Abstract

Attitudes towards immigrants represent a complex and multifaceted issue with significant implications for society, economies, and politics. From a social perspective, immigration can shape the cultural fabric of a society, causing new opportunities for cultural innovation as well as conflicts between groups. In the realm of politics, attitudes towards immigrants are a divisive issue that can influence policy decisions and have far-reaching consequences, affecting the rights and opportunities available to immigrants, as well as shaping broader narratives on national identity and security. The dynamics of attitudes towards immigrants are also closely tied to broader issues such as globalization and demographic shifts, processes that show no sign of slowing. As migration becomes a more salient issue in new areas around the world, a more comprehensive view of how attitudes towards immigrants form, which incorporates both under-studied countries and clearly elucidates the key factors in driving attitudes, is necessary.

While the individual-level factors in attitudes towards immigrants have been well-studied, especially in European and Settler countries, little research has been done on how the national environment influences attitudes towards immigrants, due to lack of data availability in many parts of the world and an overemphasis on highly developed, immigrant-receiving countries. This dissertation poses the question, how are attitudes towards immigrants are contextualized by their local and national environments, and what determinants can be considered generalizable. It contributes to the literature by connecting integration outcomes and attitudes, exploring under-researched areas, finding generalizable and context-specific determinants of attitudes towards immigrants, and by suggesting ways in which theories of prejudice can be expanded to include new evidence.

In order to understand how attitudes are determined by their local environment, the relationships between political attitudes and integration outcomes, measured by immigrants' income and subjective well-being, are examined, using England as a case study. Our findings reinforce the importance of the study of attitudes towards immigrants, as negative attitudes are found to have a significant, negative effect on life satisfaction. Moreover, our findings suggest that intersectionality is an important lens for understanding attitudes towards immigrants, due to the existence of both a large ethnic penalty against minority ethnic migrants nationally, as well as discrimination against White migrants in areas with more exclusionary political attitudes. When extending the research on attitudes towards immigrants to include understudied countries in East and Southeast Asia, group identity was able to explain some of the findings; however, several determinants, including absolute/relative value orientations, science and technology, and religion, defy current theories, underlying the importance of how group membership forms in determining attitudes. Finally, the study is extended to a cross-national study also uses

a network science approach to identify generalizable and contextual factors in determining attitudes towards immigrants. Prejudice is found to be a consistent determinant, but its formation varies, with social capital and social position concerns prominent in high-income, low-inequality countries, social identities in high-income, high-inequality countries, and group threat and attitudes towards homosexuals determining attitudes in low-income countries.

Given the relative merits and deficiencies of the current literature on attitudes towards immigrants, we propose that researchers expand theories of attitudes by focusing instead on when and why different theories become salient in forming attitudes, proposing inequality and GDP per capita as two key drivers, incorporating the study of how group membership and group identification forms into studies of attitudes, and by including the strength of attitudes towards attitudes. Doing so would allow for a greatly expand our understanding of how attitudes form and our ability to predict attitudes changes in dynamic national environments.

To bridge theory and practice, we implemented a social intervention in Japan, targeting the feelings of superiority and innate differences associated with prejudice formed through group position using a perspective-taking video game. Our pilot test yields promising results, showing positive responses from Japanese students in the qualitative responses and tentatively positive quantitative results. We suggest further exploration of this game's potential by conducting an randomized controlled trial, and explore its applicability for use as a valuable tool in reducing prejudice towards immigrants amongst foreign national supporters. Finally, we concludes the dissertation by summarizing the results and their contribution to the understanding of attitudes towards immigrants, before highlighting areas for future research.

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Chapter 1

Introduction

While the movement of people across national borders is only one part of the phenomenon of globalization, migration often prompts the most visceral reaction from publics, policymakers, and other stakeholders. The movement of money and goods across borders, while not uncontested, are more liberalized and thought to be more acceptable to publics than the freer movement of people. This trend remains, despite some studies which find that removing all migration restrictions would lead to a far greater growth in global GDP than the removable of trade and capital barriers, on the order of tens of trillion dollars (Clemens, 2011). And, by some measures, attitudes towards immigration and immigrants are hardening. Today, 74 border walls exist across the world, more than triple the number of border walls in existence after the fall of the Berlin Wall (Vallet, 2022).

How can one understand the asymmetry of these reactions? The inclusive of new members, often from different religions, norms, and languages, into the body politic can create impassioned reactions, inciting fears of economic displacement, cultural change, and political disruption. Unlike goods and capital, the movement of people necessitates the inclusion of new people into a country. As the Swiss playwright Max Frisch succinctly put it, "we asked for workers, and human beings came."

Some may argue that these negative reactions towards newcomers are hard-wired into the human psyche, a remnant of the evolutionary impulse to cooperate with those that we know and are similar to us and to reject those who are strangers (Masuda & Fu, 2015), and that the borders of these groups are more or less fixed. However, how we define membership into a group is constantly in flux, often contradictory, and rarely can a common definition be found amongst all members. Moreover, people contain multiple identities and memberships, taking on salience at different times.

These questions, of who is accepted into the group and under what conditions, contain even greater complexity when raised to the level of a national political debate about who should be allowed into a country and what rights and privileges they should be afforded. These problems are multi-dimensional and transdisciplinary, requiring the insights from diverse fields like psychology, economics, sociology, and political science. This thesis aims to expand the understanding of attitudes towards immigrants by examining the issue from multiple levels – the local, the regional, and the international – in order to gain greater insight into what determinants are generalizable and which are unique to the country-context.

Before continuing, it is necessary to define who exactly is a migrant because, as with many terms, definitions vary widely depending on the user. Definitions vary based on country, with some countries identifying migrants based on foreign birth, citizenship, or visa. Moreover, citizens often have very different definitions of what a migrant is, ignoring some categories like international student while emphasizing others, like asylum seekers or labor migrants (S. Blinder, 2015). Most surveys on attitudes towards immigrants, rather than giving a common definition, allow respondents to use their implicit definitions. Third, terms like "migrant," "immigrant," and "foreigner" are often used interchangeably. Finally, while international migration is the movement across a national border, some people may be considered migrants who have never migrated, such as the children of migrants born within the destination country or residents who become foreign nationals when national borders change.[1] This dissertation takes an expansive definition of who is a migrant, using the International Organization for Migration's (IOM) definition: "any person who is moving or has moved across an international border or within a State away from his/her habitual place of residence, regardless of (1) the person's legal status; (2) whether the movement is voluntary or involuntary; (3) what the causes for the movement are; or (4) what the length of the stay is" (IOM, 2023).

As such, this definition is incredibly broad, encompassing both international and internal migrants, people who are forced to leave their homes and those who go willingly in search of economic advantage, those who migrate seasonally as well as those who settle in the country, etc. Often in debates about migration, people's opinions on immigrants vary widely from their opinions on refugees (O'Rourke & Sinnott, 2006). Immigrants are generally those who intend to settle or remain in the country for the long-term (Anderson & Blinder, 2015); however, in practice, separating immigrants from other types of migrants can be difficult due to data constraints and simply because people's plans are subject to change. The two terms will be used throughout the work as appropriate.

In many countries today, migration is often framed as a "crisis," overwhelming public services and local people, fueling populist reactions. A brief overview of the state of international migration can help situate migration in its historical context in order to better understand how it activates these feelings. First, in terms of absolute numbers, global migration remains a relatively small phenomenon. Today, an estimated 281 million international migrants live outside of their country of birth, around 3.6% of the world's global population. In 1970, international migrants numbered around 84 million and represented 2.3% of the world's population (IOM, 2023). Overall, this represents a growth rate of 50% over 50 years. In the world's largest migrant destination country, the United States, 51 million international migrants reside. This represents around 14% of the total population, a similar figure to the share of immigrants to the U.S. after the age of mass migration from Europe in the 19th and early 20th century (Abramitzky & Boustan, 2016).

However, the local experience of migration can vary widely from the global picture, as migration is often concentrated in certain countries. Two thirds of all migrants live in only twenty countries (IOM, 2023), often along well-established "migration corridors" between two countries. Some of the largest corridors include from Mexico to the United States, from Syria to Turkey, and from India to the United Arab Emirates (IOM, 2023). Moreover, destination countries for migrants

[1] A notable example is the movement of the U.S.-Mexico border following the Mexican-American war, where 55% of Mexico's territory became part of the United States. Residents in those areas were given the choice of either becoming U.S. citizens or moving to Mexico, but issues of discrimination and land dispossession were rampant amongst those who remained (Chanbonpin, 2004). Moreover, family ties, which had previously taken place within one country, became transnational with the movement of the border.

are changing, with a greater number opting for new destinations in Southern Europe, Gulf countries, and North Africa and Western Asia (Czaika & de Haas, 2014; UN DESA, Population Division, 2019). In some countries, this greater dispersion of migrants is happening on the local level, with new locations outside of traditional migrant-receiving cities becoming more popular in countries like the United States (Flippen & Farrell-Bryan, 2021).

International migration is both a product of a globalizing society and a force behind globalization. The technological improvements which have allowed for greater ease of travel, communication, and trade in goods and capital have equally allowed for the greater movement of people (Ikeda, Iyeomi, & Mizuno, 2001). Migration corridors are shaped by the historical links between countries; countries often see large migration from former colonies, due the administrative, cultural, and linguistic similarities as well as the transportation and communication infrastructure forged during colonialism. The entrance of global firms into a country, the extraction of raw materials to be sold on global markets, and the creation of ideological and cultural links between countries can also encourage international migration (Massey et al., 1993). Economic integration and globalization, whether in the form of colonialism in previous eras or through global firms and regional agreements today, can spur and direct international migration. Finally, as Meer and Modood state, "the prevailing context is that the majority of the world's population resides in 175 poorer countries relative to the wealth that is disproportionately concentrated in around twenty" (Meer & Modood, 2015, p.1). Of the forces which create greater mobility in populations, forces like global capitalism, large global inequalities, and political instability, none appear to be subsiding. Industrialized countries have always been shaped by migration, both as sending countries and as receiving countries. Migration is in short a feature of industrialized countries, and multiculturalism in the descriptive sense of the word is becoming more common. The question becomes what to do in the intermediate term to create a society which is peaceful, sustainable, and just for all parties.

Given the multi-dimensional issue of migration, why focus on attitudes towards immigrants? The interpersonal relationships and feelings between groups may seem to be of little importance when contrasted with issues of sustaining one's livelihood, finding asylum from persecution, or the global inequalities between countries that lead to migration in the first place. However, attitudes towards immigrants remain salient for two primary reasons. First, they have a direct effect on immigrants' ability to sustain their livelihoods and lead full and dignified lives. Attitudes can show a willingness towards discrimination; immigrants living in areas with more negative attitudes have been shown to experience greater job discrimination (Carlsson & Rooth, 2012) and housing discrimination (Carlsson & Eriksson, 2015). As Chapter 3 will show, more exclusionary attitudes are correlated with lower life satisfaction and income amongst immigrants living in those areas. In the most extreme cases, negative attitudes between groups can lead to intergroup conflict and violence.

Second, attitudes are relevant to discussion related to migration because they form part of the definition of integration, namely becoming an acceptable part of society (Penninx, 2005). Integration is a multi-dimensional concept and process, touching on many aspects of a person's life and their relationships with other people and with the state such as the economic, social, and political. However, at its base, it asks whether or not newcomers have become an accepted part of a country. Attitudes can represent one important indicator of whether or not this is the case. Moreover, attitudes are necessary for policymakers as they represent a link between policymakers and the public. Through understanding and monitoring public

opinion, policymakers can come to understand to what degree policies related to immigration and integration are acceptable to the people from which they received their mandate.

Despite the long history of research on the individual-level factors in attitudes towards immigrants have been well-studied, especially in European and Settler countries, little research has been done on how the national environment influences attitudes towards immigrants, due to lack of data availability in many parts of the world and an overemphasis on highly developed, immigrant-receiving countries. This dissertation aims to answer how attitudes towards immigrants are contextualized by their local and national environments from multiple levels of analysis, namely the local, regional, and international levels, and by examining different types of attitudes. By doing so, this dissertation contributes to the understanding of attitudes towards immigrants by finding that attitudes have significant effects on immigrants' integration outcomes, but that these effects vary amongst groups and depend on the political situation in countries. Moreover, when expanding the study outside of the most studied regions, new and understudied determinants of attitudes were identified, raising questions about the generalizability of previous research studies. Finally, the study identifies generalizable determinants and determinants that become salient depending on the country's level of development and level of inequality.

The work in this thesis is novel in that it uses a network science methodology which allows it to understand the relationships amongst determinants. Not only does this model more closely align with the understanding of attitudes as mutually dependent on one another, this allows for a deeper understanding of how attitudes form. For example, Chapter 5 examines how prejudice forms by looking about both the relationships between prejudice and other determinants, but by also looking at the sub-community structure of prejudice, i.e. what other features act similarly to the prejudice feature.

Chapter 2 reviews the literature on why and how migration occurs as well as immigrants' integration into the destination country. Next how attitudes form generally is reviewed, before specific studies related to attitudes towards immigrants are reviewed. Finally, network science as a methodology is introduced, and key terms are defined.

Chapter 3 examines the relationship between political attitudes and immigrants' economic and subjective well-being, using England as a case study. The chapter finds that attitudes do have a significant effect on immigrants' subjective well-being and income. However, while a significant ethnic penalty exists – minority ethnic immigrants have lower average income, even when controlling for individual characteristics like education – White immigrants see a decrease in income when they live in areas that had higher vote share for leaving the European Union, i.e. the Brexit vote. This chapter contributes to the literature by showing that political attitudes have a significant effect on both economic and non-economic measures of well-being and that these effects differ widely based on the ethnicity of immigrants and the political environment.

Chapter 4 uses a cross-national approach to understand the major determinants of attitudes towards immigrants in East and Southeast Asia, providing a counterpoint to the literature which mainly focuses on European and Settler countries. In particular, the chapter asks what are the major determinants of "taste for discrimination" amongst respondents from 9 East and Southeast Asian countries. Some determinants, such as group identity, prejudice and stigma, and views on democracy, were found to be similar to the literature. Others, like views on science and technology and absolute/relative moral orientation, had not been suggested by the literature. Finally, well-established determinants such as education were

not found to be significant, highlighting the importance of the expanding research outside of well-studied areas.

Chapter 5 aims to understand which determinants of attitudes can be considered generalizable, i.e. relevant to the general population, and which depend on differing country contexts. The analysis finds three distinct clusters of countries with differing determinants of attitudes: high-income, low-inequality countries, where determinants related to social capital are especially salient; high-income, high-inequality countries where social identity is important in determining attitudes; and low-income countries, where concerns about material well-being and attitudes towards homosexuality are relevant. While prejudice towards other groups is salient in all clusters, how prejudice forms and whether respondents differentiate between different groups is not consistent amongst country clusters. The study contributes to the literature by identifying both the generalizable and unique determinants of attitudes globally.

Finally, given the centrality of prejudice in both of the previous studies, Chapter 7 creates an intervention that aims to increase empathy and reduce prejudice using a video game. The chapter first introduces the theoretical and policy background of communication and using video games for social emotion learning, before describing the results of a pilot test in which Japanese students were asked to play the game and then respond to a survey collecting both quantitative and qualitative responses. The study found encouraging results for the use of the game in other contexts, and goes on to describe how the game might be used to help train foreign national supporters, or government employees who often interact with foreign nationals, in Japan.

Chapter 8 concludes the dissertation by summarizing the results and their contribution to the understanding of attitudes towards immigrants, before highlighting areas for future research.

Through these chapters, the dissertation poses the question, how are attitudes towards immigrants are contextualized by their local and national environments, and what determinants are generalizable?

Chapter 2

Literature review

2.1 Migration

This section will provide an overview of the context in which international migration takes place. Various models that explain the causation and perpetuation of migration will be discussed as well as common strategies employed in the integration of immigrants into society. This paper will not delve into the rights of nations to restrict immigration, but rather take it as a fact that there are currently immigrant communities living outside of the country of birth. Regardless of the circumstances of entry, the integration of immigrants and their second-generation children, many of whom are citizens, is critical to creating a society that is both sustainable and peaceful.

2.1.1 Migration models and context

In his survey of models of migration, Massey summarizes major contemporary theories of international migration. He begins with the major four prevailing theories of the underlying forces causing international migration: a neoclassical economic theory, new economics theory, dual labor market theory, and world systems theory. These four theories operate on the individual, household, national, and international level respectively and are therefore not mutually exclusive; all four could be operating simultaneously with varying of degrees of influence (Massey et al., 1993). The following four theories will now be delineated in more detail.

The neoclassical model for the decision to migrate argues that this decision to migrate is mainly influenced by the existence of income differentials between countries. Motivated by a desire to maximize income, workers from labor-rich, capital-scare countries, in which wages are lower, move to labor-scarce, capital-abundant countries in which the wages are higher. The result of this movement causes wages to rise in labor-rich countries and to decrease in capital-rich countries, until an equilibrium is reached that reflects only the financial and psychological costs of international migration. This theory also posits that labor flows and capital flows, which include human capital, are essentially different. Thus, the international movement of high-skilled workers is independent, even at times opposite, to the direction of low-skilled workers. In order to control international migration, governments should regulate the labor market in sending and receiving

countries.

In the new economies model, the decision to migrate is made by the household, or a group of people, rather than the individual (Stark & Bloom, 1985), and the decision is influenced by multiple markets, not just the labor market. Households seek not only to maximize income but also to minimize risks. By having a member work in a foreign market, households are able to lessen the impact of financial downturns in the local market, as they are still able to rely on remittances from the foreign worker. Having a family member migrate can also help mitigate risks in countries where institutions like insurances, government programs, etc. are not as developed, dependable, or accessible. Similarly, limited to access to credit may encourage migration as a strategy for accumulating wealth or capital. Furthermore, decisions to migrate are influenced by the household's relative deprivation, meaning that if their income relative to other households in the local area are lacking, the household may decide to move one or more members. Governments can influence migration through creating policy that affects not only the labor market, but also insurance markets, capital markets, and future markets. In addition, ensuring that the poorest households are included or targeted in income distribution policies can equally diminish the desire to migrate as the relative deprivation of the household decreases.

Dual labor market theory argues that the economic structure of industrialized nations create a structural and inherent need for international migration (Piore, 1979). Instead of "push factors" like low wages, political instability, or climate change encouraging migrants to leave a sending country, this theory posits that industrialized countries pulls migrants into their economies. This pull factor is created by four inherent features of the industrialized nation: structural inflation, motivation problems, economic dualism, and the demography of labor supply.

Structural inflation refers to a feature of industrialized economies in which increasing wages at the very lowest level of employment requires raising wages throughout the structure. If in order to attract more low-skilled workers, an employer simply increases the wages of this position, they are also compelled to increase wages at the top and middle levels as wages represent in part status and prestige. Hiring immigrant workers allows employers to fill labor scarcity without having to increase wages at all levels, as generally incomes are high enough to satisfy these workers and status is less important. The second feature of the economic structure to create a desire for hiring international migrants is a problem of motivation at the lowest level of work. The bottom-tier jobs in an economy cannot be eliminated but also do not offer any status to be maintained and few avenues for upward mobility. Again, as migrant workers represent a population for whom the job represents solely income and who do not need to maintain status in the host country, either because the income is sufficient, status is gained through remittances abroad, or because they do not view themselves as part of the receiving society. Thus, migrant workers do not create the same motivation problems for employers as the native-born population. Third, the modern economic system creates different rewards and costs to capital-intensive work versus labor-intensive work. When capital is not used, the owner of capital bears the costs. However, when labor is unnecessary, a firm can fire a worker, and the worker carries the economic cost of unemployment. In order to reduce costs, "capitalists seek out the stable, permanent portion of demand and reserve it for the employment of equipment, whereas the variable portion of demand is met by adding labor" (Massey et al., 1993, p.442). Jobs in capital-intensive sector, therefore, tend to be more secure, with greater training, and more unionization, but also more scarce. Jobs in the labor-intensive sector have lower

wages, less security, and companies invest less training in their workers. This leads to the economic dualism between the labor and capital market causing native-born workers to gravitate towards capital-intensive sectors, while employers seek immigrants to fill labor-intensive sectors. Finally, changes in the demography of the labor forces have changed the type of person who typically take on low-skilled, labor-intensive work. In the past, women and teenagers often took low-wage and insecure jobs as their participation in the labor market was seen as temporary. However, greater participation in the labor market by women and fewer teenagers due to declining birthrates and the extension of formal education have decreased the supply of this labor. Due to these features, employers have greater incentive to hire migrant workers than native workers. Because the causes of international migration are structural, it is unlikely that governments will be able to control international migration through specific policy as influencing demand requires structural changes in the economic system.

While dual labor market theory operates on the level of the nation, world systems theory identifies the cause of migration as a feature of the structure of the world market since the 16th century. In other words, "migration is a natural outgrowth of disruptions and dislocations that inevitably occur in the process of capitalist development" (Massey et al., 1993, p.445). As capitalism penetrates peripheral countries and bring them into the world market, the way land is distributed,[1], the movement of raw materials,[2] and the labor market[3] are all subject to drastic changes. Each of these changes create a more migratory population. Furthermore, the material links created between countries to allow for the extraction of raw materials from one country to another equally create a pathway for people. The capitalist metropole establishes a similar system of administration and education in the peripheral country, as well as instituting the language of the core capitalist country, propagating mass media and patterns of consumption, creating cultural and ideological links that offer greater ease of movement. Global cities (Sassen, 1988), such as New York, Paris, and Tokyo, are also the centers of foreign investment and the other pole of the pulling forces mentioned above. Wealth and knowledge become concentrated in a select few municipalities, all of which need low-wage, unskilled labor in the service industry. As manufacturing is exported overseas, these global cities create "a bifurcated labor market structure with strong demand for workers at both the upper and lower ends, but with relatively weak demand in the middle" (Massey et al., 1993, p.447).

The world systems theory model posits that international migration is a natural consequence of global capitalism. Thus, governments which seek to control labor immigration should focus on regulating the overseas investment of companies and the international exchange of capital and goods. Furthermore, political and military interventions which seek to protect a country's interests abroad are likely to create a different type of migrant, refugees. In conclusion, world systems theory posits that controlling immigration requires a level of international cooperation and the will to intervene in the global market, actions which are "difficult to enforce, tend to incite international trade disputes, risk world economic recession,

[1] In order to maximize profit within the competitive global market, capitalist farmers employ various techniques. These include consolidating land introducing mechanized methods of production, and substituting subsistence crops for cash crops. People lose land due to changing systems of land tenure; laborers lose work due to mechanized production, and the change in economic relations caused by the introduction of cash crops may prompt the population to find a livelihood elsewhere. All of these techniques weaken economic and social ties to the land and create a more mobile population.

[2] Extracting raw materials requires paid labor and so the introduction of capitalist ventures creates a new market for labor that upsets traditional forms of economic and social organization based on fixed location and mutual reciprocity. Workers who move to these new labor markets may eventually move abroad.

[3] The introduction of industrial factories into a capitalist-peripheral country creates products that now compete with locally produced goods and demands new forms of labor, often in the form of feminine labor. These changes to the social structure as well as the changes in consumption introduced by these companies all create a more mobile population as well as a population more attracted to the lifestyle of industrialized countries.

and antagonize multinational firms with substantial political resources that can be mobilized to block them" (Massey et al., 1993, p.448).

2.2 Integration

Today, the dominant paradigm for the process by which immigrants become part of the host country's society is termed "integration." Like many important social terms, the definition of this concept is contested, with actors defining it differently according to their own needs. Integration, however, did not evolve independently from similar terms that describe the experience of immigrants and non-immigrants following migration, but should rather be seen as a descendent of these terms. Assimilation may be considered the the first model of immigrant integration proposed by sociologists in the late 19th to early 20th century as they studied European immigrants in industrial cities in the United States. In the 1960s and 1970s, many countries began to approach integration through multiculturalist policies. While this is not to say that multiculturalism became the norm, as many countries continued and have continued to promote more assimilationist policies, multiculturalism gained "dominance" (Cheong, Edwards, Goulbourne, & Solomos, 2007, p.26) in public policy discourse. However, in recent years, the "experiment" of multiculturalist has been deemed a failure, by academics, politicians, and organizations and think tanks alike. Famously German Chancellor Angela Merkel and British Prime Minister David Cameron both declared multiculturalism as a failure (Malkki, 1992). These abrupt changes in both discourse and policy prompted Rogers Brubaker to declare "the return of assimilation" (Brubaker, 2001) as the concept has regained salience in the contemporary era. For this reason, a greater inquiry into the claims of both of these models, assimilation and multiculturalism, is pertinent to an investigation in immigrant integration.

2.2.1 Assimilation

Assimilation broadly means the process by which the characteristics of two formerly distinct populations come to resemble one another (Bean & Brown, 2006; Brubaker, 2001). One of the first sociologists to study assimilation, Robert Park, defined the process in Encyclopedia of the Social Science as "the name given to the process or processes of which people of diverse racial origins and different cultural heritages, occupying a common territory, achieve a cultural solidarity sufficient at least to maintain a common national existence" (Park, 1930, p.281). The term was revived by Milton Gordon in the 1960s in his book *Assimilation in America*. He outlines assimilation as a process in three stages: first, immigrants adopted the language and customs, a phase known as acculturation. The second step, structural assimilation, occurred as immigrants began to integrate into schools, the labor market, and social connections. Intermarriage marked the final stage of assimilation (Hanlon & Vicino, 2014). These benchmarks, amongst others, continue to be used in measurements of assimilation (Alba & Nee, 1997).

Another prominent though controversial model of assimilation is so-called "straight-line assimilation." The theory suggested a linear, generational progress towards assimilation, culminating with the third generation that was fully assimilated (Hanlon & Vicino, 2014). In this model, the ethnic and cultural differences slowly disappear into the host culture.

This theory is also called the "melting pot" theory, as despite the initial differences between the host culture and the new immigrants, time causes the immigrants to shed these characteristics and they become indistinguishable within the homogeneous dominant culture.

2.2.1.1 Criticisms

Particularly in the 1990s, assimilation began to be seen as a dirty word in integration. Some of this backlash is understandable. Many sociologists felt that the word had run its use and that it reflected an ethnocentric, patronizing attitude towards immigrant populations (Alba & Nee, 1997). These attitudes were overt in early research; sociologists Warner and Srole, for example, stated that ethnic groups in New York were "unlearning" "inferior" cultural traits (Warner & Srole, 1945, p.285). Assimilation also appeared incongruous with pluralism, as it posited a model in which acceptance in society was achieved through cultural sameness. Finally, critics of assimilation note that the assimilation theories of the 1960s and before, based on the experiences of Western European immigrants, show little applicability to contemporary immigration into the United States and Western nations. The restructuring of labor markets means that while these early European immigrants benefited from an economic situation that provided middle-class industrial jobs and upward mobility, today's immigrants face a radically different situation (Hanlon & Vicino, 2014). Finally, Heath and Cheung note that today's immigrants and their second-generation children may face an "ethnic penalty" (A. Heath & Cheung, 2006).[4]

In response to earlier American models of assimilation, Alejandro Portes and Min Zhou (1993) forward the theory of segmented assimilation. This theory begins from the assumption that the United States is a stratified and unequal society. As such, immigrants experience one of three possible paths: "One of [the paths] replicates the time-honored portrayal of growing acculturation and parallel integration into the White middle-class; a second leads straight into the opposite direction to permanent poverty and assimilation into the underclass; still a third associates rapid economic advancement with deliberate preservation of the immigrant community's values and tight solidarity" (Portes & Zhou, 1993, p.82). As with classical assimilation theory, this integration takes place over time and possibly several generation, but without the assurance of eventual integration and social mobility enjoyed by earlier immigrants.

2.2.2 Defining and operationalizing integration

In contrast to assimilation, integration stresses becoming part of a society without necessarily losing cultural distinctiveness or becoming indistinguishable to the mainstream. Again, exact definitions of immigrant integration depend on who is speaking, but definitions show some commonalities. First, immigrant integration covers many issues related to the immigrant's well-being and is a multi-dimensional concept. For this reason, immigrant integration is often measured by levels of employment, health, discrimination that the person encounters, political participation, and other indicators. Secondly, immigrant integration often includes outcomes for the second or third generation. The inclusion of descendants of migrants into measures of integration is influenced by another commonality in immigrant integration, which is the convergence of

[4] Black African, Black Caribbean, Pakistani and Bangladeshi immigrants in the United Kingdom face an "ethnic penalty" in the labor market that cannot be explained by age, training, or other factors. Though to a lesser degree, this penalty continues to affect their second-generation children who are raised primarily in the United Kingdom.

Table 2.1: Zaragoza indicators and Huddleston et. al. recommendations. ** indicators that were proposed by Huddleston et al. (2013) and do not appear in the Zaragoza Declaration.

Category	Indicator
Employment	Employment rate
	Unemployment rate
	Activity rate
	Self-employment
	Over-qualification
Education	Highest educational attainment
	Tertiary attainment
	Early school leaving
	Low-achievers (PISA)**
	Language skills of non-native speakers
Social Inclusion	At-risk-of-poverty and social exclusion
	Income
	Self-reported health status
	Property ownership
Active Citizenship	Naturalization rate
	Share of long-term residence
	Share of elected representatives
	Voter turnout
Welcoming Society**	Perceived experience of discrimination**
	Trust in public institutions**
	Sense of belonging**

opportunities for immigrants and natives. Immigrants who arrive in a new country will experience some difficulties in labor market and social integration due to a lack of language ability, the non-transference of qualifications, and possibly through the lack or a diminished social network in the destination country. Integration indicators assume that children of immigrants who grow up in the destination country will not encounter these obstacles to the same degree. For that reason, the endpoint of this process sees a convergence of opportunities between natives and migrants, and in the case that this is impossible for the immigrants themselves to achieve, between natives and the second generation. Finally, integration connotes becoming an accepted part or a member of the destination society. In this way integration differs from earlier concepts in the encounter between immigrants and society, such as assimilation, because it assumes a two-way process. Rather than immigrants adapting or acculturing to the destination country, the inhabitants of the destination country equally play a role in accepting and coming to rely on immigrants. The following section will review the immigration integration indicators for the European Union and international organizations in an attempt to clarify this definition, before turning to how these indicators may be applied in ASEAN.

In the Zaragoza Declaration in 2010, ministers of the European Union agreed to begin the collection and study of integration indicators in the interest of creating a comprehensive and successful policy for immigrant integration. Integration is defined as a "dynamic, two-way process of mutual interaction" (Council of the European Union, 2010, p.2), requiring the efforts of institutions the host community as well as immigrants. The Declaration cites two reasons for further integration, one social and one economic, stating that integration is "a driver for development and social cohesion" (Council of the European Union, 2010, p.3). In the Zaragoza Declaration, the European Commission also agrees to measures integration by indicators in four different areas: employment, education, social inclusion, and active citizenship (Council of

the European Union, 2010), summarized in Table 2.1.

Following two years of data collection and harmonization, outside consultants were brought in to analyze the data, evaluate the effectiveness of the indicators, and suggest improvements after discussions with ministers. In particular, Huddleston et al. suggested the addition of a group of indicators called "welcoming society" (2013). These indicators help measure the reaction of the destination country and reaffirm the definition of integration as a "two-way process of mutual accommodation" (Huddleston et al., 2013, p.29). In collaboration with the European Union, the OECD published

Table 2.2: OECD Indicators of Integration.

Labor market outcomes	Employment rate Activity rate Unemployment rate Long-term unemployment rate Share of inactive who wish to work
Job Quality	Types of contracts Working hours Involuntary part-time Job skills Overqualification rate Share of self-employment Share of employment in "public services sector"
Adult's cognitive skills and training	Educational attainment Literacy skills Participation in education and training Share with unmet training needs Participation in job-related training Usefulness of job-related training
Household income	Poverty rate In-work poverty rate Share of households with a bank account Share of households with an overdrawn bank account
Housing	Home ownership rate Share of renters at a reduced rate Share of overcrowding dwellings Share of substandard dwellings Housing cost overburden rate
Health status and health care	Share of people reporting good health status or better Share of people who report unmet medical needs Share of people who report not to have seen a doctor
Civic engagement	Naturalization rate Voter participation rate
Social cohesion	Share of immigrants who feel to have been discriminated against Share of people who think that their area is a good place for migrants to live Perceived economic impact of immigration

a report on the trends in immigrant integration in OECD and European countries. Integration outcomes are grouped into seven areas: labor market, education, income, housing, health, civic engagement, and social cohesion (OECD/European Union, 2015). Table 2.2 summarizes these indicators. The authors cite two reasons for measuring and facilitating the integration of immigrants, stating "Integrating immigrants and their children into the labour market and society as a whole is vital for promoting social cohesion and economic growth of host countries and the ability of migrants to become self-

R12 Have you faced any of the following problems since returning from Thailand / Malaysia? (Select all that apply)

Disconnection from community	1
Disconnection/disagreements with family	2
Gossip or stigma	3
Harassment or abuse	4
Anxiety or depression	5
Boredom	6
Drug or alcohol abuse	7
Divorce or separation	8
Disability	9
None	10

Figure 2.1: Psychological, social, or health question on MOI survey. Source: Harkins et al. (2017).

reliant, productive citizens. It is also a frequent prerequisite for the host population's acceptance of further immigration" (OECD/European Union, 2015, p.15).

Integration is viewed as a process which allows immigrants and their children to contribute to the society through the labor market as well as create or maintain a peaceful and united society. Finally, the OECD assumes that more integrated immigrants will lead to more positive native attitudes towards future immigration, while less integrated immigrants will cause natives to be more hesitant to accept future immigrants. The immigrant population was divided into three groups: foreign-born population who arrived as adults, foreign-born population who arrived as children, and the native-born offspring of one or two immigrants. Adult immigrants were than compared to children of immigrants, while native-born immigrants were compared to children of the native-born population.

Of these indicators, the final two indicators in the social cohesion category directly measure the native population's attitudes towards immigrants, rather than using the native population as a benchmark. The first question, which asks whether the respondent believes their city or area to be a good place of migrants to live is consider "an indicator of welcoming" (OECD/European Union, 2015, p.222). However, the report notes that respondents may have interpreted this question as whether there were adequate amenities and opportunities for immigrants. The second question asks whether immigrants had an overall positive or negative effect on the economy. The OECD sees welcoming attitudes towards immigrants as a necessary condition for integration, stating "If such social cohesion is strong, it will promote integration. If it is weak, immigrants will find it harder to fit in" (OECD/European Union, 2015, p.215). The OECD states however that social cohesion and accepting attitudes work "indirectly" (OECD/European Union, 2015, p.215). With greater welcoming attitudes, the immigrant population will be more able to contribute to the community if they feel welcome, or will be more likely to invest in education and training which has been shown to improve integration outcomes.

Outside of Europe, international organizations have developed their own frameworks for assessing the outcomes of immigrant integration across countries. In 2015, the International Organization for Migration (IOM) developed the Migration Governance Indicators to compare the integration policies of different national governments and gauge their successes or failings (IOM, 2023), summarized in Table 2.3. A total of 90 indicators were chosen and categorized into six dimensions.

The ILO also collaborated with IOM in 2017 to create the Migration Outcomes Index, shown in Table 2.4, focused specifically on the ASEAN region. This study differs from other indexes surveyed in that it recognizes that migration is temporary for most migrants in ASEAN, unlike studies focused on Europe which generally see migration as more permanent (Harkins, 2019; Kawasaki & Ikeda, 2021b). A total of 1808 migrants who had returned to their origin country were surveyed. The MOI comprises four financial dimensions and four social indicators. Outcomes were then either

Table 2.3: IOM Migration Governance Indicators, cited directly from IOM Data Portal (2019).

Migrants' rights	Indicators in this domain assess the extent to which migrants have the same status as citizens in terms of access to basic social services such as health, education, and social security. It also describes the rights of migrants to family reunification, to work, and to residency and citizenship. The ratification of the main international conventions is also included within this domain.
Whole of government approach	Indicators in this domain assess countries' institutional, legal, and regulatory frameworks related to migration policies. Domain 2 also reviews the existence of national migration strategies that are in-line with development, as well as institutional transparency and coherence in relation to migration management. This domain also investigates the extent to which governments collect and use migration data.
Partnerships	This domain focuses on countries' efforts to cooperate on migration-related issues with other states and with relevant non-governmental actors, including civil society organizations and the private sector. Cooperation can lead to improvements in governance by aligning and raising standards, increasing dialogue and providing structures to overcome challenges.
Well-being of migrants	This domain includes indicators on countries' policies for managing the socioeconomic well-being of migrants, through aspects such as the recognition of migrants' educational and professional qualifications, provisions regulating student migration and the existence of bilateral labour agreements between countries. Indicators equally focus on policies and strategies related to diaspora engagement and migrant remittances.
Mobility dimensions of crises	This domain studies the type and level of preparedness of countries when they are faced with mobility dimensions of crises, linked to either disasters, the environment and/or conflict. The questions are used to identify the processes in place for nationals and non-nationals both during and after disasters, including whether humanitarian assistance is equally available to migrants as it is to citizens.
Safe, orderly, and dignified migration	This domain analyses countries' approach to migration management in terms of border control and enforcement policies, admission criteria for migrants, preparedness and resilience in the case of significant and unexpected migration flows, as well as the fight against trafficking in human beings and smuggling of migrants. It also assesses efforts and incentives to help integrate returning citizens.

categorized as positive or negative before being weighted to provide the index score from 0 to 100 (Harkins, Lindgren, Suravoranon, & Pacific, 2017). Psychological, social, and health problems was measured through the following question on the survey, shown in Figure 2.1.

The MOI survey captures dimensions of migration outcomes that are unexplored in the European or international organization integration indicators. However, its strength is also its limitation, as it neglects the populations which have settled in ASEAN countries. While temporary migration is still the norm in ASEAN, there are signs that this might be changing. Taking Thailand as an example, data shows that a large number of children are migrants to the country. Child migration present their own challenges, as it entails ensuring the child's safety, well-being, and an education that is adequate for the destination country or which will not impede them if they return to their origin country. However, it also shows that migration may be more permanent, as migrants with families are more likely to settle permanently in the destination country (Jampaklay, 2011). As of 2011, a total of 376,845 migrant children are estimated to live in Thailand (Jampaklay, 2011), or 11% of the total migrant population. Therefore, migration as a permanent settlement should be considered by researchers and captured in indicators.

Table 2.4: ILO and IOM's Migration Outcomes Index

Financial	Income Tangible Assets Savings Debt
Social	Life skills development Skill level of work Unemployment Psychological, social, or health problems

Finally, these indicators are mostly focused on outcomes for immigrants. Often sense of belonging or natives' attitudes towards immigrants are seen as outcomes of integration, rather than a condition or part of the process of integration. The European Commission report notes that trust and native attitudes are related to better outcomes for immigrants but does not clarify the relationship further (Council of the European Union, 2010).

2.2.2.1 Critiques of integration

Despite its widespread use, integration as a concept is not without its critiques, with several scholars stating that the concept is outdated and some calling for the abandonment of the concept all together (Schinkel, 2018; Favell, 2019; Wieviorka, 2014; Rytter, 2019). Rather than avoiding the pitfalls of assimilation, Schinkel argues in the following paragraph that integration as a concept is merely an elaboration of a process of neo-colonial, or "neo-liberal communitarianism,"[5] knowledge to problematize the other:

> In general, immigrant integration research occurs under the sign of a putatively 'failed multiculturalism'.... But this multiculturalism of the past is hardly ever sketched in detail, as indeed it cannot, because it has never been implemented across Western Europe....The denouncements of a multiculturalism that never was amount to a discursive strategy I have called *multiculturealism*: the self-declared 'realism' of supposedly having been 'multicultural' and hence 'politically correct', naively 'left-wing', 'ignoring the problems' (with immigrants, with 'Islam', and so on), but of now having become realist, daring the [sic] speak the harsh truth about the troubled realities of a failing model of immigrant integration. The discourse of multiculturealism has entailed a license to *problematize* migrant others, i.e., to forego the relational aspects of migration and to focus solely on the position and problems of immigrants and their children, many of whom actually born on European soil. The social science of immigrant integration plays a crucial role in this problematization of migrant others. It provides, in a way, the 'factual architecture' within which such problematizations take shape. (Schinkel, 2018, p.1-2).

In other words, integration is a tool for an ahistorical narrative of society, beginning from homogeneity, purity, and control, transitioning into a brief and ill-fated multiculturalism, and ending in contemporary situation of conflict, dissolution, and failed integration. Schinkel argues that both political speech and research that continues along these conceptual lines by utilizing the concept of integration propagates the problematization of migrants in society rather than promoting inclusion. Moreover, rather than representing a deviation from mainstream thought, proponents of integration as well as those who decry integration are in fact reproducing a neo-liberal logic.

In response, Spencer and Charsley argue that the term still has conceptual validity and power, addressing what they

[5]Using the Netherlands as a case study, Schinkel argues that neo-liberal communitarianism combines the communitarian visions of Dutch society as embodying Enlightenment culture, norms, and values, with neo-liberalism's logic of individual responsibility, as a method for control. In brief, through neo-liberal communitarianism's logic, immigrants become personally responsible for attaining membership into the community, which is posed as neutral, equal, and liberal but implicitly propagates White Dutch values and to which they are automatically denied entry. Rather than countering neo-conservatism, this neo-liberal logic helps forms the basis for greater repressive control and marginalization of immigrants. Similarly, communitarianism, rather than providing an alternative to liberalism and to alienating effects of individualism, helps reinforce the exclusion of others (Schinkel & Van Houdt, 2010).

describe as the five major critiques of integration: (1) normativity, or that immigrants must reach an end goal of "being integrated," a term which is often construed as neutral but reduces to a nationalistic (2) objectification of the other, in that the concept conceives of immigrants as outside of society, (3) outdated imaginary of society, i.e. the imagination of a society as a "bounded, stable, function entity, distributed at its margins by migration" (Spencer & Charsley, 2021, p.6), (4) methodological nationalism, or the conflation of society with the nation and privileging of the nation as the most relevant unit of analysis, and (5) narrow focus on the role, agency, and characteristics of migrants in integration processes (Spencer & Charsley, 2021).

