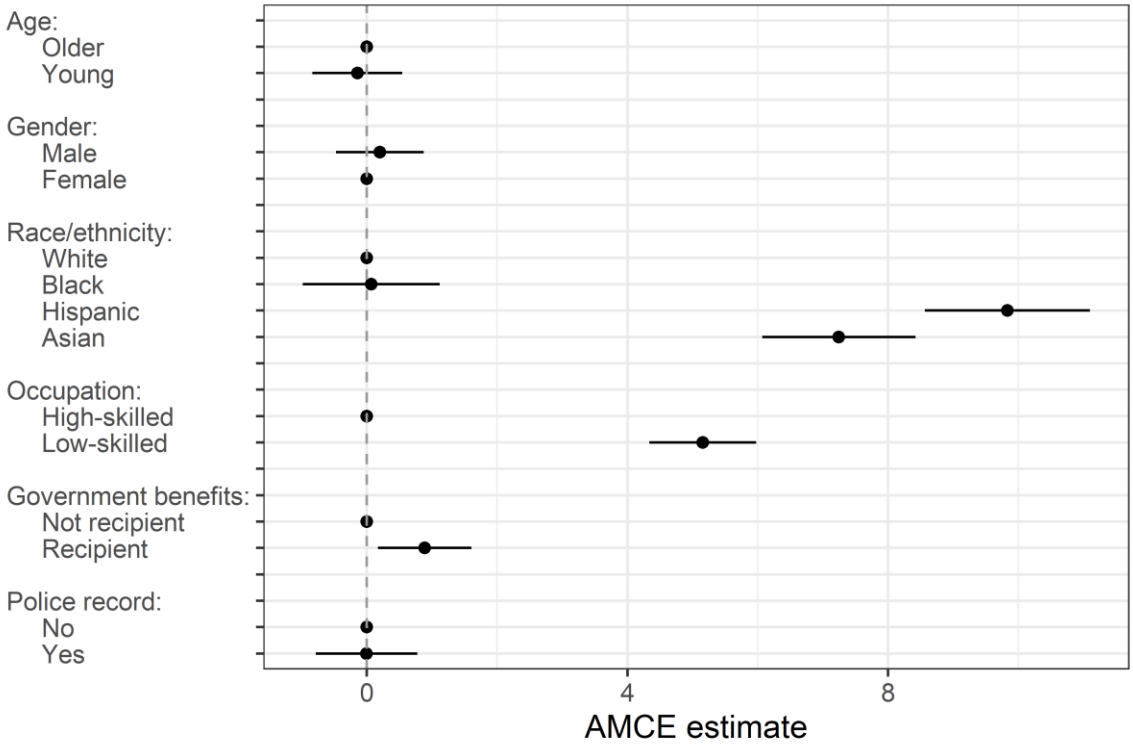


Figure 4.2 Conjoint results: effects (AMCEs) of different attribute values on a profil's estimated likelihood of belonging to an immigrant

higher than the actual probability of being foreign-born for such a person. However, the nature of the task might have affected this number: respondents might have thought that they would be presented with approximatrly equal numbers of foreign-born and native-born profiles. At the same time, such baseline also suggests that floor and ceiling effects are not a problem when interpreting AMCEs for specific attributes.

The fact that race helps people much more than any other characteristic in identifying a person as an immigrant means that this attribute is the most salient feature in the schema. When asked to guess whether a person is native- or foreign-born, respondents rely almost exclusively on their race/ethnicty. If anything, the effect of race/ethnicity on guesses about nativity status can be underestimated compared to real-life settings where a lot of other information (such as occupation) may not be available.

Given the importance of these results, I also run a couple of robustness checks. First, I check whether AMCEs differ across specific values across the broader categories. Recall that attribute values are dichotomized so that, for instance, both "Graphic designer" and "Teacher" are coded as "High-skilled occupation" for the purposes of the analysis. But even though such coding is necessary to estimate IMCEs in the next step of the analysis, it is still possible that, when AMCEs are concerned, the effects of these collapsed categories are driven by specific values. To address this possibility, I estimate AMCEs without dichotomization. Results are presented in Figure 4.3. Overall, there are no substantial differences across specific attribute values. Profiles with all five occupations coded as "low-skilled" are rated as more likely to be immigrants compared to those with "high-skilled" ones. All offense-specific criminal records have insignificant effects close to zero—similar to when they are collapsed into a single category. With regard to specific welfare programs, respondents seem to rate recipients of food stamps and housing assistance as somewhat more likely to be immigrants than those who get Medicaid or SSI. However, these program-specific effects are not jointly different from one another according to a formal test ($F_{3,\ 1040} = 1.13$, $p = .337$).

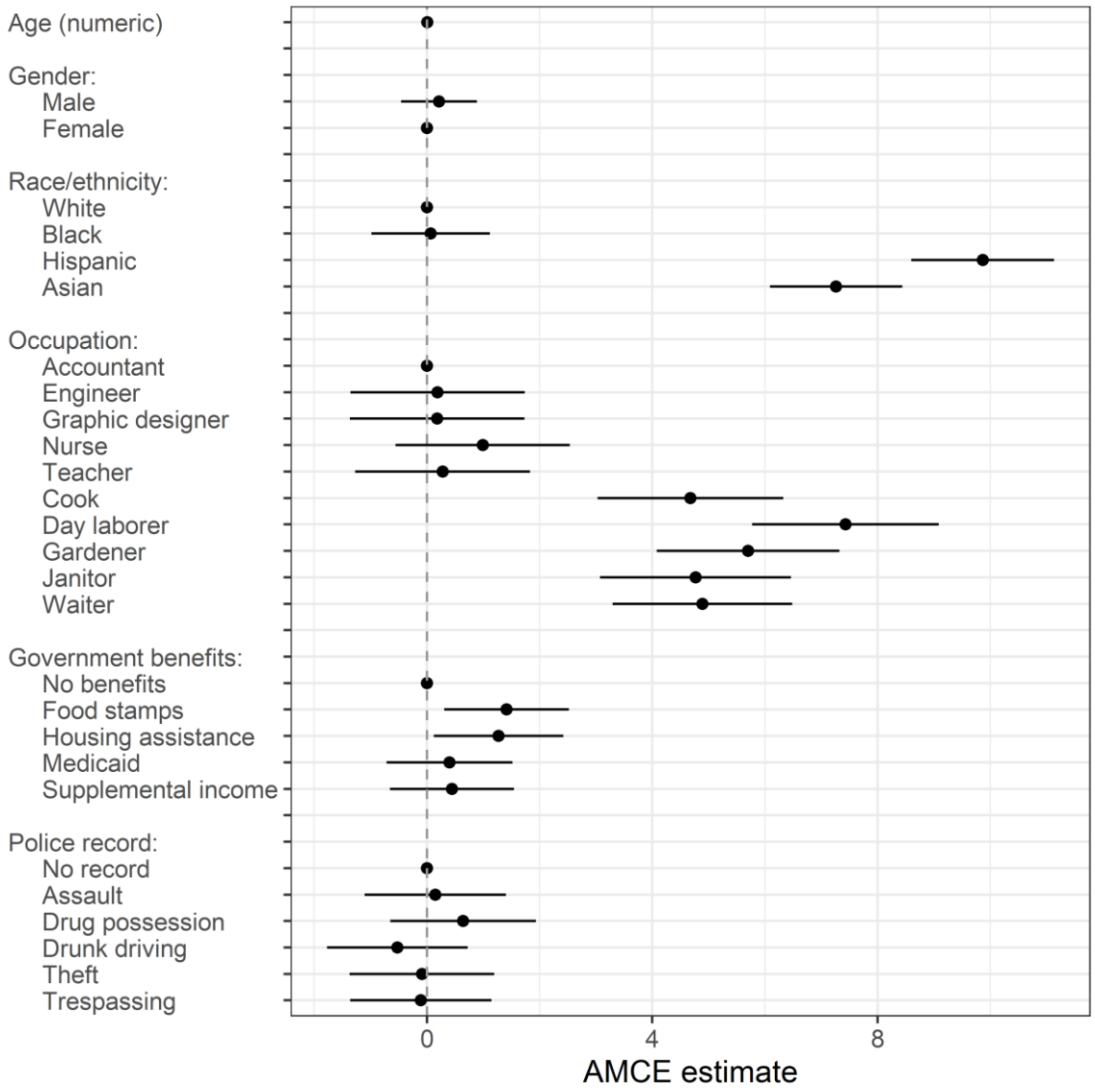


Figure 4.3 Conjoint results: no dichotomization

Second, I explore the variation of schemas within the sample by re-estimating conjoint AMCEs within specific sub-populations. Following the original conjoint analysis of immigration preferences (Hainmueller and Hopkins 2015), I compare the effects by education (college vs. not), ethnocentrism (low vs. high), and partisanship (Democrats vs. Republicans). Results are presented in Figure 4.4. Overall, the core elements of schemas about "who the immigrants are" do not vary much across these variables but some differences can be noted. For instance,

Republicans and ethnocentric individuals are more likely to think of people on welfare as immigrants. Also, respondents who are low on ethnocentrism tend to think that people with criminal record are slightly more likely to be natives rather than immigrants. These effects are relatively low in magnitude but they suggest that perceptions of immigrants in terms of normatively desirable attributes, such as being self-reliant and law-abiding, can at least partially serve as rationalizations of pre-existing negative attitudes toward immigration. This is not necessarily the case for schemas linking nativity status and race/ethnicity: while preferences for highly educated and lawful immigrants is universal according to most existing findings (Hainmueller and Hopkins 2015; Valentino et al. 2019), opposition to non-white immigration should be limited to whites with high levels of racial prejudice.