In contrast to the ways in which the term integration is often used, the authors propose a definition of integration as "[p]rocesses of interaction, personal and social change among individuals and institutions across structural, social, cultural and civic spheres and in relation to identity; processes which are multi-directional and have spatial, transnational and temporal dimensions" (Spencer & Charsley, 2021, p.16). Through this definition, they argue that the term integration can be salvaged if researchers and those who discuss integration refrain from measuring integration against an imagined end-goal, whether it be in terms of cultural values, economic pursuits, and social relationships with others. Moreover, migrants and other individuals in a community, national or local, should be understood as being the subjects of integration processes, rather than migrants as objects of this process (Spencer & Charsley, 2021; Dahinden, 2016). Moreover, objectification can occur when all members of a group are made to bear responsibility for the actions of an individual, which often occurs after conflict and violence. This is especially problematic when a generalizing view is taken of a group that is not monolithic — for example, by conflating all members of religion with its most radical and violent sects. One example may be stating American Christians should be considered suspect and dangerous due to the habitual and organized violence of the Ku Klux Klan – or when members cannot opt out of a group, in the case of ethnicity.[6] Moreover, acknowledging the way in which activity, connection, and belonging are not necessarily bounded by national boundaries can help elucidate the ways in which individual and social changes due to migration are influenced by a variety of people. Finally, the narrow focus on the characteristics of migrants, especially in areas of conflict, runs the risk of both perpetuating the uni-directional conception of integration as well as reinforcing the belief that migrants bear the responsibility of integration. When conflicts arise between groups, an overemphasis on the personal characteristics and agency of migrants can obfuscate the often unequal balance of power between immigrants, citizens, and state agents, like the police, educational institutions, etc, leading to the perception of mutual hostility and violence, despite some groups have far greater institutional power. In summary, the term integration should not be considered a neutral term, as it comes loaded with ideological baggage. In particular, careful attention has to be paid to the way in which integration can be used to problematize the existence of immigrants in a country.

[6] While ethnicity is not an innate category and is subject to contestations and re-identifications, in contemporary society ethnicity involves both group membership and group identification, i.e. one may identify as part of a group and others will ascribe that person to a group. Especially those with marginalized ethnicities, regardless of how they identify, do not generally have the ability to opt out of their ethnicity and its attendant stereotypes, disadvantages, and privileges.

2.3 Attitudes, public opinion, and policy

Public opinion represents the aggregate opinions of a population on a policy issue; for this reason, it has a high level of significance for policymakers and governments. Public opinion represents an important link between people and representational governments and has been an important element in maintaining the legitimacy of governments. Put simply, in order to enact what citizens want, policymakers must know what citizens want. Non-democratic governments must also make concessions to public opinion in order to maintain legitimacy and remain in power, even though they are not constrained by the possibility of losing their office in the next election. However, public opinion polling is both essential and treacherous, as it represents the transformation of "the most important element in democracy, the will of the people, [into something] measurable and thus available for political decision making on an almost daily basis, be it by political leaders or the electorate" (Donsbach & Traugott, 2008, p.3). As an attempt to make something diffuse into something measurable, public opinion polling is vulnerable to all the methodological complexities that follow. Sampling errors can greatly skew results. The opinions expressed by respondents can differ depending on how the question is framed, whether the interview is face-to-face or over the phone, and other seemingly innocuous factors. Moreover, people's attitudes towards a policy issue are informed by current events, the available information, the current policy in place, as well as their political orientations, social networks, self-interest, and other factors. Why people hold certain attitudes or why attitudes change is difficult to ascertain due to the confluence of factors. As a result, interpreting public opinion requires a thorough understanding of how people reach their opinion on a subject in the first place. The following section will summarize major theories of how the attitudes that inform opinion on specific issues form and how attitudes and public opinion affect behavior and policy.

Broadly, these opinions can be divided into two categories. The first are broader attitudes which help inform opinion on a range of issues and which represent a broader conception of the principles and values of governance. Examples of this broader form of opinion may include what a respondent believes are the responsibilities and duties of a government, or their party identification. These beliefs tend to stay stable over time and to inform their opinions on specific issues (Bianco & Canon, 2013). The second category is opinions on specific policy issues, such as the level of immigration in a country, same-sex marriage, etc. These are considered to be more susceptible to change and are often latent, meaning many are not constructed until necessary (Bianco & Canon, 2013; Alvarez & Brehm, 2002). For latent opinions, individuals use a combination of relevant considerations, such as ideology, personal circumstances, relevant information, etc., in order to form these opinions. As a result, when respondents answer a survey question, it may be unlikely that they have an answer ready for the posed question, and if asked more than once, they may same answer differently (Zaller & Feldman, 1992; Alvarez & Brehm, 2002). Psychologists Tourangeau and Rasinski contend that individuals respond to survey questions using a four-step process. First, people decide and interpret the question; then, they collect relevant information that they already know; third, they combine ideas into a coherent attitude; and finally, they find the response option that most closely resembles this attitude (Tourangeau & Rasinski, 1988). Zaller and Feldman argue that respondents have many opposing considerations on an issue and their attitude can be better described as ambiguous; their answer is determined by averaging

or finding the middle group of the most salient considerations (Zaller & Feldman, 1992). The fact that responses are not necessarily pre-formed but may be created on the spot causes variability in responses due to the framing of the question, the order of the question, the method (face-to-face or over the phone), and so on.

This study will distinguish between attitudes and opinions. The difference between attitudes and opinion has been called "names in search of distinction" (McGuire, 1969, p.152). However, for the sake of consistency, the term "opinion" will be used to refer to specific manifestations of underlying attitudes which can be expressed by answering a public opinion poll - for example, one's opinion on a specific policy issue, as measured by how strongly one agrees with the policy. Public opinion will refer to either the aggregate desires of a population, and public opinion polling will refer to the attempt of measuring these preferences. The definition of attitudes requires more discussion.

Ajzen defines attitudes as "a summary evaluation of a psychological object captured in such attribute dimensions as good-bad, harmful beneficial, pleasant-unpleasant, and likable-dislikable" (Ajzen, 2001, p.28). Most researchers agree that attitudes are "an evaluation of an object of thought" (Bohner & Dickel, 2011, p.397). Elaborations of this definition, however, garner greater disagreement. One foundational definition of attitudes from Gordon Allport describes attitudes as "a mental and neural state of readiness, organized through experience, exerting a directive and dynamic influence upon the individual's response to all objects and situations to which it is related" (Allport, 1935, p.310). While this definition has been criticized and has not remained operational, its important points are that 1) attitudes are more enduring structures, and that 2) attitudes inform behaviors. These points continue to inform how researchers understand attitudes (Breckler, 1985; R. H. Fazio, 1990; Petty & Krosnick, 2014).

In the debate on how to define attitudes, researchers generally fall into two camps, one advocating the stable-entity view and the other promoting a constructionist perspective. The stable-entity view sees attitudes as long-term memory structures, stored in a kind of mental file drawer (Bohner & Dickel, 2011). Fazio frames attitudes as a neurological network, defining attitudes as a structure in the long-term memory made up of an object, an evaluation, and a link. The link's strength determines whether the evaluation is activated as soon as the object is mentioned, whether an evaluation is latent and created on the spot, or some place along this spectrum (R. H. Fazio, 1990). The strength of the link is, thus, a key link between attitudes and behavior and whether an attitude will influence other attitudes and beliefs (Petty & Krosnick, 2014). The constructionist perspective posits that there is no enduring structure which could be considered an attitude, but rather that judgements are constructed as needed, based on the situation and the accessible information (Bohner & Dickel, 2011). The important attribute of an attitude in this theory becomes its accessibility, how often and how easily an attitude is constructed.

Both of these theories can help to explain why some attitudes are stable and why others change depending on context, such as the framing of a question. In the stable-entity view, a weak attitude is liable to change, while strong attitudes remain stable over time (Petty & Krosnick, 2014). In the constructionist view, attitudes are constructed based on the available information; changing the information can easily lead to a different manifesting attitude. However, accessing the same judgement several times reinforces this pathway and causes this attitude to become more accessible and more likely to reoccur, thus, explaining why some attitudes remain the same over time (Higgins, 1996).

In summary, for both representational and non-representational governments, responding to the desires of the people is necessary for the legitimacy and continuation of a regime. Public opinion polling represents the attempt to measure and see changes in the aggregate preferences of a population. On the individual level, attitudes represent a structure of evaluation and objects. However, whether this attitude will influence how the individual evaluates other objects or whether the individual will be compelled to act on this attitude depends on the strength of link between the evaluation and the object.

2.3.1 Attitude formation and change

Table 2.5: Attitude features related to strength. Table source: Howe and Krosnick, 2017, pp. 330.

Feature	Definition
Importance	The degree to which an individual attaches significance to the attitude
Certainty	The individual's level of confidence that his or her evaluation of the attitude object is correct and is clear to him or her
Ambivalence	The degree to which a person holds positive and negative evaluations of the attitude object simultaneously
Accessibility	The likelihood that the attitude will come to mind automatically in relevant situations
Knowledge volume	The amount of information the person has about the attitude object
Extremity	The degree to which the person likes or dislikes the attitude object
Affective-cognitive consistency	The degree to which a person's feelings about the attitude object are evaluatively consistent with his or her thoughts about it
Intensity	The degree to which a person's evaluation of the attitude object activates powerful emotions
Moral conviction	The degree to which the attitude is a strong and absolute belief that something is right or wrong or moral or immoral, or that it reflects core moral values and convictions
Elaboration	The degree of thought one has given to the attitude object's merits and shortcomings
Vested interest	The degree to which the attitude object is perceived to be of personal consequence

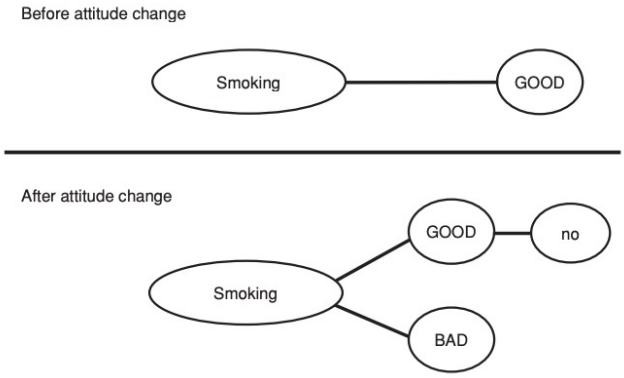


Figure 2.2: Attitude change through new evaluation and old attitude invalidation according to Petty et al. (2006). The upper image shows that the object, in this case the act of smoking, is associated with an evaluation ("good"). After attitude change, rather than simply re-evaluting the object, the old evaluation remains but is extended, and a new evaluation, "bad", is added. Figure source: Bohner and Dickel, 2011, p. 397.

As stated above, attitudes form through the connection of an object and evaluation, but several factors are involved in the creation and change of this attitude. In the constructionist view, attitudes are constructed based on what information

is available as well as who the source of the information is, whether they are trusted, the accessibility of other relevant evaluations, affect, mood, and emotion (Crano & Prislin, 2006). From the stable-entity view, attitudes use the same considerations in formation, but several attributes determine the overall strength of the attitude. Strong attitudes are stable over time, they rarely change, and they can influence cognition and action (Howe & Krosnick, 2017). Furthermore, people are more likely to defend strong attitudes and show more negative emotional reactions when they are challenged (Zuwerink Jacks & Devine, 2000). When encountering cognitive dissonance where two held attitudes contradict each other, strong attitudes bring weaker attitudes into balance (Starzyk, Fabrigar, Soryal, & Fanning, 2009).

Attributes which have been found to be relevant to attitude strength are outlined in Table 2.5, but this section will focus on attitude importance. Attitude importance, the person's subjective judgement of how important an attitude is, is one of the most researched attributes of attitudes. In order to measure the attitude importance, an interviewer might directly ask a respondent how concerned they are about an issue or a value, or how much the respondent cares about them (Gopinath & Nyer, 2009). How an attitude rises in importance depends on the degree to which a person believes the attitude is relevant to their self-interest, if it is important to groups that the person identifies with, or if it is believed to be closely relevant to one's values and belief systems (Boninger, Krosnick, & Berent, 1995). These are referred to as self-interest, social identification, and value relevance, respectively. When asked why an attitude is important, respondents overwhelmingly cite one of these factors (Boninger et al., 1995).

However, researchers also argue for a model of multiple attitudes in which people can hold contradicting evaluations of the same object (Wilson, Lindsey, & Schooler, 2000; Petty, Tormala, Briñol, & Jarvis, 2006). This phenomenon is often referred to as "cognitive dissonance" (Festinger, 1957). Wilson suggests the existence of two attitude systems of implicit and the explicit evaluations. Whichever evaluation is more accessible given the situation depends on the conditions and the individual's motivation (Wilson et al., 2000). Petty et al. argue that new attitudes form but old attitudes of the opposite evaluation remain and are tagged invalid (2006).

Figure 2.2 takes the example of a smoker who, after being presented with new health information, changes their attitude towards smoking. A new attitude forms which evaluates smoking as bad, while the older attitude is invalidated. As a result of the existence of two contradicting attitudes, even though one has been invalidated, this person is more likely to show higher ambivalence than those who began with a "smoking is bad" evaluation (Petty et al., 2006). Thus, the expression of an attitude, regardless of how strong, may be tempered by other preexisting attitudes that have invalidated.

2.3.2 Effect on policy and behavior

The degree to which public opinion and attitudes influence government policy is debated. In liberal democracies, the most direct way in which a change in attitudes will effect policy is through voting out representatives who do not support the popular opinion and through the election of representatives that do. Another more direct approach is through contact or influence on a local representative, through a process known as dyadic representation (Weissberg, 1978). In this case, there is a large amount of evidence that finds that the voting behavior of representatives are fairly consistent with their constituency's preferences, after controlling for differences between the demographics and party affiliations of the con-

stituency and the representative (Mayhew & Arnold, 2004; Barnes, 1977; Converse & Pierce, 1986; Matthews & Valen, 1999). However, while a representative may advocate the desires of a constituency, that does not necessarily mean that the policy outcome will match preferences.

In the context of debates about the level of immigration into a country, researchers have found a "policy gap"; The public's preferences for the level of immigration is generally lower than the government's enacted policy (Morales, Pilet, & Ruedin, 2015). One explanation for this incongruity is often that the immigration policymaking process has been captured by elites, through lobby groups and other forms of pressure, or is constrained by international legal norms, causing the public's preferences to be ignored (Soroka & Wlezien, 2009). Morales et al. assume that when an issue becomes politicized and becomes more important to the public, elite influence will decline as there is greater political risk to ignoring the public preferences. Their research finds that the emergence and success of anti-immigration parties does not seem to create more restrictive policies (Morales et al., 2015). Furthermore, the actions of non-party and non-state actors (what Morales et al. call "civil society actors") does seem to have an effect in some countries but not in others. Overall, Morales et al. find that there was no consistent link between politicization and more restrictive policies, and that while political elites do sometimes respond to public pressure, they do not respond uniformly or to the same political stimuli (Morales et al., 2015). Thus, the exact reason for why a policy gap exists in immigration debates remains unclear.

Though attitudes do have some relationship with policy, the primary reason why attitudes continue to be studied and analyzed is because of their influence on behavior. As stated above, the degree to which attitudes determine behavior is moderated by several factors. Attitudes are more likely to predict behavior when they are strong (i.e. stable over time), accessible, when the individual is confident in the attitude's validity, and when the individual has considered one-sided information about the object (Glasman & Albarracín, 2006). In the context of attitudes towards immigrants, attitudes have been found to influence the behavior of both natives and migrants themselves. Negative attitudes towards immigrants can lead to higher rates of employment or housing discrimination, stymying opportunities for greater integration into the host society. In Swedish municipalities that reported a larger proportion of negative attitudes towards immigrants, landlords were more likely to practice housing discrimination by being less likely to respond to housing applications with ethnic-sounding names (Carlsson & Eriksson, 2017). Furthermore, immigrants living in areas where residents have more negative attitudes tend to report lower levels of reported well-being (Knabe, Rätzel, & Thomsen, 2013). Countries within the OECD with higher rates of negative sentiment towards immigrants saw smaller inflows of immigrants, after controlling for policy restrictiveness, GDP, migrant stock already in the country, and other factors, leading the authors to state that negative attitudes were "comparable to more conventional migration factors" in determining destination countries (Gorinas & Pytliková, 2017, p.1). Furthermore, attitudes can create a feedback loop in which their influence modifies how people process new information and reinforces bias. As people try to maintain the consistency of their attitudes in order to avoid the discomfort of cognitive dissonance, they may seek out and retain information that supports their view to the detriment of opposing facts (Frey, 1986; Brannon, Tagler, & Eagly, 2007; Hart et al., 2009). In one experiment on information processing and immigration, respondents were made to feel anxious about immigration and were then asked to search for information about immigration on a website containing an equal number of threatening and nonthreatening information.

Respondents who had been primed to feel anxious sought out more threatening information and were better able to recall threatening information (Gadarian & Albertson, 2014).

2.4 Attitudes towards immigrants

2.4.1 Major theories related to attitudes towards immigrants

The following section elaborates on several important theories that attempt to conceptualize how and why attitudes towards immigrants form. This work differentiates determinants and theories in a fairly simplistic way; theories point towards the causality and the mechanisms behind attitudes towards immigrants. Determinants, on the other hand, are generally found to be correlates of attitudes with the underlying mechanisms going unexplained, or they are seen as operationalizations of the causal mechanisms explained by theories. This section will elaborate on these theories, before laying out the evidence found by the large body of studies on attitudes towards immigrants. Finally, theories related to how attitudes towards immigrants form are closely related to how attitudes towards out-groups form generally and are therefore closely related to theories of prejudice.[7] In this dissertation, prejudice is defined as a negative evaluation of a social group that is then generalized to other members of that group (Paluck, Porat, Clark, & Green, 2021). For this reason, prejudice towards immigrants can be considered one type of attitude towards immigrants.

Fundamental to feeling negative feelings towards other groups is the identification with a group in the first place, either in the form of one's ethnicity, race, nationality, political party, etc. Tajfel and Turner's theory of social identity proposes that first, people self-categorize themselves into certain groups which become salient depending on the situation. Having formed in-group and out-groups, they will negatively judge other groups in order to promote more positive identification with their group (Tajfel & Turner, 1978). In other words, in order to bolster their own self-identity and to promote intra-group cooperation, people will also form negative attitudes towards other groups in order to strengthen the boundaries between groups.

Perhaps one of the most influential theories is that of group threat, which posits that one group form negative attitudes towards another group due to a real or perceived feeling of threat and competition over limited resources, such as jobs (Blalock, 1967). Within the literature on attitudes towards immigrants, this theory is often made more specific and called the "labor market competition" theory. In the case of attitudes towards immigrants, the limited resource may also be represented by fiscal burden, or the belief that immigrants will be reliant on the state's welfare programs and as a result, either increase the amount a person is taxed or decrease the relative generosity of the welfare state (Facchini & Mayda, 2009).

The theory assumes that individuals' attitudes are determined by first, their identification with a group, and second, the strength of the feeling of threat. Because group-level rather than individual-level threat helps determine negative attitudes,

[7] While the difference between ethnicity and immigrant status can be difficult to disentangle, researchers in the U.S. have compared attitudes towards black people and attitudes towards immigrant groups with a more recent peak in immigration, i.e. Hispanic and Asian people, to find that in general, finding that attitudes towards black people were more sensitive to the effects of group threat and contact than attitudes towards immigrants (Taylor, 1998).

this can help explain why individual-level measurements of competition does not correlate with negative attitudes as closely as sociotropic concerns, such as the perceptions of how the national economy is doing as a whole (Hainmueller & Hopkins, 2014; Quillian, 1995).

Contact theory was pioneered by Gordon Allport and posits that prejudice arises from the "least-effort principle" (Allport, 1954). People rely on generalizations and stereotypes as mental shortcuts to form an opinion of a person, usually stereotypes based on visible features like race and ethnicity. Negative attitudes can be tempered, however, through contact between groups, allowing for members of different groups to form new associations and to see out-group members as individuals. However, Allport stated that several conditions had to be present in order for intergroup contact to lead to a reduction in prejudice. First, participants would have to have equal status in the situation, rather than a power disparity between a person with authority and another of lower status. Second, they should have common goals, such as an athletic team. Third, attaining these goals must require intergroup cooperation. Finally, authority must support the intergroup cooperation, establishing it as a norm (Allport, 1954; T. Pettigrew, 1998).

Similar to group threat, group position posits that negative attitudes towards another group arise due to four principle feelings: "1) a feeling of superiority, 2) a feeling that the subordinate race is intrinsically different and alien, 3) a feeling of proprietary claim to certain areas of privilege and advantage, and 4) a fear and suspicion that the subordinate race harbors designs on the prerogatives of the dominant race" (Blumer, 1958, p.4). These feelings help create a sense of group position, that groups are hierarchically and competitively related. The feelings are themselves the effect of multiple processes and factors including interpersonal contact, social structures, media, etc. (Berg, 2015).

Intersectionality as a theory was advanced by Kimberlé Crenshaw in 1998 when discussing how sex and race interacted to sideline Black women in feminist movements (Carbado, Crenshaw, Mays, & Tomlinson, 2013). This theory posits that rather than being additive, race, gender, and class interact. Inequalities and institutional discrimination that people experience are based on the web of these identities, such that a man and woman of the same race will face different stereotypes and inequalities. In terms of attitudes, these multiplicative identities can help explain why some groups react differently towards greater immigration. For example, Berg finds that greater education had a more positive effect on Whites' attitudes towards immigration and a smaller effect on Blacks' attitudes, hypothesizing that this is due to the fact that Black respondents' economic fears remain, even with higher education, because of racial inequalities in the United States that keep them in competition with immigrants (Berg, 2010).

2.4.1.1 Generalized prejudice

While not a theory of prejudice, generalized prejudice is the observation that prejudices tend to be correlated, so that negative attitudes towards one group are often associated with more negative attitudes towards other groups. Some cross-national variation in generalized prejudice has been observed, with greater association between negative attitudes towards different groups in Western Europe, compared to Eastern Europe (Meeusen & Kern, 2016; Zick, Küpper, & Hövermann, 2011). Early research on generalized prejudice focused mostly on its correlation with personality traits. In particular, Adorno and co-authors stressed the role of the authoritarian personality, characterized by greater distrust of others, obedi-

ence to authority, and a value on maintaining the norms and power structures of society, all leading to greater ethnocentrism and negative attitudes towards out-groups (Adorno, Frenkel-Brunswik, Levinson, Sanford, & Gordon, 2019). This tradition was continued through the development of the right-wing authoritarianism (RWA) scale, which aims to measure authoritarianism (Altemeyer, 1981). Social dominance orientation (SDO) on the other hand, applies only to intergroup relations and aims to measure "whether one generally prefers such relations to be equal, versus hierarchical" (Pratto, Sidanius, Stallworth, & Malle, 1994, p.742). Both have been shown to be predictive of prejudice towards immigrants (Cohrs & Stelzl, 2010; Sibley & Duckitt, 2008; Danso, Sedlovskaya, & Suanda, 2007).

However, some researchers argue that while the use of generalized prejudice as a general measure of attitudes towards out-groups, it can obscure the ways in which differentiate their attitudes amongst groups. Duckitt and Sibley propose that generalized prejudice is too often conceptualized as unitary attitude, when it should actually be considered three distinct clusters of attitudes: attitudes towards derogated groups, dangerous groups, and towards dissident groups (Duckitt & Sibley, 2007). Moreover, Bergh and Brandt contradict this view-point that generalized prejudice is determined by a in-group and out-group categorization, noting that members of certain groups, for example overweight people or women, often express derogatory attitudes towards groups of which they are a part (Bergh & Brandt, 2023). They propose that instead generalized prejudice comes in three varieties: devaluing attitudes towards marginalized groups, towards unconventional groups, and towards privilege groups. The first refers to groups that are low in status or power in society; the majority of studies on generalized prejudice focus on these groups. The second refers to groups that challenge conventional norms, such as homosexuals. Finally, prejudicial attitudes towards the privileged and elite groups is generally ignored by the literature but includes groups such as the rich, politicians, and conservatives.

2.4.2 Determinants of attitudes towards immigrants

Methodologically, it is important to first distinguish between public attitudes towards immigration and public attitudes towards immigrants. The former concerns government policy. A variable often used to measure attitudes towards immigration comes from the World Values Survey and asks whether the respondent believes the current level of immigration should be decreased, maintained, or increased. Attitudes towards immigrants, on the other hand, refer to a respondents' evaluation of immigrants as people or as a group. Previous research on attitudes towards immigrants has relied heavily on the theoretical and empirical research related to ethnic prejudice, intergroup conflict, and xenophobia. Questions about attitudes towards immigrants may ask whether the respondent would be comfortable living near immigrants, whether the respondent feels warmly towards an immigrant group, whether immigrants commit crimes disproportionately, or whether immigrants have a negative impact on an area. Researchers may combine these two concepts in their studies or examine both at the same time (Esses, Jackson, & Armstrong, 1998; Simon & Lynch, 1999). However, while these two attitudes may be related through correlation or causation, they are distinct concepts. A person could conceivably believe that immigration is good for the country but have negative attitudes towards immigrants, or vice versa. The exact relationship between attitudes towards immigrants and immigration has not yet been fully delineated by the research. The distinction between these two concepts follows Ceobanu and Escandell's reasoning in their 2010 literature survey of attitudes

Table 2.6: Cross-national ATII studies using survey data: locations. Abbreviations: LAPOP (Latin American Public Opinion Project), ISSP (International Social Survey Programme), ESS (European Social Survey), WVS (World Values Survey).

Location	# of countries	# of non-European, non-Settler countries	Data set	Study
Europe	17	0	ESS	Meuleman et al. (2009)
	21	0	ESS	Gorodzeisky and Semyonov (2009)
	22	0	ESS	Card et al. (2005)
	22	0	ESS	Hainmueller and Hiscox (2007)
	26	0	ESS	Malchow-Møller et al. (2009)
	12	0	Eurobarometer	Gang et al. (2013)
	15	0	Eurobarometer	Lahav (2004)
	17	0	Eurobarometer	Coenders et al. (2003)
	15	0	Eurobarometer	Kessler and Freeman (2005)
	12	0	Eurobarometer	Semyonov et al. (2006)
North America, South America	17	17	Latin Barometer	Lawrence (2011)
	10	10	LAPOP	Meseguer and Kemmerling (2018)
Africa, Asia, Europe, North America, South America	31	8	ISSP	Facchini and Mayda (2008)
Africa, Asia, Europe, North America, Oceania, South America	53	40	WVS	Cooray et al. (2018)
	66	22	ISSP; WVS	Mayda (2006)

towards immigration and attitudes towards immigrants and, thus, will also use the abbreviation "ATII" when referring to both attitudes towards immigration and immigrants (Ceobanu & Escandell, 2010). When discussing only attitudes towards immigrants or attitudes towards immigration, no abbreviation will be used.

Moreover, how publics and survey respondents interpret and understand the term "immigrant" often varies person-to-person. These varying definitions can lead to methodological issues, as one person may interpret immigrants as people who decide to settle permanently in a country, those who move for work, those who migrate to seek asylum, immigrants of a different race or religion, those who are low-skilled, etc. Individual perceptions of who is an immigrant often differ significantly from governmental definitions. In Great Britain, Blinder finds that a person's mental image of who counts as an immigrant[8] has significant effect on their immigration policy preferences, with those who understood immigrants as asylum seekers and settling permanently being more likely to prefer reduce immigration (S. Blinder, 2015). Similar results were also found in the United States, with respondents of different political parties having significantly different

[8]This model is based on work by Lippmann (1997) who posits that publics are asked to form opinions on complex policy issues of which it is impossible for each person to have direct experience with all crucial stakeholders, processes, events, etc. As a result, people's mental images and understandings of the phenomenon are as important to understanding public opinions as more objective measures, such as economic growth, unemployment rates, or, in the case of attitudes towards immigration, changes in immigrant flows or immigrants as a percentage of the population.

perceptions of immigrants' English proficiency, level of education, level of employment, and job level, i.e. managerial, professional, etc. (Zhirkov, 2021). The existence of varying definitions throws doubt on the validity of survey questions which ask respondents about their attitudes towards immigrants; in other words, to what degree can differences in attitudes be explained by the fact that respondents are imagining completely different groups? Moreover, in the case of cross-national data, these issues become more salient, as immigrant populations and how debates around immigration are framed differ widely amongst countries.[9]

While there are significant variances in how people understand who is an immigrant, both on an individual-level and amongst countries, cross-national data that do not provide a definition of who an immigrant is can still provide useful information on attitudes towards immigrants in political messaging and organizing. First, by leaving the definition open, it can provide information on the definition that is most salient to the respondent. Second, in debates of immigration and immigrant issues, definitions of immigrants are rarely explicitly stated, meaning that people's implicit definitions do have strong political salience, and that despite varying definitions, these remain one debate. As a result, scholarship that seeks to understand these debates generally should include. However, greater understanding of these mental conceptions of who an immigrant is and how these vary amongst individuals are very salient for both interpreting why individuals' differ in their attitudes and for understanding the relationship between attitudes and behavior towards members of different groups.

Studies on ATII may employ a cross-national approach, a survey limited to one country, or an experimental approach. What countries are included in cross-national surveys depends in part on where data is available. Some major sources of cross-national data include the International Social Survey Programme (ISSP), the World Values Survey, the Euro-Barometer, and the European Social Survey. As seen in Table 2.6, the majority of cross-national studies have focused on differences between European countries (Quillian, 1995; Sides & Citrin, 2007; Hainmueller & Hiscox, 2007; Gorodzeisky & Semyonov, 2009; Weldon, 2006), or will expand the research area to two or three continents by including the Settler countries. The World Values Survey provides the greatest number of non-European, non-Settler countries, and the ISSP also includes non-Western countries. The Latin American Public Opinion Poll (LAPOP) and the Latinobarómetro have been used cross-national research on ATII in South American and Central American countries. Furthermore, cross-national social surveys on the African and Asian continents, like the AfroBarometer and the AsianBarometer, do include questions about immigrants and immigration; however, studies related to ATII using these data sources mainly limit their focus to one country. For example, several studies using the AfroBarometer focus on South African public opinion of immigration (Gordon & Maharaj, 2015). Similarly, the AsianBarometer has been used in one cross-national study of attitudes (Kim & Kim, 2021). Overall, the European continent and Settler countries are overrepresented in cross-national research in terms of published articles, impact, available data, and sometimes even within studies that cover multiple continents.

There are several possible reasons for this imbalance in the research. The first is the availability of the data. Conducting a nationally representative survey of a country's public opinion requires a large amount of resources and is likely to be

[9]The variation in definitions of who is an immigrant has crucial importance for policymakers. Blinder raises the example of the British government which, in line with public opinion that shows support for less immigration, has sought to decrease immigration amongst foreign students, despite the fact that respondent who oppose immigration generally do not consider foreign students to be immigrants (2015). This incoherence, between respondents' implicit understanding of who an immigrant is and who is affected by government policy, can cause statistically effective policies to fail from the onset, as publics will not perceive the policy as targeting immigration.

Table 2.7: Summary of determinants of ATII

Group	Factors	Study
Individual non-attitudinal	Education	Hainmueller and Hiscox (2007)
	Age	Gorodzeisky and Semyonov (2009)
	Sex	Gorodzeisky and Semyonov (2009)
	Rural/urban residence	Gorodzeisky and Semyonov (2009)
	Economic self-interest	Mayda (2006)
Individual attitudinal	Value of cultural homogeneity	Sides and Citrin (2007)
	Social Dominance Orientation	Newman et al. (2014)
	Satisfaction with democracy in their country	Kunovich (2009)
	Political orientation	Kunovich (2009)
	Issue salience	Dennison and Geddes (2019)
	Ethnocentrism/prejudice	Burns and Gimbel (Burns & Gimpel, 2000)
	Religion	Scheepers et al. (2002)
Group	Group contact	Schlueter and Wagner (2008)
	National Identity	Mummendey et al. (2001)
Macro	National economic conditions	Coenders et al. (2008)
	(Perceptions) of local immigrant population	Hjerm (2007)
	Political system	Coenders and Scheepers (2003)

low on policymakers' lists of priority. This imbalance in the available data then propagates the imbalance in what research is conducted and published. This overemphasis of European and Settler countries may be in part explained by migration flows. Out of the twenty countries with the largest migrant stock in the world, 50% are in Western countries. Out of the ten countries with the largest migrant stock in the world, only two are non-Western countries (UN DESA, Population Division, 2017). Migration research overall tends to focus on the perspective of the destination countries rather than countries of origin and on countries in the Global North. Global North countries also tend to be where research funding and capacities, e.g. centers, journals, and networks, are located (Castles, 2010).

The overemphasis of Western countries, however, can lead to methodological problems and assumptions that compromise the generalizability of research findings. First, the imbalance means that most of the research on ATII takes as granted that attitudes form and debates occurs in liberal democracies. As a result, findings related to civic duty, government corruption and institutions, democracy etc. assume these kinds of governments and may not be applicable to other regions. Second, these studies assume Western cultural norms in determining in-groups and out-groups. As a result, models may not be applicable to Asian countries, where migration is currently growing. The effect of this overemphasis is that models and findings are limited to only one region and lose accuracy as the survey expands. Variables that are not relevant to the Western situation are overlooked. Finally, the scope of the previous research limits the amount of research into structural determinants of ATII, e.g. development level, government corruption, inequality, etc. The two major frameworks for understanding attitudes towards immigrants originate largely from two disciplines; the first comes from political economy and the second from political psychology, based on research related to prejudice and group threat. In the first framework, individuals react to impacts to their economic self-interest brought on by incoming immigrants. This framework states that people who are likely to lose from the inclusion of immigrants in the labor market, either through a reduction in wages or through an increase in their fiscal burden, will have more negative attitudes towards immigrants. The framework assumes that people's political stances are shaped by their self-interest and that they act rationally. By contrast, the second

framework comes from political psychology, particularly research concerning group-related attitudes and symbols as well as racial prejudice and xenophobia. According to these theories, individuals react to threats to the interests of the groups to which they belong as well as differentiate from others in order to create a greater sense of in-group identity and cohesion.

Overall, however, the claim that attitudes towards immigrants are shaped primarily by an individual's self-interest have found little support. An individual's economic standing often shows less predictive power once stereotypical thinking about immigrant groups is accounted for (Burns & Gimpel, 2000). Hainmueller and Hopkins go so far as to categorize the economic self-interest as "a zombie theory" (2014, p.241), as it continues to live on without the empirical evidence needed to sustain it. Despite this lack of evidence, the theoretical simplicity and precision of self-interest theory "may help explain the staying power of that approach in the face of both observational and experimental results that favor symbolic threats" (Hainmueller & Hopkins, 2014, p.242). In other words, an individual's self-interest determining attitudes is easy to understand, easy to measure, and for these reasons has continued to be a popular explanation for attitudes towards immigrants despite studies which find economic self-interest to have relatively weak explanatory power.

However, this is not to say that economic considerations are irrelevant or negligible in determining attitudes. Rather, the perception of the impact of immigrants' inclusion on the economy as a whole, or what Hainmueller and Hopkins (2014) call "sociotropic" concerns, seem to have more influence on people's attitudes than individuals' economic circumstances (Lapinski, Peltola, Shaw, & Yang, 1997; Tichenor, 2002; Wilkes et al., 2007; Kehrberg, 2007). Economic downturns and unemployment can also affect public opinion towards immigrants, with more negative attitudes overall during periods of hardship (Kunovich, 2004; Scheve & Slaughter, 2001). Exactly how economic recessions influence people's attitudes is difficult to disentangle, as the number of people who are unemployed and facing poor economic conditions naturally increase as economic conditions worsen. Whether their outlook on the economy as a whole or the change in their personal circumstances determine their attitudes is difficult to ascertain (Kunovich, 2004).

Part of the difficulty in understanding the determinants of attitudes towards immigrants and immigration is that these factors often compound. In other words, individual non-attitudinal factors, like education, age, or income, may influence what groups with whom the individual identifies. Macro-level factors, like immigrant population size, can in turn galvanize or activate group-level factors or individual attitudinal factors. Attitudes can also rise or fall in importance to the individual, change in the short-term due to changes in question-framing or current events, or shift over the long-term in reaction to broader attitudinal changes. Moreover, many of these factors simply do not fit neatly into one category. A national recession, as the previous paragraph mentions, is a change in the macro-level factors, but how it is perceived may be mediated through how an individual believes it will affect their country (a group) or themselves (an individual). Finally, determinants, especially attitudinal determinants, are assumed to be correlated and reinforcing, based on the theoretical view which states that attitudes are formed in part through the use of other, relevant attitudes (Zaller & Feldman, 1992; Petty & Krosnick, 2014). Due to the way determinants overlap between groups and because the connections between these determinants are multitudinous, there is a substantial difficulty in describing and showing the overall structure of how attitudes form and change over time. For this reason, network science is an appropriate method for representing these factors and the relationships between them. However, the previous research tends to be somewhat fractured.

In order to give structure to the previous research, findings are arranged in the following way. A summary of this arrangement and the determinants which fall into each group is outlined in Table 2.7. First, individual-level, non-attitudinal factors are presented. Non-attitudinal, in this case, means not related to an evaluative reaction to another issue, such as a view on the importance of cultural homogeneity, a political orientation, etc. These are factors are specific to the individual and are related to characteristics that the individual has no or limited control in changing. As such, non-attitudinal factors resemble demographic factors to a degree, though differences between non-attitudinal factors and demographic factors will be elucidated below. Second, individual-level, attitudinal factors represent again factors which are specific to the individual, but these determinants are related to attitudes towards other issues besides ATII. These determinants include questions about their value system, political orientation, prejudice, and other attitudinal factors. Third, group-level factors are discussed. These are factors which operate the level of the group, meaning that a respondent's attitude is determined by how they believe immigration will affect a group to which they belong. Finally, macro-level conditions seek to describe the economic and social environment in which individuals and groups make their decisions. There is obvious methodological difficulty in splitting between groups and macro-level conditions, as macro-level conditions occur because of the actions of individuals and groups. However, here they are defined as conditions which cannot be changed by one group or one individual alone. These factors include the national economy and government policy, amongst others.

2.4.2.1 Individual-level: non-attitudinal

Previous research has found that several characteristics of individuals that are not related to their group identities or attitudes towards other issues to be significant in determining individuals' attitudes towards immigrants and immigration. These include demographic factors, level of education, and economic factors. In shorts, these are factors which are particular to the individual and are not related to beliefs, ideologies, or perceptions. Demographic factors include age, gender, and rural residence. Overall, older people, men, and people living in rural areas tend to have more negative ATII, whereas younger people, women, and people living in more urban areas tend to have more positive ATII (Gorodzeisky & Semyonov, 2009).

Education level is one of the more complicated of these non-attitudinal factors. Overall, in research mainly focused on the Western world, it has been found to be one of the most consistent and predictive variables in determining one's attitude towards immigrants and immigration (Lancee & Sarrasin, 2015; Freeman, Hansen, & Leal, 2013). As level of education increases, especially to or past the tertiary level, support for immigration increases and anti-immigrant sentiment decreases. There are two main theories as to why this occurs. The first theory posits that workers with higher education are higher skilled and, therefore, not in competition with immigrants, who tend to be low-skilled (Scheve & Slaughter, 2001; Mayda, 2006; O'Rourke & Sinnott, 2006). According to Mayda (2006), support amongst high-skilled workers is higher because their wages relative to low-skilled wages increase with the influx of low-skilled workers, as dictated by the factor proportions theory. However, in many of these studies, surveys do not distinguish between high-skilled and low-skilled immigrants. Studies which do differentiate between high- and low-skilled workers find that education remains an important factor in determining attitudes. However, higher-educated individuals are more positive towards an increase in

immigration at all skill-levels. This finding directly contradicts predictions based on the factor proportions theory, which predicts that high-skilled workers will be opposed to increased supply of high-skilled workers due to immigration as it will decrease their relative wages (Ford, 2011; Hainmueller & Hiscox, 2010).

Some scholars argue that education is in fact a fairly crude measure of skill (Hainmueller & Hopkins, 2014) and that education correlates with a range of other variables which affect ATII (Coenders & Scheepers, 2003). Education has found to be correlated with several individual-level, attitudinal factors that increase the likelihood of having more positive ATII, such as reduced authoritarianism (Hello, Scheepers, & Sleegers, 2006) and an emphasis on cultural diversity (Davidov & Meuleman, 2012). As to why this relationship between higher education and more inclusive ATII, researchers have posited a few theories. The first is in line with group contact theory. Universities foster more contact with different cultures and cause students and graduates to have more diverse social circles (Case, Greeley, & Fuchs, 1989). Personal contact with people from different ethnic groups reduce prejudicial thinking and cause individuals to have reduced anti-immigrant sentiment. The second states that during university, students become accustomed with the hegemonic norms of a society. In the liberal democracies that are generally studied in research on ATII, these norms include "democratic value orientations" that rebuke national or ethnic exclusionism (Coenders & Scheepers, 2003, p.316). Third, university education may encourage greater reflexivity and critical thinking, which can dismantle more dichotomous or simplified beliefs about differences between groups (Gang et al., 2013; Chandler & Tsai, 2001). Finally, individuals who enter higher education may be self-selected. Lancee and Sarrasin's (2015) study uses data from the Swiss Household Panel on respondents who were Swiss citizens born in Switzerland. While attitudes towards immigrants differed between education levels, these attitudes were already present at the secondary level. This finding coheres with previous research that finds that political attitudes and intergroup attitudes form in childhood and adolescence (Barrett & Oppenheimer, 2011; Bekhuis, Ruiter, & Coenders, 2013). Or, respondents who enter university may already have a selection bias according to social position, i.e. wealthier, more urban people are more likely to enter a university in the first place, or some other unobserved determinant (Hainmueller & Hopkins, 2014).

Scholars have posited that economic self-interest shapes ATII through two main mechanisms: by affecting a person's relative wages, as described above, or by affecting a person's fiscal burden. Fiscal burden theories posit that an individual's ATII is determined by whether they believe that immigrants will be a net burden on the welfare state and increase the respondent's taxes as a result (Campbell, Wong, & Citrin, 2006; Dustmann & Preston, 2007). As the above sections have shown, the relationship between a person's economic self-interest as measured by relative wages and skill level does not show a strong relationship. The empirical evidence of the effect of expected fiscal burden on ATII, however, is more mixed and receives less attention than relative wages. As a result, the research is not conclusive. Hanson et al. compare states within the United States to find that natives with higher incomes are less likely to support immigration, especially in states with a large immigrant population and with generous public services (Hanson, Scheve, & Slaughter, 2007). However, within Europe, countries with more comprehensive welfare states tend to have less discriminatory views on who should be able to access welfare services and reduced nativist sentiment overall (Crepaz & Damron, 2009). As to why individuals who could face already face a large fiscal burden would be open to the inclusion of immigrants who might increase their

taxes, Crepaz and Damron argue that policies which are universal rather than needs-based cause public opinion to be more favorable towards all people or any person receiving welfare benefits, including immigrants. Fiscal burden describes an effect on an individual's after-tax income. As such, it correlates with pre-tax income, which has been found to have a relationship in some studies (Coenders et al., 2008; Jackson, Brown, Brown, & Marks, 2001; Kehrberg, 2007) and been found to be insignificant in others (Semyonov, Raijman, & Gorodzeisky, 2008; Wilkes et al., 2007). In a cross-national study, respondents with higher incomes were found to be less supportive of immigration (Facchini & Mayda, 2008). Kunovich finds that respondents with higher incomes were more support of immigration (Kunovich, 2004). Finding that income is more predictive in Western Europe than in Eastern Europe, Kunovich argues that the poorer economic conditions in Eastern Europe erode the sense of security that comes with higher incomes, causing them to have a smaller effect on ATII (Kunovich, 2004). In conclusion, ATII's relationship with both income and with fiscal burden cannot be reliably established based on the existing body of research.

2.4.2.2 Individual-level: attitudinal

Beyond individual-level factors, which are more fixed and not directly related to one's attitudes, a person's evaluative reactions to other issues have been found to be significant in determining their ATII. These factors include various attitudinal factors, ethnocentrism and prejudice against minorities generally or certain minority groups, and political orientation.

A respondent's attitude towards another issue or concept is often indicative of how they feel towards immigrants and immigration. Issues which have found to be significant include valuing cultural homogeneity, social dominance orientation, satisfaction with democracy, and institutional trust. A study of 20 European countries found that the degree to which a person values cultural homogeneity is a much more accurate predictor of their attitudes towards immigrants than their economic standing (Sides & Citrin, 2007). Worries about diminished national unity and uniqueness were also found to outweigh concerns about a decay of national sovereignty or media influence on attitudes (Ivarsflaten, 2005). Those who value cultural homogeneity have an obvious motivation to prevent the inclusion of immigrants into a society, especially those who are more culturally dissimilar. In a study conducted with American undergraduate students, respondents who rate higher on a social dominance scale were also more angered by encounters with Spanish language and had more negative attitudes towards immigrants (B. J. Newman, 2013). Finally, a study of 15 European Union member states finds that one's satisfaction with the democratic process in one's country was also found to have an inverse relationship with ATII (Weldon, 2006). Those who were more dissatisfied with the democracy of their country were more likely to support exclusionary policies towards immigrants, including limiting their rights to free speech, religious freedoms, and voting rights (Weldon, 2006). More generally, higher institutional trust is correlated with more inclusive attitudes towards immigrants, as a more recent cross-national study of European countries shows (Halapuu, Paas, Tammaru, & Schütz, 2013). A similar, single-country study found the same trend in England (Andreescu, 2011).

Political orientation has also been found to be significant in determining people's ATII. Belonging to a political party or whether the respondent considers themselves more to the left or to the right of the political spectrum is often included as a control variable, as seen in Mayda (2006). However, some studies include political partisanship as an independent

variable or as a moderator of attitudes towards immigrants. In general, people who identify with the political right are more likely to support restrictive immigration policies (Hainmueller & Hiscox, 2007; McLaren, 2001, 2003; Semyonov et al., 2008) and favor excluding immigrants from equal access to institutions as native-born citizens, such as healthcare or welfare (Gorodzeisky & Semyonov, 2009). Furthermore, in some studies, the effect of political orientation remains even after controlling for other factors (Kunovich, 2009; Semyonov et al., 2006).

Other studies investigate political orientations' role as a moderator of people's attitudes rather than as a determinant of attitudes. In other words, people's political orientation can affect how they understand and seek out information about immigration as well as whether issues related to immigration have a mobilizing, galvanizing effect on their reactions and behaviors. When surveying voters in Iowa, Knoll et al. (2011) used two different framing devices when asking respondents a policy question related to what actions the government should take with regards to undocumented immigrants currently residing in the United States. In the first, the question used either the term "undocumented immigrants" or "illegal immigrants." The second framing device asks the same question but uses the term "undocumented immigrants" or "undocumented Mexicans." The framing device which explicitly mentions the ethnicity of the immigrants had little effect on most voters. However, for voters who identified as Republicans and for whom immigration was an important issue, the ethnic framing increased the likelihood of supporting more punitive policies towards undocumented immigrants. Framing has, however, been found to be important in mobilizing individuals and constituencies that have more liberal policies. As Lahav and Courtemanche find that liberal support for more restrictive immigration policies grows when immigration is framed as a national security threat (Lahav & Courtemanche, 2012). Merolla et al. find similar results in Latino voters (Merolla, Ramakrishnan, & Haynes, 2013). Despite these findings, Knoll et al. conclude that "immigration policy attitudes are not primarily determined by partisanship" (Knoll et al., 2011, p.448). Overall, the respondents' belief of the importance of immigration as a political issue, or "issue salience," was found to be the largest determinant of whether someone favored a more punitive or a more inclusive immigration policy, amongst both Republicans and Democrats. Issue salience, also referred to as "issue importance" and "policy attitude importance," is defined as "the degree to which a person is passionately concerned about and personally invested" in a policy (Krosnick, 1990, p.60). As a certain issue grows in importance relative to other issues for a person, the person's attitude toward the issue becomes more stable and certain, they tend to be more informed on their political party's view of the issue, and attitudes towards other, less salient issues tend to change in order to ensure ideological cognitive consonance (Dennison & Geddes, 2019). In their article, Dennison and Geddes state that the increase in voting for anti-immigration policies across Europe is caused not by an increase in anti-immigrant sentiment (which has remained relatively stable and, in some cases, decreased) but instead caused by the increase in issue salience of immigration for a certain segment of the population. This finding is reinforced by Sniderman et al.'s study, which finds that worries about immigration tend to be more galvanizing only amongst those who are already pre-disposed towards supporting more restrictive immigration policies, not a more general public (Sniderman, Hagendoorn, & Prior, 2004). Political attitudes tend to remain fairly stable over time; however, issue salience can be very volatile (Dennison & Geddes, 2019). Dennison and Geddes suggest that politicians look to recapture votes from anti-immigration parties must look at "the drivers and structure of attitudes towards immigration" (Dennison & Geddes,

2019, p.116) and appeal to people's sense of threat to security and tradition rather than attempt to change anti-immigrant sentiment.

Intuitively, a person's attitude towards ethnocentrism and their level of prejudice towards outsiders, i.e. generalized prejudice, are also very influential in determining their attitudes towards immigrants. A person's level of ethnocentrism is often measured using a question such as, "most other cultures are backward compared to my own," "other cultures should try to be like my own," or "lifestyles in other cultures are just as valid as my own" (Neuliep & McCroskey, 1997). Prejudice is often measured according to a "feelings thermometer," in which a respondent is asked how warmly they feel towards a group of people from a scale of 0 to 100 (Citrin, Green, Muste, & Wong, 1997). While prejudice against other ethnicities has been found overwhelmingly to be linked towards anti-immigrant prejudice, a central question remains as to whether prejudice against immigrants is origin-blind or "generalized" (Citrin et al., 1997; Sniderman, 2002; Sniderman et al., 2004; Kinder & Kam, 2010), meaning people's prejudice towards other ethnicities does not depend on the country they come from, or if it is origin-specific, meaning that people differentiate between ethnic groups and have varying attitudes depending on the origin. One pioneering study by Quillian employs principal component analysis to find that anti-immigrant prejudice and racial prejudice are almost identical in their variation (Quillian, 1995). Citrin et al. finds that personal economic standing had little predictive power in a person's attitudes towards immigrants, but that negative attitudes towards Latinos and Asian Americans and pessimism about the national were significant (Citrin et al., 1997). Sniderman et al. find that Italian respondents with negative attitudes towards African immigrants tend to be equally against Eastern European immigrants, supporting the theory that prejudice towards immigrants are origin-blind (Sniderman, 2002). The authors summarize this finding, stating, "Prejudice is blind in a deep sense. It reflects a dislike not of a particular minority but of minorities in general" (Sniderman et al., 2004, p.56).

However, substantial evidence has been found that people do differentiate between immigrants from different origins when determining their attitudes towards immigrants, as discussed in Section 2.4.1.1. Looking at the United Kingdom, Ford finds a consistent preference for White and culturally similar immigrant groups using the British Social Attitudes survey from 1983 to 1996 (Ford, 2011). Hainmueller and Hangartner exploit the natural experiments of Swiss local elections which, prior to 2003, could include referendums to determine which applicants should be granted Swiss citizenship (Hainmueller & Hangartner, 2013). Citizens were given applicant descriptions, which detailed the person's country of origin, language skills, employment information, and other measures of integration. Overall, country of origin was the most important predictor of a candidate's success. Votes against citizenship were 40 percent higher for applicants from Turkey and Yugoslavia when compared to applicants with similar credentials from more affluent northern and Western European countries. Furthermore, the proportion of "no" votes increased during the 1990s, as these immigrant groups increased in population and political parties mobilized around the issue of immigration (Hainmueller & Hangartner, 2013).

Finally, religion has been found in various studies to be significant in determining attitudes but the research is inconclusive, as religion has been found to be have both positive (Scheepers, Gijsberts, & Hello, 2002) and negative impact on anti-immigrant sentiment (Mayda, 2006). Studies often differ in how they define and measure religion, with some studies looking at which specific sect people ascribe to, e.g. Catholic, Protestant, Muslim, and others measuring church

attendance or a subjective measure of how important religion is to the respondent (Scheepers, Gijsberts, & Hello, 2002). Thus, results are not always comparable. In a cross-national study, Scheepers et al. find that religion exerts a similar effect across countries, but how the individual expresses or understands their religion greatly influences the result (Scheepers, Gijsberts, & Hello, 2002). Those who subscribed to a formal religion were found to have greater prejudice than those who were non-religious. Christians, both Catholics and Protestants, showed the most anti-immigrant sentiment. Moreover, those who expressed a greater level of religious particularism or valued doctrinal adherence were also more likely to express prejudice against ethnic minorities. However, respondents who answered that religiosity was more important in their lives and who felt more strongly that they had a spiritual life (as compared to an intellectual or emotional life) were found to have lower levels of prejudice (Scheepers, Gijsberts, & Hello, 2002).

2.4.3 Group-level

Group-level factors are factors which relate to an individual's attachment to a group and where the primary concern is the group's interests rather than the individual's self-interest. A group-level interest on the level of the nation, i.e. how an individual believes that a policy will affect their country, is referred to as "sociotropic" by Hainmueller and Hopkins (2014). Studies which advance these theories generally rely on two theoretical foundations: the concept of intergroup conflict and the concept of social identity theory. Intergroup conflict theory states that prejudice between groups arises due to real or perceived conflicts over a limited amount of resources (Esses et al., 1998). These resources can be divided into two categories, material resources and symbolic resources. Symbolic resources in this case can refer to esteem, social value, and other social rewards (Smith, Mackie, & Claypool, 2014). In the case of realistic group conflict, group conflicts occur over real competition over scarce resources, for example, over a limited amount of employment for certain groups. As a result, this theory is often marshalled in support for economic theories as the primary motivation for negative ATII. However, as symbolic resources can be an equal area of conflict, intergroup conflict can be applied to cultural and attitudinal factors of ATII on the group level. Finally, intergroup conflict also stresses that the perception of threat to a group resource can be as powerful as the actual conflict.

In contrast to intergroup conflict theory, social identity theory centers the primacy of identities in shaping opinions towards others and other groups. It states that individuals categorize other people into either an out-group (for those who are determined to be different from themselves) and an in-group (for themselves and those who are similar to them). Limiting the opportunities of those in the out-group becomes one strategy to increase the distinctiveness and cohesion of the in-group (Esses et al., 1998). Through the exclusion of members of the out-group, the in-group can fend off perceived threats to their symbolic resources, in this case the positive identity gained from the group. Therefore, those who identify more heavily with a group are likely to have more hostile feelings towards out-groups.

Related to prejudice and intergroup conflict is contact theory, which states that prejudice is reduced when members of different groups have contact (Allport, 1954). However, scholars argue that not all contact will necessarily reduce prejudice. Some of the research conducted on intergroup contact and attitudes towards immigrants shows that natives who live in areas with a larger local immigrant population show reduced prejudice towards immigrants (Fetzer, 2000;

Schlueter & Wagner, 2008). In these studies, more positive attitudes towards immigrants do not necessarily have an effect on opinions on immigration policy. McLaren measures instead the amount of close friendships that American Anglo (non-Hispanic Whites) and African-American respondents have with Latinos, the largest immigrant community in the United States. Respondents with a greater amount of close friendships were more likely to have more sympathetic attitudes towards Latinos generally and to have more liberal attitudes towards immigration policy (McLaren, 2003). Other measures of contact, such as going to a high school with a large Latino population, having Latino acquaintances, and living in areas with a large a Latino population, were not as significant in determining people's policy attitudes. This finding supports the idea that all types of contact are not equal. Rather, contact has to be sustained and intimate in order to cause a measure change in a respondent's attitude. Finally, Kustov argues that in addition to other condition, when contact occurs is relevant in forming attitudes, as attitudes towards immigration develop during young adulthood (Kustov, Laaker, & Reller, 2021).

Immigrants represent outsiders on the level of the nation. Thus, social identity theory posits that people who more strongly identify with the nation and who perceive threat more strongly will have a more negative reaction towards immigrants. This is generally known as national identity, meaning the degree to which a person is attached to their country, and has been found to have a positive relationship with more exclusionary attitudes towards immigrants and immigration (Kunovich, 2009; Coenders, Scheepers, Gijsberts, & Hagendoorn, 2004; Mummendey et al., 2001; Gijsberts, Hagendoorn, & Scheepers, 2004) . Mayda (2006) uses two variables from the World Values Survey to measure attachment to one's country: "would you be willing to fight for your country" and "how proud are you to be [country]" (World Values Survey, 2020). She finds that both measures of what she terms national pride have a significant relationship with more restrictive attitudes towards immigration, albeit with a smaller effect than economic variables (Mayda, 2006).

However, this relationship is not without its complexity. Political scientists often make the distinction between "patriotism" and "nationalism," the former connoting a healthy attachment and love for one's country while the other meaning a belief in the innate superiority of one's nation as compared to other countries (Mummendey et al., 2001). Mummendey et al. argue that identification with one's country can be created and sustained not just through comparisons with out-groups, but also through a comparison with how the country fared in the past or how it may fare in the future (temporal comparison), or how the country compares to an ideal society (2001). They find that respondents exhibit greater in-group cohesion and greater out-group exclusion when primed with these comparisons, suggesting that both patriotism and nationalism can have exclusionary effects (Mummendey et al., 2001).

Researchers have also investigated whether an attachment to the institutions of one's country and civic culture changes political behavior when compared to prioritizing ethnic attachment to one's countries (Ceobanu & Escandell, 2010; Kunovich, 2009). Often, a dichotomy is assumed in which Eastern European countries exhibit greater "ethnic" national identity, based on a shared history and/or bloodline, versus the more "civic" national identity common in Western Europe, where attachment to one's country is based on the political kinship of citizens. This dichotomy originates in part from the work of the work of Hans Kohn, a leading theorist in the study of nationalism. As ethnic national identity is fixed and civic national identity does allow for those who were not born into the country to become part of this political community, it is

assumed that people who have ethnic national identities should have more exclusionary then those with more civic nationalities (Hjerm, 1998; Schildkraut, 2005). Ceobanu and Escandell (2010) criticize this dichotomy through a cross-national study of European countries. They find that eastern and Western Europeans are converging towards similar levels of anti-immigrant sentiment overall. Moreover, in both western and Eastern European countries, the degree to which ethnic attachments towards one's country influences one's anti-immigrant sentiment has decreased over time. Finally, the level to which the belief of the legitimacy of one's country's political and social institutions has become a stronger predictor of sympathy towards immigrants than in Western Europe, contradicting the assumed connection between Eastern Europe and a more ethnic conception of nationality.

2.4.4 Macro-level

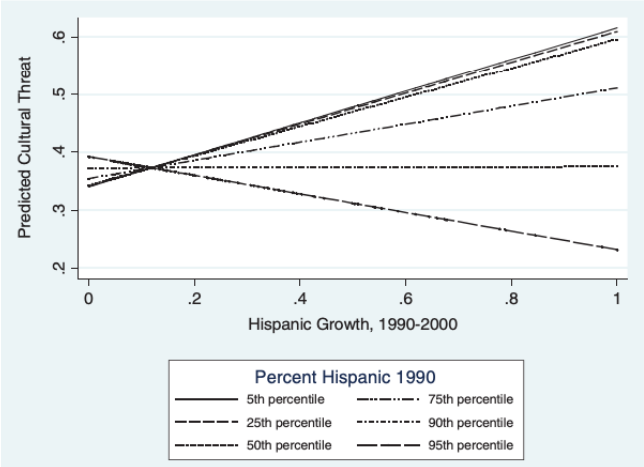


Figure 2.3: Impact of Hispanic population growth on predicted cultural threat by percentile of Hispanic population in 1990. As the graph shows, the relationship between increased Hispanic population and negative attitudes depends also on the demographics prior to the new influx. Areas with large Hispanic populations before the increase saw a decrease in negative attitudes, while areas with very few Hispanic residents saw an increase in negative attitudes when growth in Hispanic population was higher. Figure source: B. J. Newman, 2013, pp. 384.

Attitudes towards immigrants are not only determined by individual characteristics, attitudes, and group attachments, but are also influenced by changes in the local environment, the national economy, and policy changes enacted by the government. These determinants should be of particular interest to policymakers as these factors lie directly within policymakers' sphere of influence, and because these macro-level factors are much more likely to change over a person's lifetime than many attitudinal factors. What macro-level factors affect attitudes towards immigrants and how they do so will be detailed in the following section, showing the effects of changes in local demography, the overall national economy, and policy on ATII.

Changes in local demography have been found to have an effect on attitudes towards immigration, though not in the straightforward way envisioned by group threat theories. Group threat would posit that as a population of immigrants grow, other groups will feel more threatened (B. J. Newman, 2013). As contact theory states, in areas with larger immigrant populations, natives should have more positive attitudes towards the immigrant group due to increased contact. As the previous section shows, however, not all contact affects anti-immigrant sentiment in a meaningful way. The contact theory

assumes little friction in the way of intergroup contact, but social and/or spatial segregation as well as disconnected social networks can easily lead to only superficial contact between groups. As McLaren shows, it is not enough to have contact, but rather intimate contact, like friendship, is necessary to reduce prejudice (McLaren, 2003). Thus, research on how the size of the local immigrant population affects attitudes towards immigrants and immigration is quite mixed, with some studies finding a positive relationship between population and attitudes (Fetzer, 2000; Ellison, Shin, & Leal, 2011), others a negative relationship (Semyonov et al., 2008, 2006; Jackson et al., 2001), and some finding no relationship at all (Hello, Scheepers, & Gijsberts, 2002; Sides & Citrin, 2007; Hjerm, 2007). Moreover, natives tend to overestimate the size of the immigrant population nationally and locally (Hjerm, 2007; Jackson et al., 2001; McLaren, 2003). Studies show that the perception that the overestimating the size of the immigrant population correlates with more negative attitudes (Scheepers, Gijsberts, & Coenders, 2002; Semyonov et al., 2006; Schneider, 2008). Furthermore, there may be important differences in how individuals react to larger immigrant populations based on what kind of migrants enter the local area and the history of the area. Looking at that United States, Hood and Morris find that White Americans' support of immigration increases with the size of the documented immigrant population and decreases with the size of undocumented immigrant population (Hood & Morris, 1998). Also within the United States, Newman finds that growth in the local immigrant population only triggers fears of cultural threat in the native, White population when the area previously had a lower Hispanic population and experiences a large amount of growth, as seen in Figure 2.3 (B. J. Newman, 2013).

Areas in the lower percentiles of Hispanic population in 1990 saw much steeper rises in predicted cultural threat as the growth rate of the Hispanic population increased. However, areas that began in the 90th percentile saw barely any effect on perceived cultural threat when the Hispanic population increased, while areas in the 95th percentile saw a reduction in the perceived cultural of Hispanics as the growth rate increased. How a change in the immigrant population affects residents' ATII, thus, depends on the growth rate, the history of the area, as well as what kind of contact occurs between groups. Finally, these changes are moderated by individuals' own perceptions of the size of the immigrant population, which when estimates are conflated, correlates with more negative attitudes towards immigrants.

National economic conditions have been found to be more predictive of individual's personal economic standing. Hainmueller and Hopkins refer to these concerns as "sociotropic" (Hainmueller & Hangartner, 2013). During economic downturns, ATII become more negative (Coenders et al., 2008; Lahav, 2004; Semyonov et al., 2008). Furthermore, differences exist between countries depending on their level of development. Mayda finds that more affluent countries have generally more positive attitudes towards immigrants and immigration, as predicted by the Heckscher-Ohlin model of factor trade (Mayda, 2006). A cross-national study in Europe reinforces this trend, finding that in Eastern European countries, a downturn in economics conditions have a stronger effect on anti-immigrant sentiment than in more affluent, Western European countries (Kunovich, 2004).

The political environment of a country can also have an effect on ATII. In long-established liberal-democracies, education has a more liberalizing effect on people's attitudes towards immigrants than in countries with a disrupted or shorter history of democracy (Coenders & Scheepers, 2003; Hello et al., 2002). Coenders and Scheepers find that, after controlling for social position, family income, sex, age, religious denomination, and church attendance, educational effects on

attitudes towards immigrants are significant and stronger in longstanding democracies than in countries with interrupted or more recent democracies (Coenders & Scheepers, 2003).

Finally, the policies towards immigration and immigrants that governments choose to pursue may cause a feedback loop on public opinion towards immigration and immigrants. By establishing a status quo and institutionalizing symbolic boundaries between groups, policy can have the effect of reframing the debate around immigration. Public opinion can become more relaxed or more stringent in accordance with more inclusive or more restrictive policies (Calavita, 1996; Chavez, 2013; Flores, 2014; Campbell, 2012). However, empirical evidence on feedback loops related to immigration in particular, especially on a larger scale, is limited and far from conclusive. In Arizona, a stringent immigration policy in Arizona, SB 1070, does not appear to have changed people's attitudes towards either immigration or towards immigrants, but instead changed behaviors, making those who already had negative attitudes more likely to share their opinion on Twitter (Flores, 2017). However, in qualitative interviews, a restrictive policy towards immigrants did have the effect of hardening the boundaries between ethnic groups and increasing negative sentiment towards both immigrants and minority ethnic groups (Flores, 2017). When viewed in a cross-national context, countries in which the government has more restrictive policies on the level of immigration into the country also see higher levels of anti-immigrant sentiment (Hjerm, 2007). Hjerm uses the UN Department of Economic and Social Affairs data on anti-immigrant sentiment and classification of immigration policies to investigate the relationship between policy and attitudes. However, this research only provides a snapshot of the correlation between policy and public opinion, and the question of whether public opinion is cause or effect of restrictive policies is still not conclusive.

How do these determinants operating, on the individual-level, the group-level, and the macro-level, interact and conflict with one another? This question is difficult to approach because of its complexity and because it broaches a fundamental question in the social sciences, namely the relationship between the micro-level and the macro-level, the emergence of social systems, organizations, and phenomena from individual-level behavior and the ontology[10] of social phenomena. Theoretical approaches that attempt to do integrate these different levels include those that take a bottom-up approach, such as rational choice, systems theory (Easton, 1965), symbolic interactionalism (Mead & Morris, 1967), and network science. As mentioned above, most studies have focused on individual-level determinants of attitudes towards immigrants. This tendency can be seen as a methodological individualism, or the view that all macro-level phenomena are reducible individual-level action.[11] Equally, top-down theories, such as Durkheim's functionalism and Marx's conflict theory may elucidate how individual behavior is determined by larger social structures. In general, however, these theories generally try to include and elucidate the interactions between different entities as well as the feedback loops that affect the systems over time.

Scholars of attitudes towards immigrants have attempted to approach the question of how these determinants interact with one another through multi-level studies (Berg, 2015; Rustenbach, 2010; Kim & Kim, 2021; Semyonov et al., 2006). Determining what levels are relevant – for example, how big is a person's neighborhood? What social categories, e.g. ethnicity, union membership, etc., are relevant? – remains a contested area, with room for interpretation and disagreement

[10] In other words, does a thing like "society" actually exist, and can it be studied; or, is it a mainly linguistic construct?
[11] See Heath (2020) for an overview of the concept.

amongst scholars. Moreover, including interactions between variables (for example, whether a person has left-leaning political orientation in a rural area vs. an urban area) increases the number of factors exponentially, making studies methodologically unwieldy and opening the possibility of finding spurious relationships. Despite this fact, multi-level analyses can help illuminate results that are often difficult to understand using single-level analysis – for example why having lower social class can either create a sense of competition towards immigrants or a sense of solidarity depending on the social context in which respondents are located – and the inherent complexity of multi-level studies and theories is both their strength and weakness. In summary, integrating these levels are inherently complex, and eliminating all other possible explanations is difficult if not impossible; however, removing an individual from their context, as in the case of methodological individualism, or removing individual agency, as in the case of some systems theories, can lead to diminished understanding of complex phenomena. For this reason, while multi-level approaches have methodological difficulties and vulnerabilities, they remain necessary for obtaining a more nuanced understanding of how attitudes are determined.

2.5 Network science

As attitudes towards immigrants are multi-level phenomena, complex methods is necessary for understanding how they form and change. One such method is network science, or the study of complex phenomenon by modelling the relationships between entities, such as including people, websites, countries, or neurons in the brain, using edges, which represent the relationships between the these objects. By mapping the relationships between relevant players rather than the behavior of a single individual, network science allows for the study of phenomena and behavior that cannot be derived simply by looking at a system's individual components. This causes network science to be a valuable tool for understanding myriad, complex phenomena in many different fields, such as the social connections of a group of people, the spread of disease through a population, traffic through a road network, or genes' relationships to one another (Barabási & Pósfai, 2016).

As stated above, networks comprise of *nodes*, i.e. entities, and *edges*, the relationships between them. Edges can be directed or undirected, demonstrating whether a relationship is mutual or one-sided (M. Newman, 2018). A directed edge in a social network may show which person sent an email to another person. An undirected edge may show that simply that both people have met one another. Finally, edges can either be weighted or unweighted. In the case of a social network, the weight may represent how often the people communicate with one another, either once a month, once a week, daily, etc. Making a network graph requires the use of either an edge list or an adjacency matrix. An edge list has three columns: the first two contain the nodes and the third, the relationship between the two nodes. An adjacency matrix shows the exact same relationships, but the nodes are the columns and rows of the matrix. The cells of the matrix show the relationship between the node signified in the column and the node identified in the row. An unweighted graph may only show that there is or is not a relationship between the two nodes, represented by either a 1 or a 0. A weighted graph will show the weights of the edge in the cell and is referred to as a weighted adjacency matrix.

2.5.1 A quick note on terminology

Nodes and *vertices* are used interchangably to indicate the entity. Moreover, *edges*, *ties*, and *links* are also used interchangeably. Finally, *clusters* and *communities* are used interchangeably. *Singleton clusters* refer to clusters which contain only one node. *Cliques* refer to clusters in which every node shares an edge with every other node in the cluster.

Moreover, in the Chapters 4 and 5, *features* will be used to referred to variables. *Determinants* refers to clusters of features identified by community analysis. Similarly, *sub-community* refers to a cluster found when an additional community analysis is done on a single cluster or determinant.

2.5.2 Partitioning methods

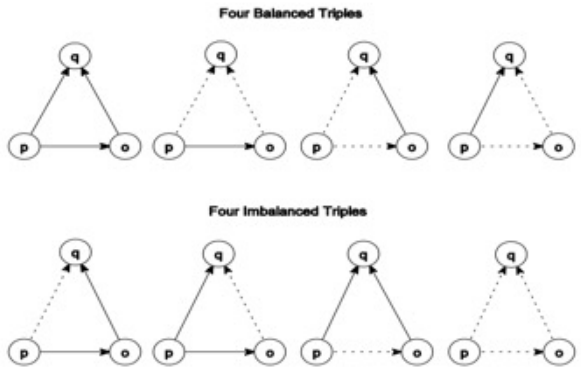


Figure 2.4: Balanced and Unbalanced triples. The above triangles are balanced as there is always an even number of negative ties and so can be partitioned so that all negative ties are between groups and all positive ties are within groups. The below triangles are unbalanced. Figure Source: Doreian and Mrvar, 2015, p.3.

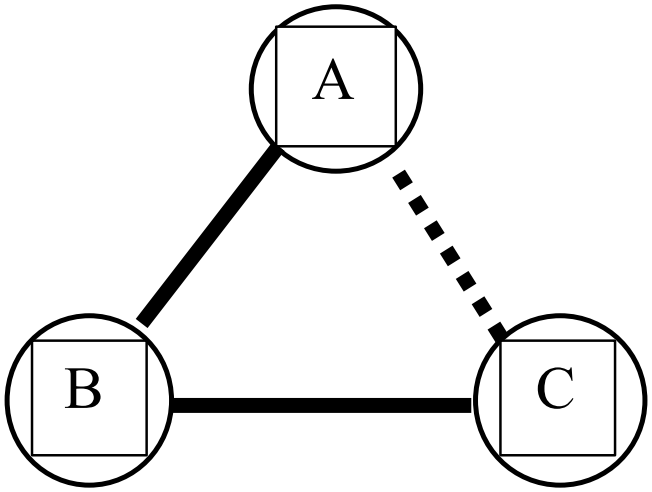


Figure 2.5: Imbalanced structure of clusters, or cognitive dissonance between attitudes. Solid lines represent positive ties; dashed lines represent negative ties. As B and A are positively correlated, and B and C are positively correlated, then an increase in B should lead to an increase in both A and C. However, as A and C are negatively correlated, meaning this is not possible.

Partitioning, or clustering, classifies vertices in a network such that each vertex is assigned to exactly one class (De Nooy, Mrvar, & Batagelj, 2005). By classifying vertices, clustering makes clear the roles which govern vertices'

behavior, allowing an understanding of the overall structure of a network rather than the behavior of single nodes. In some graphs, the clusters are already known; a graph of the social network in a university may already know which nodes are students, professors, or administration. Clusters can also be detected based on a criterion function delineating meaningful groups of nodes. The following paragraphs will detail two such methods, the first based on structural balance, and the second based on modularity, a measure related to the density of edges between nodes.

Community detection in networks with both positive and negative ties began with Heider's work on social balance theory. Heider takes three nodes representing three people. The links between the three nodes can either be positive in nature or negative, representing either friendship or animosity. Heider theorized that these triples would have a tendency towards balance. In other words, if two people like each other, then they would have similar feelings, either positive or negative, towards the third person. However, if two friends have differing opinions about the third person, then there is a lack of balance due to the lack of coherence in their attitudes towards each other and their feelings towards the second person. In this case, the triple will tend towards balance; either the two friends will stop being friends, or one friend will change their opinion in order to be in accordance with their friend. Triples that have an even number of negative ties are considered in balance, while those with a positive number of negatives are out of balance. A network is considered complete if all its triples are in balance. Balanced triples are shown in the first row of Figure 2.4 and unbalanced triples are shown in the second row of Figure 2.4.

Cartwright and Harary proved that a complete balanced signed network could be partitioned into two subsets where all positive ties are located between members of the same group and all negative ties between members of opposite groups (Cartwright & Harary, 1956). One exceptional case is that of a triple with all negative ties. This triple has both an odd number of negative ties and cannot be divided into two clusters, but it could be argued to be in balance as it shows mutual hostility amongst all parties. By accepting an all-negative triple as in balance, Davis extended this theory to include k number of subsets of a network, with only positive ties internally and only negative ties externally (Davis, 1967). Thus, more than two clusters of nodes can be considered structurally balanced, if negative ties occur between them and positive ties within them.

However, in reality, social networks are rarely in balance. Members within in groups may have some hostility towards each other, and members between groups may have positive feelings towards one another. The number of links which prevent a network from being perfectly balanced is known as frustration. Finding a partition that minimizes the frustration of the network can allow for community detection in a network that is not perfectly balanced. Harary developed the line index of imbalance to measure the amount of imbalance in a network. The line index of imbalance is calculated as

$$C(V_1, V_2) = C^-(V_1) + C^-(V_2) + C^+(V_1, V_2) \tag{2.1}$$

where V_1 and V_2 represent two subsets, C^- represents the number of negative ties within a subset, and $C^+(V_1, V_2)$ represents the number of positive ties between subsets. A network is only considered structurally balanced if the line index of imbalance is equal to zero.

Structural balance uses the line index of imbalance as a method of optimizing clustering, such that frustration is as

low as possible. Dorein and Mrvar relax structural balance to allow for partitioning of networks which are not perfectly balanced. Relaxed structural balance allows negative edges to exist within clusters and positive edges to exist between nodes of different clusters, but these "forbidden" edges will be counted against the model (Doreian & Mrvar, 2009). The criterion function used to optimize relaxed structural balance is

$$P(C) = \alpha\mathcal{N} + (1 - \alpha)\mathcal{P} \tag{2.2}$$

where C represents the set of clusters, $\mathcal{N}$ represents the number of negative edges in positive clusters, and $\mathcal{P}$ the number of positives ties between positive clusters. α allows for weighting the importance of inconsistencies. When $\alpha = 0.5$, positive ties between clusters and negative ties within clusters are weighted equally. When $\alpha < 0.5$, positive ties between clusters is considered more consequential than negative ties within clusters, and when $\alpha > 0.5$, negative ties within positive clusters are weighted more heavily. The optimal set of clusters will have the lowest $P(C)$. Relaxed structural balance's criterion function differs from Harary's line index of imbalance in three important ways: first, this model allows for more than two subsets. Second, positive links may appear between clusters and negative links may exist within clusters, but they will be counted against the model. Finally, the model can be weighted to penalize negative ties or positive ties more heavily through the addition of α. The optimal partition of a network will differ if α is changed. For this reason, it is imperative to set the value of α before beginning.

In this study, negative ties within clusters will be penalized more heavily in order to create more internally consistent clusters which may or may not have a negative or positive relationship with other clusters. The criterion function will be

$$P(C) = 0.75\mathcal{N} + 0.25\mathcal{P} \tag{2.3}$$

This weighting was decided in order to create more internally consistent clusters as well as to account for cognitive dissonance, the well-established, psychological phenomenon in which a person holds two attitudes that are inconsistent with one another. An example of cognitive dissonance is shown in Figure 2.5, where A, B, and C represents different attitudes and the edges between them represent either positive correlation, represented by solid lines, or negative correlation, represented by dotted lines.

This formation does not cohere with structural balance theory, as there is an odd number of negative ties. However, it is consistent with real-world attitude formation in which people can hold contradictory attitudes. Thus, whether or not an increase in cluster A leads to a decrease or increase in cluster B depends on the relative strength of the tie between cluster A and cluster B and the tie between cluster B and cluster C.

In networks with only positive links, modularity is often used as method of optimizing clustering. Modularity measures the fraction of edges between nodes of the same group minus the fraction of expected edges from a node, based on the degree, or the total number of the nodes in a network and the total number of nodes coming from a vertex (M. Newman, 2018). An optimal clustering of nodes would show high modularity, meaning nodes within clusters were densely connected and ties between clusters were sparse. With weighted graphs, the weighted degree is the sum of weights of all the edges

ending in a node. As a result, modularity in its most basic form cannot be applied to signed graphs, as it does not account for negatively signed ties. Modularity is adapted for signed networks in the work of Traag and Bruggeman (2009). In this method, clusters are optimized by maximizing the sum of positive edges and minimizing the sum of negative edges within communities.

2.5.3 Blockmodeling

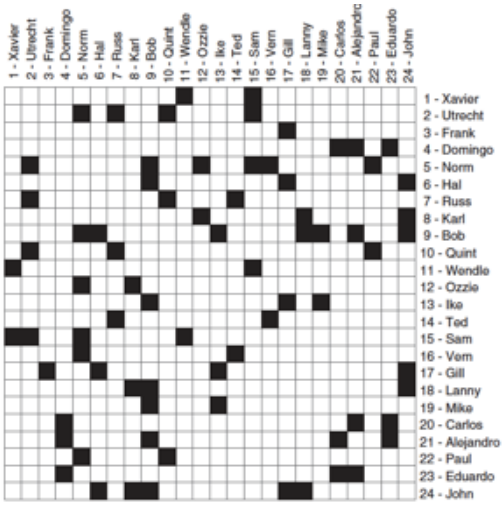


Figure 2.6: Adjacency matrix before blockmodeling. Black squares represents the existence of a relationship between the two participants. With the current arrangement of the matrix, no clusters are apparent. Figure source: De Nooy et al., 2005, p. 261.

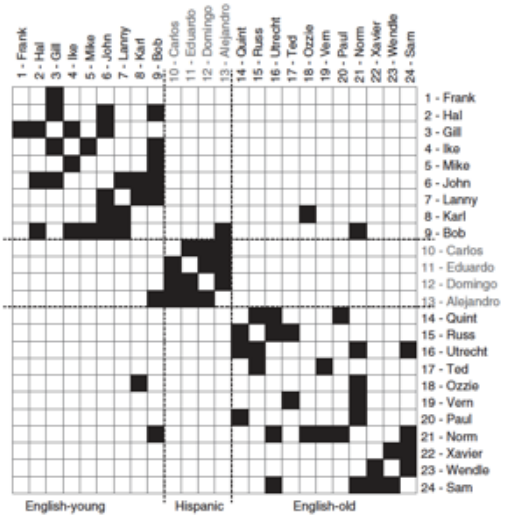


Figure 2.7: Adjacency matrix after blockmodeling. By reordering the order of participants in the adjacency matrix, a partition where there are many relationships within clusters and very few relationships outside of the clusters becomes apparent. Figure source: De Nooy et al., 2005, pp. 262.

Table 2.8: An adjacency matrix of positive and negative social ties amongst teachers and students and the derived image matrix.

	Teacher 1	Teacher 2	Student 1	Student 2
Teacher 1		P	P	P
Teacher 2	P		P	
Student 1	P	P		N
Student 2	P	P	N	

	Teachers block	Students block
Teachers Block	P	P
Students Block	P	N

Creating these partitions requires a technique for optimizing clusters in order to have the lowest possible error. Blockmodeling is a technique which partitions networks by permuting network's adjacency matrix. An adjacency matrix is a matrix in which both the columns and rows represent all the nodes in a matrix. The value in the cell represents their relation. By rearranging a node's location in the adjacency matrix so that positive ties appear within clusters, or blocks, and negative ties between clusters, blockmodeling can detect the clusters in a network. Figure 2.6 shows a social network before it has been a block model has been applied. From this permutation of the matrix, there are no clear clusters of individuals.

However, by rearranging the order of individual, a group of clusters does appear, as shown in Figure 2.7. Positive ties exist in the blocks along the diagonal, where ties between members of the same group are represented. Between clusters, very few ties exist. In the case of Figure 2.7, the authors created blocks based on clusters that were already known, namely individuals were English and young, English and older, and Hispanic individuals. But, equally, it is possible to fit a blockmodel and then work backwards to determine what clusters have in common, as will be the case with this study (De Nooy et al., 2005). Having permuted the adjacency matrix into blocks, it is possible to create a simplified version of the graph, known as an image matrix. An example of a block model and its image matrix is shown below in Table 2.8.

In a structural balance model that has not been relaxed, positive blocks would only appear along the diagonal. In this case, it would be possible conclude that each block represents a single determinant that is uncorrelated to other variables, similar to a PCA. However, the relaxed structural balance allows for the appearance of positive blocks off the diagonal. A positive block off the diagonal shows that a block of variables is correlated and similar to another block, but is dissimilar in its behavior towards another block. This pattern shows cognitive dissonance, as a positive link exists between two attitudinal objects, but they differ in their relationship to another block. Which relationship will be more salient in determining the attitude depends on the strength of each tie; determining the strength is outside the scope of this study.

Chapter 3

Local-level attitudes towards immigrants

3.1 Introduction

In public debates about immigration, the salient question is not only the number of migrants arriving, but also how well migrants integrate into society. Answering this latter question requires grappling with complex mechanisms, operating on both the local and national level, with large variation depending on the composition of the local population, local and national governments, and the characteristics of the migrants themselves. Despite years of research, fundamental questions remain about how migrants' personal characteristics interact with the local population's attitudes, economic opportunity, and national policies.

The UK in particular represents an especially variegated environment. On the one hand, the country is exceptionally centralized, with the majority of political decision-making based in London (McCann, 2020). However, a lack of national policy on integration means that each local authority is responsible for its formal integration regime. Moreover, even within the relatively wealthy south of England, neighborhoods can experience relatively high levels of deprivation, meaning that the economic environment can vary widely from neighborhood to neighborhood within the same local authority. Neighborhoods also vary in their openness to immigration and their political views. Finally, the composition of migration, and choice of destination within the UK, have changed significantly since the post-war influx, when migrants originated mainly from former colonies, and were more likely to be Black, Asian, or minority ethnic. More recently, and until the post-Brexit immigration policy changes, migrants originated mainly from Eastern European countries as part of the EU expansion wave in the early 2000s. The confluence of these economic and political geographies came to a head in 2016, when rhetoric on voting leave in the EU referendum became linked with anti-immigration and integration views. Pro-Brexit campaigners stressed the fiscal burden of immigrants, their overwhelming numbers, and their lack of integration into British society.