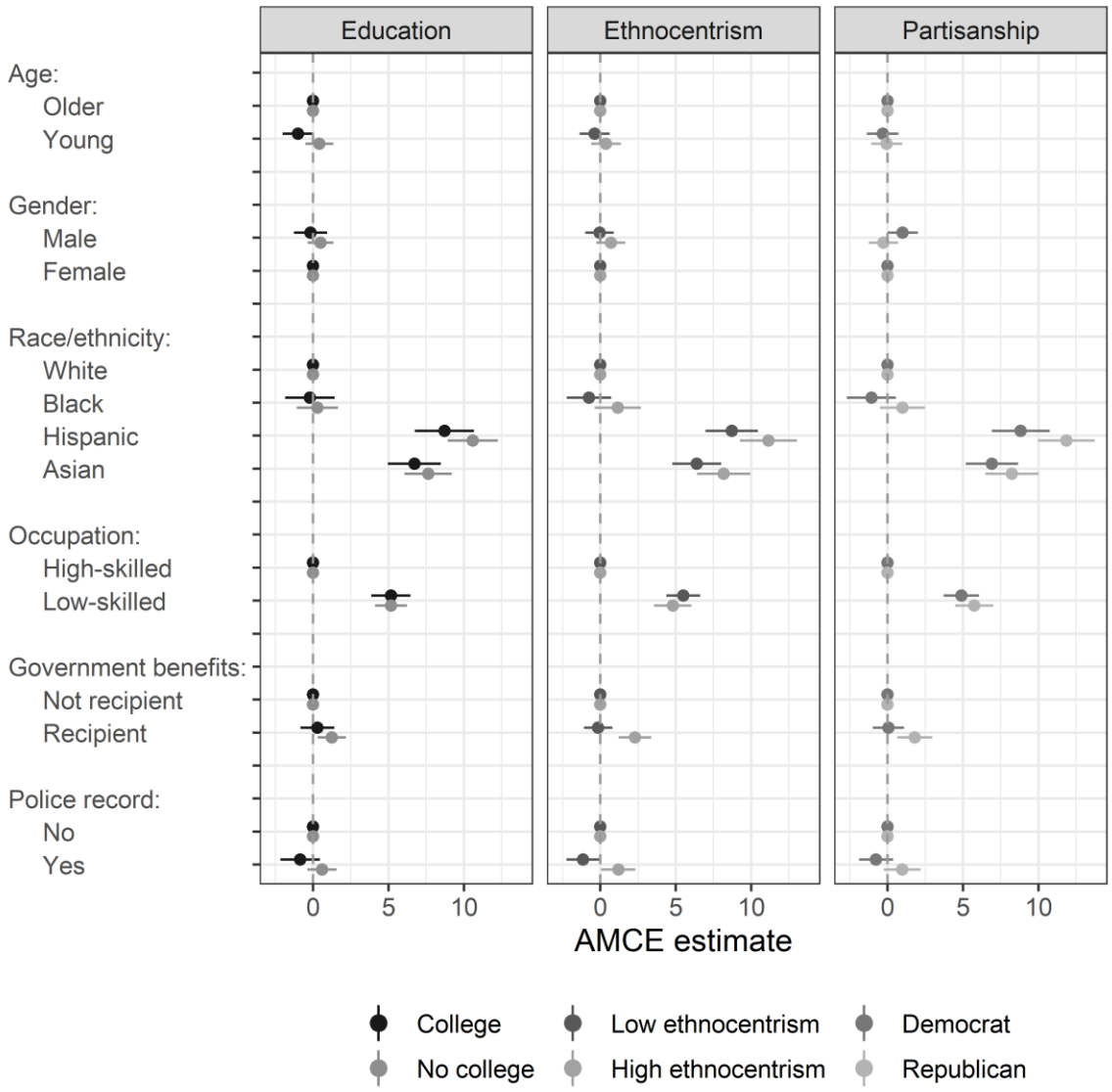


Figure 4.4 Conjoint results by education, ethnocentrism, and partisanship

4.4.2 Schemas and Attitudes

The standard conjoint analysis presented above describes the average schemas about immigrants and reveals the central role of race/ethnicity in respondents' categorization of people as foreign-born. At the same time, it does not help us determine whether the racial/ethnic schemas about immigrants are consequential for the political outcomes of interest, such as attitudes toward immigration. It also does not tell whether the race/ethnicity dimension of schemas about

immigrants is more consequential for attitudes toward immigration compared to other dimensions, such as skills. These questions, however, are exactly the ones that can be answered with the help of individual marginal component effects (IMCEs).

Therefore, I turn to regression analysis that employs IMCEs. As outlined previously in the chapter, I estimate IMCEs by running OLS regressions independently for each individual respondent. Altogether, I obtain the following sets of results: (a) point estimates for IMCEs, (b) 100 plausible values for each IMCE drawn from the corresponding normal distribution defined by point estimate (mean) and squared standard error (variance), and (c) 100 plausible values for each IMCE computed via nonparametric bootstrap.

Then, I use IMCEs as measures of respondents' schemas about immigration to predict anti-immigration attitudes. Results are presented in Figure 4.5. They compare regression coefficients depending on whether IMCEs are included in the analysis as point estimates or multiple imputations, either normal approximation or nonparametric bootstrap, are used. The dependent variable and all explanatory variables have been recoded to the same scale (from 0 to 100), so that coefficients can range approximately from −1 to 1. Two dimensions of schemas are highly consequential for respondent' attitudes toward immigration independently of how IMCEs are estimated: perceptions of immigrants as, respectively, Hispanic and having criminal records. Schemas related to immigrants' age, gender, race/ethnicity other than Hispanic, and skills/occupation are not consequential for opinions on immigration on the 95% confidence level. Accounting for uncertainty of IMCE estimates generally decreases the magnitudes of estimated coefficients. Dependence on welfare is the only schema dimension for which uncertainty correction makes a difference in terms of conventional statistical significance.

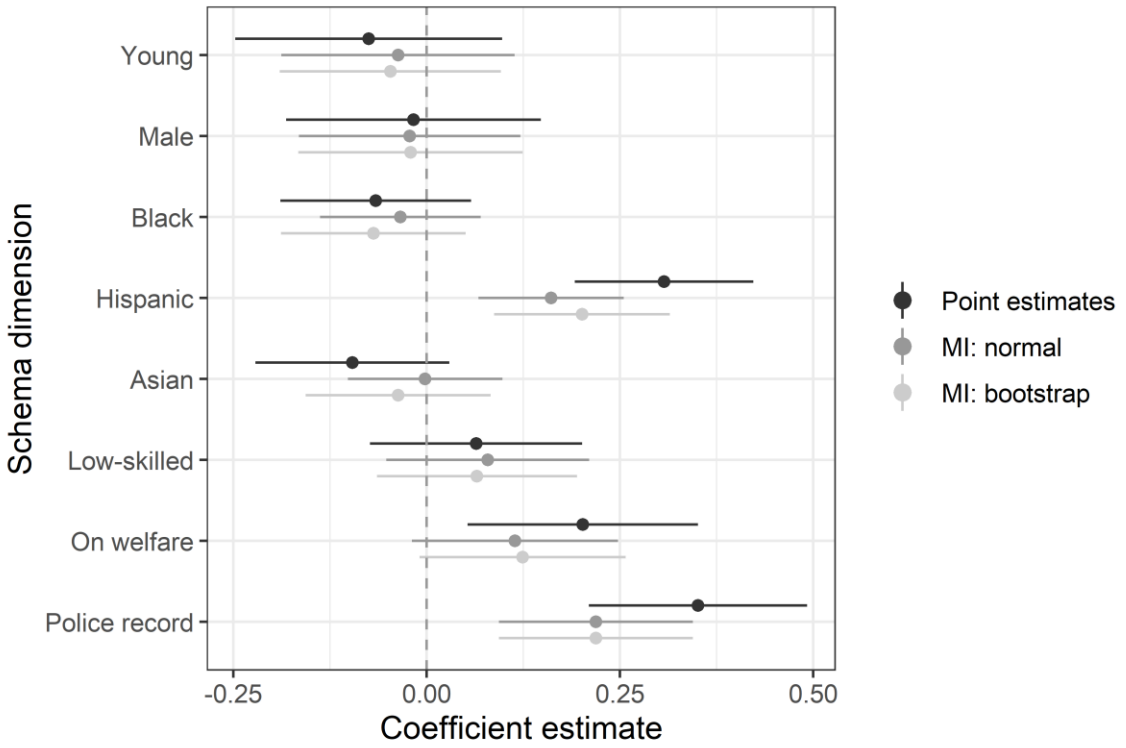


Figure 4.5 OLS regression results predicting anti-immigration attitudes using different dimensions of schemas about immigrants

These findings highlight the importance of looking into individual-level schemas rather than just describing them in the aggregate. For instance, conjoint profiles described as having police record are not rated by respondents as more likely belonging to immigrants than natives. In other words, respondents on average do not associate immigrants with criminal behavior. At the same time, there is important individual-level variation on this schema dimension. Moreover, it is highly consequential: respondents who associate immigrants with criminal behavior express much more negative attitudes toward immigration. Therefore, estimating IMCEs and using them in inferential analysis can provide researchers with important information that is not available from the aggregate conjoint results.

Do conclusions about importance of different schema dimensions with regard to attitudes toward immigration diverge when implicit (conjoint) or explicit (standard self-reports) measures

are used? As discussed in Chapter II, there two main reasons why explicit measures may produce erroneous results when applied to group schemas in politics. First, schemas may not be consciously acknowledged by respondents. Second, respondents may prefer not to reveal group schemas about political objects that they have. However, results presented in the dissertation so far have been ambiguous: there is a significant difference between implicit and explicit measures for gender–party schemas in the U.S. (Chapter II) but not for race–immigration schemas in Britain (Chapter III).

To investigate this measurement question further, I compare the effects of conjoint-based and explicit measures of schemas on attitudes toward immigration. This analysis uses only point estimates for the conjoint measure since survey self-reports are point estimates. Results are presented in Figure 4.6. Note that the question and answer formats as well as response scales for implicit and explicit measures are not identical, so effect magnitudes across the two sets of predictors should not be compared directly. Still, a major distinction can be easily observed: schemas about immigrants' gender and occupations are consequential when measured explicitly but not implicitly. This is not the case for other schema dimensions that tend to have the same significance test outcomes across the two sets of measures. In other words, the differences are unlikely to be a mere artifact of dissimilar question or response formats.

This might mean that the effect of occupation schemas under explicit measurement can be produced by social desirability or rationalization—that are less of a concern for implicit measurement techniques. It is unclear why such difference between implicit and explixcit measures is found only for skills as a schema dimension. It can be partially explained by prominence of economic arguments in debates over immigration. Appeals to economics are made by both proponents (immigrants bring new skills and increase economic growth) and

opponents (immigrants compete for jobs with natives and take advantage of public services) of immigration. This is not true, for instance, about criminality that is emphasized only by opponents of immigration. As a result, beliefs about high- vs. low-skilled immigrants become convenient rationalization tools for people with any underlying attidues.

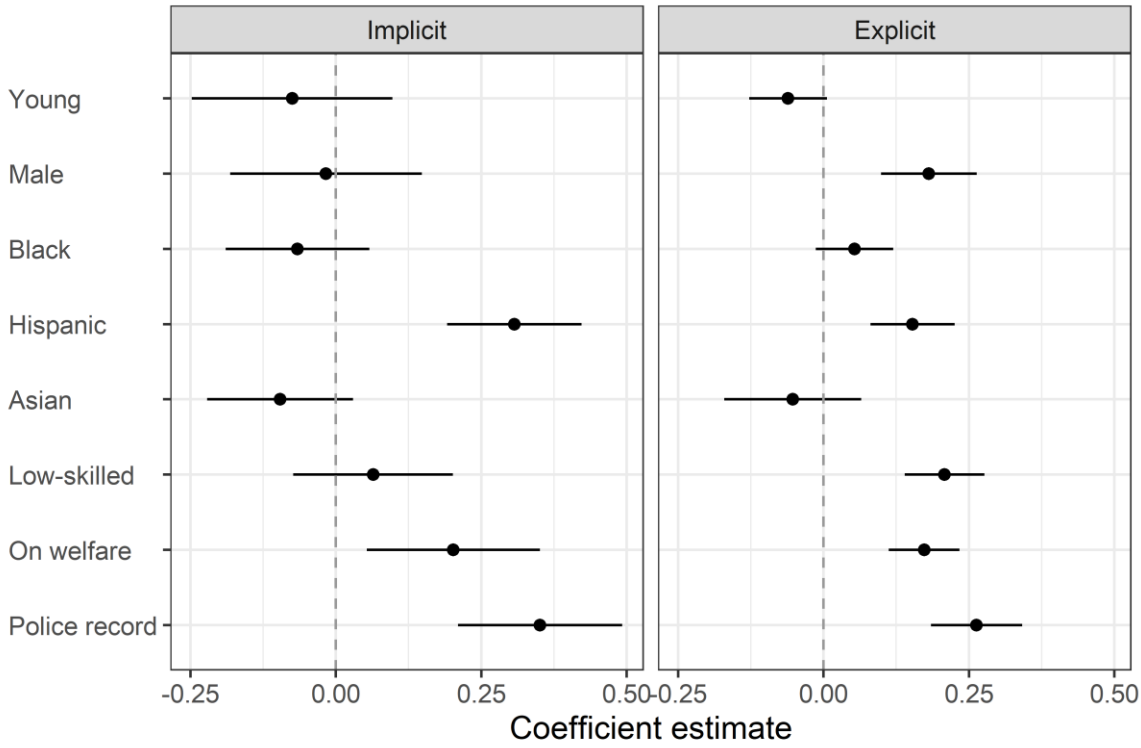


Figure 4.6 Anti-immigration attitudes and schema dimensions: implicit and explicit

4.4.3 Causal Primacy of Schemas

Can making respondents' schemas about immigrants more salient change their attitudes toward immigration? To address this important question, I implement a simple question order experiment. Recall that, within the survey study, respondents have either completed the immigration policy attitudes battery before the conjoint task or vice versa. Using these data, I investigate whether attitudes toward immigration change when reported before or after the conjoint. This can be seen as a priming effect: the necessity to categorize persons as native- vs.

foreign-born in a conjoint experiment should activate respondents' schemas about immigrants that, then, exert greater influence on attitudes toward immigration in subsequent questions.

Results of the experiment are presented in Figure 4.7. When schemas about immigration are made salient by prompting respondents to think about attributes that distinguish immigrants and natives, respondents' attitudes indeed move. On average, respondents turn more negative toward immigration when they answer the corresponding attitudes battery after completing the conjoint task.

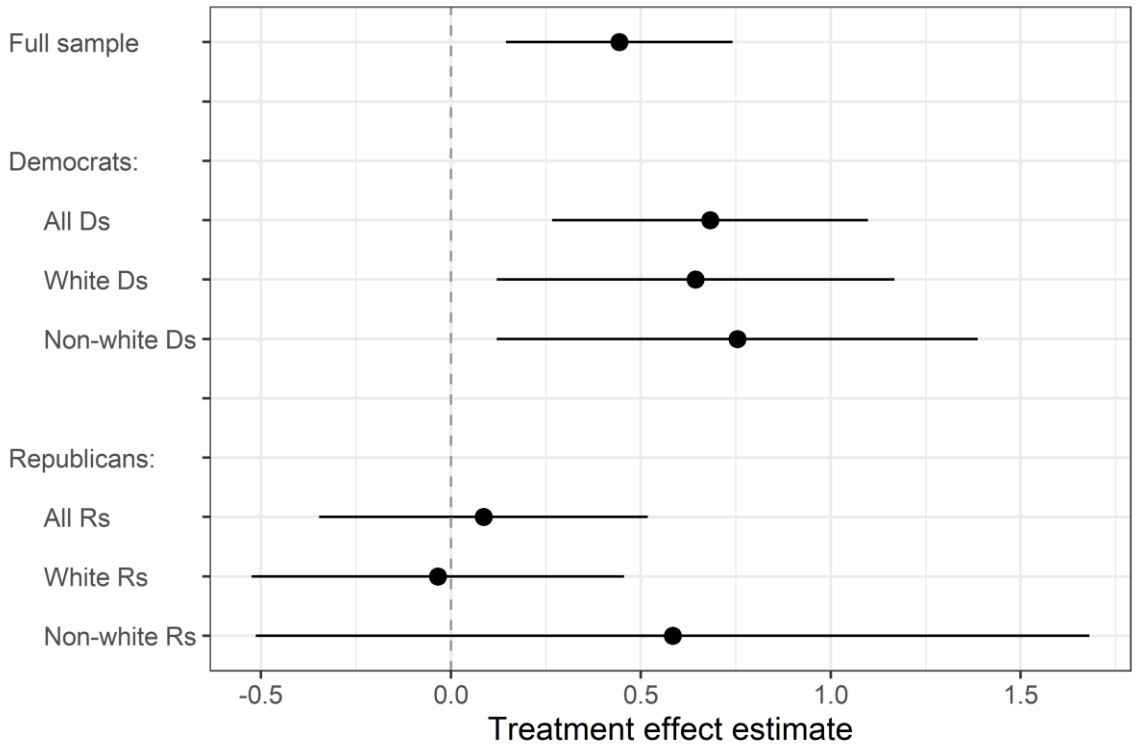


Figure 4.7 Priming effects on attitudes toward immigration by partisanship and race/ethnicity

I also compare the treatment effects by partisanship and race/ethnicity. Results of the conjoint experiment presented above has revealed that schemas about immigrants are dominated by race/ethnicity across all subgroups of respondents. If Republicans and whites are more opposed to Hispanic immigrants, priming these schemas may produce different results among

these two groups. However, splitting the sample by partisanship (including leaners as party supporters) and race reveals that the priming effect is exclusively produced by Democrats. Interestingly, the effect is positive and significant for both non-Hispanic white and minority Democrats. Among Republicans, this effect is not significant—although the point estimate is positive for minority Republicans while effectively zero for non-Hispanic whites in the Republican Party.[23] What are the reasons for the found difference across parties? One potential mechanism is that Democrats are cross-pressured on the issue on immigration by conflicting identity motives. On the one hand, partisan identity pushes them to express normative opinions in favor of immigration—especially, during Trump's presidency. On the other hand, national identity motives lead many Democrats to hold preferences for natives over immigrants. Note that this effect cannot be produced by simple racial prejudice since it is equally strong among white and non-white Democrats. For Republicans, in turn, pressures from partisan and national identities coincide in terms of direction so that making the "immigrants vs. natives" dichotomy more salient does not move opinions on immigration among them.[24]

To evaluate this conjecture, I further investigate the nature of the priming effect among Democrats as well as its absence among Republicans using the observed distributions of anti-immigration attitudes by party and experimental condition. Estimated empirical densities are presented in Figure 4.8. For Democrats, an interesting difference in the distribution across the

[23] This apparent difference between white and non-white Republicans is interesting but the sample structure (there are only 89 non-white Republicans in the analyzed data) prevents from any further generalizations.

[24] For a similar discussion, see Feldman and Huddy (2005) on a motive conflict in opposition to affirmative action among white Democrats, and Rouse, Wilkinson, and Garand (2010) on attitudes toward immigration among Latinos.

two conditions can be observed. When expressing opinions on immigration before completing the conjoint task, they tend to express strong pro-immigrant attitudes with a distribution mode close to the liberal end of the spectrum. When immigration schemas are made salient, however, the mode moves closer to the center and the number of those expressing the most liberal views drops sharply. The nature of this shift indirectly supports the explanation suggested above: Democratic respondents give normative pro-immigration answers before the conjoint task but start to express more centrist or ambiguous opinions on immigration after prompted to think about immigrants and natives as social categories. For Republicans, densities are symmetric and centered at the neutral point in both prime and control conditions—meaning that the null experimental result among them cannot be attributed to a ceiling effect.

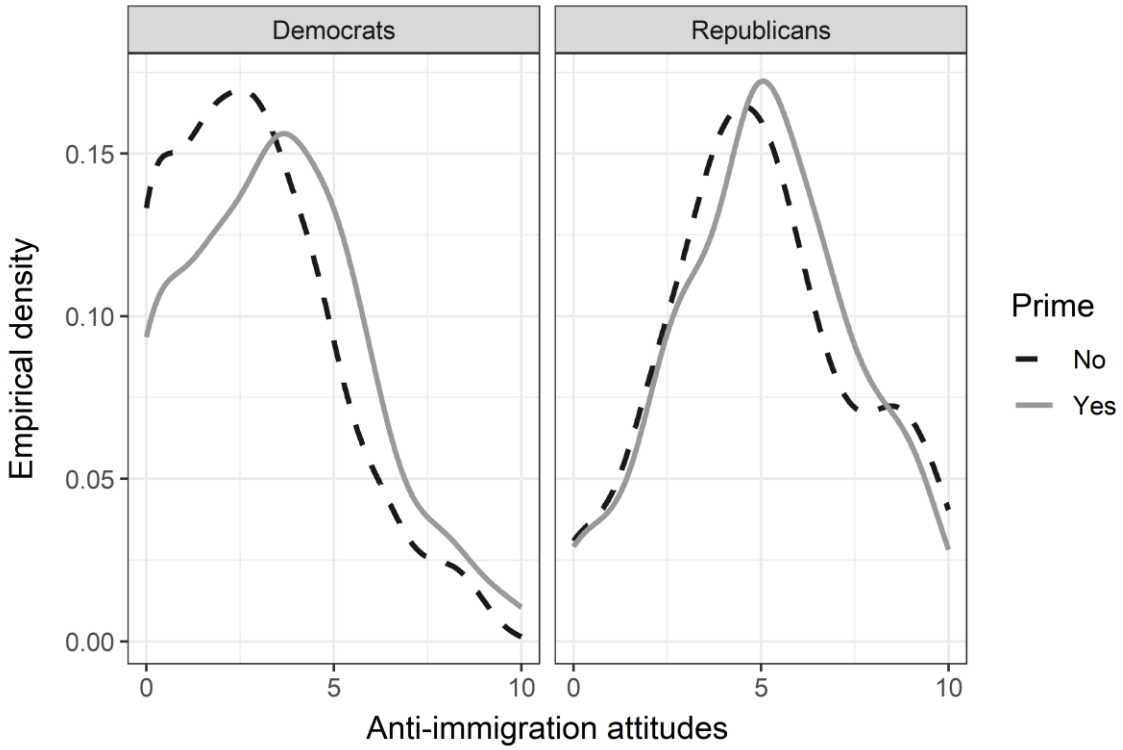


Figure 4.8 Distribution of anti-immigration attitudes by party and priming condition

It is already known that expressed immigration preferences among college graduates and political liberals are underreported due to social desirability (Janus 2010). Results of my priming experiment suggest that partisan identity and normative responding among Democrats can be another important factor that may lead researchers to underestimate anti-immigration attitudes within the American public.

Note that the task order effect can work in the opposite direction: priming attitudes toward immigration can impact estimates of schemas about immigrants. Do respondents who complete the conjoint task after being asked about their attitudes toward immigration exhibit different content of schemas about immigrants? To check whether such a reverse effect is indeed found in the data, I re-analyze the conjoint data using a simple comparison across the experimental conditions. Results are presented in Figure 4.9. The overall conclusion is that differences in measured schema content across the two conditions are either weak or nonexistent. Even when attidues are expressed first, respondents' beliefs about "who the immigrants are" do not substantially change. The only dimension of schemas that seems to be affected by priming is criminality: when the conjoint task is completed after immigration attitudes battery, profiles with police record are rated more highly in terms of likelihood of being immigrants ($F_{1, 1040} = 5.18$, $p = .023$). This result, again, suggests that mental associations linking immigrants with criminality may represent a rationalization of anti-immigration attitudes rather than their cause. Schemas about immigrant's race and ethnicity, in turn, are not affected by priming and, therefore, appear to be causally prior with respect to attitudes toward immigration.