This study aims to provide a snapshot of the integration of migrants in the years immediately before, during, and after the EU referendum in order to first provide an empirical base of knowledge of immigrants' integration outcomes at the time, and secondly, to help disentangle the complex relationships between individual characteristics and local circumstances –

namely, political attitudes, segregation, local deprivation, and rural or urban residence – at work in migrants' integration. Moreover, we include a measure for both economic outcomes and subjective well-being to provide a more holistic view of migrants' integration outcomes.

Doing so allows us to approach the following questions about integration processes, using England as a case study: First, to what degree are differences in labor market outcomes and well-being attributable to differences in group characteristics, and to what degree are they attributable to discriminatory behavior? Do Black, Asian, and minority ethnic (BAME) migrants face additional difficulties in the labor market? And do migrants in areas with more negative attitudes towards immigration face greater discrimination in the labor market or experience negative effects on their well-being?

This study uses a Kitagawa-Blinder-Oaxaca (KBO) decomposition to decompose the gaps in labor income and life satisfaction between migrants and non-migrants into those attributable to differences in characteristics such as age and education, and those attributable to differences in the effects of those characteristics on the outcomes (typically interpreted as a measure of discrimination). We also analyse the determinants of the additional gap between BAME and White migrants. We find that migrants earn far less than their UK-born counterparts given their personal characteristics, particularly education levels, and that non-White ethnicity has a strongly negative association with labor market outcomes. However, within areas with higher Brexit vote share, White migrants experienced significant discrimination compared to BAME migrants. Finally, life satisfaction for all migrants was negatively affected by living in an area with more negative attitudes towards immigrants.

The remainder of the paper is organised as follows. Section 3.2 outlines the major findings of the literature related to migrants' outcomes and the effect of local conditions in the United Kingdom. Section 3.3 details the data and methodology used, while Section 3.4 and Section 3.5 describe the results and their implications. Section 3.6 concludes.

3.2 Related works

3.2.1 Migration and integration

The classic understanding of labor market assimilation posits that when migrants arrive in a new country, they first earn less than native-born but catch up to natives' levels as they gain greater human capital in the destination country. The reality of migrants' labor market outcomes show much greater variation and complication. In fact, on aggregate, while migrants are less likely to be employed than the UK-born, migrants in the UK earn more than their native counterparts (Hunt, 2012; Dustmann, Glitz, & Vogel, 2010; Frattini, 2017).

However, simple averages obscure both the unequal returns to qualifications when comparing migrants and non-migrants as well as the heterogeneous outcomes amongst migrant groups. After controlling for education and experience, migrants earn substantially less than natives of equal education, and are more likely to be overqualified for their jobs (Hunt, 2012; Lindley, 2009). Over time, migrants' initial earnings advantage degrades, a phenomenon Bell dubs "dis-assimilation" (Bell, 1997).

Secondly, outcomes vary substantially based on country of origin; White migrants have better labor market out-

comes than minority ethnic migrants with the same qualifications, a disadvantage often referred to as the "ethnic penalty" (A. Heath & Cheung, 2006; Frattini, 2017). Many studies have found that minority ethnic groups often face greater challenges in integrating into the labor market, even when controlling for educational and other demographic differences (Hunt, 2012; Lindley, 2009; Clark & Lindley, 2009).

Previous applications of KBO decompositions to wage differentials between migrants and the native-born in the UK find that greater education and work experience are associated with larger increases in wages for the native-born than for migrants. One study finds that White migrants and White natives tend to be over-represented in higher occupational classes, such as professionals and managers, while minority ethnic migrants are over-represented in occupational classes associated with lower pay, though the study cannot conclude whether this is due to network effects and historical ties to certain occupations or to ethnic discrimination (Lindley, 2009). Finally, a longitudinal study finds that the nature of the migrant wage differential underwent a shift after the turn of the millennium and the market crash of 2008 (Hunt, 2012). While in 1997, migrants earning below the median wage were more likely to see higher wage differentials compared to natives (a "sticky floor"), by 2009 wage gaps had increased for migrants earning wages in the middle of the wage distribution (a "glass ceiling"). Importantly, wage differentials increased due to an increase in the unexplained portion of the differential, i.e. the portion of the differential attributed to discrimination and unobserved variables (Hunt, 2012). In other words, Hunt's study finds evidence for an "eroding immigrant middle class" (Hunt, 2012, p.16), led by an exacerbation in lower returns for migrants with the same characteristics as the native-born. The relevant question remains to what degree this gap between migrants and non-migrants, White and BAME migrants, is driven by differences in human capital, by discrimination, and by the local context into which migrants attempt to integrate.

In addition to differences in earnings, this study also includes life satisfaction as an indicator of integration outcomes. Life satisfaction can be considered a measure of overall subjective well-being, but it also correlates with more objective outcomes, such as morbidity and mortality risks (Kahneman & Krueger, 2006). As the previous literature has shown, the relationship between migration and life satisfaction is complicated. In general, studies have found that migrants on average report lower levels of life satisfaction than the native-born (Safi, 2010; Kirmanoğlu & Başlevent, 2014; Bălțătescu, 2005). While migration often leads to an increase in objective measures of well-being, such as income, it does not necessarily result in increases in subjective well-being (Bălțătescu, 2007). By moving, migrants may be sacrificing social embeddedness and cultural identity, all of which are associated with lower life satisfaction (Arpino & de Valk, 2018). Some findings suggest that the experience or perception of discrimination negatively affects migrants' life satisfaction, even across immigrant generations and longer time spent in the country (Safi, 2010). Moreover, migrants' satisfaction tends to be determined in part by the average level of life satisfaction in their home country, which varies according to local conditions (Voicu & Vasile, 2014). The effect of migration itself on subjective well-being remains disputed, as some studies find that migrants have higher satisfaction compared to those who remained in the home country (Mähönen, Leinonen, & Jasinskaja-Lahti, 2013; Sortheix & Lönnqvist, 2014), while others find the opposite effect (Stillman, Gibson, McKenzie, & Rohorua, 2015). Finally, one recent study finds that life satisfaction for migrants depends heavily on characteristics of the destination country, specifically, the attitudes of the local population, the provision of public goods, and the level

of economic inequality, all of which are found to have a significant effect on migrants' life satisfaction (Kogan, Shen, & Siegert, 2018). Thus, studying the gap in life satisfaction between migrants and the native-born can provide useful insights into migrants' integration into the country that are not captured by economic measures.

3.2.2 Relevance of local context

While migrants' characteristics are important determinants in their integration, they are engaging with a specific local context, which varies in terms of its economic strength (or level of material deprivation), attitudes towards immigration, and history and culture of integration.

As the UK in particular is one of the most regionally unequal countries in the developed world (McCann, 2020), migrants enter local economies and communities with vastly different opportunities for employment, levels of crime, health outcomes, and quality of the environment. However, relatively little research has been done on how local levels of deprivation affect migrants' outcomes in the UK. In one of the few recent studies on this topic, Clark et al. (2019), find that deprivation contextualizes all migrant labor market outcomes, with the positive relationship between years since migration and labour market trajectories, i.e. improvements in employment prospects and wages, dampening once local deprivation is accounted for (Clark et al., 2019). In other words, a longer time spent in a deprived area may counteract the increase in experience and human capital on migrants' earnings. Conversely, Knies et al., find that deprivation only has a small effect on the life satisfaction of migrants (Knies, Nandi, & Platt, 2016).

The role of migrant segregation in determining integration outcomes is highly contested. The traditional view is that segregation isolates migrants into ethnic communities with little opportunities for economic advancement and social connection outside of the ethnic enclave. However, a greater concentration of a migrants' ethnic group may help to overcome the informational and linguistic barriers to finding employment and housing, as well as help mitigate the stress of living in a foreign country (Cutler & Glaeser, 1997). Some studies find that living in areas with a greater concentration of co-ethnics leads to greater life satisfaction overall (Knies et al., 2016).

As Kogan et al. (2018) note, attitudes towards migrants constitute the informal integration regime of the country, as migrants encounter a more or less welcoming society (Kogan et al., 2018). Attitudes are primarily studied because they are believed to be the motivating force behind behavior, and thus, it is assumed that migrants in areas with more negative attitudes towards migrants and immigration will experience greater discrimination. Evidence for a relationship between negative attitudes and greater discrimination has been found in field experiments in housing (Carlsson & Eriksson, 2015, 2017; Auspurg, Schneck, & Hinz, 2019) and in hiring (Zschirnt & Ruedin, 2016; Carlsson & Rooth, 2012). However, the link between behavior and attitudes is not direct, and the link between local attitudes and integration outcomes in particular is under-researched.

3.3 Data and methodology

3.3.1 Data sources

The primary data set used in the analysis is the Understanding Society survey (also known as the UK Household Longitudinal Study), which is a nationally representative sample of around 40,000 households, with every household member over 16 included in the survey. Households are surveyed once a year, and the analysis is based on data from Wave 7, covering the period January 2015 to May 2017, which includes a range of additional questions on politics and political views, in the run-up to the EU referendum. The sample is restricted to individuals living in England at the time of the survey and over the age of 18. For the labor income decompositions, the samples are restricted to individuals who are in full- or part-time employment or self-employment, and aged 18 to 65. In the analysis of life satisfaction, the sample includes all individuals living in England over the age of 18. Migrants are defined as persons born outside of the United Kingdom, and so includes only first-generation migrants. The sample size for each component of the analysis and each group is shown in Table 3.1.

In the labor income decomposition between migrants and non-migrants, we include the following individual-level predictor variables: *male gender*, *ethnicity*, *highest qualification*, *employment type*, and *job industry*. For the labor income decomposition between White and BAME migrants, the individual-level predictors are *male gender*, *years spent residing in the UK*, *highest qualification*, and *job industry*. For the decomposition in the gap in life satisfaction between migrants and non-migrants, we include the following covariates: *male gender*, *age*, *ethnicity*, *highest qualification*, *marital status*, *job status*, and *physical health*. Details on the predictor variables can be found in Appendix A.1.

Table 3.1: Number of respondents per group for each analysis

	Group A	Group B	Total
Labor income	UK born 12832	Foreign Born 2904	15736
	White 867	BAME 2007	2874
Life satisfaction	UK Born 22570	Foreign Born 4557	27127

The data set also includes detailed geographical identifiers which allow us to assign households to Lower Super Output Areas (LSOAs), a highly disaggregated census geography. There are roughly 32,000 LSOAs in England, each relatively homogenous in terms of socio-economic characteristics, with around 1,000-3,000 residents per LSOA. Small area census statistics are available at the LSOA level, and we are able to assign each LSOA to an area type (urban and rural), and to a quintile capturing material deprivation. Deprivation at the LSOA level is measured by the 2015 Index of Multiple Deprivation (IMD) and is provided by the Department for Levelling Up, Housing, and Communities, previously named the Ministry of Housing, Communities, and Local Government (Ministry of Housing, Communities & Local Government, 2015).

In order to better understand how local segregation may affect outcomes, a measure of residential segregation between the UK-born and the foreign-born was computed for the Local Authority District/Unitary Authority (LAD) level, using

a dissimilarity index. LADs are larger administrative geographies, with a range of policy powers covering education, transport, and business support, and which are run by local elected officials. By comparing the distribution of migrants across LSOAs within LADs, the dissimilarity index scores LADs from 0 to 1 where a score of 0 indicates full integration (each LSOA within the LAD has an equal percentage of the total migrants), and a score of one, indicating complete segregation (concentration of migrants in one or more LSOAs). The dissimilarity index can be interpreted as the percentage of migrants who would have to move in order for the groups to be equally distributed across the district. The index is calculated according to following formula

$$ID = \frac{1}{2} \sum_{i} \left| \frac{n_{ui}}{n_{ut}} - \frac{n_{fi}}{n_{ft}} \right| \tag{3.1}$$

where n_{ui} is the count of the UK-born in the LSOA i, n_ut is the total count of the UK-born in the same LAD, and n_{fi} and n_{ft} are the corresponding values for the foreign-born. Data on country of birth in the LADs is taken from the 2011 census.

In order to measure the views and attitudes of the local population towards immigration and migrants in their local area, the percentage of leave-voters (choosing to leave the EU) in the 2016 EU referendum for the LAD is used as a proxy. The data comes from a data set provided by the House of Commons Library (Uberoi, 2016). The EU referendum represented a unique opportunity for a behavioral measure of attitudes towards migrants. Before the referendum, immigration was cited as the most important issue for British voters (Ipsos Mori, 2021). Building on the historical link between UKIP support, Euroscepticism, and attitudes towards migrants, Euroscepticism and control over immigration became interlinked during the campaign (Goodwin & Heath, 2016). Controlling for other variables, more negative local attitudes towards immigration, rather than immigration itself, were more likely to correlate with propensity to vote leave (Abreu & Öner, 2020). Given that the EU referendum data allows for a measure of both views and the proportion of people willing to go out and express those views, it is a unique opportunity to capture both views and salience.

In summary, for each decomposition the following local-level predictors were included: *local deprivation*, *urban/rural residence*, *degree of segregation between migrants and non-migrants in the LAD*, and *percent of the LAD voting leave in the EU referendum*.

3.3.2 Kitagawa-Oaxaca-Blinder decomposition

The Kitagawa-Blinder-Oaxaca decomposition is a common statistical method for quantifying the proportion of a differential between two groups attributable to mean differences in predictors, like education or age, and the proportion which cannot be explained by group differences in attributes (Jann, 2008). The method was first proposed by Evelyn M. Kitagawa in 1955 (Kitagawa, 1955) but is often accredited to separate works by Ronald Oaxaca (Oaxaca, 1973) and Alan Blinder (A. S. Blinder, 1973).

Two groups, A and B, have a set of predictors X for an outcome variable Y. B commonly represents the minority or disadvantaged group. Assuming that Y has a linear function in the predictors X, and that the expected value of the error

term ϵ is equal to 0, the expected difference in the outcomes for individuals in Group A and Group B can be expressed as:

$$R = E(Y_A) - E(Y_B) = E(X_A)'\beta_A - E(X_B)'\beta_B \tag{3.2}$$

This equation can be rearranged to better identify the source of disadvantage for Group B, and expressed as a function of differences in the "endowments" (difference in the expected values for the predictors for each group), differences in the "coefficients" (the extent to which the predictors explain differences in the outcome variable for each group), and the interaction between the endowments and coefficients.

$$R = \underbrace{\{E(X_A) - E(X_B)\}'\beta_B}_{\text{Endowments}} + \underbrace{E(X_B)'(\beta_A - \beta_B)}_{\text{Coefficients}} + \underbrace{\{E(X_A) - E(X_B)\}'(\beta_A - \beta_B)}_{\text{Interaction}} \tag{3.3}$$

As the expected values of X_A and X_B as well as the β values are estimated by a linear regression of k predictors on the outcome Y, Equation (3.3) can be rewritten as follows:

$$\bar{Y}^A - \bar{Y}^B = \underbrace{\sum_{j=1}^{k} \beta_j^B(\bar{x}_j^A - \bar{x}_j^B)}_{\text{Endowments}} + \underbrace{\sum_{j=1}^{k} \bar{x}_j^B(\beta_j^A - \beta_j^B)}_{\text{Coefficients}} + \underbrace{\sum_{j=1}^{k} (\bar{x}_j^A - \bar{x}_j^B)(\beta_j^A - \beta_j^B)}_{\text{Interaction}} \tag{3.4}$$

Equation (3.4) is a threefold decomposition of the difference in outcomes between Group A and Group B ($\bar{Y}^A - \bar{Y}^B$), using Group B as the reference group. The first term, **endowments**, is the proportion of the differential that can be explained by differences in the mean level of the groups' predictors. For example, part of the difference in wage may be explained by the fact that Group A has higher levels of work experience or education. By multiplying the difference in predictors, $\bar{x}^A - \bar{x}^b$, by the coefficients of our reference group (Group B) β^B, this term measures by how much Group B's mean outcome would increase if they had the same expected predictors as Group A.

The second term, **coefficients**, captures the proportion of the outcome differential that can be explained by how the characteristics of Group A and Group B are rewarded differently. For example, one additional year of education may increase Group A's wage by £50, while only increasing Group B's wage by £40. The coefficients term captures by how much Group B's income would increase if they had the same coefficients as Group A, by multiplying the difference in Group A's and Group B's coefficients ($\beta^A - \beta^B$) by Group B's mean predictors $\bar{x}_B$. Because of the differing rewards for the same characteristics, the coefficients term is used to quantify the effects of discrimination and other unexplained differences on outcomes, including unobserved variables.

Finally, the **interaction** effect measures the simultaneous effect of differences in coefficients and endowments by multiplying the difference in expected outcomes by the difference in coefficients. Namely, the interaction term measures how much the gap would decrease if Group B had both the endowments and coefficients of Group A.

Standard errors for the parameters are calculated using bootstrapped standard errors of 1000 sampling replicates (Efron, 1979; Hlavac, 2014).

3.3.2.1 Twofold decomposition

While the threefold decomposition shown in Equation (3.3) uses Group B as the reference group, the following twofold decomposition uses neither group as a reference. The twofold decomposition instead estimates a nondiscriminatory function, β^*, the function of predictors on outcomes that would exist if there was no discrimination. In this case, the mean outcome difference is decomposed according to the following equations

$$R = \underbrace{\{E(X_A) - E(X_B)\}'\beta^*}_{\text{Explained}} + \underbrace{\underbrace{E(X_A)'(\beta_A - \beta^*)}_{\text{Unexplained A}} + \underbrace{E(X_B)'(\beta^* - \beta_B)}_{\text{Unexplained B}}}_{\text{Unexplained}} \tag{3.5}$$

$$\bar{Y}^A - \bar{Y}^B = \underbrace{\sum_{j=1}^{k} \beta_j^*(\bar{x}_j^A - \bar{x}_j^B)}_{\text{Explained}} + \underbrace{\underbrace{\sum_{j=1}^{k} \bar{x}_j^A(\beta_j^A - \beta_j^*)}_{\text{Unexplained A}} + \underbrace{\sum_{j=1}^{k} \bar{x}_j^B(\beta_j^* - \beta_j^B)}_{\text{Unexplained B}}}_{\text{Unexplained}} \tag{3.6}$$

In this case, rather than use one group as a reference, the reference parameters are derived from a pooled regression over both groups to estimate β^* (Neumark, 1988). The purpose of using a twofold decomposition is to align the method with the economic literature which suggests that discrimination undervalues the disadvantaged group while subsidizing higher wages for the other group (Cotton, 1988). Therefore, in a world without discrimination, the entire population's wage function should be somewhere in between the observed wage functions for the two groups, $\beta^B < \beta^* < \beta^A$. The **explained** term is analogous to the endowments term in the threefold decomposition. The **unexplained** term as a whole measures the proportion of the differential that is due to differences in coefficients and is interpreted as the effect of discrimination. The unexplained term can be further decomposed into unexplained A and unexplained B, where **unexplained A** represents the amount that is due to an over-valuation of Group A, relative to the non-discriminatory function, and **unexplained B** measures the amount that is due to an under-valuation of Group B.

3.4 Results

3.4.1 Labor income

Table 3.2: Results of twofold decomposition for monthly labor income for UK-born and Foreign-born

Reference	Explained		Unexplained		Unexplained A		Unexplained B	
	$\sum_{j=1}^{k} \beta_j^*(\bar{x}_j^A - \bar{x}_j^B)$		Unexplained A + Unexplained B		$\sum_{j=1}^{k} \bar{x}_j^A(\beta_j^A - \beta_j^*)$		$\sum_{j=1}^{k} \bar{x}_j^B(\beta_j^* - \beta_j^B)$	
	Coef	SE	Coef	SE	Coef	SE	Coef	SE
Pooled regression	63.00***	11.48	14.92	11.78	2.75	2.17	12.17	9.61

Significance levels: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1

Table 3.2 shows the results of the twofold decomposition of the gap in labor income between the UK-born and the foreign-born respondents. On average, the UK-born earn £77.92 more per month in labor income than the foreign born (in

current prices at the time of the survey 2015-2017). The "Explained" column shows the proportion of the differential that change be explained by group differences in predictors (i.e. different average ages, gender, etc.), as well as the standard error. £63, or 81% of the income differential, can be explained by differences between groups in their predictors.

The "Unexplained" column indicates the amount of the income gap attributable to differences in coefficients between the two groups due to discrimination and other unobserved variables. £14.92 can be explained by the fact that migrants and non-migrants receive different returns to their characteristics. Only the endowments term reaches significance at the 95% level, as measured by the standard error.

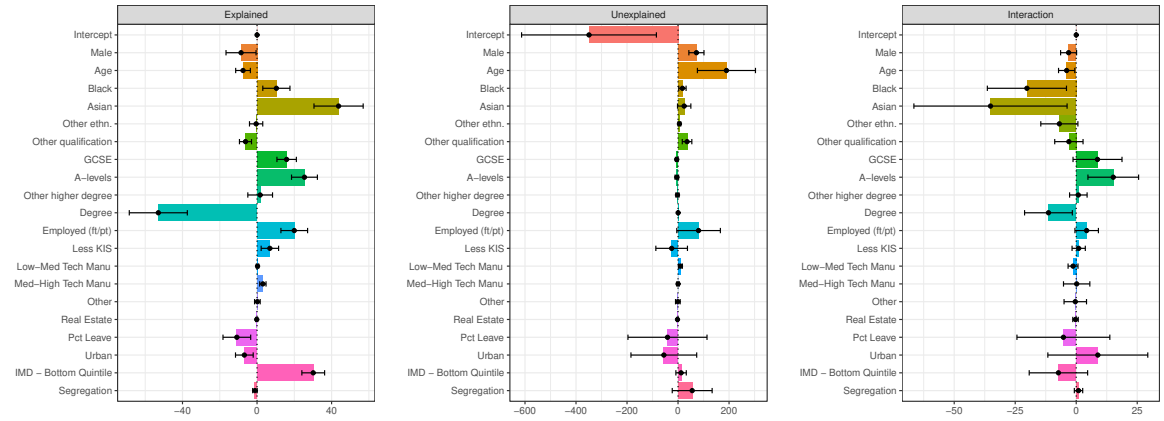
As the explained and unexplained terms are sums over all predictors, the contribution of individual predictor variables to the overall terms can be shown in a variable-by-variable decomposition. As an example, the variable-by-variable decomposition of the explained term for the labor income gap between migrants and non-migrants is shown in Table 3.3. The first column of Table 3.3 contains the mean difference between the UK-born and the foreign-born for each predictor; the second shows the coefficient of that predictor in the non-discriminatory income function. The third column shows the product of the two first two columns, or, in other words, how much the variable contributes to the overall explained term in the KBO decomposition; the final column shows the significance of the coefficient of the predictor in the KBO decomposition. The final two columns, the contribution of the variable to the explained term and its significance, are visualized in Figure 3.1a.[1]

Table 3.3: Results of the twofold decomposition, by variable - monthly labor income for UK-born and Foreign-born

	Mean difference (UK - foreign born)	β^*	KBO coefficent	P-value	
Intercept	0.00	429.32	0.00		
Male	-0.02	399.94	-8.59	3.68E-02	*
Age	-0.88	8.50	-7.52	1.86E-04	***
Black	-0.17	-62.51	10.37	5.26E-03	**
Asian	-0.38	-114.85	43.75	8.15E-11	***
Other ethn.	-0.03	14.64	-0.49	7.86E-01	
Other qualification	-0.04	150.70	-6.20	1.76E-04	***
GCSE	0.07	213.58	15.89	2.31E-09	***
A-levels	0.08	329.50	25.45	6.59E-13	***
Other higher degree	0.00	471.58	1.69	6.18E-01	
Degree	-0.07	765.72	-52.98	2.60E-11	***
Employed (ft/pt)	0.04	445.22	19.97	4.57E-08	***
Less KIS	-0.03	-244.36	6.88	3.95E-03	**
Low-Med Tech Manu	-0.01	-33.63	0.27	4.13E-01	
Med-High Tech Manu	0.02	138.66	3.13	3.11E-04	***
Other	0.03	6.61	0.18	8.17E-01	
Real Estate	0.00	-108.38	-0.17	5.32E-01	
Pct Leave	0.06	-180.57	-10.84	4.25E-03	**
Urban	-0.15	45.84	-6.81	4.95E-03	**
IMD - Bottom Quintile	-0.18	-163.90	30.15	3.70E-22	***
Segregation	0.00	-280.55	-1.13	6.81E-02	.
	Sum of KBO coefficients		77.92		

As Figure 3.1a shows, much of the difference in outcomes can be explained by the larger proportion of migrants who are Black or Asian, do not have GCSEs or A-levels, are employed rather than self-employed, and who work in a less

[1] Variable-by-variable decomposition tables for all other decompositions can be found in the Appendix A.3



(a) Endowments (twofold)
For each predictor variable, x_j, bars represent
$\beta_j^*(\bar{x}_j^A - \bar{x}_j^B)$

(b) Coefficients (twofold)
For each predictor variable x_j, bars represent $\bar{x}_j^A(\beta_j^A - \beta_j^*) + \bar{x}_j^B(\beta_j^* - \beta_j^B)$

(c) Interaction term (threefold)
For each predictor variable x_j, bars represent
$(\bar{x}_j^A - \bar{x}_j^B)(\beta_j^A - \beta_j^B)$

Figure 3.1: Results of KBO decompositions of gap in labor income between migrants and non-migrants, by variable. Error bars represent significance at 5% level. Figure 3.1a shows the amount of the income gap that can be explained by average differences in their characteristics. Figure 3.1b shows the amount of the gap due different returns to these characteristics. Finally, Figure 3.1c shows the interaction term, showing that immigrant status and Black and Asian ethnicity cause a large and significant decrease in income.

knowledge-intensive or medium-high tech manufacturing industry. Migrants are also more likely to live in one of the most deprived LSOAs, which is negatively associated with labor income. Decreasing the gap in labor income is the fact that migrants are more likely to have a college degree or other "qualification" and are less likely to live in a rural area or in an area where a greater number of people voted leave, all of which are significantly associated with greater income.

While group differences account for the majority of the labor income differential, 29% can be attributed to differences in coefficients, traditionally understood as discrimination. As shown in Figure 3.1b and in Table A.5 in Appendix A.3, migrants see lower returns to being male, being older, and to their educational qualifications. Starting from A-levels, migrants see significantly and increasingly smaller returns to their educational qualifications, such that the mean outcome for migrants with a degree is £61.85 less per month than the UK-born with a degree, holding all things equal.

In addition to the twofold decomposition, a threefold decomposition was also employed in order to identify any interaction terms that may affect the wage differential. The interaction term of the threefold decomposition are shown in Table 3.4. Unlike the twofold decomposition, all terms in the threefold decomposition are statistically significant. Moreover, the results show that the labor income differential between migrants and non-migrants may in fact be underestimated when the interaction between ethnicity and migrant status is taken into account. As Figure 3.1c shows, the interaction between migrant status and Asian and Black ethnicity is associated with a significant decrease in income, of £35.13 and £20.20, respectively.

Though smaller in magnitude, interactions between qualifications also reach significance, but have counter-intuitive results. In particular, the interaction between a higher educational qualification (degree) and migrant status has a negative effect on income, while the interaction between lower educational attainment (A-levels) and migrant status has a positive effect on income. Specifically, migrants with A-levels earn £15.19 more per month than the UK-born with A-levels, while

migrants with a degree earn £11.37 less their UK-born counterparts, holding all other factors equal.

Table 3.4: Results of the threefold decomposition of gap in labor income between UK-born and foreign-born

Endowments $\sum_{j=1}^{k} \beta_j^B(\bar{x}_j^A - \bar{x}_j^B)$		Coefficients $\sum_{j=1}^{k} \bar{x}_j^B(\beta_j^A - \beta_j^B)$		Interaction $\sum_{j=1}^{k} (\bar{x}_j^A - \bar{x}_j^B)(\beta_j^A - \beta_j^B)$	
Coef	SE	Coef	SE	Coef	SE
93.29***	20.6	42.72*	18.83	-58.09*	23.01

Significance levels: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

3.4.1.1 Labor income: White and BAME migrants

Given the significant interaction between race and migrant status in labor income, a KBO decomposition was also implemented on a sample of only foreign-born respondents, with the group variable being a dummy of White or non-White ethnicity. The difference in average labor income for White migrants and for BAME migrants is more than double the differential between migrants and non-migrants, at £174.22 per month.

Table 3.5: Twofold KBO decomposition of gap in labor income between White and BAME migrants

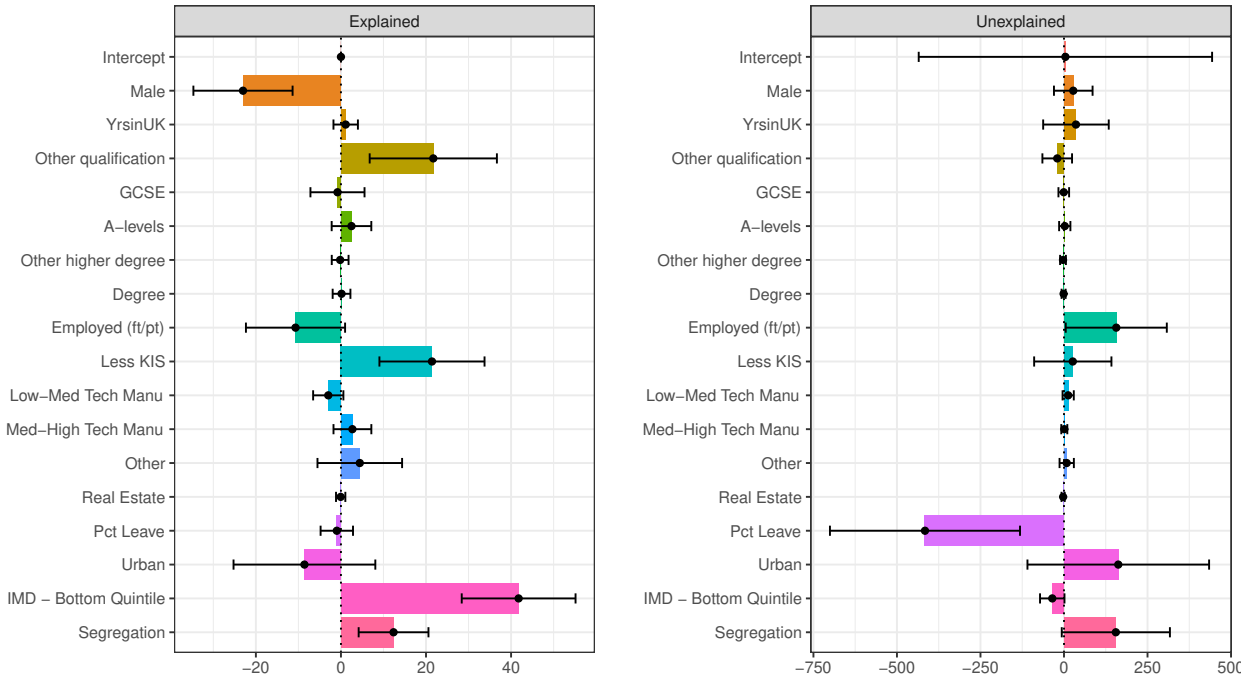
Reference	Explained		Unexplained		Unexplained A		Unexplained B	
	Coef	SE	Coef	SE	Coef	SE	Coef	SE
Pooled regression	60.82**	18.59	113.40***	27.15	79.19***	19.03	34.21***	8.20

Significance levels: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

As shown in Table 3.5, only 35% of the difference in labor income can be attributed to differences in group characteristics, while the majority can instead be attributed to differences in coefficients. Moreover, comparing the Unexplained A and B terms show that the majority of the differences in coefficients can be attributed to a preference for White migrants rather than negative discrimination against BAME migrants. All terms reach significance.

Figure 3.2a shows that BAME migrants are more likely to work in a less knowledge-intensive industry as opposed to a knowledge-intensive industry, more likely to live in one of the most-deprived LSOAs, and more likely to live in an LAD with higher segregation between migrants and non-migrants, all factors significantly associated with lower wages. BAME migrants are also more likely to be male, which is generally associated with larger labor income.

By comparing the coefficients for each variable, the unexplained differences shown in Figure 3.2b show where migrants see fewer returns to their characteristics. Being employed rather than self-employed is significantly associated with negative labor income outcomes. BAME migrants who live in segregated areas see greater disadvantage than the UK-born, with a decrease in income at around £155 per month; however, these results are marginally significant, with p-values of around 6%. Finally, White migrants who live in LADs that have a greater percentage of people who voted leave experience worse labor outcomes than BAME migrants when controlling for all other factors, amounting to a penalty of £416 per month. Moreover, they also saw a slight decrease in income commpared to BAME migrants when living in deprived areas of around £35 per month, though this finding is only is only significant at the 6% level.



(a) Endowments (twofold). For each predictor variable, x_j, bars represent $\beta_j^*(\bar{x}_j^A - \bar{x}_j^B)$

(b) Coefficients (twofold). For each predictor variable x_j, bars represent $\bar{x}_j^A(\beta_j^A - \beta_j^*) + \bar{x}_j^B(\beta_j^* - \beta_j^B)$

Figure 3.2: Results of the twofold KBO decomposition of gap in labor income between BAME and White migrants, by variable. Error bars represent significance at 5% level. Observed differences include the large number of BAME migrants living in deprived and segregated areas, as well as working in less knowledge-intensive industries and having other qualifications. Figure B shows that White migrants living in areas with a greater Brexit vote share see a large and significant decrease income relative to their BAME counterparts, totalling over £300 per month.

3.4.2 Life satisfaction

On average, foreign-born respondents are slightly more likely to report lower life satisfaction, with 14.31% reporting that they are either completely, mostly, or somewhat dissatisfied with their life overall, compared to 13.96% of the UK-born respondents. When treating the responses as a numeric variable — respondents were asked on a scale of one to seven, seven being the highest, how satisfied one is with their life — the average response for the UK born is 5.27 and 5.19 for the foreign born, with a gap of 0.08.

Table 3.6: Twofold KBO decomposition of gap in life satisfaction between UK-born and foreign-born

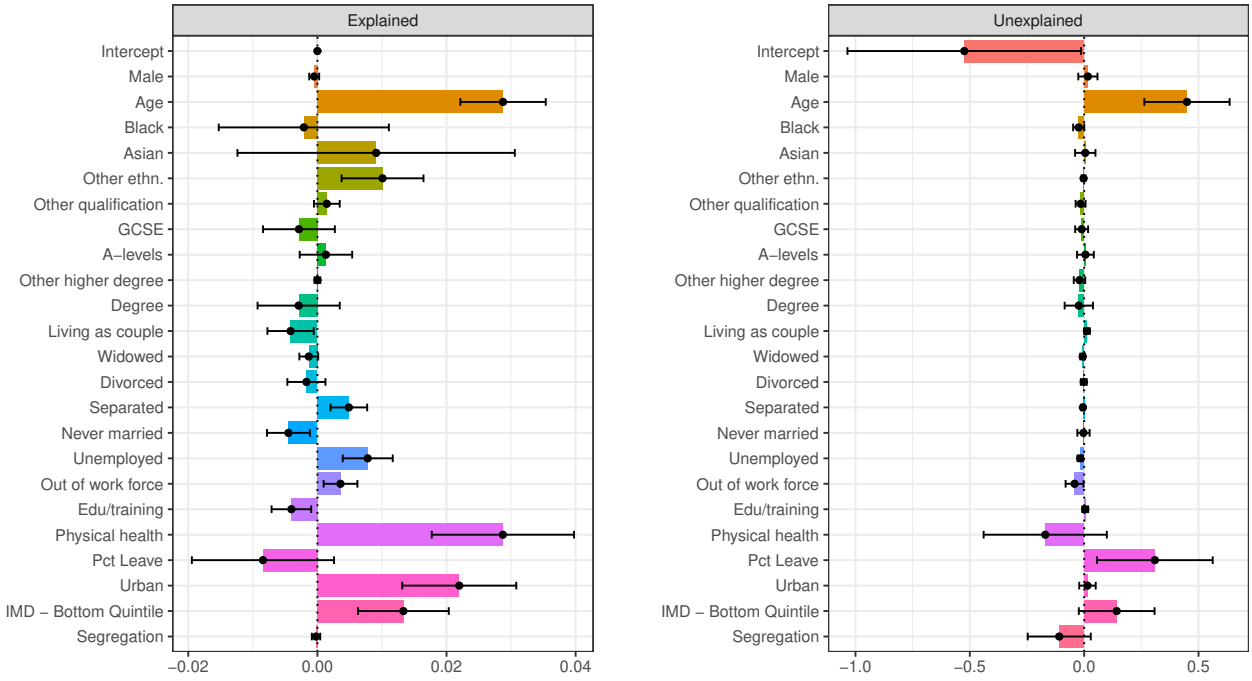
Reference	Explained		Unexplained		Unexplained A		Unexplained B	
	Coef	SE	Coef	SE	Coef	SE	Coef	SE
Pooled regression	0.098***	0.015	-0.019	0.018	-0.003	0.003	-0.016	0.015

Significance levels: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

As Table 3.6 shows, based on their group-level characteristics, migrants should average 0.10 points less than non-migrants, as shown by the coefficient of the explained column. Rather, differences in coefficients reduces the gap in life satisfaction between migrants and non-migrants to the 0.08 gap observed when comparing averages. Moreover, while the explained column can be considered statistically significant, the unexplained column fails to achieve significance.

The group-level differences associated with lower life satisfaction are shown in Figure 3.3a. In particular, migrants tend to be younger, are more likely to be Asian or "other" ethnicity, are more likely to be separated and unemployed. Migrants are also more likely to live in one of the most deprived LSOAs and are more likely to live in an urban area.

Migrants are over-represented in some variables which are associated with greater satisfaction, counteracting the effect of some of the factors above. In particular, migrants overall are less likely to be widowed, living as a couple, or never married, and less likely to be out of the work force and more likely to be in education or training. They also live in LADs where a smaller percentage of people voted leave which is negatively associated with life satisfaction.



(a) Endowments (twofold). For each predictor variable, x_j, bars represent $\beta_j^*(\bar{x}_j^A - \bar{x}_j^B)$

(b) Coefficients (twofold). For each predictor variable x_j, bars represent $\bar{x}_j^A(\beta_j^A - \beta_j^*) + \bar{x}_j^B(\beta_j^* - \beta_j^B)$

Figure 3.3: Results of KBO decomposition of gap in life satisfaction between migrants and non-migrants, by variable. Error bars represent significance at 5% level. Explained variables show that much of the gap in life satisfaction can be explained by migrants being on average older, being separated, unemployed, out of the work force, in poor physical health, living in urban and deprived areas. The unexplained terms show that migrants do not gain in life satisfaction as they aged and that living in areas with more leave voting has a negative effect on life satisfaction.

While the overall effect of the difference in coefficients is quite low — Table 3.6 shows that -0.01 of the 0.08 difference between migrant's and non-migrant's life satisfaction can be attributed to differences in coefficients — as Figure 3.3b shows, much of the effects of the differences in coefficients are cancelled out by the large intercept. Different returns to the same variables tend to cause more negative outcomes in life satisfaction for migrants. In particular, while the UK-born tend to become happier as they age — holding all other factors equal — growing older is associated with less life satisfaction for migrants. While living in an area that voted leave is negatively associated with life satisfaction for both the UK born and the foreign born, this effect is more than 4 times larger for the foreign born. Similarly, living in a more deprived area was associated with greater decreases in life satisfaction for migrants than for the UK-born, but this result

is only significant at the 10% level.

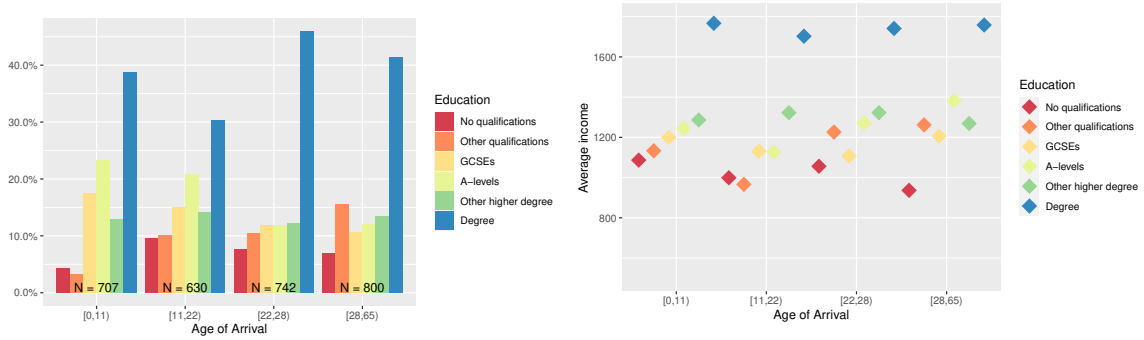
3.5 Discussion

3.5.1 Role of individual characteristics

The results are clear that migrants see fewer returns to higher education; however, the results of the interaction effects complicate the relationship between education and income. On the one hand, it is apparent that differences in coefficients for migrants and non-migrants become significant and larger as the level of education increases. The difference in coefficients between migrants and the non-discriminatory function for attaining A-levels accounts for £36.86 of the income gap; the difference for attaining a college degree account for £61.69. Unexplained differences comprise both discrimination and unobserved variable bias; therefore, it is possible that an unobserved variable may be causing these differences. In the case of degrees, the difference in returns between migrants and non-migrants could be due to either the real or perceived lesser quality of degrees obtained abroad.