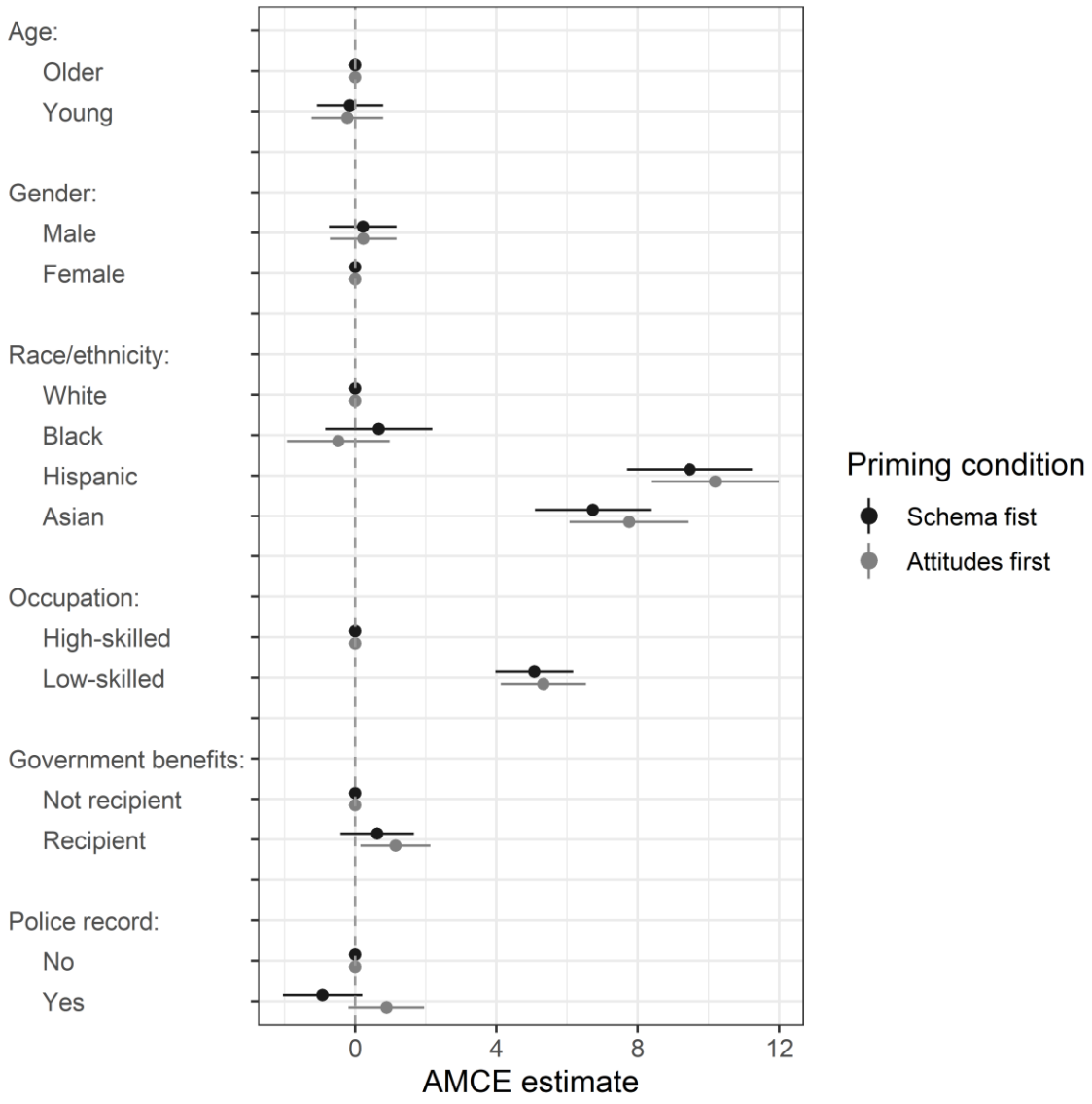


Figure 4.9 Conjoint results by priming condition

Why criminality is the only dimension of schemas about immigrants that is affected by priming attitudes toward immigration? One possibility is that the mental connection the mental connection between immigration and crime is not independent from other schema dimensions, most notably race. Specifically, the immigration–crime connection can be derived from mental representations of immigrants as non-white. Some evidence supports this conjecture: for instance, opposition to sanctuary policies and growth of gun permit applications in the U.S.–

Mexico border counties seems to be driven by racial rather than criminal threat (Collingwood and O'Brien Gonzalez 2019; Costanza et al. 2020). It is also consistent with the literature on race and crime connection in the United States: white Americans tend to think of non-whites, most importantly African Americans, as more likely criminals (Gilliam, Valentino, and Beckman 2002; Peffley and Hurwitz 2002; Valentino 1999). A similar mental connection between crime and Hispanics/Latinos is not established as firmly but they are often seen by whites/Anglos as more likely rule-breakers (Flores and Schachter 2018; Hartman, Newman, and Bell 2014). Presence of the race–immigration–criminality nexus in the minds of respondents can at least partially explain the found priming effect of anti-immigration attitudes on the perception of immigrants as criminals.

The priming design employed here does not allow investigating which of the schema dimensions is most consequential for the attitude change observed in the experiment. Comparison of schema dimensions potentially can be performed in an experiment that independently primes different qualities that natives might associate with immigrants. However, this kind of priming cannot be done in a conjoint experiment since it requires simultaneous presentation of all profile attributes (i.e., schema dimensions).

4.5 Conclusion

In this chapter, I have further developed the schematic approach to understanding public attitudes toward immigration as well as political opinions more generally. I have proposed and validated a novel measure of schematic associations linking political categories and social attributes based on conjoint experimental design. In doing so, I have built upon the application of conjoint experiments to measuring respondents' beliefs about the social and political world rather than preferences. Using existing work on conjoint methodology as the point of departure, I have

outlined a strategy that allows obtaining estimates of individual marginal component effects (IMCEs), rather than average marginal component effects (AMCEs), from conjoint experiments. It does not require any additional assumptions compared to those already necessary for standard applications of conjoint experiments and involves only minor changes in design so that IMCEs can be feasibly and efficiently estimated. I have also discussed how researchers can account for uncertainty of resulting individual estimates using conventional (re)sampling techniques, either parametric or nonparametric, that can be implemented in commonly used statistical software.

Then, I have run a conjoint experiment on a diverse U.S. sample to measure respondents' schemas about immigrants and use them to predict attitudes toward immigration using the proposed methodology. Overall, my results strongly suggest that schemas about immigrants' race and ethnicity are central for both content of schemas and their effects on attitudes toward immigration. When respondents are asked to estimate likelihood of being an immigrant for random profiles presented to them in the conjoint experiment, they rely mostly on stereotypically foreign-born racial and ethnic identities: profiles described as Hispanics and Asians are rated as much more likely to be immigrants. When used as covariates in regression analysis, mental schemas linking immigrants and Hispanics demonstrate strong and significant positive associations with anti-immigration attitudes independently of any other schema dimensions, such as those concerning skills or criminality. In terms of effects' magnitude, racial/ethnic schemas are related to attitudes as strongly as linkages between immigrants and criminal behavior—and significantly stronger than schemas about immigrants' occupations that are considered the core variable in immigration opinions within the influential "skill premium" model (e.g., Hainmueller and Hiscox 2010). If anything, results reported in this chapter may underestimate the impact of race/ethnicity on guesses about people's nativity status in real-life situations. Unlike racial

categorizations that can be made on the basis of skin tone and facial features, information on attributes that can be easily manipulated in a conjoint (such as skills/occupation) is often not available in common brief real-life interactions.

There are additional pieces of evidence that point out to the centrality of race/ethnicity in both schemas about immigration and their political consequences. First, schemas linking immigrants to welfare dependency and criminal behavior are weakly but significantly related to ethnocentrism and partisanship—thus suggesting that they can be rationalizations of pre-existing negative attitudes toward immigration. Second, schemas that link foreign-born status and having low-skilled occupations predict attitudes toward immigration only when measured explicitly, not implicitly. This might mean that effects usually attributed to the phenomenon of "skill premium" can mask other dimensions of schemas, in line with some existing research (Newman and Malhotra 2018). Third, even though regression effects of schemas about immigrants' race/ethnicity and criminal behavior are approximately equal in terms of magnitudes, schemas themselves are not equally widespread within the population. Specifically, the schemas about immigrants as Hispanics are much more widespread meaning that their impact has greater social consequences.

Additionally, the question order experiment shows that priming schemas shifts attitudes toward immigration in the negative direction, particularly among Democrats. There is no corresponding reverse effect of priming attitudes on schemas content with regard to immigrants' race/ethnicity whereas mental associations between immigration and criminality increase when attitudes are primed. It suggests that racial and ethnic schemas about immigrants are indeed causally prior with respect to attitudes toward immigration. A closer investigation of the observed experimental effect also reveals the likely mechanism at work: making categories of

"immigrants" vs. "natives" and the corresponding schemas salient overrides the normative tendency to give strong pro-immigration answers among Democratic respondents. Unfortunately, design of the experiment does not allow exploring relative contributions of different schema dimensions (e.g., race/ethnicity vs. occupations/skills) to the observed priming effect.

Since schemas cannot be experimentally manipulated (i.e., researchers cannot randomly assign schema strength or direction to respondents), priming design may be the only feasible method to explore the effect of schema saliency on attitudes toward immigration. Still, future research can build upon it in a couple of important aspects. First, new experiments can try to compare how increased saliency of different schema dimensions (e.g., race/ethnicity vs. skills) shifts respondents' opinions on immigration policy. This can be done with a design that independently primes different schema dimensions. Second, future studies can try to trace the development of schemas outside of experimental settings. For instance, they can employ panel design that repeatedly measure respondents' schemas about immigrants and attitudes toward immigration as well as potential covariates, such as partisanship. Finally, it will be interesting to see whether the partisan asymmetry in schema priming effects is replicated in future experiments. I elaborate on these potential directions of future research further in Chapter V.

This chapter has also presented an additional comparison between implicit and explicit measures of schemas. As argued in Chapter II, implicit measures are preferable because they partially deal with concerns over rationalization whereby beliefs about attributes of immigrants are derived from attitudes toward immigration. And conjoint measures of schemas are implicit because they infer mental associations from respondents' observed choices rather than from simple self-reports. Evidence presented in this chapter shows that implicit and explicit measures provide different results regarding which schemas about immigrants are consequential for

attitudes toward immigration. Most importantly, schemas about immigrants as low-skilled (vs. high-skilled) predict anti-immigration attitudes only when measured explicitly but not when measured implicitly. Given the importance of economic arguments for both sides of the debate on immigration, this result suggests that beliefs about immigrants as high- vs. low-skilled can serve as a rationalization for pre-existing policy attitudes.

Overall, findings presented in this chapter provide additional support for the schematic model of public opinion formation and make several contributions to the literature on politics of immigration. Voters' schemas about "who the immigrants are" have important implications for attitudes toward immigration—and therefore variation in these schemas should not be taken for granted. I have also developed a validate a novel measure of these schemas based on an original application of the conjoint experimental design. The proposed measure overcomes the key limitation of the measure based on the implicit association test (IAT) used in Chapters II and III as it allows to explore multiple dimensions of schemas within a single study. Using this new measure, I have demonstrated that race and ethnicity play the central role in both content schemas about immigration and consequences of schemas for political opinions. These findings are in contrast to the dominant paradigm in the literature nowadays that postulates the primacy of sociotropic economic concerns in opposition to immigration among natives.

Chapter V

General Conclusion

5.1 Summary of Argument and Findings

In Chapter I of this dissertation, I have stated several key controversies and unanswered questions in existing literature on politics of immigration. First, it is well established that perception of sociotropic threat from immigration is the main factor behind natives' support for restrictive policies (Sides and Citrin 2007; Sniderman, Hagendoorn, and Prior 2004), but it is unclear why some people perceive immigration as more threatening than others. Second, left- and right-wing voters in industrial democracies agree that the admission of immigrants should be based on potential economic contributions (Hainmueller and Hiscox 2010; Valentino et al. 2019), but immigration remains one of the main sources of political conflict in these same societies. Third, country or region of origin does not predict natives' acceptance of individual immigrants (Hainmueller and Hopkins 2015), but mass imagination about immigration is heavily dominated by specific groups (Newman and Malhotra 2018; Konitzer et al. 2019; Valentino, Brader, and Jardina 2013). Finally, manipulating immigrants' race in experimental studies does not directly affect support for immigration (Hopkins 2015; Ostfeld 2017), contrary to observational evidence linking anti-immigrant attitudes to ethnocentrism (Kinder and Kam 2009).

I have argued that the schematic model of political cognition can at least partially address all these controversies. The schematic model draws upon a notion broadly accepted in political psychology: humans have limited cognitive capacity and prefer not to spend it on deliberating about politics. Instead, voters form political opinions by using relatively simple shortcuts. The schematic model explains how such shortcuts are formed building upon the associative view of human memory. People form mental linkages (schemas) connecting political categories to concepts and attributes known from their daily lives—and, then, affect toward these familiar objects is translated into political preferences. "Immigrants" is one of such political categories that most people have only scant knowledge about. In order to form opinions, they think about immigrants in terms of specific attributes (place of origin, race, occupations) and evaluative traits (such as self-reliant and law-abiding vs. not).

These schemas vary: natives diverge in how they see immigrants, and these individual differences in schemas predict the perception of immigration as threatening (among those with negative schemas) or not (positive schemas). Since schemas operate on the level of social categories (i.e., "immigrants" as a collective), they are not easily translated into attitudes toward individual immigrants. Schemas are also not easily manipulable using common survey-experimental designs.

Testing this model requires measuring schemas on the individual level and this task involves several methodological challenges. Specifically, measurement of schemas using standard survey questions is associated with issues such as social desirability bias, demand effects, and rationalization. To address these methodological problems, I have developed two original techniques to measure respondents' schemas based, respectively, on the implicit association test (IAT) architecture and conjoint experimental design.

The empirical part of the dissertation has been divided into three chapters. In Chapter II, I have laid out the schematic model of political cognition and argued in favor of using implicit methods to measure human schemas in politics. Then, I have proposed a measurement strategy based on the IAT architecture and validated it using two cases unrelated to immigration but well-known to political psychologists: gendered images of the U.S. parties and racialization of welfare. In Chapter III, I have applied the schematic model and the proposed IAT-based measure to explore the content and consequences of racialized schemas about immigrant origins in the United States and Britain. I have found that, in the two countries, respondents indeed tend to think about stereotypically immigrant groups (Hispanics and Arab Muslims respectively) in racial terms and individual differences in racialized schemas are significantly associated with group-specific prejudice, anti-immigration attitudes, and support for right-wing political parties. In Chapter IV, I have addressed some of the limitations of the IAT-based method by developing a measure of multidimensional schemas using conjoint experimental design. Using this method, I have investigated the content and consequences of multidimensional schemas about immigration in the United States and found that they are dominated by immigrants' race/ethnicity. Also, I have presented results from a relatively simple priming experiment that suggest causal primacy of schemas with respect to attitudes.

5.2 Scholarly Implications

My findings have important implications for the controversies in the literature on politics of immigration outlined in the beginning of this chapter. I have proposed a psychological explanation for why voters across developed democracies can vary in how they see immigration rooted in the modern view of human cognition. Specifically, they have different mental images (schemas) of immigrants. Those who think of immigrants as less skilled, culturally distant, and

more likely to commit crimes should also believe that immigration hurts country's economy, cultural cohesion, and community life. Evidence presented in the dissertation supports the foundations of the schematic approach: individual-level schemas can be measured and are politically consequential. This hypothesis specifically with regard to immigration has been corroborated using three different measures of schemas as well as a priming experiment.

The schematic model explains why political conflict around immigration is so persistent in developed democracies despite their citizens mostly agree on the meritocratic approach to immigration policies. Disagreement in policy opinions is caused by differences in schemas about "who the immigrants are." Two individuals who agree that immigration of higly educated people sould be encouraged can favor different admission policies if one thinks that their country attracts mostly immigrants with college degrees whereas the other's beliefs are the opposite. My dissertation presents evidence supporting this conjecture. I have demonstrated that voters indeed have different mental schemas of immigrants and that individual differences in schemas predict political preferences, including attitudes toward immigration.

My theory and findings also speak to researchers' repeated inability to find a direct effect of experimentally manipulated origin and/or race of individual immigrants on natives' willingness to admit them. This finding is commonly interpreted as evidence for race-neutral immigration preferences: natives care about immigrants' contribution to the economy rather than about their race or ethnicity. My theory and empirical findings suggest that this may be a result of person-positivity bias (Iyengar et al. 2013), as well as information overload in such experiments. According to the schematic model, stereotypes and opinions are formed about "immigrants" as a social category. When asked about individual immigrants, respondents evaluate them on the case-by-case basis rather than apply schemas to make decisions. Moreover,

common experiments on immigrant admission usually present respondents with a lot of relevant data about persons they are asked to admit or not. This design should further suppress operation of the schematic information processing.

Another important point concerns the implicit vs. explicit measurement of schemas. Since the term "implicit" is not uniformly understood in modern social psychology (for a review, see Corneille and Huetter 2020), I must emphasize that it is used here to refer specifically to the method of measuring schemas ("implicit-as-indirect"). I employ the IAT architecture (Chapters II and III) and a conjoint experiment (Chapter IV) as a way to unobtrusively measure mental associations that individuals may be consciously aware of (Fazio et al. 1995; Fazio and Olson 2003). The alternative perspective ("implicit-as-automatic") claims there is a genuine distinction between implicit and explicit attitudes and stereotypes depending on whether they are consciously acknowledged by respondents (Greenwald and Banaji 1995; Greenwald et al. 2002). Since the method of measurement cannot directly speak to automaticity of the underlying psychological process (Corneille and Huetter 2020, 215), evidence presented in this dissertation does not permit conclusions with regard to whether schemas operate on a conscious or unconscious level.

At the same time, there are important ways in which application of implicit measurement techniques for schemas can be benifitial for political psychology. Implicit measurement remains an important tool of validating the relationships between schemas and political opinions. Explicit measures of schemas are known to be contaminated by a number of essential biases—social desirability, demand effects, rationalization—that are often non-random with respect to political opinions themselves (Lodge and Taber 2013). These biases can inflate both magnitude and statistical significance of relationships between schemas and political opinions thus increasing

risk of type I error (or a false positive). In contrast, implicit measures—such as the IAT—are robust to a respondent's desire for positive self-presentation (Greenwald et al. 2009, 18). If anything, implicit measures can lead researchers to underestimate the relationships of interest—due to relatively high levels of random measurement error (Cunningham, Preacher, and Banaji 2001). Therefore, the effects on political opinions found with implicit measures of schemas are more certain as they are less likely result from measurement artefacts.

Moreover, application of implicit measurement leads to some theoretically important findings with regard to politics of immigration. Specifically, results reported in Chapter IV demonstrate that implicit and explicit measures of schemas about immigrants lead to substantively different conclusions. Specifically, respondents' beliefs about immigrants' skills and occupational status significantly predict attitudes toward immigration when these beliefs are measured explicitly—but not when implicit measures are used. As discussed above, a significant effect for the explicit measure can be produced by essential response biases, such as rationalization, whereas the effect obtained with the implicit measure is more certain. This result questions the dominant view of immigration policy preferences that emphasizes sociotropic economic threat. Even though the single finding reported here is far from being conclusive, an association of immigrants with unskilled labor and low-status occupations can be a rationalization of pre-existing anti-immigration attitudes.

5.3 Social Implications

Beyond academic political science, findings reported in my dissertation have important political as well as broader social implications. As noted in Chapter I, immigration represents one of the major dimensions of political conflict in developed democracies nowadays. What can my findings say about the future of this conflict? As discussed previously in this chapter, this

conflict cannot be attributed to preferences on what kinds of immigrants should be admitted in principle. Instead, disagreeements are likely driven by differences in mental schemas about immigrants in voters' minds. However, within social cognition research schemas are known to be resilient (Moskowitz 2005). New information, instead of changing schemas, itself gets adjusted to fit pre-existing mental associations (Hunzaker 2016). It means that the gap in schemas about immigrants is likely to persist in the foreseeable future—and so will do political conflict around immigration.

Societal implications of schemas about immigrants can extend beyond opinions on immigration as a political issue. For instance, the schema connecting Hispanics and mmigrants reported in Chapter IV can be seen as a belief about Hispanics as not native to the U.S., i.e. as a group stereotype (Hilton and Von Hippel 1996). It is well known that stereotypes impact behaviors toward groups in question and can result in discrimination (Fiske 2000). Indeed, people from ethnic groups usually marked as foreign-born tend to experience more prejudice and discrimination, at least according to self-reports (Jones, Flores, and Vannette 2019). Overall, schemas about "who the immigrants are" can affect real-life situations.

Consider the example of immigration enforcement. Several American states—with Arizona being the most famous case—currently have statutory provisions that allow or even require state and local law enforcement officers to check the immigration status of individuals they arrest or simply stop. Reasonable suspicion that an individual is in the United States illegally can serve as a basis for such a check. However, in order to guess someone's legality, that person should be first visually marked as an immigrant. And results presented in Chapter IV of this dissertation suggest that Hispanics/Latinos are more likely to become subjects of such immigration status checks that whites/Anglos.

5.4 Prospects for Future Research

In this dissertation, I have proposed an original theory of immigration opinion formation and tested its observable implications using innovative measurement technqies. However, there are several aspects in which future studies can make improvements. Here, I outline several paths that I may pursue in my future work on this topic. Recall that one of the motivating questions stated in Chapter I concerns the role of racialized schemas about immigrants in attitudes toward immigration. In Chapters III and IV, I have presented evidence for existence of such schemas and their associations with political attitudes of interest including opinions on immigration. However, my findings are not fully conclusive on the relative importance of different schema dimensions. Most importantly, results of the priming experiment do not allow to say whether increased salience of one schema dimension (e.g., race vs. skills) shifts opinions more strongly than others. A potential way to address this in the future is to run an experiment that attempts to prime schema dimensions one by one—but, importantly, this cannot be achieved using completion of the conjoint task as a prime. Another way is framing experiments (Chong and Druckman 2007), that can try emphasizing a single aspect of immigration at the expense of others to make one schema dimension salient and compare how they affect policy opinions.

The causality question can be addressed in future studies using methodological tools other than survey experiments. A particularly primising design in this regard can be a panel study. The schematic model postulates that mental images of political objects are crystalized in voters' memories slowly over time. Then, tracing development of these images over time, as well as exploring potential feedback effects of attitudes and partisanship, can provide invaluable information. Such a study should be particularly efficient with young adults since political

schemas are likely formed during the "impressionable years" via political sozialization (Osborne, Sears, and Valentino 2011; Sears and Valentino 1997).

There are also questions that have remained beyond the scope of this dissertation but can be addressed in future research. One interesting question for future research is where schemas come from. In the dissertation, I have been treating schemas about immigrants as explanatory variables that predict attitudes toward immigration. However, tracing the origins of schemas themselves is necessary to obtain the full picture of the underlying psychological and political processes. Fortunately, the existing literature sketches at least two promising hypotheses in this regard. The first one is the role of mass media (Dunaway, Branton, and Abrajano 2010). The media can choose to focus on specific attributes of immigrants, i.e. schema dimensions, and such choices do not have to be politically informed—they can simply reflect a bias for sensationalism. For instance, newspapers are more likely to depict immigrants as mostly unauthorized and criminals (Blinder and Allen 2016; Farris and Silber Mohamed 2018), even though these attributes are not necessarily representative of "immigrants" at large. Survey experiments suggest that such depictions are consequential (Blinder and Jeannet 2018), but such studies have limited external validity as people may simply choose to follow the media sources that present information in line with their priors.