The interaction effects of education and income are *prima facie* counter-intuitive, as a lower qualification like A-levels has a more positive effect on income than a higher degree. However, this interaction may be picking up differences in age of arrival, as foreign-born respondents who arrive at a younger age are more able to pick up a different language and adapt to the social, cultural, and economic institutions in the country. As both groups must have observations in a covariate, a KBO decomposition between migrants and non-migrants cannot measure the effect of age of arrival, and unfortunately disentangling the relationship between age of arrival and education on labor outcomes is beyond the scope of this study. However, in order to get a rough understanding of the relationship between age of arrival and educational attainment, we separated migrants into four roughly equal groups. As Section 3.5.1 shows, those who arrived at an earlier age, i.e. before the age of 22, are more likely to have A-levels and GCSEs compared to those who arrived later. Moreover, those who arrived later are more likely to have a degree. Finally, those who arrive between the ages of 11 and 22 have the lowest educational attainment as measured by both by the lowest rate of college attainment and the highest rate of no qualifications. As Section 3.5.1 shows, this group also has some of the lowest income for every level of education.

These descriptive statistics suggest that age of arrival may be significant for educational attainment, though this does not always translate to higher earnings. Moreover, the relationship between educational attainment and age of arrival is not linear. In particular migrants who arrive at a very young age have an advantage in labor market earnings later in life. Most likely, migrants who arrive before the age of 11 do not face significant linguistic barriers or lack information about cultural, social, or economic institutions. Migrants who arrive after the age of 22 are more likely to have a college degree and could be positively selected by visa requirements, though they do not earn significantly more than other migrants with a college degree. Migrants who arrive between the ages of 11 and 22, however, have the greatest disadvantage in terms of earnings and educational attainment, as they are neither fully brought up in the English educational system nor positively selected by the immigration system. While this study cannot confirm the role of age of arrival in determining educational attainment, the non-linear relationship between age of arrival and educational attainment, and particularly the



(a)

(b) Average income, by age of arrival and educational attainment.

Figure 3.4: Summary statistics of age of arrival, educational attainment, and income for migrants. Figure A shows the educational qualification of migrants based on age of arrival to the UK. Migrants who arrived at earlier ages before the age of 22 were more likely to have GCSEs and A-levels. However, migrants who arrived between the ages of 11 and 22 had the worst outcomes, with higher proportions of having no qualifications and the lowest level of obtaining a degree. Despite the differences in educational attainment, there does not appear to be a clear relationship between age of arrival, educational attainment, and income, as shown in Figure B.

double disadvantage of migrants who arrive as adolescents, warrant further study.

Finally, while the unequal returns to education for migrants are large, they are still smaller than the unexplained coefficient for age. For each additional year of age, migrants see £3.5 less than the non-discriminatory function. As this coefficient remains even after controlling for education and race, it is unlikely that this effect is due to cohort effects. Rather, the unexplained coefficient for age suggests that migrants may face a lack of social mobility, as additional years of age and experience do not translate to greater income.

3.5.1.1 Ethnic penalty

Our results show the heavy ethnic penalty that BAME migrants face. The interaction effects of race in the decomposition of the gap between migrants and non-migrants are by far the largest, with an associated decrease in income of £20 and £35 pounds for Black and Asian respondents respectively. Moreover, the gap in labor income between White and BAME migrants is more than double the difference between migrants and non-migrants, showing that simple averages obscure high differentiation amongst ethnic groups. As the results of the twofold decomposition show, 65% of the difference in labor income between White and BAME migrants is due to unexplained differences, suggesting either significant discrimination in the labor market or unobserved variable bias. There is no significant difference between groups in education, industry, or in years spent in the UK, suggesting that the difference is not due to skills or to greater human capital accumulation in the home country. Overall, the only term to reach significant in the coefficient term is being employed, rather than self-employed, suggesting that BAME migrants face additional barriers in the labor market.

3.5.2 Life satisfaction

Overall, the gap in life satisfaction between UK-born respondents and foreign-born respondents is fairly small and largely determined by differences in group endowments. Migrants are more likely to be younger, in poorer health, as well as more

likely to be unemployed or out of the work force. The greater number of migrants living in the most deprived areas and in urban areas all contribute to lower life satisfaction on average for migrants. However, though the overall coefficient term is negative, looking more closely at the variable breakdown of the differences in coefficients in Figure 3.3b shows that this negative sign is largely driven by the large intercept term. Compared to non-migrants, migrants see significantly smaller increases to life satisfaction as they age, lower life satisfaction in areas with more leave votes, and lower life satisfaction in more deprived areas. In other words, the gap in life satisfaction between migrants and non-migrants should actually be larger, given their more negative circumstances (as shown in the explained term) and coefficients. The large intercept could be due to an unobserved variable or be evidence that migration increases life satisfaction, as suggested by studies comparing movers and stayers (Sortheix & Lönnqvist, 2014). While understanding the exact mechanism is beyond the scope of this study, the findings here suggest that while migrants have lower life satisfaction, they have higher life satisfaction than expected given their endowments and the coefficients.

3.5.3 Local factors on integration

Our model takes into account four major dimensions of local differences, namely local political climate and views, local deprivation, urban or rural locality, and the degree of residential segregation between migrants and non-migrants. Living in area with a higher percentage of leave votes was not associated with lower labor income for migrants, as shown in the decomposition between migrants and the UK-born (Figure 3.1). This findings suggests that more restrictive views on immigration did not translate into greater wage discrimination against migrants generally. However, after controlling for all other factors, the coefficient for living in an area with more negative attitudes a large and significant negative effect for White migrants' income. While on average BAME migrants face significant wage discrimination, as seen by the large unexplained coefficient in the labor income decomposition between White and BAME migrants, living in an area with a greater Brexit vote share had significantly negative effects on White migrants. This finding points to discrimination against EU ascension migrants in areas with high leave votes, though unfortunately data limitations would not allow for greater disaggregation to confirm. Finally, negative attitudes were associated with lower life satisfaction for all migrants. While more negative attitudes towards immigration may not prevent migrants from integrating economically in English society, they may have meaningful impacts on migrants' quality of life nonetheless.

The results of this study find that segregation between migrants and non-migrants is negative across the board, with negative relationships to income for the UK-born, White migrants and BAME migrants. BAME migrants in particular see more negative effects of segregation than their White counterparts, as shown by the significant difference in coefficients. As there is no significant association between segregation and life satisfaction, this study does not find evidence for greater social and cultural support in migrant enclaves, features which are often cited as a beneficial aspect of segregation. Thus, the findings of this study support the literature that finds segregation to have a detrimental effect to migrants' economic integration, with BAME migrants more heavily affected, without the redeeming qualities of greater social or cultural community.

As the results show, local deprivation is highly significant in determining both labor outcomes and life satisfaction.

Indeed, it is the only local factor to reach statistical significance in all decompositions. The greater number of migrants living in deprived areas is an important factor driving the gap in labor income and life satisfaction, as they are statistically significant variables in the explained terms. However, there is no significant differences in the coefficients between migrants and non-migrants, suggesting that migrants in deprived areas are not worse off than their UK-born counterparts, holding all else equal. BAME migrants also do not see additional discrimination in deprived areas; rather, holding all else equal, living in a deprived area has a slightly negative effect on income for White migrants. While not a large effect and only marginally significant, greater research would do well to investigate why White migrants see a more negative effect of local deprivation on income. Based on this evidence, place-based policies that seek to improve local conditions would have a substantial effect on the income and well-being of migrants, with the additional benefit of reducing inequalities between the UK- and foreign-born.

3.6 Summary

The image that emerges of migrant outcomes at the time of Brexit is complex, with differential effects depending on local circumstances and migrants' characteristics. Race remains a highly significant and large factor with labor outcomes, with by far the largest interaction effects. Moreover, the large gap in income between White and BAME migrants – nearly double the income difference between all migrants and the UK-born – suggest that race may be more important for outcomes than migrant status. As Clark and Lindley stated, "perhaps as important a policy question as that of how to integrate migrants into the economy is how best to reduce the detrimental labor market effects of non-white ethnicity, whether those non-whites are native born or born overseas" (Clark & Lindley, 2009). However, the large and significant differences in coefficients for White migrants in areas with high leave voting areas, suggest that relationships between race, negative attitudes, and income are by no means clear cut. Rather, while discrimination against BAME appears to be occurring on a national level, but additional and opposite discriminatory behavior occurs towards White migrants in areas with high Brexit voting areas. Moreover, local political attitudes had a significant and negative association on life satisfaction for all migrants, suggesting that living in area with more exclusionary attitudes towards immigrant had negative well-being effects for all migrants and additional income effects for White migrants.

Future research would also do well to study the relationship between age of arrival, education attainment, and income. In particular, the simple comparison of averages presented in this paper suggest that migrants who arrive as adolescents face significant disadvantages and likely require additional policies to ensure their success in the educational system and in the labor market. Finally, the finding that local deprivation contextualizes both labor integration and subjective well-being of migrants further suggests that place-based policies that address local deprivation, in addition to raising quality of life, would have substantial effects on decreasing inequalities between migrants and the UK-born nationally.

Chapter 4

Regional attitudes towards immigrants in Asia

4.1 Introduction

Attitudes towards immigrants and immigration (ATII) are a definitional aspect of the integration of immigrants into a society. While integration is a process that includes multiple dimensions, such as labor market inclusion, civil participation, etc., it can also be defined simply as becoming an accepted part of society (Penninx, 2007). A large proportion of negative attitudes towards immigrants amongst a country's citizenry by definition shows that immigrants and immigrant groups have not become a fully acceptable part of society. Moreover, as the previous chapter shows, negative attitudes can have practical effects on other aspects of immigrants' integration. Investigating why migration is acceptable to some and disfavored by others is, thus, of critical importance in ensuring the well-being of all residents, creating a more cohesive society, and guiding policymakers and NGOs in developing more effective and amenable immigration and integration policies.

Given the increasing salience of how attitudes towards immigrants are formed, the current research on the determinants of attitudes towards immigrants has begun to reveal its shortcomings. First, research, especially cross-national research, has been largely limited to European countries and Settler countries,[1] as Table 2.6 shows.

There are a several reasons for this overemphasis of European and Settler countries, including an unequal distribution of research resources and capacity in the Global North (Castles, 2010) and greater availability and depth of data in European and Settler countries (UN DESA, Population Division, 2017). However, as the destination and origins of migrants change, this lack of understanding of how different countries react to the inclusion of immigrants into a society leads to a poorer ability to make and communicate effective immigration and integration policy. Asia recently overtook Europe as the region hosting the greatest number of migrants in the world and experienced the largest growth in migrant stock in the period

[1] Settler countries here refer to the former colonies of the United Kingdom which experienced large scale immigration in the 18th and 19th century, namely Australia, Canada, New Zealand, and the United States.

between 2000 and 2017 (UN DESA, Population Division, 2017). The current research has thus far failed to reflect these changing conditions.

The overemphasis of Western countries has also led to methodological problems and assumptions that compromise the generalizability of research findings and which limit its applicability to Asian countries. These oversights include assumptions of liberal democracies, higher development levels, European and Settler country cultural norms related to in-groups and out-groups, and so on. The effect of this overemphasis is that models and findings are limited to only one region and lose accuracy as the survey expands to other regions (Mayda, 2006). The scope of the previous research also limits the amount of research into structural determinants of ATII, e.g. development level, government corruption, inequality, etc. Without the inclusion of a more diverse group of countries, identifying which determinants are truly generalizable and which are country-specific as well as how macro-level factors affect ATII is difficult.

Finally, the previous research on ATII assumes that features are uncorrelated from one another, despite the evidence in the psychological literature that attitudes form in a network structure. Putting attitudes in a bipartite network structure not only coheres more closely with theories related to human cognition (R. Fazio, 1986; B. M. Monroe & Read, 2008; Van Overwalle & Siebler, 2005), it also allow us to identify how countries differ or are similar in their determinants. Thus, how ATII form and its determinants is a natural but thus far underexplored area for the application of network science techniques.

This study will seeks to provide greater information on how attitudes towards immigrants form outside of traditionally studied countries by employing a novel network science methodology on a cross-national survey of East and Southeast Asian countries. Using data from the sixth wave of the World Values Survey, countries and features will first be arranged in a bipartite network, before being projected into one-mode networks. Community detection within the country network will allow for a greater understanding of how countries are similar or unique in their determinants. The feature network is then organized in a blockmodel, allowing for dimensionality reduction. The most centrally located node, defined as the node with the largest node strength in the block, is then selected as the representative feature for the block. This method allows us to identify eight relevant determinants of attitudes towards immigrants: views on independence, group identity, absolute or relative moral orientation, democracy, science and technology, prejudice and stigma, and two determinants related to religion. Finally, this network structure allows us to explore the relationships amongst determinants.

While some of these findings, especially group identity, are similar to the findings of the previous literature, many of the determinants were not suggested by the literature. Moreover, education, one of the most consistent determinants of attitudes, was not found to be significant. The relationship between social class and attitudes was also complex and often contradicts the labor market theory hypothesis that states that negative attitudes are due to greater competition; rather, those in lower classes often had more positive attitudes towards immigrant.

This paper is organized as follows: first, some context on the migration and integration environment in Asia will be explored. Next, the data and methodology used in the study will be described in Section 4.3, followed by a presentation of the results. These results will be discussed in Section 4.5, before concluding.

4.2 Migration and integration policy in Asia

Much of the previous research which focuses on outcomes for migrants in the ASEAN region see migration as a way to improve migrants' livelihoods, send remittances, gain skills, and contribute to the destination country's economy. Very few studies focus on integration in the context of social cohesion and social sustainability in the destination country. The reason cited for this discrepancy is often because policymakers assume that ASEAN migrant workers will return to their countries of origin and not settle permanently. In the case of Singapore, migration policy ensures that low-skilled workers are allowed in only on a "revolving" basis, despite the foreign workforce's contribution to Singapore's economic growth (Teng, 2014). However, historically, guest worker models have not always prevented permanent migration, as was the case of guest workers in post-war Europe (Entzinger & Biezeveld, 2003; Castles, Booth, & Wallace, 1984). One important indication that migration may become permanent is the number of children of migrants who reside in the country. In the case of Thailand, an estimated 300,000 migrant children currently live in the country (IOM, 2023). In Singapore, around 115,000 migrant children under the age of 15 lived in the city-state in 2013 (United Nations Children's Fund, 2014).

Additionally, research may choose to focus on safeguarding migrants' rights and social protections, by ensuring that recruitment processes are ethical and legal and by creating legal instruments that make social protections like health and social security portable across borders (Olivier, 2018; Chavez, 2013). Finally, research may also explore the economic impact of migrant workers in ASEAN (Pholphirul & Rukumnuaykit, 2010).

However, the ASEAN migration context differs in fundamental ways from the European or North American context, requiring the term integration to be reimagined in the ASEAN context (Rahman & Kiong, 2013). First, migration within ASEAN is quite varied. Certain countries within ASEAN, like the Philippines, send a large amount of migrants worldwide but very few migrants to other countries within ASEAN. Others, like Myanmar, send migrants almost exclusively to other ASEAN countries. When looking at the flow of migrants within ASEAN as seen in Figure 4.1, two major corridors appear: the Thailand-Mekong corridor and the Singapore-Malaysia-Indonesia corridor. Of these 6.8 million intra-ASEAN migrants, 95.8% (6.5 million) relocate to three countries: Thailand, Singapore, and Malaysia (UN DESA, Population Division, 2017).

The large differences in development between countries in ASEAN is a major driver of migration in the region. The destination country Thailand has a GNI per capita 4.5 times greater than migrant origin country, Cambodia (Bank, 2018). The country with the lowest Human Development Index (HDI) ranking in ASEAN is Myanmar at 148, while Singapore has one of the highest HDI rankings in the world at 9 (UNDP, 2017).

Secondly, ASEAN is a looser regional organization with a greater emphasis on nonintervention and national sovereignty, e.g. "the ASEAN way." In comparison to its European counterpart, the European Union, many regional institutions like a free trade area, regional mobility, and free investment, are much less developed. Within the region, ASEAN has passed several key declarations regarding migration, including the Declaration on the Protection and Promotion of the Rights of Migrant Workers, the Declaration Against Trafficking in Persons Particularly Women and Children, and the ASEAN Economic Community in 2007. The ASEAN Economic Community blueprint makes particular mention of facilitating

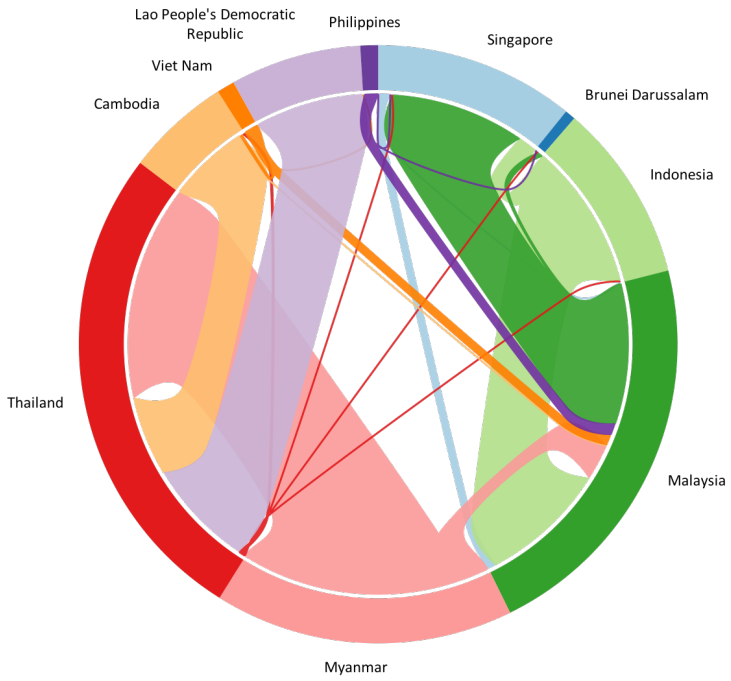


Figure 4.1: Intra-ASEAN migration. Data source: UN DESA 2017. Figure by author. As the figure shows, Thailand, Malaysia, and Singapore are some of the largest migrant receiving countries. Thailand receives a large number of migrants from Myanmar, followed y Laos and Cambordia. Other large migrant corridors include the corridor from Malaysia to Singapore and from Indonesia to Malaysia

the movement of skilled professionals within ASEAN by creating Mutual Recognition Agreements (MRAs) for the following industries: engineering, nursing, architecture, medicine, dentistry, tourism, surveying, and accounting industries (Sugiyarto & Agunias, 2014). In 2019, ministers also plan to create a similar MRA for the automotive industry (ILO/ADB, 2014). While these MRAs represent a major innovation in ASEAN migration policy, the majority of migration within ASEAN is unskilled. As a result, this liberalization only applies to at best 1.5% of the total employment in ASEAN countries (ILO/ADB, 2014). Thus, the majority of migration within ASEAN is managed by bilateral agreements between countries.

Finally, the goals of the countries within ASEAN are quite different. Singapore has often encouraged migration due to its declining population and because of its historic reliance on immigrant and mobility, including daily commuters from Malaysia to Singapore (Rahman & Kiong, 2013). However, immigrants to Singapore have radically different experiences depending on their skill level and role in Singapore's migration scheme. Foreign work permits are split according to education, salary, and work experience. Lower-skilled work permits are more restrictive, including restrictions on marriage to Singaporean citizens, to encourage temporary migration. Foreign professionals, on the other hand, do not face such restrictions, while Singaporean emigrants are encouraged to return to the country. Rahman and Kiong (2013) argue that Singapore has followed three simultaneous integration policies: differential exclusion, multiculturalism, and transnational inclusion. Through differential exclusion, migrants are included in some societal institutions but excluded from others. In the case of Singapore, low-skilled migrants are included in the labor market but excluded from the welfare system, political participation, and national culture (Rahman & Kiong, 2013). In the multicultural approach, the Singaporean government

practices a multilingual approach in education for Malay, Chinese, and Tamil, as well as providing public housing that includes different religious institutions. Finally, in transnational inclusion, highly skilled foreigners and Singaporean nationals who live abroad are encouraged to maintain ties with Singapore through acquiring permanent residency or through the Overseas Singapore Unit, which organizes outreach and cultural events for Singaporeans abroad (Rahman & Kiong, 2013).

Thailand, another migration hub in the region, has encountered a very different process of integration. Overall, attitudes towards immigrants are fairly negative, with many Thais feeling that migrants have a negative effect on security, health, and job security (Sunpuwan & Niyomsilpa, 2012). However, the government has enacted various policies that are very progressive. These policies include a 2004 law which allowed for Burmese migrants who had entered the country without authorization to regularize their status and receive work permits. Furthermore, education in Thai Royal Government schools is ensured for all children, regardless of nationality or status, since 2005. Finally, a health insurance scheme was created specifically for migrants, as they are not covered by Thai universal health care. Despite this progress, however, many migrants are unable to access these benefits, due to a lack of information, discouragement by the administration, and other barriers. Working conditions for migrants are often dangerous and precarious. Migrants often face labor abuses and "the majority of migrant workers continue to live and work in a precarious legal status that is almost entirely at the discretion of their employers" (Harkins, 2019, p.187). As a result, migrant workers in Thailand face significant barriers in their societal integration, due to negative attitudes, as well as difficulty accessing social protections and exercising their full rights.

By comparing the outcomes for migrants in the Cambodia, Myanmar, Vietnam and Laos, Harkins et al. finds that outcomes differed amongst migrants depending on destination country, country of origin, gender, skill level, industry, and preparations before migration (Harkins et al., 2017). Harkins et al., interviewed migrants who had returned to their home country and measured whether their social and financial outcomes had improved since returning. For example, migrants were asked if they were now employed in a more skilled line of work, if they had been able to increase their income since returning, or pay off debt. The results of the survey were then used to create a Migration Outcomes Index, shown in Table 4.1, which distills the outcomes into a single number that can be compared across populations.

Table 4.1: Migration Outcomes Index Indicators, created by Harkins et al. (2017).

Indicators	Description
Social indicators	Life skills development Unemployment Skill level of work Psychological, social, or health problems
Financial indicators	Income Tangible assets Savings Debts

Harkins et al. find that, relative to migrants to Malaysia, migrants to Thailand generally received lower wages as well as having lower index scores over all. Women also received lower wages than men, as well as being more likely to experience psychological or social problems upon return. Harkins et al., link these psychological and social problems to

the gossip and stigma women may encounter upon return. Migrant women are often engaged in domestic work abroad, an industry which may be stigmatized in the destination countries as well as by origin country governments which try to curtail migration for this purpose. Which industry migrants were employed in also had an effect on outcomes. Migrants employed in agriculture and construction in particular had worse outcomes. Overall, while migrants saw improvements in financial indicators following migration, unemployment after returning to the home country and psychological, social, or health problems showed negative impacts (Harkins et al., 2017). Through an additional driver, the researchers were able to pinpoint which factors lead to the best outcomes. As seen from Table 4.2, the most consistent driver of successful outcomes was receiving the minimum wage while employed. Migrating through a regular channel also had a consistent positive effect on outcomes but to a lesser degree than receiving minimum wage.

Table 4.2: Change in Migration Outcomes Index from external conditions, broken down by country (Harkins et al. 2017). Table by author.

Condition	Cambodia	Lao PDR	Myanmar	Viet Nam
Used regular channel	+4	+2	+6	+2
Had written contract	+5	-3	+11	-3
Had relevant job skills	+15	+1	-8	+1
Had documents for work	+6	+1	+6	+1
Received minimum wage	+8	+4	+9	+4

Finally, having a written contract had a negative impact for migrants from Lao PDR and Viet Nam, while having a beneficial effect for migrants from Cambodia and Myanmar. These mixed results come from the fact that finding regular employment and regular channels of migration can be more costly in terms of both money and time. Harkins et al. find "The process for regular migration on average took more than three times as long, cost over three times as much, and usually required the services of a private recruitment agency" (Harkins et al., 2017, p.26). As a result, while regular channels may cause better outcomes, the time and cost associated may have their own negative effects on migration outcomes.

Integration in ASEAN has a very different meaning that what is commonly understood in Western countries. Both migrants and national economies benefit financially from migration but migrants still face significant challenges in accessing regular channels for migration, may not be paid the minimum wage when abroad, and face difficulties in finding employment and reintegration upon return home. Integration of migrants in ASEAN is not seen as a top priority, as most of the migration is assumed to be temporary. However, this might not remain the case and the integration of low-skilled migrants in particular has been ignored. While low-skilled migration makes up the majority of migration within ASEAN, as of yet, positive outcomes are generally only seen in the financial gains that migration can allow and does not encompass the multidimensional aspects of integration. Evidence shows that ensuring that migrants' labor rights are respected and creating migration pathways that are safe and regular has a beneficial effect on migration outcomes.

4.3 Data

This study uses data from the sixth wave of the World Values Survey, conducted between 2010 to 2014 (Inglehart et al., 2014). The World Value Survey seeks to measure and track "the beliefs, values and motivations of people throughout the

world" (World Values Survey, 2020) and asks respondents over 200 questions related to topics such as religion, governance, social relations, morality, and so on. The survey employs a common questionnaire that is translated by a national team composed of social science researchers from universities and/or research institutes. The national team then conducts a nationally representative survey of residents 18 and older, regardless of their nationality, to reach a minimum sample size of at least 1200 people (Inglehart et al., 2014). The data from the following nine countries and territories, four in Southeast Asia and five in East Asia, was used in this study: China, Hong Kong, Japan, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand.

Immigrants were eliminated as the study aims to understand the attitudes and reactions of autochthonous, or native-born, populations towards immigrants. China, Hong Kong, and Japan did not record if any respondent was an immigrant. In the case of China and Japan, the inclusion of immigrants is unlikely to be big, as in 2013 immigrants accounted for only 0.06% and 1.91% of the population respectively (UN DESA, Population Division, 2013). While the inclusion of these respondents is not ideal and creates some noise, it is unlikely to greatly alter the results. Hong Kong is a more complicated case, as the immigrant population is much larger, at around 40% of the population, and because the question of who is an immigrant is deeply political. According to the UN DESA data, 83.8% of the immigrant population in Hong Kong comes from mainland China or Macao; immigrants who are not from a Chinese territory make up 6.3% of the total Hong Kong population (UN DESA, Population Division, 2013). Therefore, it should be noted the results from Hong Kong may be more vulnerable to bias and noise than that from other countries. Finally, respondents who did not respond to the dependent variable were also eliminated from the sample. In total, the combined number of respondents for this study was 12,119.

The dependent variable asks respondents about prioritizing autochthonous people in the hiring process. The question was recoded so that a response [1] would indicate a more exclusionary attitude towards immigrants and [0] would indicate disagreement or no preference for either group. The survey questions is as follows:

V46. When jobs are scarce, employers should give priority to people of this country over immigrants.

[1] Agree

[0] Neither *originally coded [2]

[0] Disagree *originally coded [3]

This question measures what Becker describes as "taste for discrimination" (Becker, 1971), or the degree to which participants believe that employment discrimination should be allowed. It should be noted that rather than measuring negative attitudes towards immigrants, the outcome feature may also be a proxy for in-group favoritism, or positive feelings "positive emotions such as admiration, sympathy, and trust are reserved for the in-group and withheld from out-groups" (Brewer, 1999, p.438). In-group favoritism is the phenomenon in which people evaluate members of their own group more positively, have more trust (Falk & Zehnder, 2007), and are more willing to cooperate (Balliet, Wu, & De Dreu, 2014). In-group favoritism appears to be an independent attitudes from negative feelings towards out-groups, developing at different stages in children's development (Fu et al., 2012) and becoming salient at different times (Abbink & Harris, 2019). However, both giving in-group members preferential treatment and having negative attitudes towards out-groups lead to inequal and discriminatory treatment. For this reason, the outcome feature will be interpreted as taste for discrimination,

without specifying whether it is due to negative attitudes towards out-groups or in-group favoritism.

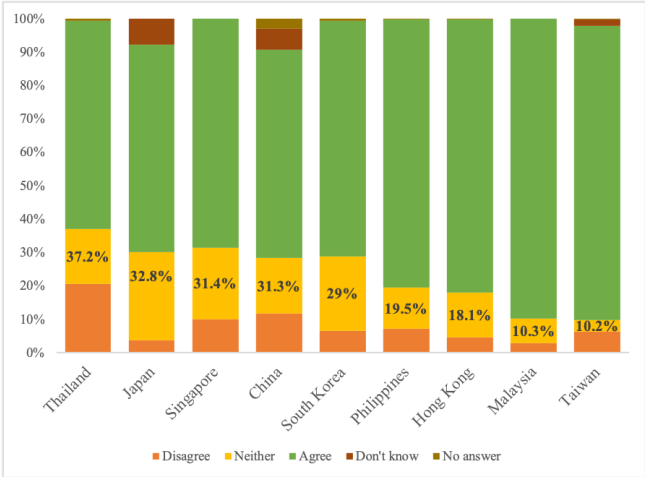


Figure 4.2: Responses to independent variable for nine countries. Percentages represent percentage of people who disagreed or neither agreed nor disagreed that employers should give jobs to people from their country instead of immigrants when jobs are scarce, response coded (0). Data source: Inglehart et al. 2014. Thailand shows some of the most open attitudes towards immigrants, followed by Japan and Singapore.

Figure 4.2 shows the distribution of respondents for each country who responded negatively (shown in green) towards immigrants in the dependent variable. For some countries, a majority of respondents responded negatively towards the question, raising the possibility of class imbalance in the multiple logistic regression during the pre-selection. Peduzzi et al. (1996) and Steyerberg et al. (1999) recommend that a sample include at least 10 events per feature to account for class imbalance. Using this heuristic, Taiwan, Hong Kong, and Singapore may be vulnerable to bias and overestimated regression coefficients during multiple logistic regression. However, when obtaining the edge weights in the network analysis section, a different subset of the data is used, and the samples are not susceptible to this bias.

4.4 Methodology

Table 4.3: Stages, methods and their description of the study

Stage	Methodology	Description
Pre-selection	Spearman's correlation Chi-squared test of independence Linear regression of continuous features Multiple logistic regression	
Network Analysis	Link weight in bipartite network One-mode projection: country network One-mode projection: feature network	Logistic regression Normalization Matrix multiplication Community detection: Louvain method Normalization Matrix multiplication Community detection: Blockmodeling

Table 4.3 shows a summary of the methodology used in this study. The methodology is divided into two distinct stages: pre-selection and network analysis. The pre-selection applies a series of statistical tests in order to determine which

attitudinal features are the most significant in determining attitudes towards immigrants in the nine countries. Attitudinal features and features related to education, demographics, and political orientation are then regressed against the response feature to identify significant features.

Once a set of significant features are identified, a bipartite network is created to represent the relationship between the selected features and the dependent variable for each country. This bipartite network is then projected, creating two one-mode networks: a country network and a feature network. The country network allows for comparison of how the countries are similar or dissimilar in the determinants of attitudes towards immigrants. The feature network shows how features reinforce or negate one another in determining attitudes. Blockmodeling was applied to the feature network find the determinants, or clusters of correlated features, of attitudes towards immigrants. The following sections will detail each of these steps in more detail.

4.4.1 Pre-selection method

Given the wide range of attitudinal questions included in the World Values Survey, it is necessary to eliminate features which are not significantly related to the dependent variable before conducting network analysis. Previous studies generally pre-select features based on the theoretical or empirical literature; however, in order to allow for the inclusion of features which may have been overlooked by previous studies or which are less relevant in European and Settler countries, this study pre-selects features by conducting a series of statistical tests which seek to identify attitudinal features which have a significant relationship with the dependent variable.

First, the pre-selection sought to eliminate features that were highly correlated with one another using Spearman's rank correlation. Features were considered highly correlated if they had a rank correlation coefficient greater than absolute value of 0.75. This value was chosen to avoid including redundant features in the network analysis. Increasing the cut-off above 0.75 had little to negligible effect on the features selected. Features, $X = \{X_i\}(i = 1, \ldots, N)$ and $Y = \{Y_i\}(i = 1, \ldots, N)$, were converted to rank features r_X and r_Y. N is the number of responses. Features, X and Y, were considered highly correlated if

$$0.75 \leq |cor(r_X, r_Y)| = |\frac{cov(r_X, r_Y)}{\sigma_{r_X}\sigma_{r_Y}}| \tag{4.1}$$

where *cor* is the correlation of rank features r_X and r_Y, equal to the covariance of the rank features divided by their standard deviation, $\sigma_(r_X)$ and $\sigma_(r_Y)$. If a pair of features were found to be highly correlated, then logistic regression against the dependent variable was used to determine which feature, X or Y, had a more statistically significant relationship with the response feature measuring attitudes towards immigrants, P,

$$log\frac{P_i}{1 - P_i}) = \alpha^{(0)} + \alpha^{(0)}X_i + \epsilon_i \tag{4.2}$$

where $P = P_i(i = 1, \ldots, N)$ is the probability that the dependent variable Y will equal 1. Statistical significance with the dependent variable was judged by the Akaike Information Criterion (AIC) of the logistic regression model, as defined

by

$$AIC = -2ln(L) + 2s \tag{4.3}$$

where L is the value of the likelihood and k is the number of estimated parameters. The feature for which the model's AIC was smaller was retained, while the other feature in the pair was eliminated. When both features had an equal number of parameters $(s = 1)$, the feature with the larger L, was selected.

In the second step of the pre-selection, a chi-squared test of independence was used to eliminate features that did not have a significant relationship with the dependent variable. The chi-squared test was calculated according to the formula

$$\chi^2 = \sum_{i=1}^{M} \frac{(O_i - E_i)^2}{E_i} \tag{4.4}$$

where $O = \{O_i\}(i = 1, \ldots, M)$ is the observed frequency of responses to the dependent variable for each response, and $E = \{E\}(i = 1, \ldots, M)$ is the expected frequency of responses to the dependent variable for each response. Here M is the number of possible responses. Under the assumption of no association, the null hypothesis represents the probability that taste for discrimination against immigrants would be similar regardless of the response to the independent variable. Features for which the p-value of χ^2 was less than or equal to 0.05 were retained, while features where the null hypothesis could not be rejected were eliminated.

Continuous features – defined as features with more than three possible selection of the responses – were subjected to an additional test. The aim of this test was to eliminate features for which there was not a linear relationship with the dependent variable. In this case, the proportion of exclusionary attitudes towards immigrants for each response to the dependent variable was regressed against the responses to the dependent variable, Y. Y_i was the proportion of exclusionary attitudes for each response i, to the dependent variable. For each

$$Y_i = \beta^{(0)} + \beta^{(1)} X_i + \epsilon_i \tag{4.5}$$

where X_i, and β are the parameters of the model. If the p-value of the model was greater than 0.05, the dependent variable was eliminated.

In the final step of the pre-selection, attitudinal features, as well as features measuring subjective social class, subjective income, sex, age, town size, political orientation, and highest education attained, were regressed against the dependent variable in a multiple logistic regression,

$$log\frac{P_i}{1 - P_i}) = \gamma^{(0)} + \sum_{j=1}^{V'} \gamma^{(j)} X_i^{(j)} + \epsilon_i \tag{4.6}$$

where $P = \{P_i\}(i = 1, \ldots, N)$ is the probability that the dependent variable Y will equal 1, given the dependent variable X, and γ are the parameters of the model. Features were eliminated via stepwise backwards deletion. In backwards deletion, models begin with all candidate features. The feature with the highest p-value is eliminated, and the model

is run again. This process was repeated until all features showed significance of or below 5%. When all features in the multiple logistic regression were significant above 0.05, these features were selected for the network analysis.

Following this pre-selection method, a set of sets resulted in a total of 45 relevant features for network analysis.

4.4.2 Network analysis

Having selected the features, a bipartite network was then constructed, with a class of nodes for countries and a class of nodes for features. The weight of the edges between the classes is determined by the regression coefficient of the independent variables on the dependent variable for each country. In short, the bipartite network shows the effect of each feature on the response feature for each country. The weights of the edges between countries and features were obtained by logistic regression.

First, features were rescaled according to min-max normalization, as independent variables had different ranges of responses, from binary questions to questions with up to ten possible responses. 18 of the 45 features were binary questions, and the remaining 27 were multi-level questions. This step may cause coefficients multi-level questions to be underestimated, but allows for comparison between features.

$$X_i' = \frac{X_i - min(X)}{max(X) - min(X)} \tag{4.7}$$

For a feature X, each element X_i was linearly transformed to X_i', so that responses ranged from 0 to 1.

The edge weights, $\delta_c^{(j)}$ between country node c and feature node j were obtained by the following formula:

$$log(\frac{P_i}{1-P_i}) = \delta^{(0)} + \delta_c^{(j)} X_i^{(j)} + \epsilon_i \tag{4.8}$$

where $P = \{P_i\}(i = 1, \ldots, N)$ is the probability that the dependent variable Y will equal 1, and δ are the parameters of the model. If the p-value of the model is greater than 0.05, then the edge weight is equal to 0.

Using the parameters of the simple logistic regression, a bipartite weighted adjacency matrix was created, $A = \{a_{ij}\} = \{\delta_i^{(j)}\}(i = 1, \ldots, C; j = 1, \ldots, V)$. Here V is the number of selected features. The edge weights a_{ij} were created by the parameters of the simple logistic regression. This weighted adjacency matrix is provided in Appendix B.2.

In order to understand the relationships between nodes within the same class, i.e. the relationships amongst countries and the relationships amongst features, it is necessary to make two one-mode projections of the network, first of the country class and then of the feature class. These one-mode projections multiply country (feature) vectors by other country (feature) vectors to produce a scalar value representing the similarity between the two vectors.

First, the matrix was rescaled so that after matrix multiplication, the dot product between two countries or two features

would be on a scale from -1 to 1. Matrix A is rewritten using row-wise country vector $c^{(i)}(i = 1, \ldots, C)$:

$$A = \begin{bmatrix} c^{(1)} \\ c^{(2)} \\ \vdots \\ c^{(C)} \end{bmatrix} = \{c_j^{(i)}\} \tag{4.9}$$

Each country vector $c^{(i)}$ was normalized according to the following formula:

$$\hat{c}^{(i)} = \frac{c^{(i)}}{\sum_{j=1}^{V}(c_j^{(i)})^2} \tag{4.10}$$

Having normalized the country vectors, the normalized matrix

$$\hat{A} = \begin{bmatrix} \hat{c}^{(1)} \\ \hat{c}^{(2)} \\ \vdots \\ \hat{c}^{(C)} \end{bmatrix} = \{\hat{c}_j^{(i)}\} \tag{4.11}$$

was multiplied by its transposed normalized matrix $\hat{A}^T$, in order to find the degree of similarity between countries $\Phi = \{\phi_{ij}\}(i = 1, \ldots, C; j = 1, \ldots, C)$.

$$\Phi = \hat{A} \cdot \hat{A}^T \tag{4.12}$$

$$\phi = \sum_{k=1}^{V} \hat{c}_k^{(i)} \hat{c}_k^{(j)} \tag{4.13}$$

The result of this operation is a weighted adjacency matrix of the one-mode projection of countries $\{\phi_{ij}\}$, shown in Appendix B.3.

The same process was then repeated to find which predictor features showed greater similarity. Matrix A is rewritten using column-wise feature vector $v^{(j)}(j = 1, \ldots, V)$:

$$A = \begin{bmatrix} v^{(1)} & v^{(2)} & \ldots & v^{(V)} \end{bmatrix} = \{v\}^{\{}(j)\}_i\} \tag{4.14}$$

Each feature vector $v^{(j)}$ was normalized according to the following formula:

$$\hat{v}^{(j)} = \frac{v^{(j)}}{\sum_{j=1}^{C}(v_i^{(j)})^2} \tag{4.15}$$

Having normalized the feature vectors, the normalized matrix

$$\hat{B} = \begin{bmatrix} \hat{v}^{(1)} & \hat{v}^{(2)} & \ldots & \hat{v}^{(V)} \end{bmatrix} = \{\hat{v}_i^{(j)}\} \tag{4.16}$$

multiplies its transposed normalized matrix $\hat{B}^T$, in order to find the degree of similarity between countries $\Psi = \{\psi_{ij}\}(i = 1, \ldots, V; j = 1, \ldots, V)$.

$$\Psi = \hat{B}^T \cdot \hat{B} \tag{4.17}$$

$$\psi = \sum_{k=1}^{C} \hat{v}_k^{(i)} \hat{v}_k^{(j)} \tag{4.18}$$

This produced the weighted adjacency matrix of the one-mode projection of features $\{\psi_{ij}\}$, shown in Appendix B.4.

In order to detect communities within the network, a Louvain clustering was applied (Blondel, Guillaume, Lambiotte, & Lefebvre, 2008). The Louvain method optimizes modularity, which is defined as

$$Q^{(C)} = \frac{1}{2m^{(C)}} \sum \left[\phi_{ij} - \frac{k_i^{(C)} k_j^{(C)}}{2m^{(C)}} \right] \delta(c_i c_j) \tag{4.19}$$

$$Q^{(V)} = \frac{1}{2m^{(V)}} \sum \left[\psi_{ij} - \frac{k_i^{(V)} k_j^{(V)}}{2m^{(V)}} \right] \delta(v_i v_j) \tag{4.20}$$

Here ϕ_{ij} represents the edge weight between nodes i and j, $k_i^{(C)}$ is the sum of weights attached to node i, $k_j^{(C)}$ is the sum of weights attached to node j, $m^{(C)}$ is the sum of edge weights in the country network. ψ_{ij} represents the edge weight between nodes i and j, $k_i^{(V)}$ is the sum of weights attached to node i, $k_j^{(C)}$ is the sum of weights attached to node j, $m^{(V)}$ is the sum of edge weights in the feature network. The Kronecker's delta is defined as follows

$$\delta = \begin{cases} 1 & c_i = c_j \\ 0 & c_i \neq c_j \end{cases} \tag{4.21}$$

where c_i is the community of node i and c_j is the community of node j.

In order to understand the community structure of the network, blockmodeling was employed. Blockmodeling is a technique which permutes the order of nodes in an adjacency matrix to find clusters. As the network is signed, Doreian and Mrvar's relaxed structural balance blockmodel, a generalization of structural balance blockmodels, was used (Doreian & Mrvar, 2009). The relaxed structural balance blockmodel also seeks to optimize a criterion function. In the case of this study, the following criterion function was used:

$$P(C_k) = p\mathcal{N} + (1 - p)\mathcal{P} \tag{4.22}$$

$P(C_k)$ equals the sum of inconsistencies which violate structural balance in the network, given k number of clusters, C. $\mathcal{P}$ represents the total number of positive ties in a negative block, $\mathcal{N}$ the total number of negative ties in positive blocks, and $0 \leq p \leq 1$. This criterion function resembles Harary et al.'s (1966) line index of imbalance; however, p allows for positive ties in negative blocks and negative ties in positive blocks to be weighted differently. When $p = 0.5$, negative and positive inconsistencies are equally weighted. In the case of this study, $p = 0.75$, as the aim was to prioritize consistency

within blocks over consistency between blocks.