Local context is another variable that is likely to impact voters' schemas of immigrants. For instance, increase in local levels of immigration and related changes in ethnic compositions can provoke anti-immigrant backlash (Arora 2020; Hopkins 2010; Newman 2013). Previous studies have also looked at the relationship between local context and perceptions about the total numbers of immigrants or non-whites in the country (Gorodzeisky and Semyonov 2020; Wong 2007). At the same time, research aiming to establish the effects of local conditions on more

specific beliefs about composition of the immigrant population are effectively absent. It is possible that people who live in more diverse neighborhoods have more accurate beliefs about immigrants—and such beliefs are translated into perceptions of immigration as less threatening. These hypotheses can be tested using relatively simple designs. Observational studies that ask respondents about their schemas, collect data on media consumption, and match individual and local-level data on ethnic compositions can serve as a starting point.

Finally, it might be of interest to explore the degree to which natives' schemas about immigration correspond to reality—or deviate from it. It is necessary to emphasize that mere variance in individual-level beliefs about immigrants shows that there are people for whom they diverge from reality. Investigating patterns of how both aggregate and individual schemas in this dissertation has not been feasible for two reasons. First, implicit measures of schemas used in Chapters III and IV are not easily translated into common populations statistics that is usually presented in the format of "this percentage of foreign-born persons possess attribute X." Second, convenience samples that I have used do not really allow estimating schemas about immigration that an "average voter" in the United States or Britain might have. Studying the schema–reality gap, therefore, would require a survey study that focuses on explicit measures and employs national probability samples.

5.5 Concluding Remarks

Overall, my dissertation research makes several important contributions to political science. One of them is specific to the literature on public attitudes toward immigration. There is important variation in beliefs about immigration within the public in immigrant-receiving societies but empirical social research has largely overlooked it. Building upon the schematic model of political cognition, I bring these beliefs back in as an important part of public attitudes toward

immigration. A major strength of the schematic approach is its ability to explain the persistence and growth of political conflict around immigration in most developed democracies. Essential variation in beliefs about "who the immigrants are," largely ignored by researchers so far, leads voters to diverge on immigration and integration policy preferences—despite agreeing on what kind of newcomers should be admitted in principle. I also present evidence that, contrary to some recent findings, race and ethnicity constitute an important—possibly, central—component of popular schemas about immigration. Finally, I report some experimental results that indicate causal primacy of schemas with regard to attitudes.

The schematic model of political cognition represents a generalized framework for understanding of how citizens of democratic countries make up their minds about government policies. Scholars of public opinion have been long arguing that most voters do not have willingness, time, and resources to deeply explore and understand political phenomena (Lippmann 1922). These early insights are generally accepted in the modern literature on public opinion and political psychology: voters are low in political knowledge and engagement (Achen and Bartels 2016), do not think about politics in ideologically consistent terms (Kinder and Kalmoe 2017), and form opinions following elite cues delivered via mass media (Zaller 1992). Political cognition, therefore, is largely built on imagination (Petersen and Aaroe 2013): in order to come up with policy opinions, individuals use mental schemas of relevant categories that tend to have some basis in reality—but also deviate from it to varying degrees. A large share of these schemas represent links between political objects—policies, parties, and candidates—and social groups, with which people have a lot of experience (Nelson and Kinder 1996). Importantly, as a group and a political object become schematically linked, emotions about the group are transferred onto political preferences.

Finally, I develop a novel measure of multidimensional stereotypes applicable in future research in behavioral political science as well as other social science disciplines. My method builds upon recent application of conjoint tasks to measure schemas (stereotypes) rather than preferences but extends it to measure them on the individual level. The proposed method should be broadly applicable as a measure of respondents' associations of political categories with multidimensional attributes of interest. For instance, an influential argument connects opposition to government welfare programs in the U.S. public with schemas about welfare recipients as African Americans (Gilens 1999). Conjoint experiments can be used to assess prominence of race in schemas about welfare recipients and employed to estimate the impact of race, relative to other schema dimensions, on welfare policy opinions.

Appendices

Appendix A

Supplementary Material for Chapter II

Study 1: Gender and Parties

Partisan attitudes

"We would like to get your feelings towards the two main political parties in the U.S. Please rate each party using a scale that runs from 0 to 10, where 0 means strongly dislike and 10 means strongly like."

- How do you feel about the Democratic Party?
- How do you feel about the Republican Party?

Question order randomized.

Hostile sexism

"Now you will see series of statements with which you may either agree or disagree. For each of the following statements, we would like you to indicate the extent to which you agree or disagree."

- Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for "equality."
- Feminists are NOT seeking for women to have more power than men. (reversed)
- Most women interpret innocent remarks or acts as being sexist.

- Feminists are making entirely reasonable demands of men. (reversed)

Question order randomized.

Answers coded from 1 = Strongly disagree to 7 = Strongly agree.

IAT: gender stimuli

Female nouns: Girl, Daughter, Wife, Woman, Mother, Grandma

Male nouns: Boy, Son, Husband, Man, Father, Grandpa

IAT: party stimuli

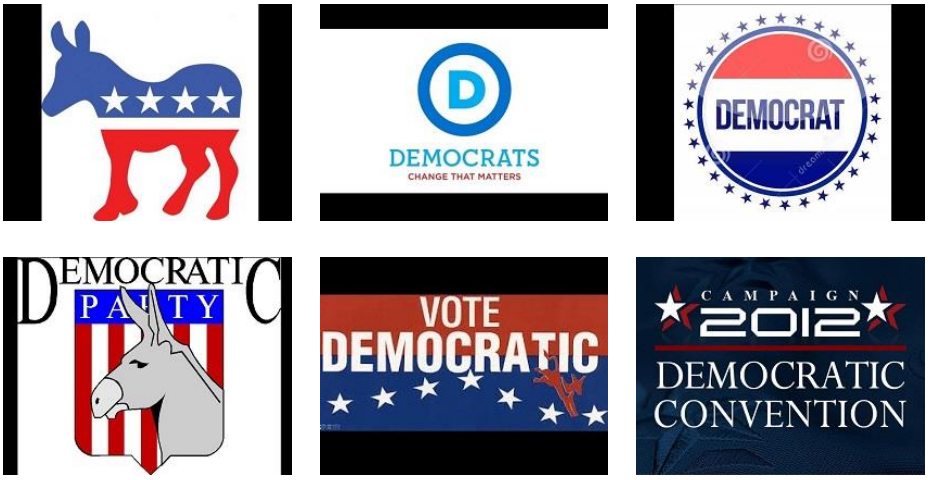


Figure A.1 IAT stimuli for the Democratic Party

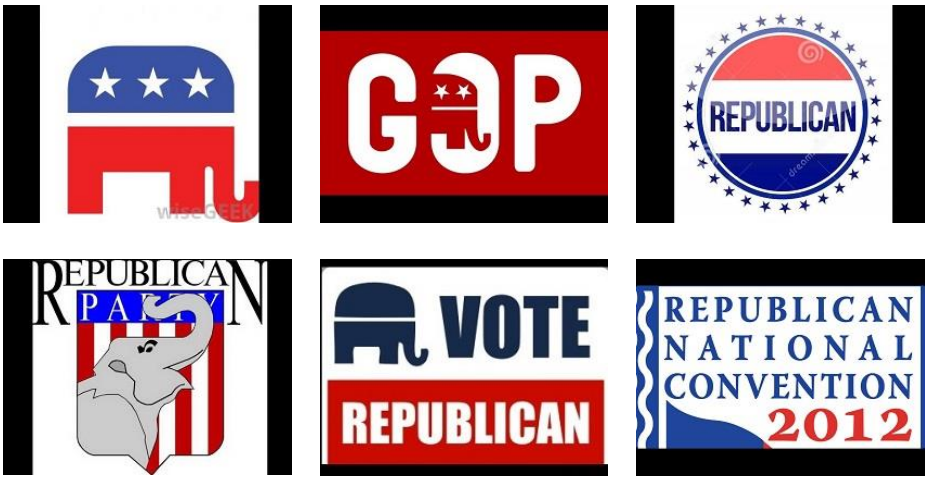


Figure A.2 IAT stimuli for the Republican Party

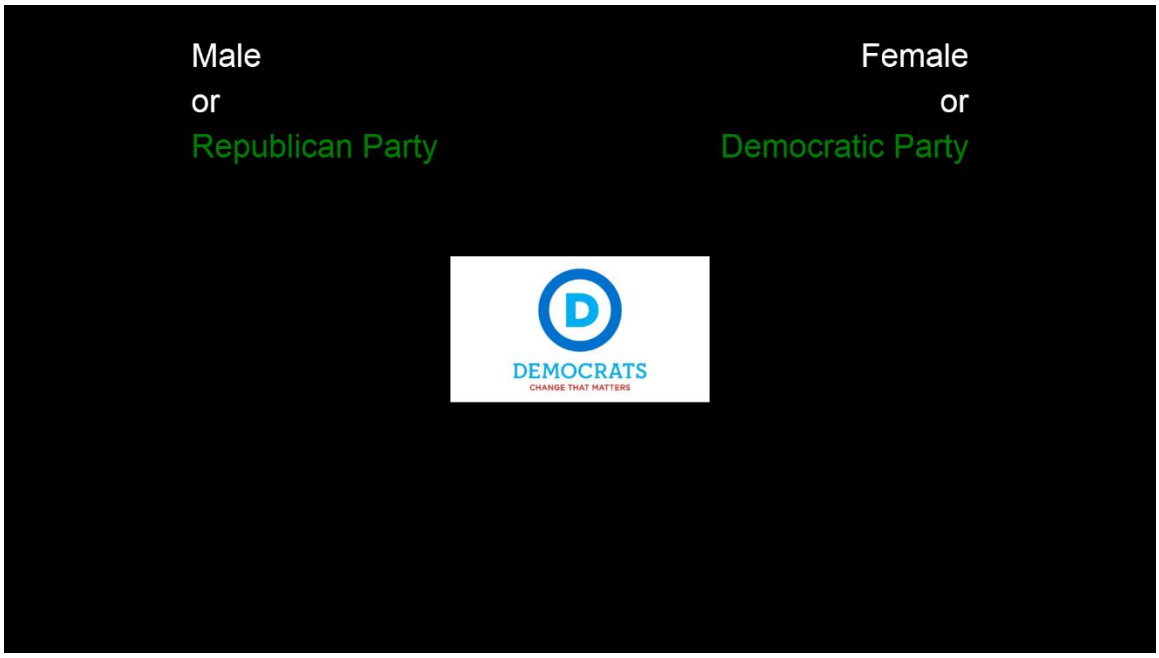


Figure A.3 Gender–party IAT sample screen

Study 2: Race and Poverty

Spending preferences

"We would like to ask you about various ways in which the government spends the public's tax money. There are various government programs that address different problems. In the questions to follow, we would like to get your opinions about some of them. For each, please use the scale provided to indicate whether you think spending should be increased, decreased, or kept about the same. Please remember that increasing spending in many categories will either mean taxes will need to be increased or the federal deficit will have to grow. So, prioritize the spending you think is most important."