As the criterion function decreases monotonically (Doreian & Mrvar, 2009), it is necessary to dictate the number of clusters. In order to determine the number of clusters, the eigenvectors of the correlation matrix of the features were taken. Using the eigenvalues, it was possible to determine the number of eigenvectors, n, necessary to explain a majority of the variance in the model. Given that for each eigenvector a feature could have either a positive or negative sign, k number of clusters would be sufficient to explain a majority of the variance in the model.

$$k = 2^n \tag{4.23}$$

Finally, to determine how to interpret the meaning of each block, a representative node was chosen based on the node strength within the block. The node strength is the sum of the absolute value of the weights of ties from a feature to other features within its cluster. Through this method, the most central feature within the cluster was found. A keyword was then chosen by examining the survey question of the most central feature and the other features in the block and referring to the classifications provided by the World Values Survey. In several blocks, the node with the highest node strength was part of a series of survey questions which also appear in the block. These series are often used to measure a general tendency, like prejudice or group identification. In this case, the keyword was taken from the series of questions.

4.5 Results

Table 4.4: features eliminated in pre-selection process, by country and step.

	Spearman's correlation	Chi-squared test	Linear regression	Multiple logistic regression
China	9	62	44	33
Hong Kong	5	107	21	19
Japan	7	73	28	34
Malaysia	19	66	42	25
Philippines	3	107	29	14
Singapore	10	83	41	17
South Korea	5	82	18	35
Taiwan	4	121	10	16
Thailand	10	24	71	50
Average	8	80.6	33.8	27

Table 4.4 lists how many features were eliminated in each step of the pre-selection process for each country. The final multiple logistic regression results are provided in Appendix B.1. Measure of overall fit of the model, such as AIC and pseudo R2, are provided as well as parameter estimations. Overall fit of the models can be considered strong when compared with similar regression models of attitudinal determinants of attitudes. The average pseudo R2 is 0.169, ranging from a minimum of 0.115 to a maximum of 0.342. Regression models using survey data to measure attitudes often perform somewhat poorly on some measures of performance (see r-squared values in Mayda (2006); O'Rourke and Sinnott (2006)), as a variety of factors determine attitudes, including factors like social influences, media influence, mood, etc., which cannot be measured by the survey. As individual feature are unlikely to explain a large amount of the observed

variance, p-value was used to identify features correlated with the dependent variable.

Having selected the features, a weighted adjacency matrix was created for the bipartite network of countries and features, as shown in Appendix B.2. Simple logistic regression regressed against the response feature provided the edge weights, with features that did not show statistical significance given an edge weight of 0. This matrix was then normalized and multiplied using the dot product to create a one-mode projection of countries and features. These matrices can be found in Appendix B.3 and Appendix B.4, respectively.

4.5.1 Countries

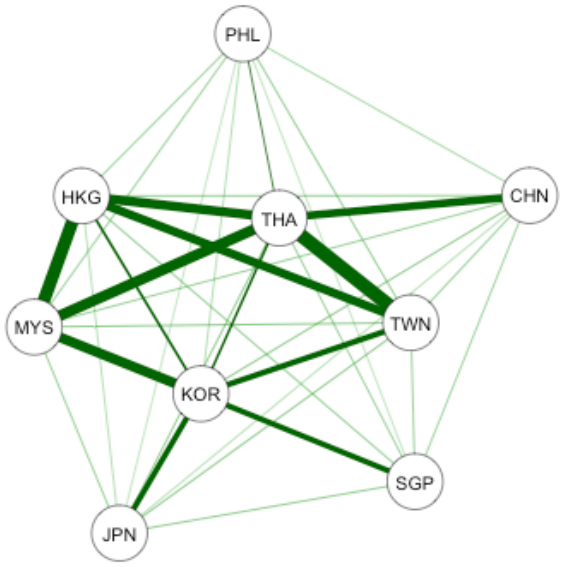


Figure 4.3: Country network. Green links represent positive ties. Edge weight represented by width of edge. The graph is a clique, meaning that all countries have links to one another and that all edges are positive. This indicates that countries are generally fairly similar in their determinants of attitudes towards immigrants. The strong edges between Thailand, Malaysia, Hong Kong, Taiwan, and Korea show that they ar ebroadly similar in their determinants of attitudes.

Figure 4.3 shows the network of countries that is the result of the one-mode projection of the bipartite graph. Green edges represent positive ties between countries, and the weight of the edges are represented by the width of the edge. The graph is a clique, meaning that all countries have ties with all other countries. All edges are positive, meaning that countries are similar in their determinants of attitudes. A Louvain clustering algorithm was applied to detect any communities within the network. Dividing the network in two clusters resulted in a negative, though negligible, modularity score (-2.05e-16), meaning that keeping the network as a single cluster is the optimal partition of the network.

Some of the edges between countries have larger weights, or show a greater degree of similarity between countries. Summing the weights of ties from a country (node strength) can help illustrate which countries show a large degree of similarity to the rest of the countries in the sample and which countries are fairly unique.

As shown by Figure 4.4, countries Thailand, Malaysia, Taiwan, and Korea have the largest node strength. The Philippines had the lowest node strength, meaning it is the most unique country with regards to its determinants of attitudes.

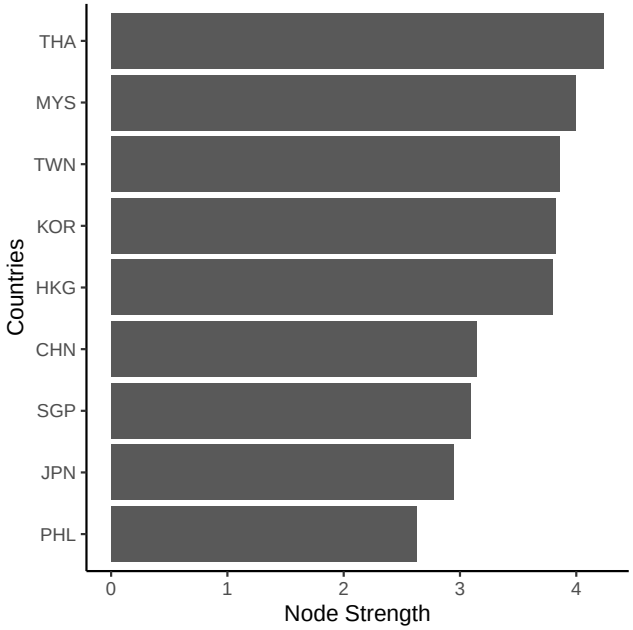


Figure 4.4: Node strength of country network. Countries with strong ties are more similar to other countries in their determinants, while countries with low node strength are more unique. The Philippines and Japan show the most dissimilarity from other countries.

4.5.2 Features

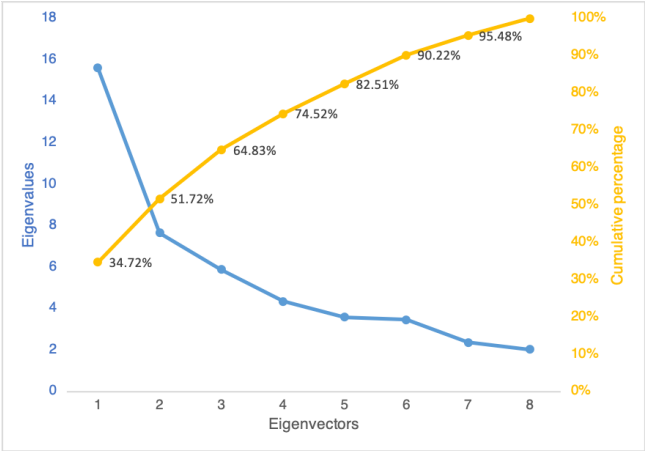


Figure 4.5: Eigenvalues and Cumulative Variance per Eigenvector in feature Network. Using 3 eigenvectors and 8 clusters allows the blockmodel to explain 64.83% of the variance in the data.

Figure 4.5 shows the cumulative percentage of variance for each eigenvector of the correlation matrix of the feature network. Given the cumulative percentage of variance, three eigenvectors are sufficient to explain 64.83% of the variance in the model. As each feature could be either negatively or positively signed in each vector, this suggests that eight clusters (23), would be sufficient to explain 64.83% of the variance of the model.

Having specified that eight clusters would be sufficient, the following blockmodel (Figure 4.6) was created. The blockmodel created eight blocks of features, henceforth called determinants. Between features clustered in the same blocks, only two negative ties were found. Both of these negative ties were found in Block 3, one between V41 and V210

and the other between V41 and V199. The total inconsistency score for the partition, or $P(C)$, was 4.930. When the features in the feature network are clustered by block, the network shown in Figure 4.7 is created.

Finally, the blockmodel shown in Figure 4.6 can be reduced to an image matrix, showing the overall signs of the blocks. This image matrix is shown in Table 4.5. "P" represents positive blocks, in which the majority of blocks are positive, and "N" represents negative blocks. Positive blocks off the diagonal are considered an error when structural balance is not relaxed and are filled with grey.

Table 4.5: Image matrix of blockmodel

	1	2	3	4	5	6	7	8
1	P	P	P	N	N	P	P	N
2	P	P	N	N	P	N	P	N
3	P	N	P	N	N	P	P	P
4	N	N	N	P	P	N	N	P
5	N	P	N	P	P	N	N	N
6	P	N	P	N	N	P	N	N
7	P	P	P	N	N	N	P	P
8	N	N	P	P	N	N	P	P

Having described the overall structure, each block was then examined in more detail. The following tables provide the survey question to which each feature refers, ordered from greatest to smallest node strength. The keyword to define each determinant is also described. The scalar value of similarity between features, as obtained by the one-mode projection, is sometimes discussed. These values can be found in Appendix B.4. Furthermore, the relationship between the dependent variable and features in each country can be found in Appendix B.2.

Table 4.6: Survey questions: Block 1 – Independence

feature	Survey Question	Node Strength
V48	Having a job is the best way for a woman to be an independent person	8.224
V72	Living in secure surroundings is important to this person; to avoid anything that might be dangerous.	7.897
V77	It is important to this person to always behave properly; to avoid doing anything people would say is wrong.	7.881
V54	[Do you agree that] being a housewife is just as fulfilling as working for pay?	7.719
V228I	Voters are offered a genuine choice in elections	7.694
V126	[H]ow much confidence [do] you have in [the United Nations]	7.446
V130	[Is having a democratic political system] a very good way of governing a country	7.443
V114	[H]ow much confidence [do] you have in [the courts]	7.441
V184	To what degree are you worried about [a terrorist attack]	7.213
dClass	Would you describe yourself as belonging to the [upper class, upper middle class, lower middle class, working class, lower class]	6.543
V109	[H]ow much confidence do you have in [the armed forces]	6.464
V125	[H]ow much confidence you have in [regional organizations]	5.902

Block 1 represents features related to independence and social dependencies. The cluster also includes questions related to normative behavior (V77), confidence and trust in various institutions (V228I, V126, V114, V109, V125), and a feature related to class. In addition, V72 and V184 relate to security and anxiety amongst respondents. The question which each feature represents is detailed in Table 4.6.

As can be seen from Figure 4.8, Block 1 is a clique, meaning that all the nodes are connected by edges to all other nodes. All ties are positive, showing that the features are correlated with other features in the block.

Table 4.7: Survey questions: Block 2 – Group Identity

Feature	Survey Question	Node Strength
V213	I see myself as part of my local community	0.925
V215	I see myself as part of the [regional organization]	0.925

Block 2 contains two features from a series regarding identification with a group, as seen in Table 4.7. Respondents were asked whether they see themselves as part of their local community (V213) and part of larger, political organizations, namely their regional organizations (V215). As Block 2 only contains two features, the node strength of the features are equal. Similarly, as Block 2 only contains one edge, no network graph was drawn, as a graph would provide no additional information.

Table 4.8: Survey questions: Block 3 – Absolute/Relative Moral Orientation

Feature	Survey Question	Node Strength
V204	[T]ell me...whether you think [abortion] can always be justified, never be justified, or something in between	9.445
V66	[W]ould you be willing to fight for your country?	8.734
V100	In the long run, hard work usually brings a better life – Hard work doesn't generally bring success; it's more a matter of luck and connections	8.699
V60	Priority for the country – first choice: A high level of economic growth; Making sure this country has strong defense forces; Seeing that people have more say about how things are done at their jobs and in their communities; Trying to make our cities and countryside more beautiful.	8.678
V182	To what degree are you worried about [not being able to give my children a good education]	8.622
V45	When jobs are scarce, men should have more right to a job than women	8.375
V39	Please mention [if] you would not like to have [immigrants/foreign workers] as neighbors	7.740
V99	Competition is good. It stimulates people to work hard and develop new ideas – Competition is harmful. It brings out the worst in people.	7.506
V148	Do you believe in God?	7.201
V187	Under some conditions, war is necessary to obtain justice	6.576
V210	[T]ell me...whether you think [violence against other people] can always be justified, never be justified, or something in between	6.321
V199	[T]ell me...whether you think [avoiding a fare on public transport] can always be justified, never be justified, or something in between	5.972
V41	Please mention [if] you would not like to have [people of a different religion] as neighbors	5.645
V198	[T]ell me...whether you think [claiming government benefits to which you are not entitled] can always be justified, never be justified, or something in between	5.471
V128	Having experts, not government, make decisions according to what they think is best for the country [is a very good way of governing a country]	3.898

Block 3 contains a series of questions related to what degree certain infractions can be justified depending on the circumstances or if these infractions are never justifiable. This series, shown in Table 4.8, asks the respondent to make moral judgements on certain situations, allowing the respondents to express either a more absolute or relative moral code (Baghramian & Carter, 2022). Some respondents show greater flexibility in whether an action can be justified, while other show more stringent moral orientations, deeming that an action can never be justified regardless of the circumstances. This

series includes questions on whether abortion (V204), violence against other people (V210), avoiding a fare on public transport (V199), and claiming government benefits to which you are not entitled (V198) are ever justifiable. All features of this series that are included in the overall network appear in this block. V187 asks about the justifiability of action on the part of a nation, whether there are times when it is necessary to go to war.

In addition to features of the moral orientation series, the block includes one religious question, namely V148, does the respondent believe in God. The block also includes a question commonly used to measure national pride (V66). Finally, two features related to competition and success are included in the block: V100, whether hard work usually brings about a better life or whether success is more dependent on luck and connections, and V99, the value of competition.

Block 3 also contains questions that are especially relevant to the dependent variable. The first poses a similar question as the dependent variable, asking whether men should have more right to a job than women when jobs are scarce (V45). The block also contains two questions out of a series related to prejudice and stigma. These features ask whether the respondent would prefer not to have immigrants and foreign workers as neighbors (V39) as well as whether the respondent would not like to have people of a different religion as neighbors (V41). Other features in this series are included in the network, but appear in Block 6 and Block 8.

Finally, this block contains the only negative ties between features within the same cluster. These negative ties appear between V41, whether or not the person would not like to have people of a different religion as a neighbor, and V210 and between V41 and V199. V210, whether violence against other people is justifiable, and V199, whether avoiding a fare is justifiable, are strongly related, with an dot product of 0.867, as seen in Appendix B.4. V41 and the two features are negatively correlated, though to a fairly weak degree. The dot product between V41 and V199 is -0.133, while the dot product between V41 and V210 is negligible at -0.002.

Figure 4.9 shows the feature network in Block 3. Positive ties between features are represented by grey edges, while negative ties are represented by red ties. Furthermore, the edge weight is represented by the width of ties, with edges of larger weights having greater thickness. While two negative ties appear in the network, the edge weight of the link between V41 and V210 is so low that the edge is not visible in this network.

Table 4.9: Survey questions: Block 4 – Democracy

Feature	Survey Question	Node Strength
V140	How important is it for you to live in a country that is governed democratically	3.051
V218	Indicate whether you use [printed magazines] to obtain information	2.642
V101	People can only get rich at the expense of others – Wealth can grow so there's enough for everyone	2.418
V55	[H]ow much freedom of choice and control [do] you feel you have over the way your life turns out?	2.262
V97	Private ownership of business and industry should be increased – Government ownership of business and industry should be increased	1.345
V71	It is important to this person to be rich; to have a lot of money and expensive things	1.298

Block 4 represents views on democracy, based on the wording of question the V140, the most central node in Block 4. This feature asks the respondent if it is important to them to live in a democratically governed country. The other features

included in this block are detailed in Table 4.9. The other features in the cluster all show a high degree of similarity with the representative node, implying that views about importance of wealth and how it can be accumulated (V71 and V101), how much freedom of choice and control the respondent feels (V55), and government ownership of businesses (V97) are correlated with the overall importance of democracy to a person. V71, whether it is important for the respondent to be rich, is the only exception, as it shows a very small degree of greater similarity to questions about how wealth can be accumulated. Whether or not democracy is important for respondents shows a high degree of similarity to how respondents obtain information, as represented by V218.

As the Block 4 network shown in Figure 4.10 demonstrates, the block is a clique. All features are correlated with one another, to greater or lesser degrees as depicted by the varying edge widths.

Table 4.10: Survey questions: Block 5 – Science and Technology

Feature	Survey Question	Node Strength
V192	Science and technology are making our lives healthier, easier, and more comfortable	0.260
V61	Priorities for the country- second choice: A high level of economic growth; Making sure this country has strong defense forces; Seeing that people have more say about how things are done at their jobs and in their communities; Trying to make our cities and countryside more beautiful.	0.260

Block 5 comprises two questions. One asks the respondents whether they agree with the statement that science and technology is improving life (V192). The second question asks what is their respondents' priority for the country (V61). This feature is part of a two-part series which asks about priorities for countries. The related feature, V60, asks respondents what their first priority for a country is and appears in Table 4.10.

Table 4.11: Survey questions: Block 6 – Prejudice and Stigma

Feature	Survey Question	Node Strength
V36	Please mention [if] you would not like to have [drug addicts] as neighbors	3.246
V38	Please mention [if] you would not like to have [people who have AIDS] as neighbors	3.182
V40	Please mention [if] you would not like to have [homosexuals] as neighbors	2.941
V42	Please mention [if] you would not like to have [heavy drinkers] as neighbors	2.863
V147	Independently of whether you attend religious services or not would you say you are [a religious person]	2.269

Block 6 contains four out of the remaining five questions in the series related to prejudice and stigma, described in Table 4.11. These features ask whether the respondent would not like to live near drug addicts (V36), people with AIDS (V38), homosexuals (V40), and heavy drinkers (V42). Only one other feature is included in the block, which asks the respondent if they identify as a religious person (V147).

As Figure 4.11 show, the block is a clique, and all features are correlated with one another.

Table 4.12: Survey questions: Block 7 – Religion (and behavior)

Feature	Survey Question
V150	The basic meaning of religion is to follow religious norms and ceremonies [or] to do good to other people

Block 7 represents the only singleton block, meaning the block comprises only one feature. This feature, V150, asks whether the basic meaning of religion is to follow norms or to do good to other people. Here, the survey the respondent to consider the meaning and value of religion for its dogmatic or practical qualities. This feature attempts to understand how religion motivates behavior. The question is shown in full in Table 4.12.

Table 4.13: Survey questions: Block 8 – Religion 2 (and cognition)

Feature	Survey Question	Node Strength
V151	The basic meaning of religion is to make sense of life after death [or] to make sense of life in this world	0.347
V43	Please mention [if] you would not like to have [unmarried couples living together] as neighbors	0.347

Detailed in Table 4.13, Block 8 comprises two questions, the first about religion (V151) and the second regarding stigma surrounding unmarried couples (V48). V151 asks whether the basic meaning of religion is to make sense of this life or of life after death, resembling the singleton feature of V150. In this case, the respondent is asked for the role of religion in understanding the universe and human experience, characterized as both life before and after death. Finally, this block includes the final feature on the series of prejudice and stigma, in this case towards unmarried couples living together.

Having classified each block according to the keyword, it is possible to arrange the determinants into a network graph, showing the positive or negative relationships between each determinant. This network is shown in Figure 4.12. The edges between determinants can have negative or positive signs, as shown by the red and green edges respectively. The edges have no weights.

4.6 Discussion

4.6.1 Countries

The nine countries selected have greater similarities than differences in their determinants of attitudes towards immigrants, as seen by the network graph and by the positive ties between all countries. The countries form a clique; each country has a positive degree of similarity to all other countries. Dividing the network into communities decreased the overall modularity of the clusters, indicating that all nodes belonged in a single cluster. The ties between some countries show higher weights, meaning they are more similar in their determinants of attitudes. Thailand and Taiwan have the strongest edge in the network, with a weight of 0.64, suggesting that these countries are very similar in their determinants. Overall, the Philippines shows the weakest node strength, meaning the sum of its all its edge weights are the smallest. For this reason, the Philippines is the most unique in its determinants in this sample. Thus, there does not appear to be any significant difference in the determinants of attitudes between countries of different development levels, migration profile, or between East Asian and Southeast Asian countries.

Due to the size of the sample and the geographic and cultural similarities amongst the countries, the country network

only shows slight variations amongst countries, with some countries being slightly more similar and some countries more unique in their determinants. Expanding the size of the sample will allow the differences amongst regions to become more apparent and provide a clearer picture of how macro-level factors affect the determinants of attitudes. However, from this country network, one can conclude that the countries in this sample are broadly similar, and that there does not appear to be significant differences between East Asian and Southeast Asian countries, developed or developing countries, or migrant senders or migrant receivers.

4.6.2 Features

The findings of this study have implications for the prevailing theories of how attitudes towards immigrants form and the applicability of these theories to countries outside European and Settler countries. The results of this study support, contradict, and expand theories related to determinants of attitudes, specifically the effects of education, social class, group identity, religion, prejudice, and anxiety on attitudes towards immigrants. Some determinants had been mentioned by the previous literature but show different relationships than had been hypothesized. Finally, other determinants, namely absolute/relative moral orientation and views of science and technology, had not been suggested by the previous literature.

Perhaps the most surprising finding, education was not found to be a significant feature in determining attitudes towards immigrants for any countries in the sample, despite its strong support in the literature. Moreover, the feature measuring education was automatically included in the multiple logistic regression in the pre-selection; however, for no country did education remain a significant predictor of attitudes, and thus was not included in the network analysis. This finding suggests that education, despite being a consistent predictor in Europe and Settler countries, is not as relevant in determining attitudes outside of these regions. This result echoes that of Meseguer and Kemmerling (Meseguer & Kemmerling, 2018), who found a limited effect of education on attitudes in Latin American countries. Exactly why education loses its predictive power outside of the West requires further investigation. This finding lends support to the theory that education correlates more closely with cultural values in European and Settler countries, rather than representing whether a respondent is likely to be in competition with immigrants (Hello et al., 2006; Davidov & Meuleman, 2012). There are several possible mechanisms through which education may affect cultural values; education may foster more reflexivity and critical thinking, reducing prejudice towards other groups (Gang et al., 2013; Chandler & Tsai, 2001). Or, higher education institutions may be more diverse places, allowing for people to form more and deeper relationships with people from other groups. Alternatively, respondents who attain higher education may be self-selected, due to income, social class, etc. While this study's sample of countries is still too small to ascertain why exactly education loses salience in Asian countries, this finding will hopefully inspire greater investigation into the different ways in which higher education functions in the economic systems of different countries as well as how the education system itself instills or correlates with other cultural values related to attitudes towards immigrants.

Unlike education, subjective social class was included in the feature network. For most countries in the sample, social class had no significant relationship with the dependent variable and, as such, its exact relationship with attitudes towards immigrants cannot be concluded. For the countries in which social class did have a significant effect, the sign of the

coefficient was not consistent. In China and Singapore, respondents who identified as belonging to lower social classes were more likely to express negative attitudes towards immigrants. This result would appear to support labor market competition theories in which people of lower classes and who are in competition with immigrants for jobs would have more negative attitudes towards immigrants. However, in Thailand, respondents in higher classes were more likely to express negative attitudes towards immigrants. Social class encompasses not only income but also non-material elements of prestige and social standing. Its inclusion in Block 1 (independence), the high degree of similarity to features related to institutional trust, as well as the absence of income in the network of features implies that the effect of social class on attitudes is more closely related to the social standing aspects of class than its economic dimensions. Moreover, the differing signs between countries in which class had a significant effect implies that class may have a mediating effect on attitudes, but that it depends on the overall social and economic context of the country. This study can, thus, conclude that the effect of social class appears to be more closely related to social standing rather than the material aspects of class and that the effect of class on attitudes depends on the social and economic context of a country.

Two determinants, science and technology and absolute/relative moral orientation, had not been mentioned by the literature review and warrant further research. From a social identity perspective, these determinants may represent the social norms and collective identity that determines group membership. Another interpretation is that they may be indicative of Schwartz basic human values, representing self-direction which emphasizes independent thought and exploration (Schwartz et al., 2012). However, this connection has not been made by the previous literature and requires confirmation through additional study.

Theories of prejudice often cite social identity theory to explain how group identities affect individuals' prejudice against immigrants and minorities. Both group identities and prejudice were identified as determinants and were negatively correlated, though weakly. This finding suggests that greater attachment to one's local community or to one's regional organization was correlated with greater prejudice. However, for most countries, the relationship between group identity and negative attitudes towards immigrants was not statistically significant. Thus, while it does appear that prejudice and group identity have a negative relationship, this relationship requires further investigation due to the small sample size.

For the countries for which there was a significant relationship between group identity and negative attitudes towards immigrants, the signs of these relationships were not consistent. Respondents in Singapore who saw themselves as more closely tied with either their local community or the regional association were more likely to have positive attitudes towards immigrants, while respondents in the Philippines who felt more closely tied to both groups were more likely to have negative attitudes towards immigrants. Both forms of attachment caused respondents in the Philippines to become more negative towards immigrants, while the opposite trend emerged in Singapore. As both forms of attachment behave very similarly, it appears that the object of attachment is not nearly as important as the strength of the attachment. However, due to the inconsistency of the sign, how group identities affect attitudes towards immigrants appears to be country-specific. As these features were significant for few countries in the sample, the exact relationship between attitudes and group identities cannot be concluded from this study.

Religion plays a diffuse role in determining attitudes towards immigrants, with features measuring different aspects

of religion having very different relationships with other features. All four features related to religion fell into different blocks. Overall, questions regarding religion show a negative, though very weak, correlation with stronger group identity (Block 2), democracy (Block 4), and science and technology (Block 5). In their relationships with other clusters, the major distinction between features related to religion lies in their interaction with Block 1 (independence and social dependencies) and Block 6 (prejudice and stigma). In other words, what facet of religion is being discussed becomes salient only with regards to prejudice and stigma, and independence. Belief in God as well as whether the respondent identifies as religious does impact people's prejudices and stigmas; however, how one interprets the meaning of religion has no bearing on prejudices and stigmas. Furthermore, whether or not one believes in God does not affect whether one believes that the meaning of religion is to follow norms or to do good towards others, but is correlated with all other features regarding religion.

Stigma and prejudice against foreign workers and people of a different religion appear to be qualitatively different from prejudice against other groups. As the previous paragraph mentions, the major causes of differentiation between features in this series are their relationships with Block 7 and Block 8, determinants related the meaning of religion. Whereas features in Block 6 have negative edges with Block 7 and Block 8, V41, which asks whether the respondent would like to have neighbors of a different religion, shows a fair amount of similarity with both; the inner products of the relationship of V41 with V150 and V151 are 0.346 and 0.228, respectively. V39, which asks about prejudice and stigma against immigrants, has a lesser degree of dissimilarity from Block 6, as it has a weakly negative inner product with V150 and a weakly positive inner product with V151. This pattern suggests that prejudice against people of different religions or against immigrants correlates with the person's conception of the meaning of religion. However, stigma and prejudice towards other groups, such as drug addicts, homosexuals, or people of another religion, is not correlated with the meaning of religion.

Finally, this study finds that features related to anxiety are located in blocks related to independence and absolute/relative moral orientations, Blocks 1 and 3 respectively. In their study on the role of anxiety in information seeking about immigration, Gadarian and Albertson identified four major causes of concern: economic concerns, concerns about exploiting the social welfare system, cultural worries, and security concerns (2014). The placement of features related to anxiety in certain blocks suggest that anxiety may operate on certain considerations to a larger extent than others. In particular, Block 3 relates to the absolute and relative moral orientation of respondents. The placement of the fear here may suggest that affronts to permissible behavior creates greater feelings of threat than other considerations. This finding helps explain the precedents of the much more stringent and punitive reactions to illegal immigration than documented immigration (Hood & Morris, 1998). Features measuring anxiety in Block 1, which measures independence as well as institutional trust and normative behavior, reinforce this interpretation. These findings suggest that fears about the cultural threat posed by immigrants' inclusion into society may have less to do with group identity and prejudice than a more rigid adherence to established, normative behavior. Interestingly, anxiety was not included in clusters regarding prejudice, but these features measuring anxiety did show a positive correlation with the series of features regarding prejudice and stigma in both Blocks 3 and 6. Furthermore, anxiety has a somewhat mixed relationship with group identity, with concerns about providing a good education for their children showing negative edges and other measures of anxiety showing a very low degree of

similarity. These findings suggests that anxiety does have a galvanizing effect on prejudices, but that it is moderated through anxieties related to permissible behavior.

4.7 Summary

This study has found that overall, the countries in the sample represent a cohesive group, showing greater similarities than differences, despite differences in development level and migration profile. The one-mode projection of the features produced eight determinants of attitudes: independence, group identity, absolute/relative moral orientation, democracy, science and technology, prejudice and stigma, and two determinants related to the meaning of religion. Some of these determinants had not been previously identified by research, including science and technology and absolute/relative moral orientation.

The relationships between features, as well as what features were included in each cluster, have complicated and expanded the previous research on determinants. Several features which were assumed to be relatively consistent in their predictive power were found to be insignificant, as in the case of education, or inconsistent in the direction of the effects, as in the case of class. In particular, the absence of education as a significant feature stresses the need for greater research into countries outside of Europe and the Settler countries. This finding complicates the proposed relationship between education and labor market competition and reinforces the hypothesis that higher education in European and Settler countries correlates with cultural values that liberalize attitudes towards immigrants. However, before concluding that education's effect on attitudes occurs because the contents of the curriculum, through contact with other groups, or through self-selection, it is necessary to evaluate how education mediates other socio-economic aspects of life. The meaning of education as a class signifier and a determinant of labor market outcomes depends on the country context and could conceivably be related to macro-level factors related to inequality or social mobility. Despite the abundance of studies which include education, the exact relationship between education and attitudes towards immigrants requires further research. Equally, the effect of class appears to be country-specific, as seen by the differing signs of its coefficients. Future research would do well to investigate under what conditions members of lower classes feel antagonism towards immigrants, as in the case of China and Singapore, rather than solidarity with immigrants, as in the case of Thailand.

Supporting social identity theory, stronger group identities were found to be correlated with prejudice; though due to the small sample size, this trend cannot be confirmed. Interestingly, the object of attachment, whether it was one's local community or a regional organization, appeared to be less significant than the strength of the attachment, a finding that should be confirmed and expanded upon in future research.

In this study, prejudice and religion appeared to be interrelated, as features in these series were differentiated due to their relationship with features related to religion. In particular, features related to prejudice against immigrants/foreign workers and people of different religions were separated from features related to prejudice against groups, like drug users, people suffering from AIDS, and so on, because of their relationships with features related to the meaning of religion. Thus, mentioning and discussing religion is not necessarily in conflict with discussion regarding prejudice; in fact, the

two can be mutually reinforcing when speakers carefully choose which facet of religion to discuss. Stressing religious identification and belief in God may activate prejudice, while discussions of the meaning of religion may mitigate it.

Finally, anxiety, which had been identified by previous research as a salient determinants, is found to operate specifically on people's expectations of normative social behavior, as seen by its inclusion in Block 3 (absolute/relative moral orientation) and Block 1 (independence). As anxiety appears to be correlated with expectations of how others should behave and whether one has a greater or lesser ability to accept non-normative behavior, media likely plays a large role in moderating or exacerbating fears. Policymakers and others may find depictions of the mundane social expectations and rules of immigrant and autochthonous populations to be fruitful pathways to quell fears related to immigration.

While the relationships of these determinants and the macro-level factors that may be underlying them cannot be concluded in all cases, this study hopes to inspire greater research into these understudied areas and to expand the field. Research should reflect the changing nature of migration, including expanding into understudied regions, and should employ new techniques, such as network science, where applicable. While methodological difficulties exist, identifying generalizable features and the macro-level economic and social conditions that mediate them can only enrich understanding of when and why a society accepts or rejects newcomers.

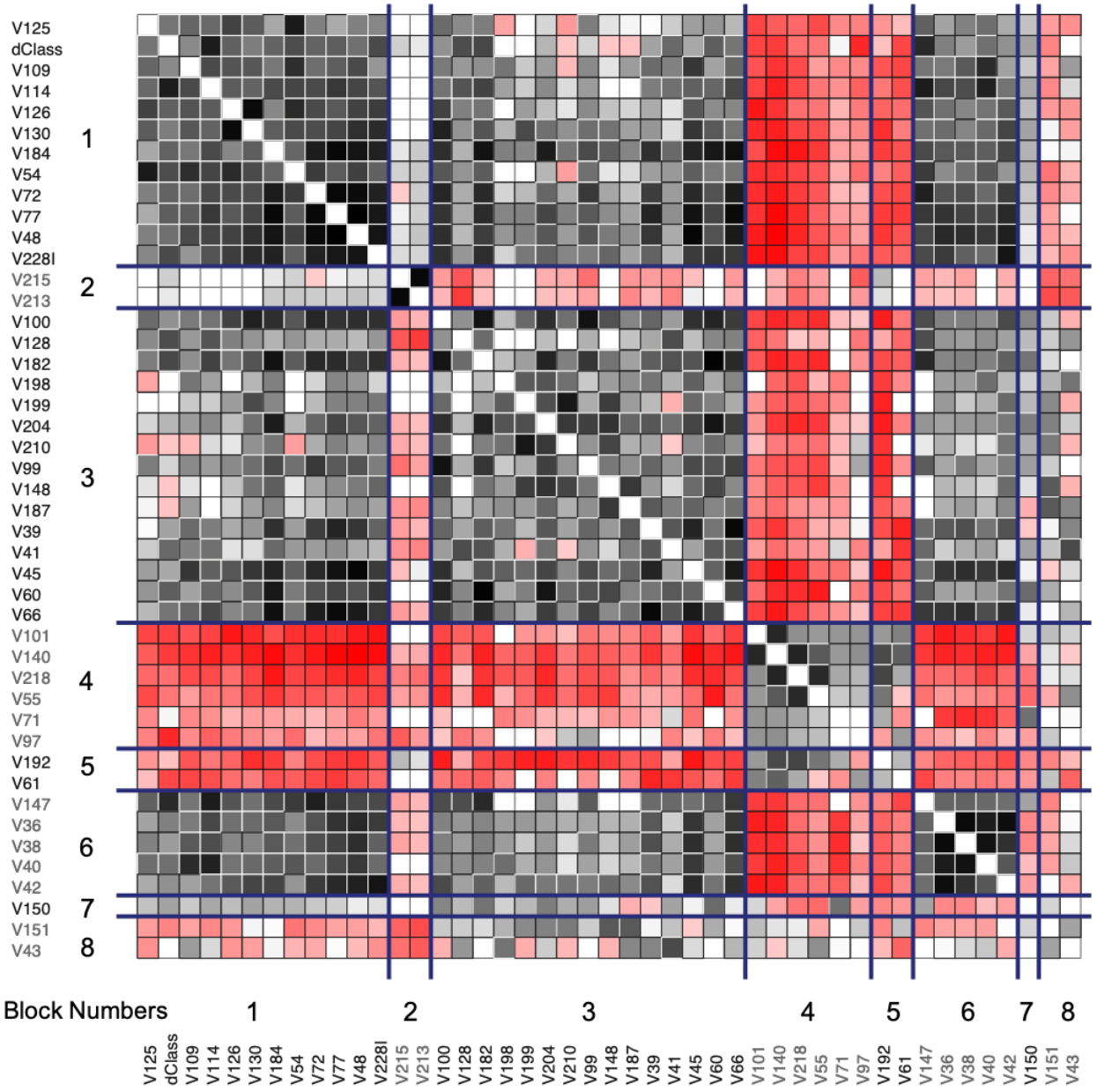


Figure 4.6: Blockmodel of feature network. Black squares represent positive ties; red squares represent negative ties. Darker shades represent greater similarity; lighter shades represent less similarity. Created in Pajek (Batagelj and Mrvar 1998)

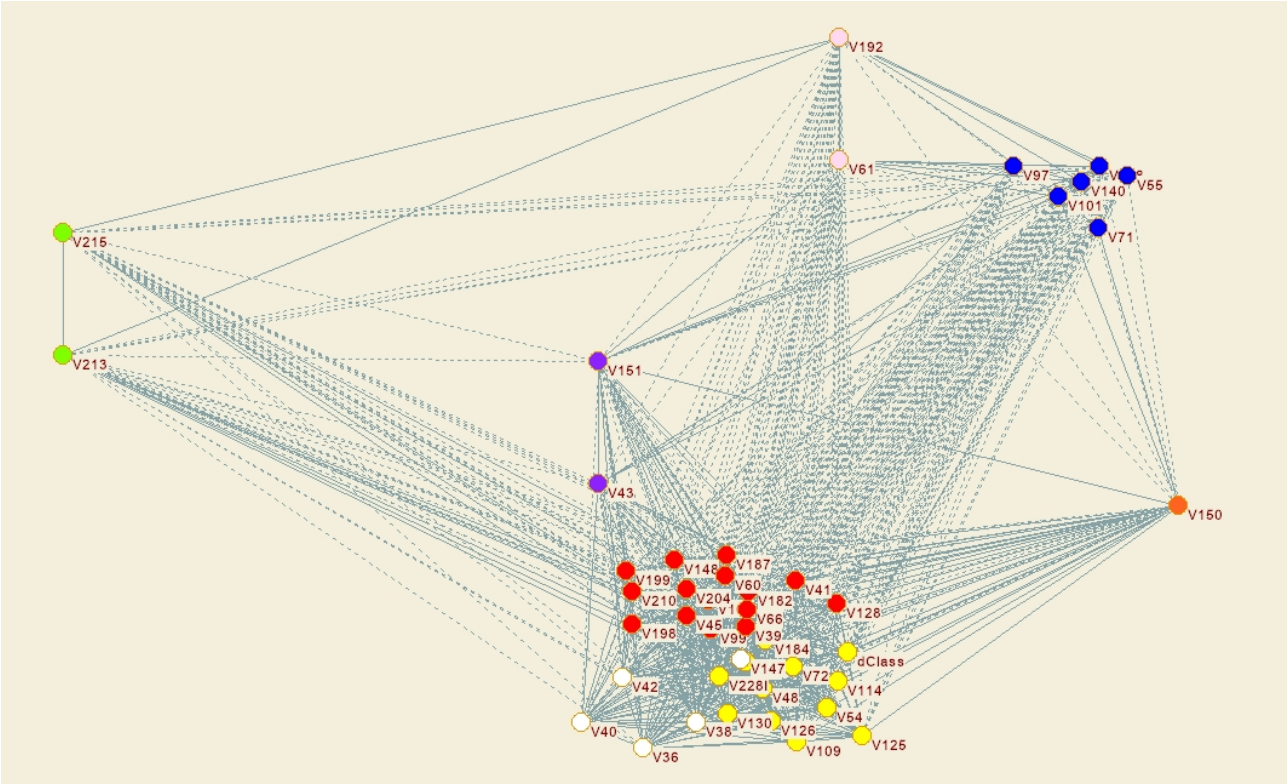


Figure 4.7: Feature network with clusters from blockmodel. Colors represent clusters dictated by blockmodel. Positive ties represented by solid lines; negative ties represented by dashed lines.

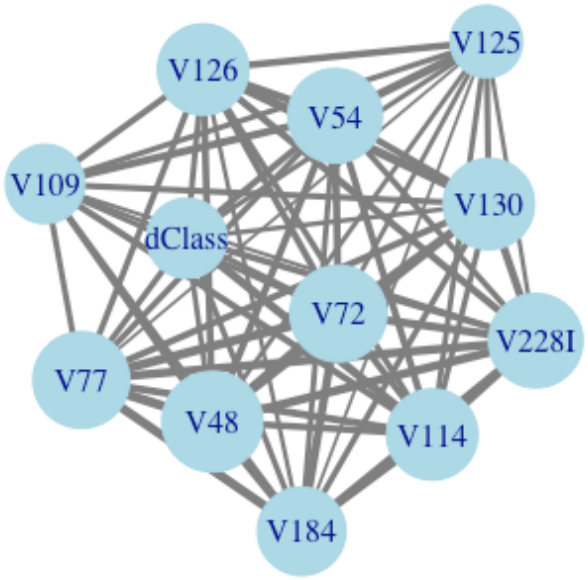


Figure 4.8: Network of features in Block 1. Positive ties represented by grey links; negative ties by red ties.

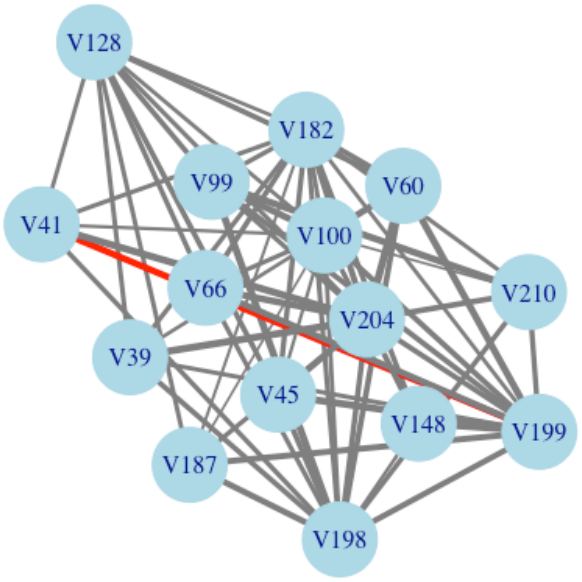


Figure 4.9: Network of features in Block 3. Positive ties represented by grey links; negative ties by red ties.