1. What about spending on Medicaid, the health care program for families and individuals with limited resources?
2. What about spending to assist poor people in acquiring basic food items, also known as "food stamps"?
3. What about spending on rental housing assistance to low-income households?
4. What about spending on education programs for disadvantaged students?
5. What about spending on immigration control and border security?
6. What about spending on public safety and crime prevention?
7. What about spending to modernize the Armed Forces?
8. What about spending on foreign intelligence efforts of the CIA?
9. What about spending to improve the nation's roads and bridges?
10. What about spending to maintain underground infrastructure like sewer and water systems?
11. What about spending on major transportation systems like train lines and airports?

Question order randomized.

Answers coded from 1 = Decreased substantially to 7 = Increase substantially.

Economic individualism

"Please indicate how strongly do you agree or disagree with the following statements."

- Any person who is willing to work hard has a good chance of succeeding.
- Hard work offers little guarantee of success.
- Most people who don't get ahead should not blame the system; they really have only themselves to blame.
- Even if the people are ambitious, they often cannot succeed.
- If people work hard, they almost always get what they want.
- Even if people try hard, they often cannot reach their goals.

Question order randomized.

Answers coded from 1 = Strongly disagree to 7 = Strongly agree.

IAT: race stimuli

Same as in Study 3

IAT: income stimuli

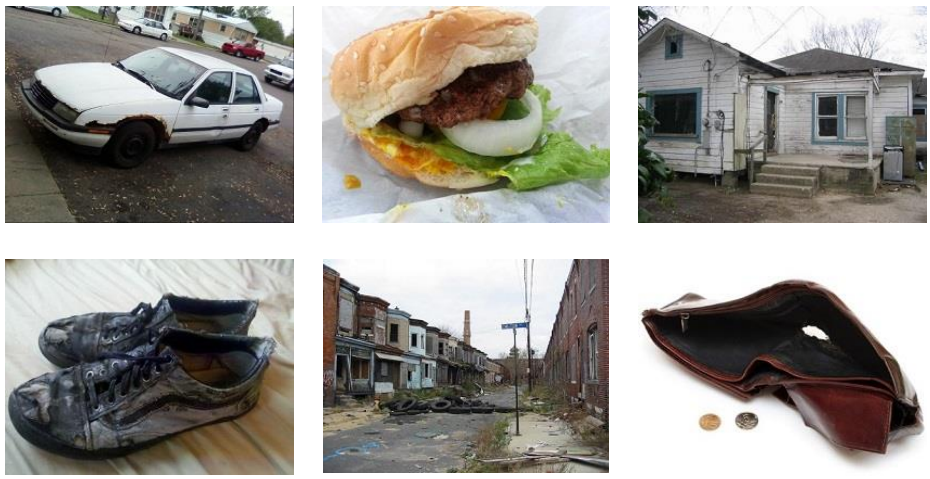


Figure A.4 IAT stimuli for poverty

Figure A.5 IAT stimuli for wealth

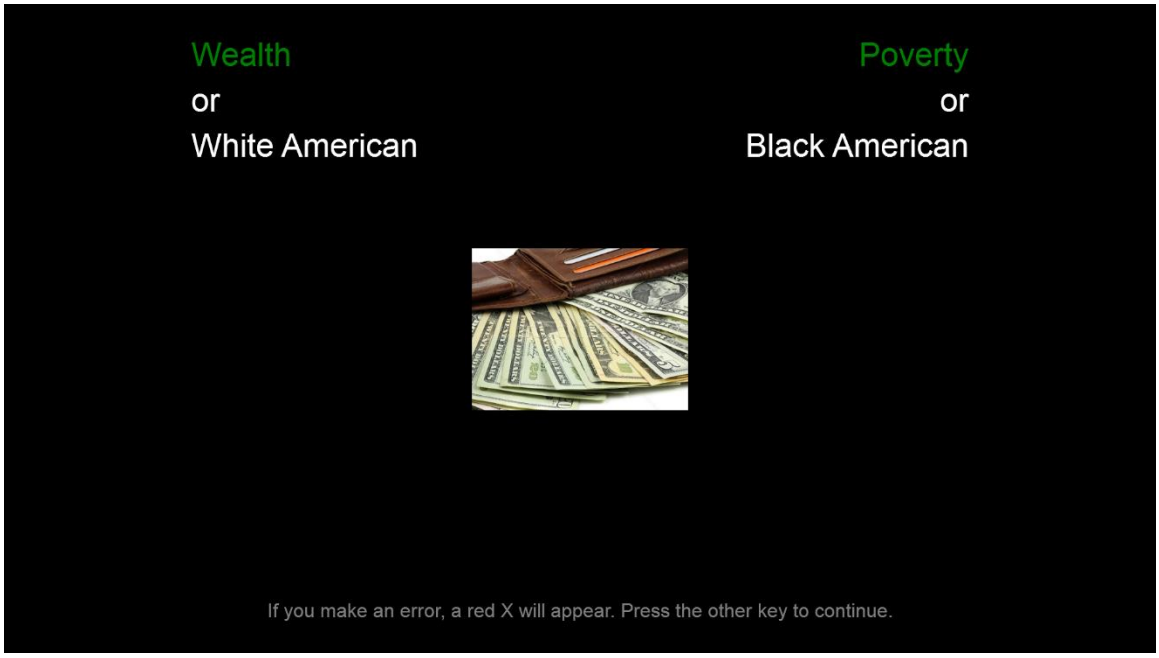


Figure A.6 Race–poverty IAT sample screen

Appendix B

Supplementary Material for Chapter III

Study 1: United States

Opposition to immigration

"We have some questions about what you think would happen if the U.S. permits more immigrants to come to this country. Please rate how likely, in your opinion, each of the following effects would be."

- Immigration will increase economic growth for the nation as a whole (reverse)
- Immigration will decrease wages and the standards of living for the average American worker
- Immigrants will enrich the cultural life in the communities where they choose to live (reverse)
- Immigration will make it harder to keep the country united
- Immigration will lead to further terrorist attacks
- Immigration will cause crime to increase in many communities

Question order randomized.

Answers coded from 1 = Extremely likely to 7 = Extremely unlikely.

Anti-Hispanic attitudes

"Please indicate how strongly do you agree or disagree with the following statements."

- In general, Hispanics do not work hard enough to learn English and adapt to American culture
- People in the United States should be more welcoming to Hispanics (reversed)
- Hispanics in this country are not treated fairly for the contributions that they make (reversed)
- Violent crimes committed by Hispanics receive less attention in the media than they should

Question order randomized.

Answers coded from 1 = Strongly disagree to 7 = Strongly agree.

Partisan feeling thermometers

"Now we would like to get your feelings towards the two main political parties in the U.S. Please rate each party using a scale that runs from 0 to 10, where 0 means strongly dislike and 10 means strongly like."

- How do you feel about the Democratic Party?
- How do you feel about the Republican Party?

Question order randomized.

Partisanship

- Generally speaking, do you usually think of yourself as a Democrat, a Republican, an independent, or what?
- Would you call yourself a strong [Democrat/Republican] or a not very strong [Democrat/Republican]?
- Do you think of yourself as closer to the Republican Party or to the Democratic Party?

Survey experiment

"We would like your opinion about a candidate who might run for re-election to Congress in 2018. This representative is a fairly [liberal Democrat/conservative Republican] when it comes to immigration and border security policy. In negotiations, this person is [willing to make certain concessions/not willing to make any concessions]. Specifically, the representative [supports/opposes] a bipartisan immigration policy that includes amnesty for illegal immigrants but would also make it easier to construct the border wall. How likely would you be to support this candidate in the election?"

Answers coded from 1 = Extremely likely to 7 = Extremely unlikely.

Ideology

"We hear a lot of talk these days about liberals and conservatives. Here is a 7-point scale on which the political views that people might hold are arranged from extremely liberal to extremely conservative. Where would you place yourself on this scale?"

IAT: origin (name) stimuli

Hispanic names: Ximena, Mariana, Gabriela, Lucia, Ramona, Camila, Santiago, Diego, Miguel, Alejandro, Juan, Jose

Anglo names: Mary, Elizabeth, Jennifer, Susan, Emily, Margaret, James, John, Robert, Michael, William, David

IAT: "race"/skin tone (face) stimuli

Link to face stimuli: https://www.projectimplicit.net/stimuli.html

The same face is represented in light and dark skin.

Figure B.1 Race–immigration IAT sample face stimuli

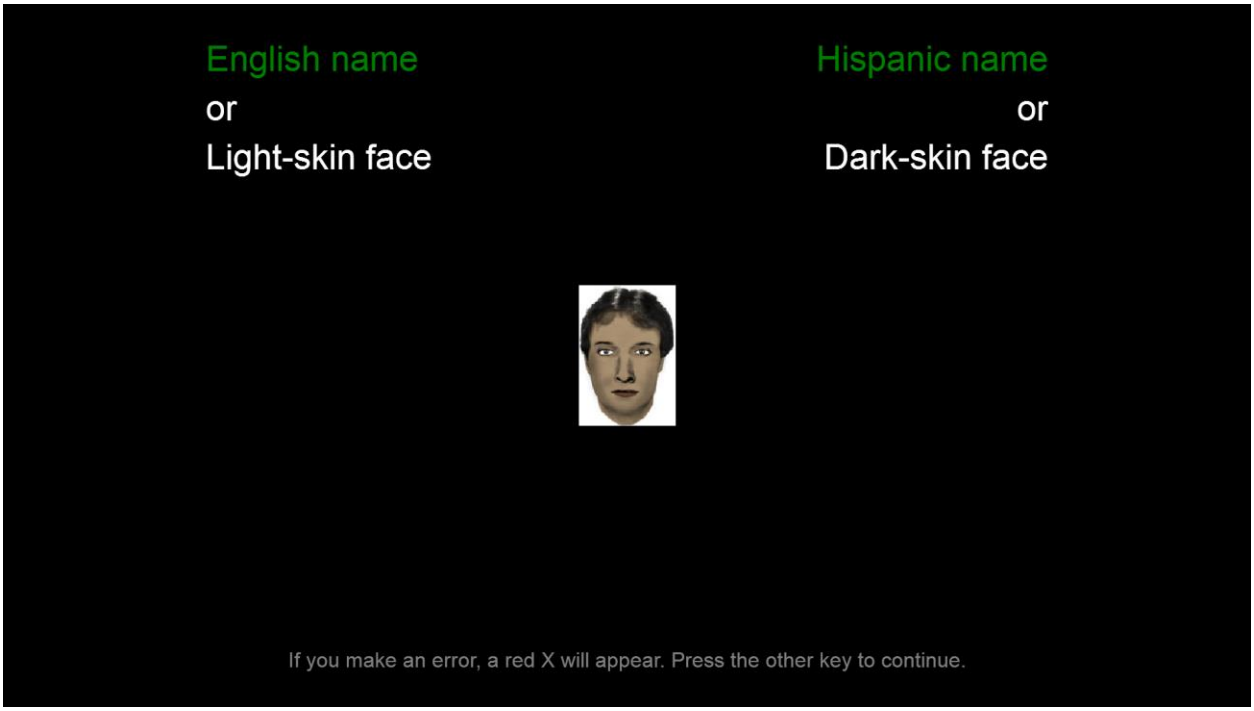


Figure B.2 Race–immigration IAT sample screen, U.S.

Study 2: Britain

Anti-immigration attitudes

"Please answer several questions about immigration to Britain from other countries."

- Would you say it is generally bad or good for Britain's economy that people come to live here from other countries?

Answers coded from 0 = Bad for economy to 10 = Good for economy.

- Would you say that Britain's cultural life is generally undermined or enriched by people coming to live here from other countries?

Answers coded from 0 = Cultural life undermined to 10 = Cultural life enriched.

- Is Britain made a worse or a better place to live by people coming to live here from other countries?

Answers coded from 0 = Worse place to live to 10 = Better place to live.

Question order randomized.

Islamophobia

"Please answer the following questions about Islam and Muslims. There are no correct or incorrect answers – please just be honest in your responses."

- The Islamic world is backward and unresponsive to new realities.
- It is wrong to characterize the entire Islamic world as one single uniform formation. (reversed)
- Islam shares the same universal ethical principles as other major world religions. (reversed)
- Islam is an archaic, out-of-date religion that is unable to adjust to the present.
- Compared to other religious and philosophical approaches, Islam is rather primitive.

- It is wrong to claim that a clash of cultures exists between Islam and the West. (reversed)
- Islam has an aggressive side that predisposes it toward terrorism.
- Islam is a religion rather than a political ideology, and thus Islam itself has nothing to do with politics or war. (reversed)

Question order randomized.

Answers coded from 1 = Strongly disagree to 5 = Strongly agree.

Partisan feeling thermometers

"Using a scale that runs from 0 to 10, where 0 means strongly dislike and 10 means strongly like, how do you feel about the following political parties?"

- Labour
- Conservatives
- Liberal Democrats
- United Kingdom Independence Party (UKIP)

Question order randomized.

Ideology

"In politics people sometimes talk of "left" and "right." Where would you place yourself on this scale, where 0 means the left and 10 means the right?"

Explicit racialized schemas

"As you know, people who come to live here from other countries display a wide variety of physical attributes. One of these is skin color. In this question, we ask you to assess the skin color of people from some regions of the world using the scale below. This is a 6-point scale, ranging from 1 to 6, with 1 representing very light skin and 6 representing very dark skin. When answering the question, think about a typical immigrant from each region."

- People from the Middle East
- People from Eastern Europe

IAT: origin (name) stimuli

Arab Muslim names: Mohamed, Omar, Ahmed, Yousouf, Hamza, Khalid, Hussein, Usman, Fatima, Salma, Zeinab, Aisha

Anglo Christian names: Jack, Harry, George, William, Oscar, Michael, Charlie, Jacob, Amelia, Olivia, Emily, Grace

IAT: "race"/skin tone (face) stimuli

Same as in Study 1

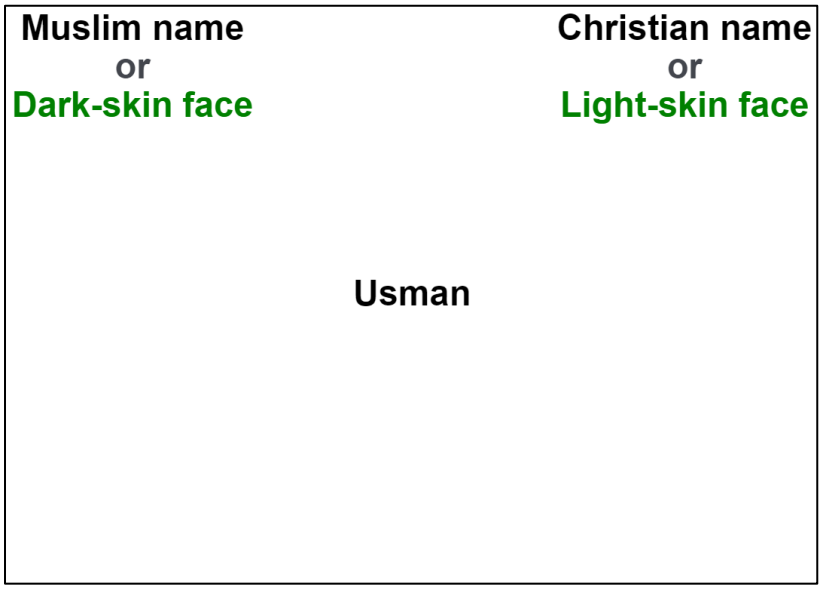


Figure B.3 Race–immigration IAT sample screen, Britain

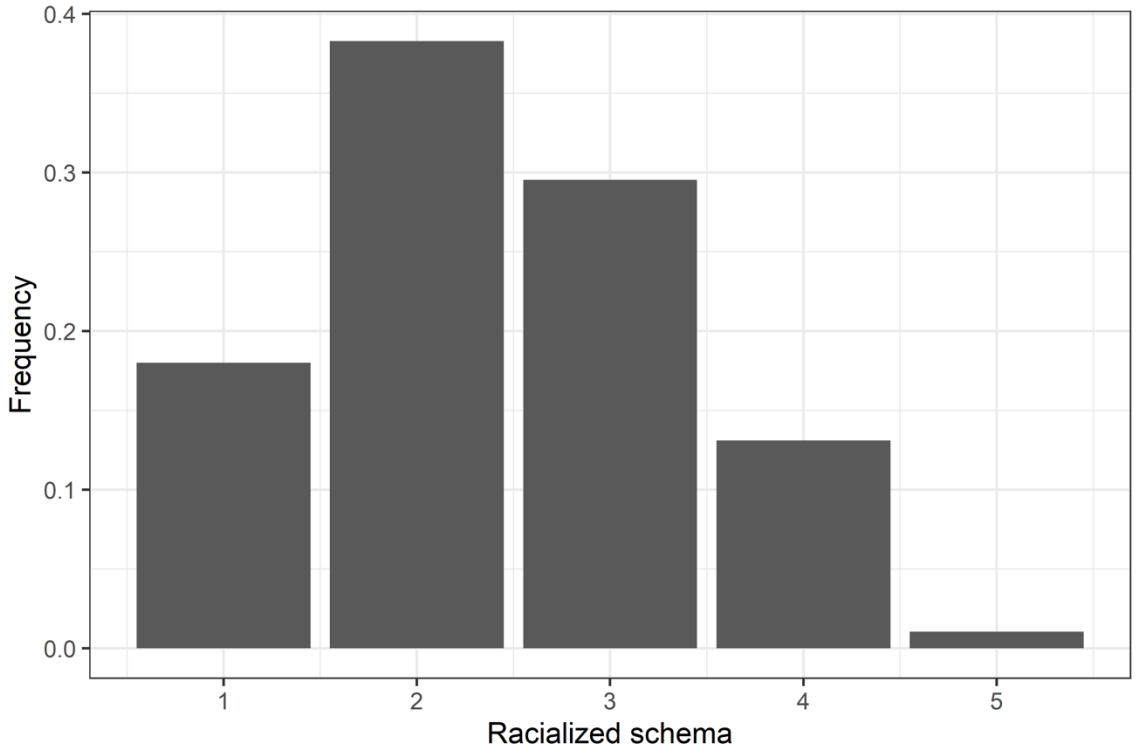


Figure B.4. Distribution of racialized schemas about East Europeans

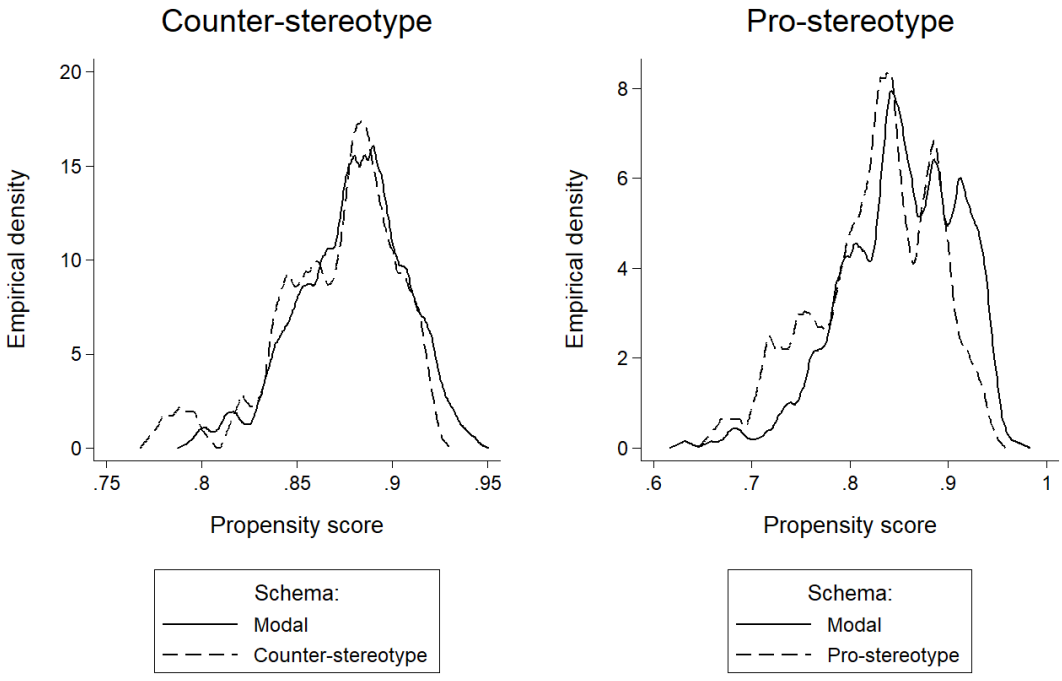


Figure B.5. Overlap plots for propensity score matching

Appendix C

Supplementary Material for Chapter IV

Explicit schemas

"Please indicate the percentages of the U.S. immigrant population that, in your opinion, have each of the listed characteristics. Of course, nobody knows exact numbers so just give your best estimates."

- are white
- are Hispanic
- are Asian
- are younger than 40
- are women
- are high-skilled workers
- receive government benefits
- have police record

Anti-immigration attitudes

"Please answer several questions about immigration to the U.S. from other countries."

- Would you say it is generally bad or good for Britain's economy that people come to live here from other countries?

Answers coded from 0 = Bad for economy to 10 = Good for economy.

- Would you say that U.S. cultural life is generally undermined or enriched by people coming to live here from other countries?

Answers coded from 0 = Cultural life undermined to 10 = Cultural life enriched.

- Is the U.S. made a worse or a better place to live by people coming to live here from other countries?

Answers coded from 0 = Worse place to live to 10 = Better place to live.

Question order randomized.

Ethnocentrism

Below are items that relate to different cultures and ethnic groups. Work quickly and record your first reaction to each item. There are no right or wrong answers. Please indicate the degree to which you agree or disagree with each item.

1. In most cases, I like people from my culture more than I like others.
2. I don't think I have any particular preference for my own cultural or ethnic group over others. (reversed)
3. The world would be a much better place if all other cultures and ethnic groups modelled themselves on my culture.
4. The values, way of life, and customs of most other cultures are probably just as good as those of my own. (reversed)
5. Our culture would be much better off if we could keep people from different cultures out.
6. I like the idea of a society in which people from completely different cultures, ethnic groups, and backgrounds mix together freely. (reversed)

7. We need to do what's best for our own people, and stop worrying so much about what the effect might be on other peoples.
8. We should always show consideration for the welfare of people from other cultural or ethnic groups even if, by doing this, we may lose some advantage over them. (reversed)

Answers coded from 1 = Strongly disagree to 7 = Strongly agree.

Question order randomized.

Respondents randomly presented with four statements, one from each following pair: (1) and (2), (3) and (4), (5) and (6), (7) and (8).

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