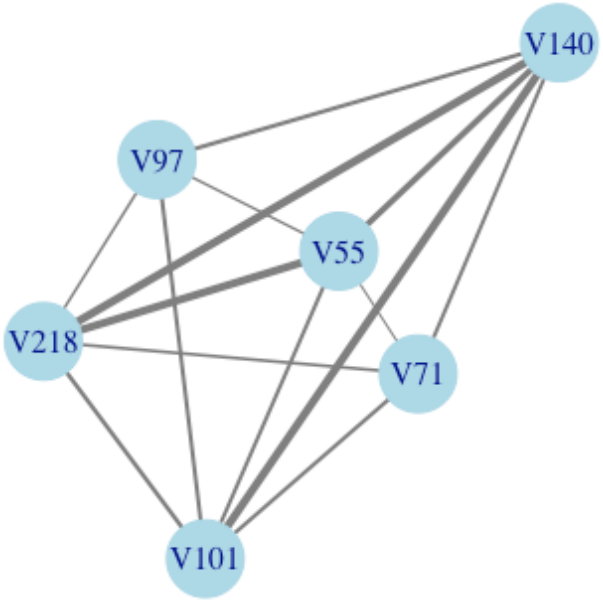


Figure 4.10: Network of features in Block 4. Positive ties represented by grey links; negative ties by red ties

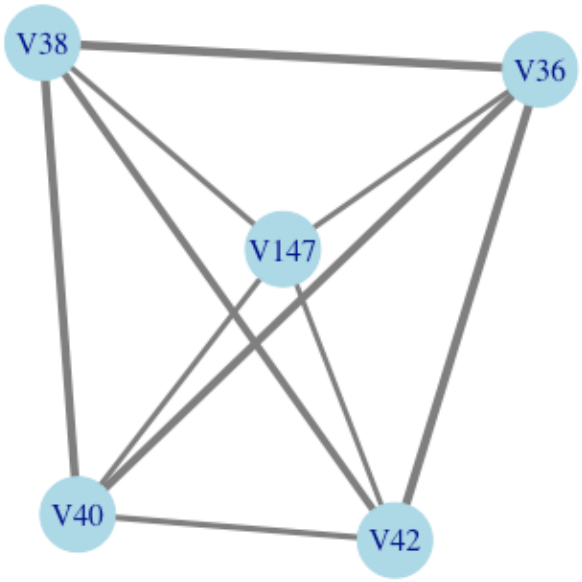


Figure 4.11: Network of features in Block 6. Positive ties represented by grey links; negative ties by red ties.

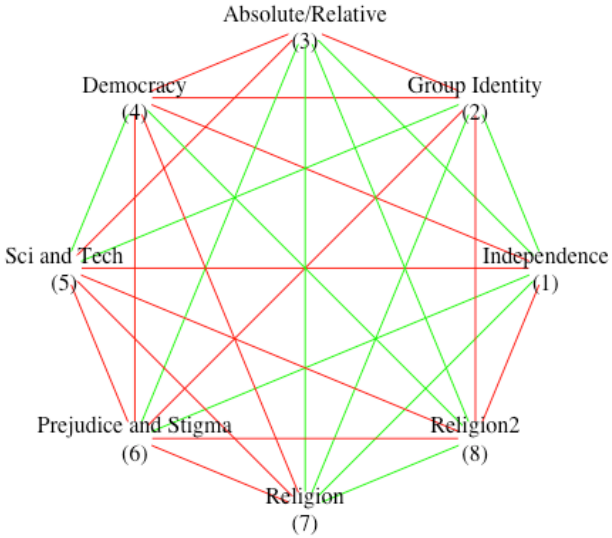


Figure 4.12: Network of determinants. Green ties represent positive edges; red edges represent negative ties. Edges have no weight.

Chapter 5

International attitudes towards immigrants

5.1 Introduction

Like Chapter 4, the majority of studies on attitudes towards immigrants have focused on regional approaches. This approach is useful in that it allows for a comparison of countries that often share geographic and cultural proximity. In the case of many European countries, countries may also share a regional system of migration governance. While there are benefits to regional studies analyses, the overemphasis on regional have prevented the study of attitudes towards immigrants from detailing both generalizable and context-specific determinants of attitudes, as the countries studied are, by design, similar in their country-level factors. As a result, regionally-specific determinants are often assumed to be generalizable to all countries, despite evidence to the contrary. One notable example is education, which is often cited as one of the most consistent predictors of attitudes towards immigrants (Lancee & Sarrasin, 2015) but is often found to be insignificant when focusing on countries that are outside of the typical sample of immigrant-receiving, highly developed, Global North countries (Meseguer & Kemmerling, 2018).

The aim of this study is to determine what determinants of attitudes towards immigrants can be considered generalizable, or salient for all countries, and which are context-specific. Countries are first clustered based on the similarity of their determinants of attitudes and then each feature network is examined in more detail. The study finds three distinct clusters of how attitudes form: one cluster in which social capital determinants are important to attitudes and which contains mainly high-income, low-inequality countries; a cluster where social identities are salient, containing high-income, high-inequality countries; and finally, a cluster where material concerns related to job security, containing mostly low-income countries. Prejudice towards out-groups is salient in all countries, but how prejudice forms differs amongst countries. The study contributes to the understanding of how attitudes towards immigrants by identifying generalizable determinants as well as highlighting how national-level factors like inequality and GDP per capita influence the formation of attitudes.

The following section describes the data used in the study as well as the network science methodology that detects important determinants as well as the relationships between determinants. Section 5.3 describes the results, while Section 5.4 relates the findings to the literature. Finally, Section 5.4.4 concludes.

5.2 Data and methodology

Data of attitudinal features of 56 countries are taken from the World Values Survey (WVS) Wave 6, conducted from 2010 to 2014. The survey applies a common questionnaire of over 200 questions to measure attitudes, values, and beliefs across countries. Each country survey contains a representative sample of at least 1200 people. The dependent variable measures explicit prejudice against migrants with a dummy variable, 1 indicating that respondents would not like to have immigrants/foreign workers as neighbors and 0 indicating they did not mention whether or not they would mind living near immigrants/foreign workers. Throughout the study, each of these questions is referred to as a *feature*. In the case of ordinal or categorical questions, several features may be derived from the same question. Finally, each feature is associated with a category given by the World Values Survey or the European Values Survey or are part of two well-established survey instruments: the "Big 5" personality traits (Goldberg, 1992),[1] and Schwartz's Basic Human Values (Schwartz et al., 2012).[2]

Data from the World Bank's World Development Indicators were used in order to better understand how clusters differed in their country-level factors. The indicators included were guided by the literature review and by the data availability. As this study broadens the scope of countries included, this necessarily means including countries with less rich data sets, thus not all relevant country-level factors could be included for analysis. One important factor that could not be included is the welfare generosity or social protection spending of countries, a country-level factor found to be significant in (Facchini & Mayda, 2009). For this reason, results about the country-level factors should be considered tentative and are more suggestive than conclusive. However, the following indicators were included: *GINI index*, *GDP per capita*, *GDP per capita growth*, *unemployment rate*, *immigrant population as a percentage of total population*, *refugees hosted in the country as a percentage of the population*, *refugees originating from the country as a percentage of the population*, and *emigrants as a percentage of the population*.

In addition, World Governance Indicators are included to measure perceptions of political stability and government accountability in each country. These indicators are compiled from household surveys, non-governmental organizations, public sector organizations, and commercial business information providers. The indicators included are *voice and accountability* ("perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media" (Kaufmann, Kraay, & Mastruzzi, 2010, p.4)), *political stability* ("perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism" (Kaufmann et al., 2010, p.4)), *government effectiveness* ("perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" (Kaufmann et al., 2010, p.4)), *regulatory quality* ("perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development"

[1] This is a well-known survey instrument in psychology used to personality traits that are relatively stable over time. These traits include openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism.

[2] Schwartz proposes that ten values are recognized across cultures. These are self-direction, stimulation, hedonism, achievement, power, security, conformity, tradition, benevolence, and universalism. These values are also ordered into higher order values of conservation (tradition, conformity, and security), self-transcendence (benevolence and universalism), oppenness to change (self-direction, stimulation, and hedonism), and self-enhancement (hedonism, achievement, and power).

(Kaufmann et al., 2010, p.4)), *rule of law* ("perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence" (Kaufmann et al., 2010, p.4)), and *control of corruption* ("perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests" (Kaufmann et al., 2010, p.4)).

In addition to development indicators, the Ethnic Fractionalization index (Drazanova, 2020) and the Globalization Index (Dreher, 2006; Gygli, Haelg, Potrafke, & Sturm, 2019) were included. The Ethnic Fractionalization Index is similar to a dissimilarity index in that includes information both about the number of ethnic groups in a country, as well as their overall distribution. A rank of 0 indicates that all residents are of the same ethnicity, while a rank of 1 indicates that all residents belong to a separate ethnicity. Dreher's Globalization Index includes multiple dimensions of connection across borders, including economic integration, political engagement, and social globalization (Dreher, 2006).

5.2.1 Data preparation

A preliminary elimination of features was conducted to remove features that would be impossible to interpret in a network structure, such as first and second priorities for a country. These variables included questions that were dependent on how respondents answered previous questions or where the answers respondent could select varied depending on the country. When the information is available, immigrants to the country are removed from the sample to reduce noise.

For each country c, the results of the WVS are organized in a matrix $D : d_f g(f = 1, \ldots, F; g = 1, \ldots, G$, where F equals the number of respondents for that country and G represents the number of features.

For all questions, respondents have the option of declining to answer. For some, they also have the option of stating that "Don't know". Non-responses and "Don't know" responses were coded as missing values. Missing values were imputed using Breiman's random forests (Breckler, 1985). First, missing categorical data is imputed using the most common response to each feature. Then a random forest is grown using the imputed data. A random forest capitalizes on the low-bias of trees for classification, while lowering the variance of the imputations through bagging, or bootstrap aggregation (Hastie, Tibshirani, & Friedman, 2009). A random tree T_b is grown from the bootstrapped data by selecting the best split-point from $\sqrt{p}$ features at random, where p equals the number of features in the data set. The best split-point is defined as the variables which minimizes misclassification error as defined by

$$MC_{mk} = 1 - \frac{1}{N} \sum_{x_i \in R_m} I(y_i = k) \tag{5.1}$$

where for each x_i, a node m representing a region R_m with N_m observations, the number of times that the observed value y_i is equal to the class k is calculated. This process is recursively done until the minimum node size $n_m = 1$. The imputed value is equal to

$$\hat{C}_{rf}^{B} = majorityvote\hat{C}_b(x)_1^B \tag{5.2}$$

where $\hat{C}_{rf}^{B}$ is the class prediction of the bth random-forest tree. Due to the random nature of the initial partition, results from the random forest could vary. For this reason, the random forest imputation was repeated 1000 times and the mean imputed value was used. Computation was completed with the use of the supercomputer system of Academic Center for Computing and Media Studies, Kyoto University.

LASSO regression was then performed to identify significant determinants for attitudes towards immigrants in each country. Coefficients are derived from the following formula

$$\hat{\beta}^{lasso} = argmin\frac{1}{2}\sum_{i=1}^{N}\left(y_i - \beta_0 - \sum_{j=1}^{p} x_{ij}\beta ij\right)^2 + \lambda\sum_{j=1}^{p}|\beta_j| \tag{5.3}$$

where N is equal to the number of cases, y_i the outcome. λ is the tuning parameter obtained through 10-fold cross-validation. Because the random partition of data at the beginning of cross-validation can affect the results, cross-validation was performed 100 times, and the median value for the λ value one standard error from the minimum was selected.

5.2.2 Network analysis

The results of the LASSO regressions for each country were then combined into a set of sets to create a weighted adjacency matrix for bipartite network.

$$A : \{a_{ij}\}(i = 1, ..., C; j = 1, ..., V) \tag{5.4}$$

Rows represent countries, and columns represent features. Elements, a_ij, equal the coefficient of the LASSO regression for that feature in that country; if a feature j is not significant in a country i LASSO regression, a_ij is equal to 0.

Having created the bipartite network, a one-mode network of countries was projected from the bipartite network. First, Matrix A is rewritten using row-wise country vector $c^{(i)}(i = 1, ..., C)$:

$$A = \begin{pmatrix} c^{(1)} \\ c^{(2)} \\ \vdots \\ c^{(C)} \end{pmatrix} = \{c_j^{(i)}\} \tag{5.5}$$

So that the value measuring similarity between countries would be scaled from -1 to 1, country vectors were normalized according to the following formula:

$$\hat{c}^i = \frac{c^i}{\sqrt{\sum_{j=1}^{V}(c_j^i)^2}} \tag{5.6}$$

Normalizing the country vectors resulted in the normalized vector

$$\hat{A} = \begin{bmatrix} \hat{c}^{(1)} \\ \hat{c}^{(2)} \\ \vdots \\ \hat{c}^{(C)} \end{bmatrix} = \{\hat{c}_j^{(i)}\} \tag{5.7}$$

The normalized matrix is then multiplied by its transpose, to result in the matrix $\Phi = \{\phi_{ij}\} = (i = 1, \ldots, C; j = 1, \ldots, C)$.

$$\Phi = \hat{A} \cdot \hat{A}^T \tag{5.8}$$

$$\phi = \sum_{k=1}^{V} \hat{c}_k^{(i)} \hat{c}_k^{(j)} \tag{5.9}$$

Through matrix multiplication, ϕ_{ij} is a scalar value that measure the degree of similarity between the determinants of attitudes for two countries, i and j. If ϕ_{ij} equals 0, this indicates that the country vectors, i.e. the coefficients of their LASSO regression, are orthogonal, and the determinants of attitudes towards immigrants in each countries have no relationship. If ϕ_{ij} equals 1, this indicates that countries i and j have the exact same coefficients for each feature, whereas if ϕ_{ij} equals to -1, this indicates that coefficients have the same sign but opposite weights.

Louvain clustering was then applied to the country network in order to detect communities of countries that were the most similar in their attitudes towards immigrants. This clustering optimizes modularity, or the density of edges, as defined in Equation (5.10). As the networks are signed and weighted, a generalization of the Louvain algorithm which maximizes the sum of positive edges and minimizes the sum of negative edges inside communities was employed (Dennison & Goodwin, 2015).

$$Q = \frac{1}{2m} \sum_{c} \left(e_c - \gamma \frac{K_c^2}{2m} \right) \tag{5.10}$$

m equals the number of edges in the network, e_c represents the fraction of edges inside community c, K_c is the sum of degrees of nodes in community c, and γ is the resolution parameter, which in this case is equal to 1.

In order to understand the ways in which countries differed in their country-level determinants, a Mann-Whitney test was conducted to understand if there was a statistically significant difference between country clusters. Mann-Whitney tests are preferable to a t-test in this case as it is non-parametric, and responses to survey questions tend not to be normally distributed and to skew. All values between two groups, A and B are ranked. The critical value U is chosen from the smaller value of U_A and U_B, where

$$U_A = R_A - \frac{n_A(n_A + 1)}{2} U_B = R_B - \frac{n_B(n_B + 1)}{2} \tag{5.11}$$

R is the sum of the ranks of observations, and n is the number of observations in each group.

After finding the communities of countries that were most similar in their determinants of attitudes towards immigrants,

subsets of Matrix A containing only the countries in each country cluster were created in order to better understand how attitudes towards immigrants form. This created a total of three bipartite networks, containing only the countries from that cluster and their significant features.

$$A_k : \{a_{ij}\}(i \in C_k; j = 1, \ldots, V) \tag{5.12}$$

C_k represents countries belonging to cluster k.

Bipartite networks were then projected into networks of only features, showing their relationships to one another. To project the bipartite network, Matrix A_k was rewritten using column-wise feature vectors $v^(j)(j = 1, \ldots, V)$. The matrix takes the following form

$$B = \begin{bmatrix} v^(1) & v^(2) & \ldots & v^(V) \end{bmatrix} = \{v_i^(j)\} \tag{5.13}$$

Feature vectors were not normalized before projecting the network so that more important features, as measured by higher coefficients in the LASSO regression, would have larger edge weights, reflecting their larger importance in determining attitudes. B is the multiplied its transpose B^T to yield the matrix of the feature one-mode projection.

$$\Psi = \hat{B}^T \cdot \hat{B} \tag{5.14}$$

$$\psi = \sum_{k=1}^{C_k} \hat{v}_k^{(i)} \hat{v}_k^{(j)} \tag{5.15}$$

As with the country network, Louvain clustering, shown in Equation (5.10), is then applied in order to show the underlying structure of the feature network. These clusters are considered *determinants*, large clusters of features which are highly correlated with one another and which are similarly related to other features outside the cluster, e.g. all features in the Cluster A have a negative relationship with features in Cluster B. However, in order to interpret the meaning of each cluster for attitudes, a representative node was selected to understand what attitude, belief, or demographic factor the determinant represents. In order to identify a centrally located node that was strongly related to all of the other features in the cluster, the feature with the highest node strength was selected as the representative node. Node strength

$$ns_i = \sum_{j=1}^{N} |w_{ij}| \tag{5.16}$$

where the node strength of node i is the sum of the absolute value of all edges from node i to all other nodes in the cluster N.

Finally, image matrices allow for a further simplification of the network to representative nodes and the relationships between them. In this case, the sign and weight of edges between representative nodes is determined by the sum of edges between features of two clusters.

$$e_{ab} = \sum_{i \in a}^{j \in b} w_{ij} \tag{5.17}$$

Where e represents the weight of the edge between clusters a and b, and w_{ij} represents the weight of the edge between a node i in cluster a and node j in cluster b.

5.3 Results

5.3.1 Countries

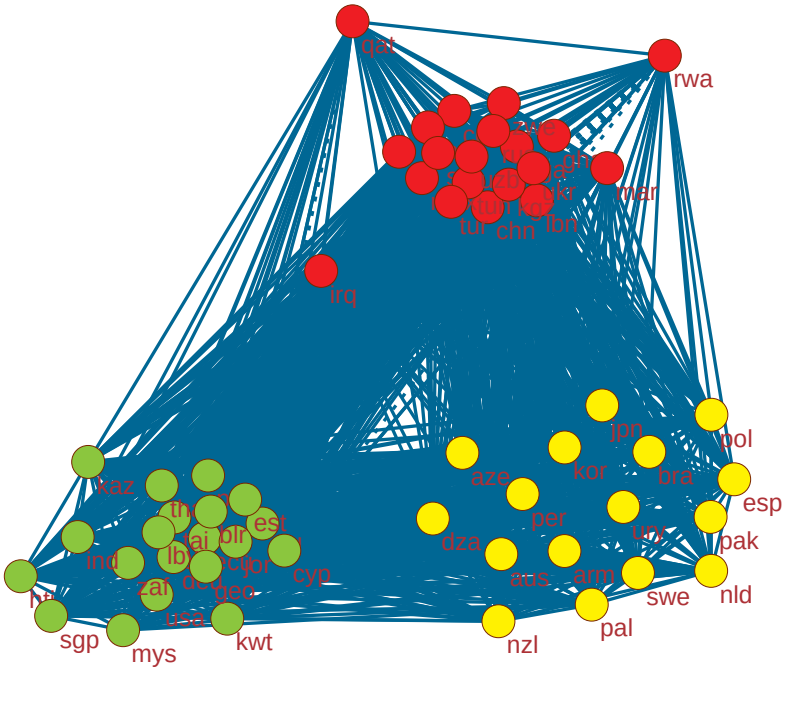


Figure 5.1: One-mode projection of country networks. Positive edges are solid lines, while negative edges are dashed. As shown, three distinct clusters of countries are found, though many positive ties appear between countries.

Figure 5.1 shows the results of the Louvain clustering on the country network. 3 distinct communities of countries appear, with a modularity of 0.3809. The countries included in each community are shown on the map in Figure 5.2, and a list of the country names in each clusters is included in Appendix C.1. Cluster 1 includes 16 countries, and Cluster 2 and Cluster 3 contain 20 countries each. Figure C.1 shows slight differences in the regional[3] composition of each country cluster countries, as Cluster 3 contains greater proportion of countries from sub-Saharan Africa and the Middle East and North Africa, while Cluster 1 contains a greater proportion of European and Latin American and Caribbean countries.

As shown by the results of the Mann-Whitney tests in Table 5.1, Cluster 3 differs significantly from Clusters 1 and Cluster 2 in terms of refugees originating from the country, with a higher average number of refugees originating from

[3]Regions are based on the World Bank's classification of regions.

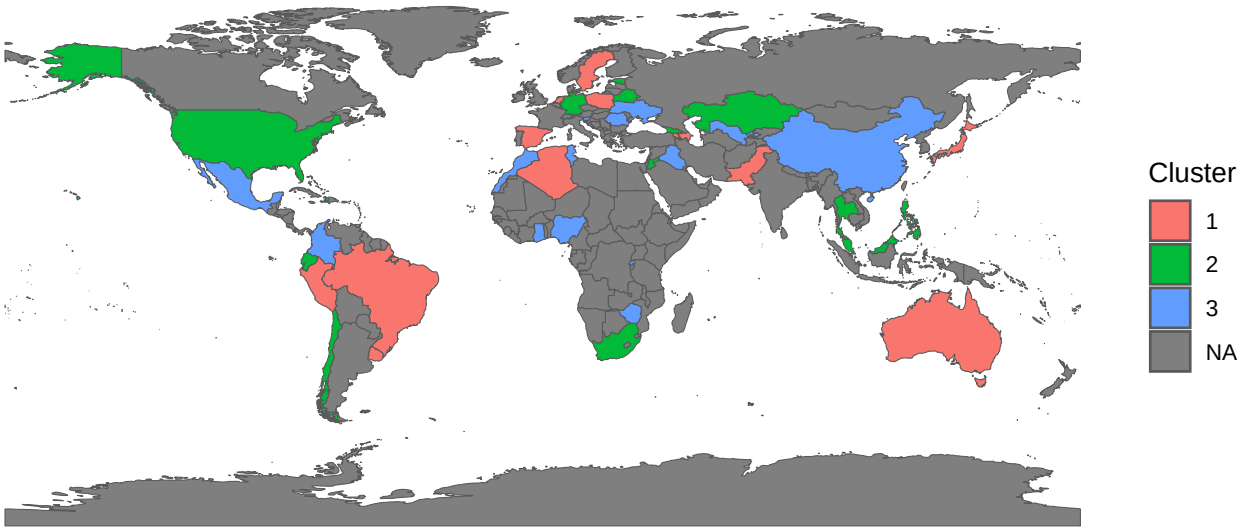


Figure 5.2: Map of countries by cluster. Grey countries were not included in the data set. Clusters do not appear to be related by geographic proximity.

Cluster 3 countries, as shown in Figure 5.6. Cluster 3 countries differ significantly from Cluster 1 in terms of GDP per capita (Figure 5.4), level of globalization (Figure 5.13), and all governance indicators. These indicators are also marginally significantly different from Cluster 2 countries, with the exception of the rule of law index (Figure 5.12) and refugees per capita residing in the country (Figure 5.7), on which Cluster 3 countries differ significantly from both Cluster 1 and Cluster 2 countries. Cluster 1 countries have significantly lower average refugees per capita than Cluster 1, while Cluster 2 have significantly higher refugees per capita. However, as shown in Figure 5.8, these differences are made up in large part by the inclusion of high refugee-hosting countries Lebanon and Jordan. In summary, Cluster 3 countries are characterized by significantly less GDP per capita, level of globalization, governance, and are mainly refugee origin countries rather than refugee-hosting countries, with the notable exception of Lebanon.

Cluster 2 differs significantly form both Cluster 1 and Cluster 3 countries in that it has much more negative attitudes towards immigrants than the other country clusters, as seen in Figure 5.3. Cluster 1 and Cluster 2 countries are fairly similar in their country-level factors; the only other indicator on which Cluster 1 countries and Cluster 2 countries differ that approaches statistical significance is income inequality, with a p-value of 7.4% (see Figure 5.9. Finally, Cluster 2 countries have the highest average immigrant stock as a percentage of the population and differ significantly from Cluster 3 countries, but not from Cluster 1 countries, as seen in Figure 5.10.

As Figure 5.14 shows, many of these indicators are correlated. Interestingly, the only indicator which is correlated with negative attitudes towards immigrants in growth in immigrant stock as a percentage of the population. The governance indicators show a high level of correlation with one another and with GDP per capita and the globalization index. The

Table 5.1: Results of Mann-Whitney tests

Variable	Cluster 1/Cluster 2		Cluster 1/Cluster 3		Cluster 2/Cluster 3	
Refugees by country of origin (% of population)	0.199		0.002	**	0.009	**
Voice and Accountability: Estimate	0.127		0.003	**	0.085	.
Refugee population by country or territory of origin	0.466		0.004	**	0.003	**
Regulatory Quality: Estimate	0.252		0.007	**	0.144	
Control of Corruption: Estimate	0.314		0.014	**	0.102	
Rule of Law: Estimate	0.282		0.014	**	0.018	**
Political Stability and Absence of Violence/Terrorism: Estimate	0.155		0.015	**	0.090	.
GDP per capita, PPP (current international $)	0.703		0.017	**	0.066	.
Government Effectiveness: Estimate	0.386		0.022	*	0.066	.
KOF Globalization Index	0.755		0.031	*	0.056	.
Growth in immigrant stock, 2005 - 2015	0.165		0.066	.	0.502	
GDP per capita growth (annual %)	0.945		0.096	.	0.108	
Ethnic Fract. index	0.175		0.176		0.927	
Negative attitudes towards immigrants	0.007	**	0.188		0.012	**
Gini index	0.074	.	0.197		0.705	
Refugees by country of asylum, (% of population)	1.000		0.349		0.465	
International migrant stock (% of population)	0.136		0.405		0.036	*
Emigrant stock (% of population)	0.532		0.445		1.000	
Emigrant stock	0.579		0.445		0.381	
International migrant stock, total	0.532		0.532		0.153	
Refugee population by country or territory of asylum	0.862		0.579		0.930	
Net migration	0.579		0.677		0.397	
Unemployment, total (% of total labor force) (national estimate)	0.716		0.690		0.907	
Population, total	0.532		1.000		0.335	

authors of the governance indicators remark that governance indicators are likely to be to highly correlated as better governance in one area is likely to be reliant on governance on another (Kaufmann et al., 2010).

5.3.2 Feature networks

5.3.2.1 Cluster 1 countries

Cluster 1 countries' feature network was partitioned into 13 clusters with a modularity of 0.2510, of which 7 are singleton cluster with negligible node strength. Because of the weakness of their ties to the rest of the network, these singleton clusters are omitted from the rest of the analysis. Thus, we can say that there are 6 major determinants of attitudes towards immigrants in Cluster 1 countries: negative attitudes towards people of another race, believing that people in their 20s have a low position in society, disagreeing that that natives should have priority when jobs are scarce, or believing that neither group should have priority, believing that neither men or women should have priority for jobs, and being an active member of a humanitarian or charitable organization.

As Figure 5.16 shows, all determinants have a negative relationship with the largest determinant, negative attitudes towards people of another race.

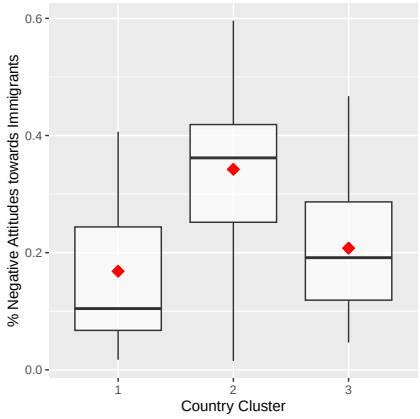


Figure 5.3: Boxplot of proportion of respondents who answered "Would not like to live next to an immigrant", by country cluster. Red diamond represent average proportion. Attitudes towards immigrants are the highest in Cluster 2 countries, followed by Cluster 3 countries, and Cluster 1 countries have the lowest average and median attitudes towards immigrants.

5.3.2.2 Cluster 2 countries

Cluster 2 countries' feature network was partitioned into 11 clusters with a modularity of 0.4205. Similar to Cluster 1 countries, 9 of these communities are singleton clusters and 8 have negligible node strengths, as shown in Table 5.3. Thus, Cluster 2 countries' attitudes towards immigrants are determined by three major determinants: negative attitudes towards people who speak another language, being quite proud of one's nationality, and believing the voters are not often threatened with violence when voting.

As Figure 5.18 shows, being quite proud of one's nationality and negative attitudes towards people who speak another language are negatively correlated. Moreover, believing that voters are not often threatened with violence is also negatively correlated with negative attitudes towards people who speak another language. National pride and believing voters are not often threatened are not correlated, as evinced by the fact that the two determinants do not share an edge.

5.3.2.3 Cluster 3 countries

Cluster 3 countries' feature network was partitioned into 29 clusters with a modularity of 0.3837. As Table 5.4 shows, the majority of these determinants are singleton clusters with very low node strength, and as a result, only the three largest clusters will be considered in the rest of the analysis: attitudes towards people of another race, attitudes towards homosexuals, and not being very worried about losing one's job.

Interestingly, more negative attitudes towards people of another race are associated with more positive attitudes towards homosexuals, as seen by the negative edge connected the two determinants. Finally, not being very worried about losing one's job is correlated with positive attitudes towards people of another race.

In order to allow for comparison between country clusters, Table 5.5 show the determinants of attitudes towards immigrants by country cluster and category. All country clusters include a determinant in the category of social values, attitudes, and stereotypes, with Cluster 1 countries containing 4 in that category. However, besides this category, all of the country clusters contain unique determinants, with Cluster 1 countries including one determinant in social capital, trust,

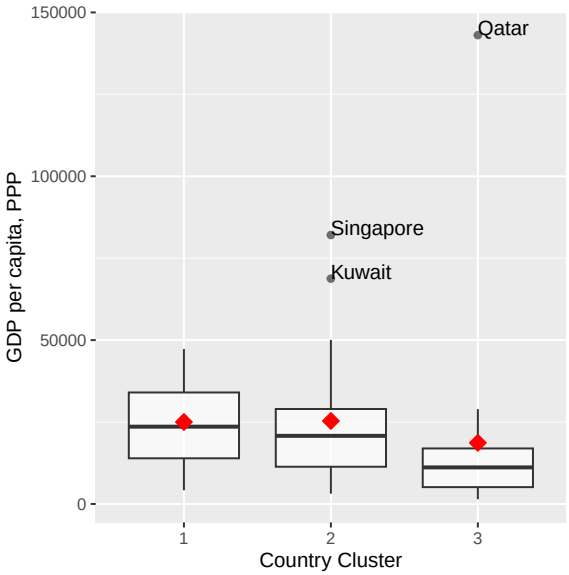


Figure 5.4: Boxplot of GDP per capita, by country cluster. Cluster 1 countries have the highest median GDP per capita, followed by Cluster 2, and Cluster 3. Mean GDP per capita is higher in CLuster 2 than Cluster 1 due to outliers.

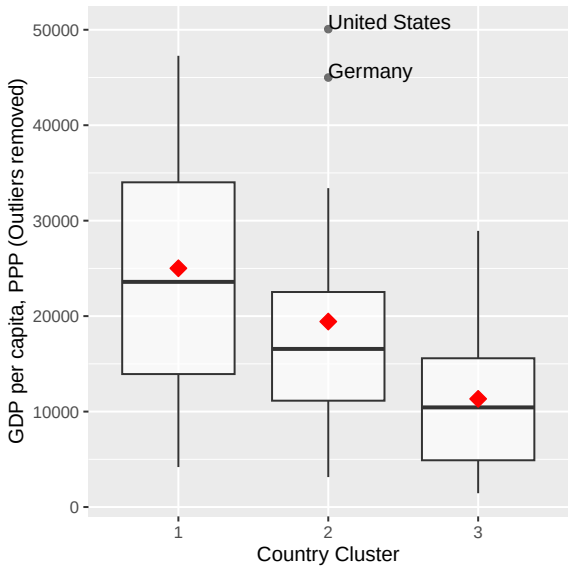


Figure 5.5: Boxplot of GDP per capita, by country cluster with outliers are removed. When outliers are removed, a clear pattern emerges with Cluster 1 countries having the highest GDP per capita, followed by Cluster 2 countries, and finally Cluster 3 countries.

and organizational membership. Cluster 2, on the other hand contains two determinants related to political cultural as well as political interest and parties. Finally Cluster 3 countries have a determinant in the security category.

5.3.3 Prejudice sub-community structures

Due to the centrality of the determinants related to prejudice, as well as the large number of nodes contained within these determinants, an additional analysis of their structure was completed in order to understand how these determinants form.

5.3.3.1 Cluster 1 countries

The nodes and relationships within the Cluster 1 prejudice against people of another race cluster is shown in Figure 5.22. Similar to the feature networks of each cluster, a Louvain clustering was performed to better understand the structure of this sub-community, and representative nodes were selected based on highest node strength in order to help interpret each cluster. In total, 3 clusters were detected in the prejudice towards people of another race determinant in Cluster 1 countries, and the partition had a modularity of 0.3883. The sub-community structure and a description of the representative nodes are shown in Figure 5.23 and Table 5.6, respectively.

As Table 5.6 describes, the the largest determinant is represented by attitudes towards people of another race. The second largest representative node, as people to state the social position of people in their 40s, from a scale of 1 to 10, 1 indicating an extremely low position and 10 indicating an extremely high position. Selecting 4, or believing that people in their 40s have a somewhat low position in society, was found to be correlated with more negative attitudes towards people of another race. Finally, slightly agreeing that one of the bad effects of science is that it breaks down people's sense

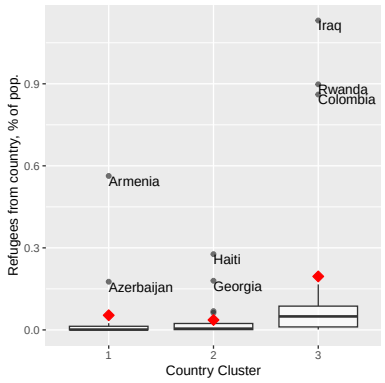


Figure 5.6: Number of refugees originating from the country, as a percentage of the population. Cluster 3 has the highest average number of refugees leaving the country as a percentage of the population in the sample, lead by countries Iraq, Rwanda, and Colombia.

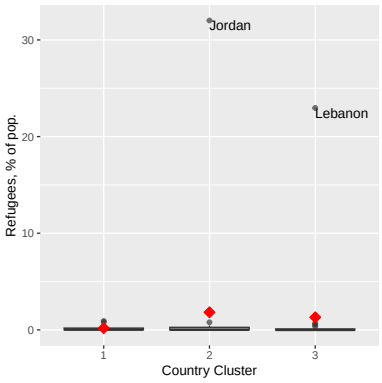


Figure 5.7: Number of refugees residing in the country, as a percentage of the population. Cluster 2 has the highest average number of refugees, followed by Cluster 3 and Cluster 1 countries, but these averages are due to large refugee-hosting countries, Jordan and Lebanon.

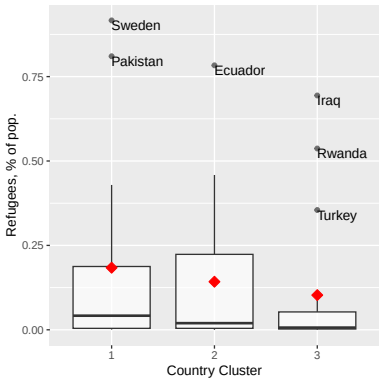


Figure 5.8: Number of refugees residing in the country, as a percentage of the population, with outliers Jordan and Lebanon removed. Cluster 1 has highest average refugees, followed by Cluster 2 and Cluster 3 countries.

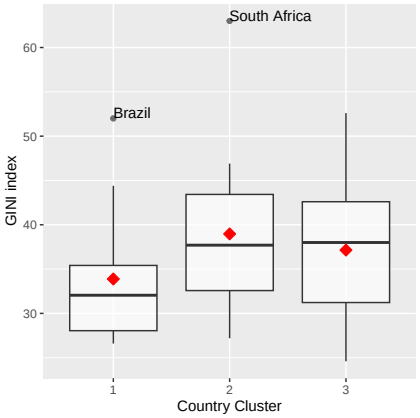


Figure 5.9: Gini index by country cluster. Gini index is a measure of income inequality within a country, with higher Gini coefficient indicating greater inequality. Cluster 2 and Cluster 3 countries are similar in their level of inequality, while Cluster 1 countries have on average lower inequality.

of right and wrong was also positively correlated with negative attitudes towards people of another race. Respondents were asked, on a scale of 1 to 10, 1 indicating that the respondent completely disagrees and 10 indicating the respondent completely disagrees. In this case, responding 6, or slightly agree, was associated with more negative attitudes towards immigrants. Overall, the categories included were social values, attitudes, and stereotypes; social capital and trust, and science and technology.

5.3.3.2 Cluster 2 countries

Unlike Cluster 1 and Cluster 3 countries, Cluster 2 countries did not contain the determinant of attitudes towards people of another race, but rather, towards people who speak another language. As Figure 5.30 shows, attitudes towards people of another race remains a significant feature, having the second highest node strength in the determinant after attitudes towards people who speak another language. Despite the large number of nodes shown in Figure 5.25, the sub-community

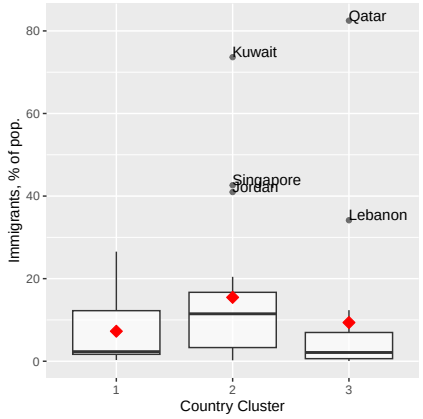


Figure 5.10: Immigrants as a percentage of the population, by country cluster. Cluster 2 countries have the highest number of immigrants, while Cluster 3 and Cluster 1 countries have low median number of immigrants.

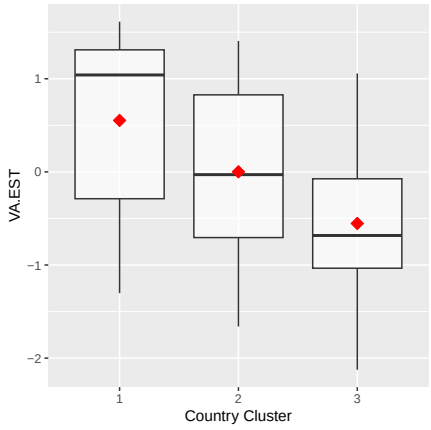


Figure 5.11: Voice and accountability index, by country cluster. Voice and accountability measures "perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media" (Kaufmann et al., 2010, p.4). Greatest accountability is in Cluster 1 countries, followed by Cluster 2 countries, and Cluster 3 countries.

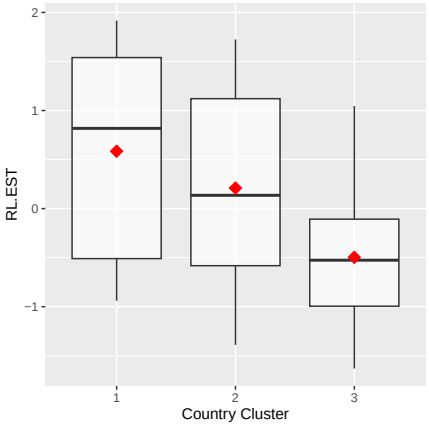


Figure 5.12: Rule of Law, by country cluster. Rule of law measure the"perceptions of the extent to which agents have confidence in and abide by the rules of society" (Kaufmann et al., 2010, p.4). Highest average rating is in Cluster 1 countries, followed by Cluster 2 countries, and Cluster 3 countries.

structure is very simple, as shown in Figure 5.26. Overall, the partition of the two clusters had a modularity of 0.3899 and detected two distinct communities. These communities are represented by attitudes towards people who speak another language and somewhat trusting people of another nationality. The two determinants are positively correlated, as shown by the green edge between them. These determinants fall into the categories of social values, attitudes, and stereotypes, and social capital, trust, and organizational membership, respectively.

5.3.3.3 Cluster 3 countries

Unlike Cluster 1 and Cluster 2 countries, Cluster 3 contained two prejudice determinants. Attitudes towards people of another race had a much higher node strength than attitudes towards homosexuals, but the results will look at the sub-community structures of both determinants to understand how they differ in their formation.

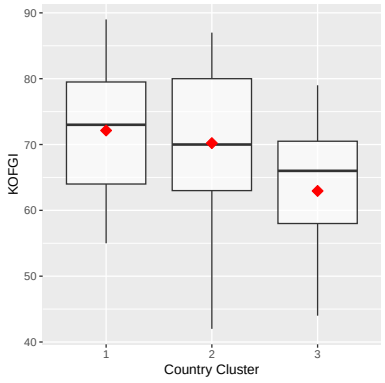


Figure 5.13: Globalization index by country cluster. Cluster 3 countries have lower average indices of globalization than Cluster 1 and Cluster 2 countries.

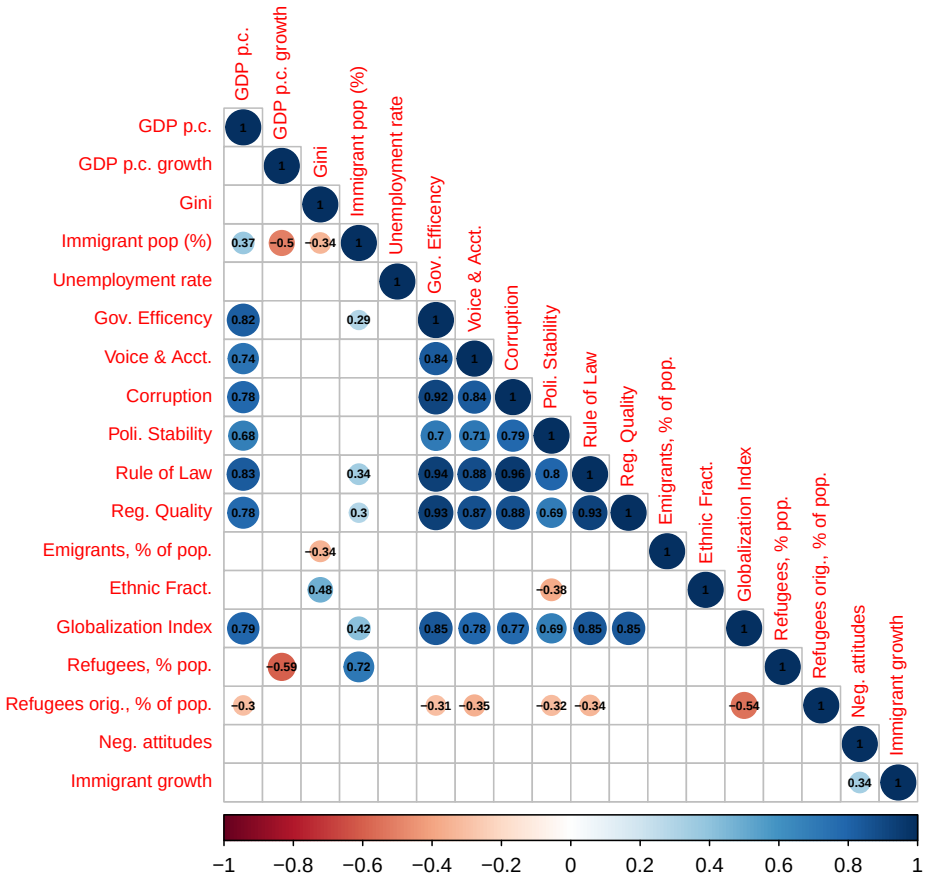
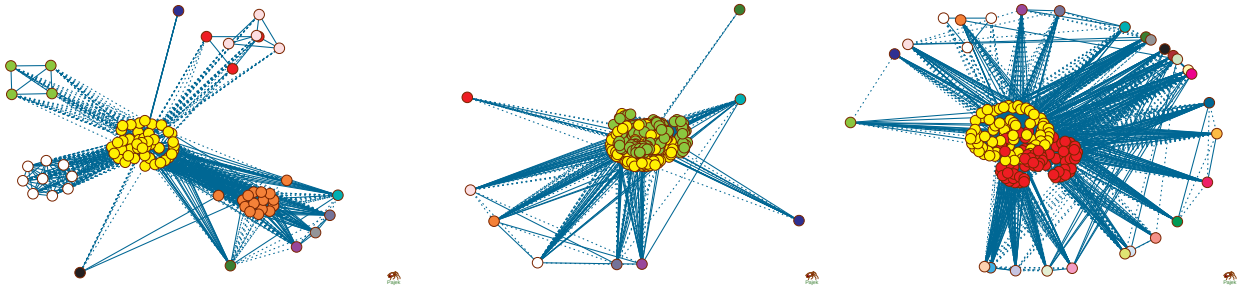


Figure 5.14: Correlation plot of country-level factors. Correlation coefficient is displayed in the circle, where color and size indicates sign and level of correlation. Only statistically significant correlations are included. Government indicators are highly correlated with one another and globalization index, as well as GDP per capita.



(a) Cluster 1 countries (b) Cluster 2 countries (c) Cluster 3 countries

Figure 5.15: Feature networks. Negative edges are shown by dashed lines. Solid lines represent positive edges. Node color is determined by cluster membership.

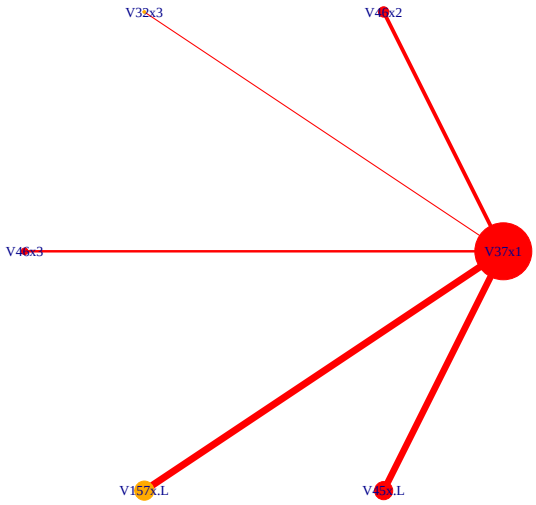


Figure 5.16: Simplified graph of Cluster 1 countries feature network, with representative nodes representing clusters. Green lines represent positive edges, red lines represent negative edges. Prejudice (V37x1) is the largest and most centrally determinant.

The sub-community structure of the determinant related to attitudes towards people of another race contains 5 clusters and has a modularity of 0.4008. As Table 5.8 shows these 5 determinants are related to not wanting to live next to people of a different race or heavy drinkers, those who spent their savings and borrowed money this year, finding family to be not that important, and finally, infrequent drug sales in the neighborhood. The categories included in this network are three determinants from the social values, attitudes and stereotypes; demographics; and security. As Figure 5.29 shows, all the edges in the network are positive, meaning that not wanting to live near heavy drinkers, having spent savings and borrowed money, finding family to be rather important instead of very important, and infrequent drug sales, are all associated with more negative attitudes towards people of another race. Not wanting to live next to heavy drinkers is also positively correlated with family savings and infrequent drug sales.

Similarly, attitudes towards homosexuals in Cluster 3 countries contains 5 sub-communities: negative attitudes toward homosexuals; believing that there is not much respect for human rights in the country; believing that a 70-year old boss is unacceptable; believing that it is not justifiable to accept a bribe; and drug sales happening not frequently in the neigh-

Table 5.2: Representatives nodes in Cluster 1 countries

k	Rep. Node	Node Strength	N	Category
1	V37x1: Would not like to have as neighbors: People of a different race	57.51	51	Social values, attitudes, & stereotypes
6	V157x.L: Social position: People in their 20s	4.41	9	Social capital, trust, & organizational membership
2	V46x2: When jobs are scarce, employers should give priority to people of this country over immigrants.	2.15	4	Social values, attitudes, & stereotypes
5	V46x3: When jobs are scarce, employers should give priority to people of this country over immigrants.	1.90	4	Social values, attitudes, & stereotypes
7	V45x.L: When jobs are scarce, men should have more right to a job than women	1.40	16	Social values, attitudes, & stereotypes
3	V32x3: Active/Inactive membership: Humanitarian or charitable organization	0.77	3	Social capital, trust, & organizational membership
4	V4x2: Important in life: Family	0.00	1	Social values, attitudes, & stereotypes
8	V56x.Q: Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair?	0.00	1	Social capital, trust, & organizational membership
9	V114x.C: Confidence: The courts	0.00	1	Social capital, trust, & organizational membership
10	V197x.C: The world is better off, or worse off, because of science and technology	0.00	1	Science & Technology
11	V217x2: Information source: Daily newspaper	0.00	1	Political interest & political parties
12	V228Dx.L: How often in country's elections: Voters are bribed	0.00	1	Political interest & political parties
13	V142x.C: How much respect is there for individual human rights nowadays in this country	0.00	1	Political culture & political regimes

borhood. Believing that someone accepting a bribe is not justifiable was rated from 1 to 10, with 1 indicating it was never justifiable and 10 indicating it is always justifiable. In this case, selecting 5 was found to be a significant determinant of attitudes towards homosexuals. The sub-community partition has the highest modularity of any clustering in the study (0.5247), meaning that the nodes are more closely connected to other nodes in their cluster than with nodes in other clusters. Overall, the categories included in the sub-community for not wanting to live next to homosexuals included social values, attitudes, and stereotypes; political culture; social capital; ethical values; and security.

Negative attitudes towards homosexuals had a negative edge with all other nodes in the network, meaning those with negative attitudes towards homosexuals are less likely to believe that there is not much respect for human rights, that a 70-year old boss is unacceptable, that accepting a bribe is not justifiable, and that drug sales happen infrequently. Believing that there is not much respect for human rights was also negatively correlated with thinking a 70 year old boss is unacceptable and believing that it is not justifiable to accept a bribe, but positively correlated with infrequent drug sales in the neighborhood. Finally, believing that a 70-year old boss is unacceptable and that it is not justifiable to accept a bribe are positively correlated.

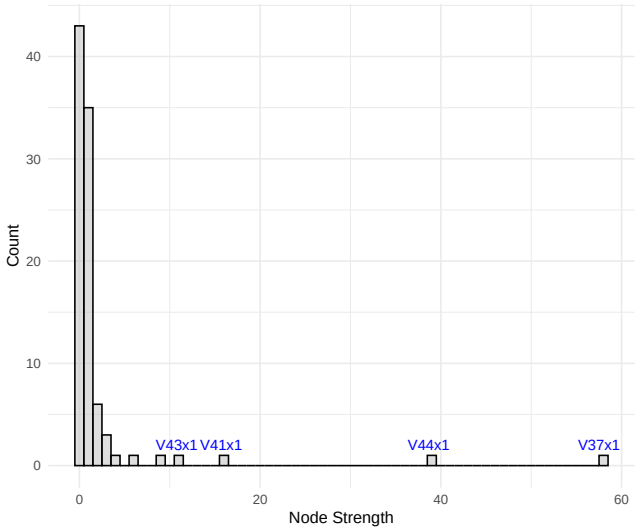


Figure 5.17: Distribution of node strengths of nodes in Cluster 1 feature network. Most nodes within the feature network have low node strength, with the exception of prejudice variables (V37x1, V44x1, V41x1, V43x1).

5.4 Discussion

5.4.1 Unique determinants of attitudes

While country clusters all contained determinants related to prejudice, they do not share any other categories of representative nodes. In other words, while they share one generalizable determinant, the rest of their determinants are unique. Cluster 1 countries included determinants in the social values category and in the social capital category. The social position of people in their 20s has the second highest node strength, after prejudice against people of another race. Concerns about group position are likely to be salient, as shown by the determinant related to social position of people in their 20s.

Cluster 2 countries, on the other hand, have two determinants related to politics, specifically political culture and political regimes and the other to political interest and political parties. Higher national pride was associated with more negative attitudes towards immigrants, and believing that people are more often threatened at the polls with violence also had a negative relationship with attitudes towards people of another race. This finding is especially suggestive as it implies that inequality and greater investment in one's social identities – as opposed to worries about social capital and social norms seen in Cluster 1 countries – may stimulate more negative attitudes towards immigrants.

Finally, Cluster 3 countries has one determinant related to security, specifically whether or not one is worried about losing their job. Not being worried about losing one's job is correlated with more positive attitudes towards immigrants, a finding that supports intergroup conflict theory, as greater economic insecurity leads to more negative attitudes towards out-groups.

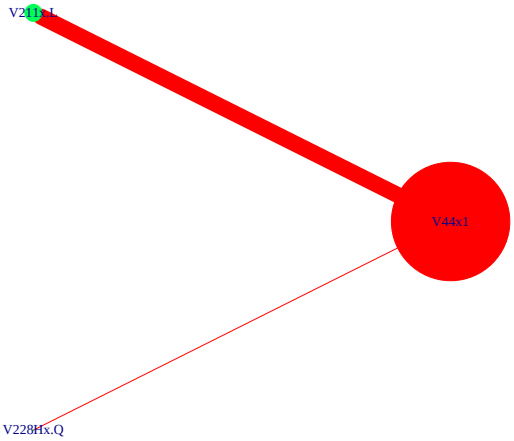


Figure 5.18: Simplified graph of Cluster 2 countries feature network, with representative nodes representing clusters. Green lines represent positive edges, red lines represent negative edges. Prejudice towards people who speak another language is the largest node.

5.4.2 Generalizable determinants of attitudes

As the results of the study show, prejudice towards out-groups are a determinant in all circumstances, regardless of the country characteristics. As Table 5.5 show, representative nodes from the category of social values, attitudes, and stereotypes were included in every feature network. Moreover, these features had consistently the most central locations in the graph, as shown by their high node strengths, meaning they correlate with many of the other important factors in the networks. While both Cluster 1 and Cluster 3 countries both contained negative attitudes towards people of another race, Cluster 2 countries' representative node was towards people who speak another language. Negative attitudes towards people of another race had the second highest node strength in Cluster 2 countries, as seen in Figure 5.27. This finding suggests that negative attitudes towards out-groups, especially attitudes towards people of another race and attitudes towards people who speak another language, are the most relevant determinant of attitudes, regardless of country context.

However, while prejudice towards out-groups may be relevant for all country clusters, these relationships can be complex, as shown in Cluster 3 countries. While prejudice towards out-groups generally have a mutually reinforcing relationship in Cluster 1 and Cluster 2 countries, as seen by the positive correlations between them, this is not the case in Cluster 3 countries, where attitudes towards homosexuals is negatively correlated with attitudes towards people of another race. In other words, while there is evidence of generalized prejudice in Cluster 1 and Cluster 2 countries, respondents in Cluster 3 countries differentiate between certain out-groups and are evidence of more target-specific attitudes. This finding generally aligns with the established literature, which finds that countries with higher GDP per capita and higher satisfaction with the economy have more generalized prejudice than less developed countries (Meeusen & Kern, 2016). The following sub-sections will describe in more detail how each prejudice forms in each country cluster, by looking at the relationships between prejudice and other determinants, as well as the sub-community structure.

Table 5.3: Representatives nodes in Cluster 2 countries

k	Rep. Node	Node Strength	N	Category
1	V44x1: Would not like to have as neighbors: People who speak a different language	56.77	152	Social values, attitudes, & stereotypes
2	V211x.L: How proud of nationality	8.12	172	Political culture & political regimes
11	V228Hx.Q: How often in country's elections: Voters are threatened with violence at the polls	0.14	1	Political interest & political parties
3	V240x1: Sex	0.00	1	Demographics
4	V228Ix.Q: How often in country's elections: Voters are offered a genuine choice in the elections	0.00	1	Political interest & political parties
5	V152xˆ4: How important is God in your life	0.00	1	Religious values
6	V9x.L: Important in life: Religion	0.00	1	Social values, attitudes, & stereotypes
7	V133xˆ4: Democracy: People choose their leaders in free elections.	0.00	1	Political culture & political regimes
8	V196xˆ8: It is not important for me to know about science in my daily life	0.00	1	Science & Technology
9	V203Axˆ6: Justifiable: Prostitution	0.00	1	Ethical values and norms
10	V209x.L: Justifiable: Parents beating children	0.00	1	Ethical values and norms

5.4.2.1 Cluster 1

In Cluster 1 countries, attitudes towards people of another race had a negative relationship with all other determinants. Looking more closely at the questions related to the representative nodes, we see that several of the questions relate to social position, namely whether people in their 20s, men, and people of this countries have priority in status and employment. Believing that people in their twenties have a low position in the country, that men and people of this country should not have priority over women or immigrants were all associated with more positive attitudes towards people of another race. These findings cohere with Blumer's theory of group position which posits that attitudes towards groups are not only determined by negative feelings or perceptions of difference, but by the perception that groups, e.g. by race, class, or nationality, and their statuses in society are situated in hierarchical relation to one another (Blumer, 1958). Looking at the sub-community structure of prejudice in Cluster 1 countries reinforces group position as the salient theory behind prejudice in Cluster 1 countries. As Figure 5.23 shows, believing that people in their 40s have a somewhat low position in society is correlated with more negative attitudes towards immigrants. Unsurprisingly, believing people in their 40s have a low position in society is negatively correlated with believing people in their 20s have a low position in society. In other words, worries about group position, either as it relates to generation, gender, or nationality, are relevant to prejudice formation in Cluster 1 countries.

Finally, views on science and technology, namely agreeing that one of the bad effects of science is that it breaks down people's sense of right and wrong, was also correlated with more negative attitudes towards people of another race, though this determinant had the smallest node strength. The sub-community also contains 5 demographic features (manual or intellectual tasks at work, highest education level attained, employment status, sex, and income), as well as two questions about nationality identity (whether the respondent sees themselves as a world citizen and whether they see themselves as

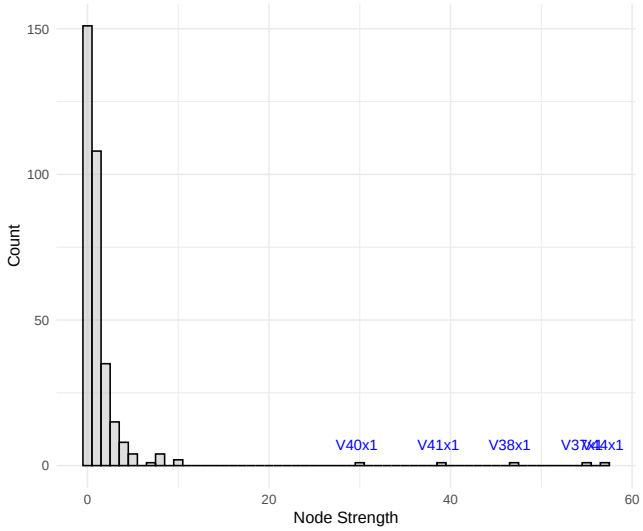


Figure 5.19: Distribution of node strengths of nodes in Cluster 2 feature network. Similar to Cluster 1 countries, most nodes have very little node strength. V44x1 and V37x1, attitudes towards people who speak another language and attitudes towards people of another race, have the highest node strength.

a citizen of their regional organization) and two questions on the importance of democracy. To our knowledge, the role of attitudes towards science and technology has not been discussed by the literature, with the exception of our previous study (Kawasaki & Ikeda, 2020). One possible interpretation of how science and technology relates to attitudes towards immigrants and prejudice towards out-groups is that this determinant relates to general conservatism and concerns that accelerating scientific and technological progress are disrupting traditional organizations of society. This finding aligns with some of the literature which finds that valuing security and conservation are associated with more negative attitudes towards immigrants (Davidov, Meulemann, Schwartz, & Schmidt, 2014; Vecchione, Caprara, Schoen, Castro, & Schwartz, 2012). Given the composition of the cluster, we can suggest that attitudes towards science and technology represent partially the demographic and political divides in Cluster 1 countries, and these views may be a proxy for placing a greater value on conservation.

In summary, we see strong evidence for group position theory motivating prejudice towards out-groups in Cluster 1 countries, as seen in the determinant network and the sub-community structure of the attitudes towards people of another race determinant. Views on science and technology is also relevant to attitudes towards people of another race, a sub-community that itself is highly correlated with by demographic differences, national identity, and political views on democracy.

5.4.2.2 Cluster 2

In Cluster 2 countries, we see that being quite proud of being from one's country was associated with more negative attitudes towards people who speak another language. This finding suggests that social identity is likely relevant to this context, as people who are more proud of being from their country where social identities.

Looking at the sub-community structure of prejudice towards people of another language, prejudice towards people who speak another language in Cluster 2 countries shares a positive edge with believing that people of another nationality

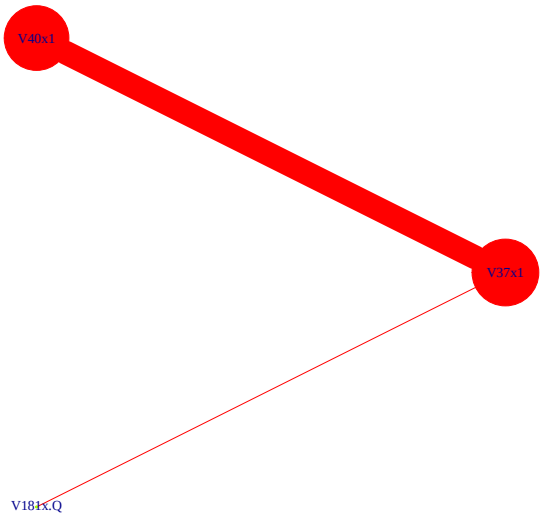


Figure 5.20: Simplified graph of Cluster 3 countries feature network, with representative nodes representing clusters. Green lines represent positive edges, red lines represent negative edges. Prejudice towards people of another race (V37x1) is the largest, but has a strong negative relationship with V40x1, prejudice towards homosexuals.

can be trusted somewhat, meaning people with more trust towards people of another nationality have more negative attitudes towards people who speak another language. This finding is surprising as one would expect that greater trust would lead to more positive attitudes towards out-groups, as is suggested by the literature review (Sides & Citrin, 2007; Citrin & Sides, 2008; Rustenbach, 2010). However, the previous studies use a measure for generalized trust, asking if most people can be trusted. As Torpe and Lolle (2011) find, respondents who state that most people can be trusted will simultaneously indicate that they do not trust people of another nationality or a person of another religion. This finding could suggest is the complicated role of social capital in determining attitudes towards out-groups. While greater social capital may lead to greater trust towards strangers within the same group, it can simultaneously lead to more negative attitudes towards those outside of one's group or those who do not share the same norms, as strangers who speak another language.

5.4.2.3 Cluster 3

In particular, prejudice towards people of another race had a negative relationship with not being very worried about losing one's job. This finding is likely evidence of intergroup conflict theory, as greater personal precarity and economic self-interest leads to more negative attitudes towards immigrants. However, the largest edge is with prejudice towards homosexuals, indicating that respondents in Cluster 3 countries are exhibiting more target-specific attitudes. In order to better understand how these two prejudices differ, the sub-community structure of both prejudices will be looked at in more detail.

Looking at the sub-community structure of attitudes towards people of another race, three determinants related to social values, attitudes and stereotypes, and the demographics and security were found to be salient. Both of the prejudice variables are positively correlated, which is not surprising given the general tendency for negative attitudes towards out-

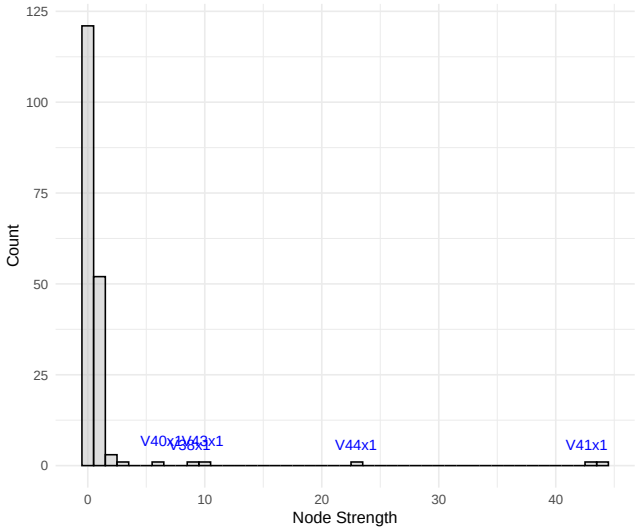


Figure 5.21: Distribution of node strengths of nodes in Cluster 3 feature network. Highest node sterngth is again prejudice variables.

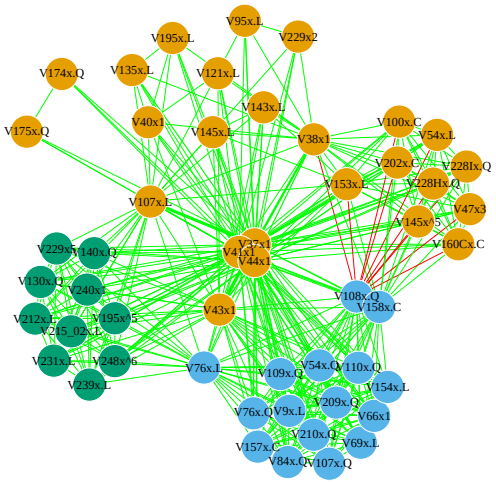


Figure 5.22: Sub-community network of prejudice against people of another race in Cluster 1 countries

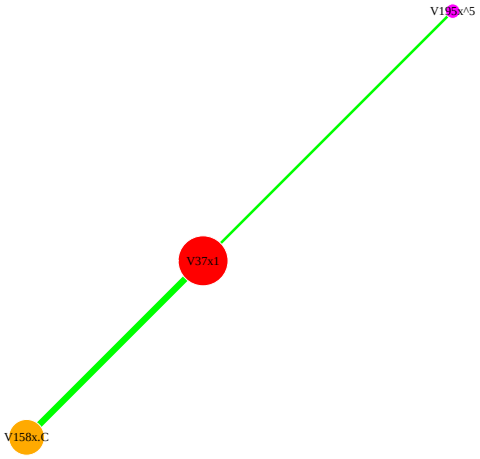


Figure 5.23: Simplified graph of prejudice against people of another race in Cluster 1 countries

groups to be correlated. Having spent savings and borrowed money in the past year was negatively correlated with more negative attitudes towards people of another race, whereas not at all frequent drug sales in the neighborhood was associated was also associated with more negative attitudes. These findings are somewhat contradictory, as intergroup conflict theory would suggest that negative attitudes towards out-groups would increase with greater insecurity, either economic or within the neighborhood. However, a neighborhood with fewer drug sales was associated with more negative attitudes. The reason behind this is unclear.

Finally, those who find family less important also have more negative attitudes towards people of another race, which may be indicative of less social capital. Previous studies have found a relationship between greater social capital and more positive attitudes towards immigrants (Chu & Yang, 2019). However, these studies generally investigate the role of bridging capital, meaning social capital between heterogeneous group and usually operationalized by how much respondents

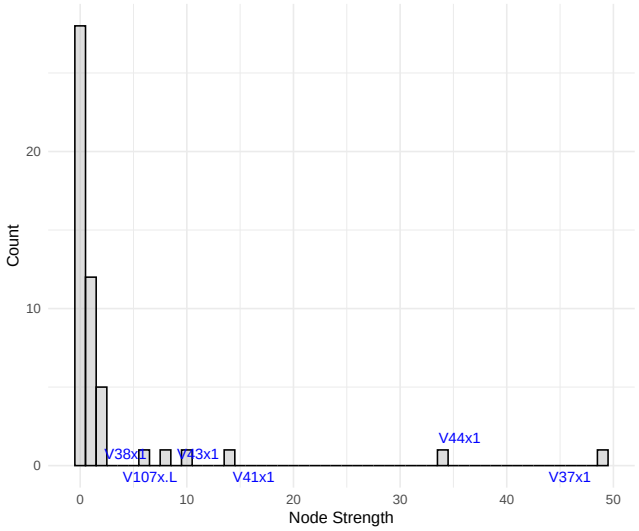


Figure 5.24: Distribution of node strengths of nodes in attitudes towards people of another race sub-community, Cluster 1 feature network

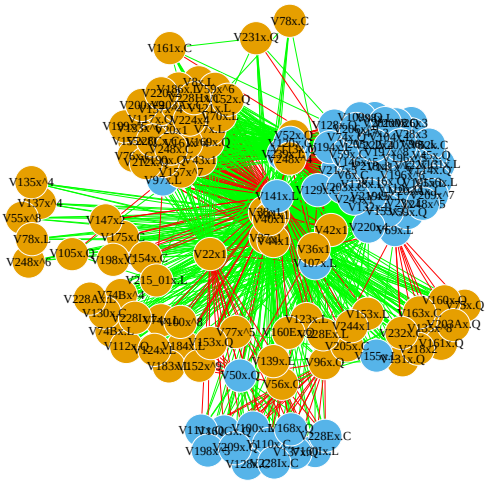


Figure 5.25: Sub-community network of prejudice against people who speak a different language in Cluster 2 countries

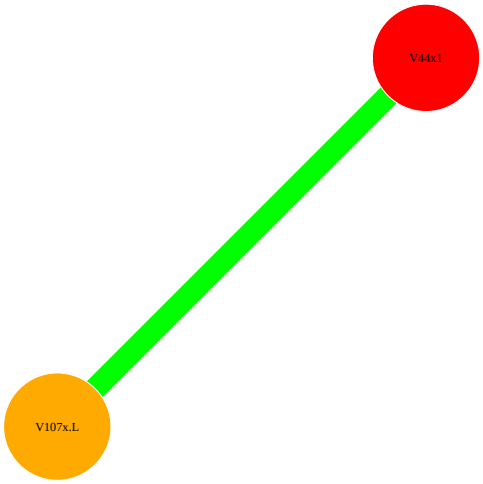


Figure 5.26: Simplified graph of prejudice against people who speak a different language in Cluster 2 countries

trust people of different races, religions, etc. This finding suggests that a lack of embeddedness in one's community and to people similar to oneself may also lead to more negative attitudes towards immigrants. Given the evidence for intergroup conflict prompting prejudice in Cluster 1 countries, a lack of social capital may exacerbate worries related to material and economic loss, as those with less community support may feel this precarity more strongly and thus exhibit greater prejudice towards out-groups.

Contrary to the sub-community structure of attitudes towards people of another race, attitudes towards homosexuality contains representative nodes from a variety of categories, namely, social values; political culture; social capital; ethical values; and security. Believing that there is not much respect for human rights is negatively correlated with more exclusionary attitudes towards homosexuals. Similarly, more open attitudes to having an older boss and more lax attitudes towards whether or not a bribe can be justified is also positively correlated with more open attitudes. In this case,

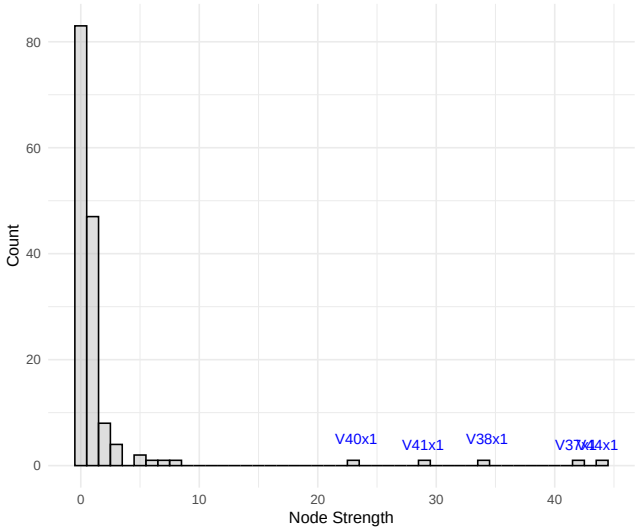


Figure 5.27: Distribution of node strengths of nodes in attitudes towards people who speak another language sub-community, Cluster 2 feature network

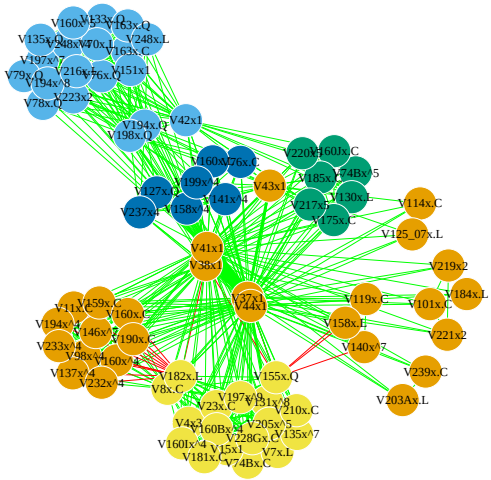


Figure 5.28: Sub-community network of prejudice against people of another race in Cluster 3 countries

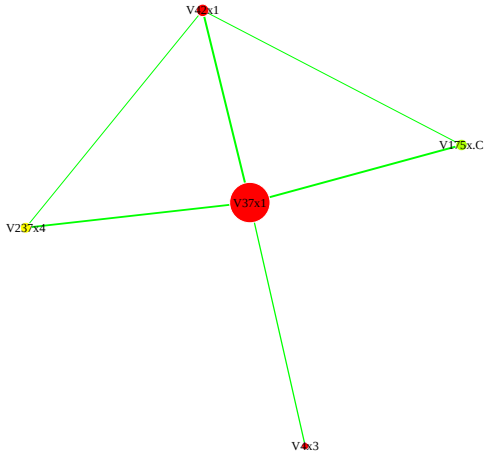


Figure 5.29: Simplified graph of prejudice against people of another race in Cluster 3 countries

Bergh and Brandt's conception of generalized prejudice as three distinct clusters of prejudice is especially salient (Bergh & Brandt, 2023). The authors argue that rather than having negative attitudes towards all out-groups generally, people distinguish between prejudice towards marginalized groups, towards unconventional groups such as homosexuals, and to privileged groups. In the case of Cluster 3 countries, attitudes towards homosexuals and attitudes towards people of another race form two distinct and negatively correlated attitudes. Given the differing composition of the sub-community structure, it appears that negative attitudes towards people of another race are motivated by feelings of threat and precarity, which aligns with fears about the group position of marginalized groups, while attitudes towards homosexuals are more closely related to ethical and political values more akin to concerns about flouting conventions. For this reason, we find strong evidence for attitudes towards people of another race forming part of prejudice towards marginalized groups, while prejudice towards homosexuals relates to prejudices related to unconventional groups.

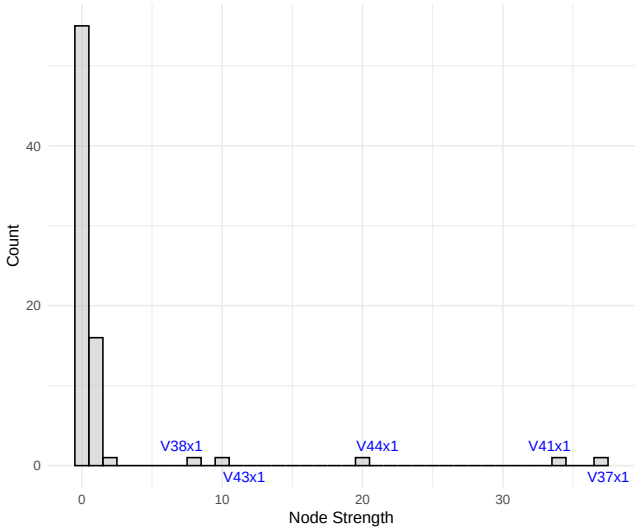


Figure 5.30: Distribution of node strengths of nodes in attitudes towards people of another race sub-community, Cluster 3 feature network

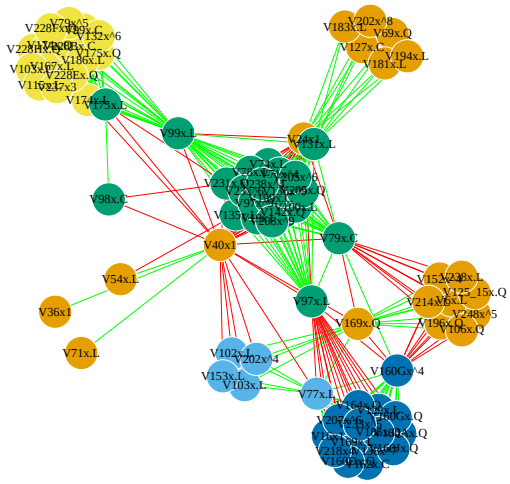


Figure 5.31: Sub-community network of prejudice against homosexuals in Cluster 3 countries

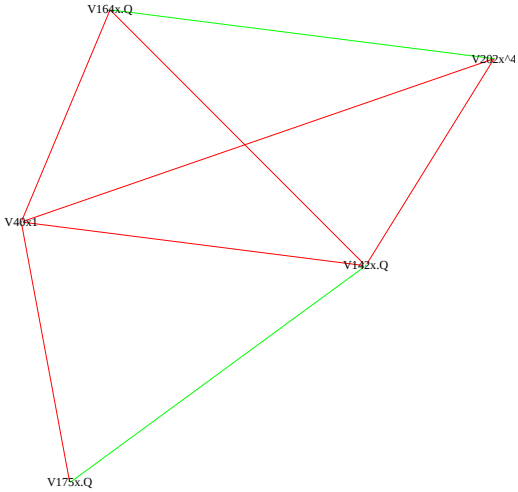


Figure 5.32: Simplified graph of prejudice against homosexuals in Cluster 3 countries

5.4.3 Relationship between theories of attitudes towards immigrants and country-level factors

As the results show, the countries in our sample can be divided into three distinct clusters with a modularity of 0.3809. While not a high level of modularity, this level does show that countries within the same cluster are more similar in their determinants of attitudes towards immigrants than with countries in separate clusters. Moreover, as Figure 5.2 shows, these countries are not clustered by region, suggesting that factors other than cultural and geographic proximity are motivating attitudes towards immigrants.

We can characterize these clusters as follows: Cluster 1 countries have the most open attitudes towards immigrants, low refugee origin, high GDP per capita, the perception of good governance, and high level of globalization. Immigrants as a percentage of the population and inequality are both fairly low. Cluster 2 countries, on the other hand, have the most negative attitudes on average, and have low refugee origin, high GDP per capita, and levels of democracy, and high levels

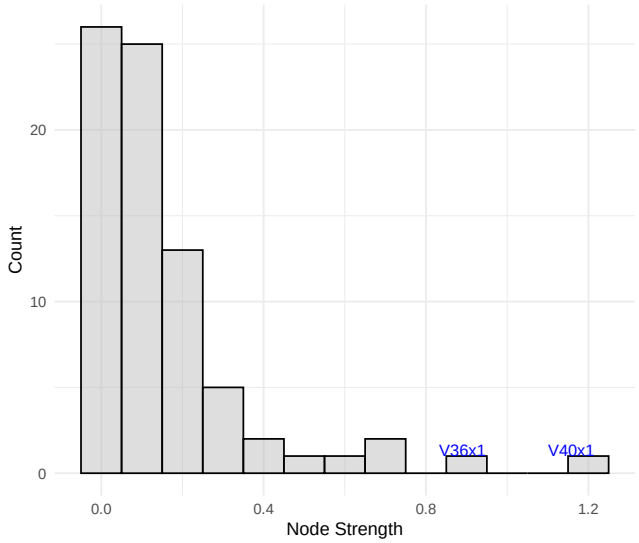


Figure 5.33: Distribution of node strengths of nodes in attitudes towards homosexuals sub-community, Cluster 3 feature network

of globalization. They have the largest number of immigrants per capita and high inequality. Cluster 3 countries have middling attitudes towards immigrants, high refugee origin, low GDP per capita, and low levels of democracy. They have few immigrants, with the exceptions of Jordan and Lebanon, and high inequality.

As shown in Figure 5.14, many of these indicators are correlated. In particular, GDP per capita, the globalization index, and the governance indicators are all highly correlated, with correlation coefficients ranging from 0.69 to 0.96. Refugees originating from the country are correlated to these factors to a lesser degree, ranging from -0.3 to -0.54, with the exception of perceptions of corruption which is uncorrelated to refugees originating from the country. For this reason, it is possible that measures of GDP per capita, the globalization index, and governance indicators are capturing the same factor, such as level of development. However, as development is a multi-dimensional concept with varying definitions, reducing it to perceptions of governance, level of GDP per capita, and globalization seems premature. Given the high correlation of GDP per capita with other indicators on which country clusters differ and as inequality is the only independent variable on which Cluster 1 and Cluster 2 countries approach a statistically significant difference, these two dimensions, GDP per capita and inequality, appear to be significant factors associated with different formations of attitudes.

In brief, in the richest countries with low inequality, attitudes towards immigrants are determined by social capital and prejudice, and are the most positive on average. Countries with high income and high inequality have the most negative attitudes and are determined by political identities and concerns. Finally, the countries with low income have middling attitudes towards immigrants which are determined by attitudes towards homosexuals and job security concerns. Looking at how general prejudice towards out-groups form in each country, countries with high income and low inequality appear to be shaped by concerns about group position, while prejudice in countries with high income and high inequality is formed by social identities. Lastly, Cluster 3 countries are determined by two generalized prejudice determinants, prejudice towards people of another race and towards homosexuals. Prejudice towards people of another race appears to be driven by group threat concerns, as shown by the inclusion of demographic and job security concerns at the community and sub-community

levels, while prejudice against homosexuals is driven by ethical, political, and demographic concerns.

5.4.4 Summary

In summary, we find that prejudice towards different out-groups are salient in all circumstances, though they form in different ways. Attitudes towards immigrants in high income countries with low inequality and immigration are determined by social values and social capital, while in high income countries with high inequality and high immigration, political concerns are most relevant. Finally in low income countries, worries about security are most relevant. Looking more closely at how prejudice forms in each cluster, we see strong evidence for group position in Cluster 1 countries, social identity and social capital in Cluster 2 countries, and intergroup conflict theory in Cluster 3 countries. However, the political and cultural divides in each country are still salient, most notably in Cluster 3 countries, where attitudes towards homosexuals were mainly determined by ethical, political, and demographic concerns and constitute a distinct form of prejudice from prejudice towards people of another race. This finding reinforces the association of greater development with more generalized prejudice, as suggested by the literature (Meeusen & Kern, 2016). An analysis of the sub-community level mainly echoes the categorization from the determinants, with trust towards people of another nationality being salient in Cluster 2 countries and worries about security being salient in Cluster 3 countries. The role of views on science and technology, found at the sub-community level of prejudice towards people of another race in Cluster 1, in prejudice formation remains unclear, though may be related to concerns about progress and a general conservatism.

These findings open up interesting questions about how inequality interacts with development to determine attitudes towards immigrants and other out-groups. In particular, the relationship between negative attitudes, inequality, and social identities in Cluster 2 countries opens an interesting avenue for future research in how country-level factors and ways in which attitudes form may activate more negative attitudes. Policymakers in these countries may do well to both attenuate the importance of social identities in politics, as well as tackle inequalities more generally, in order to improve attitudes amongst groups. Policymakers in Cluster 1 countries on the other hand may do better to target concerns about redistributive policies. Finally, policymakers in Cluster 3 will need to grapple with the general precarity of employment in order to communicate about migration in these countries.

Table 5.4: Representatives nodes in Cluster 3 countries

k	Rep. Node	Node Strength	N	Category
1	V37x1: Would not like to have as neighbors: People of a different race	44.18	77	Social values, attitudes, & stereotypes
3	V40x1: Would not like to have as neighbors: Homosexuals	6.31	77	Social values, attitudes, & stereotypes
6	V181x.Q: Worries: Losing my job or not finding a job	0.70	3	Security
2	V107x.L: How much you trust: People of another nationality	0.00	1	Social capital, trust, & organizational membership
4	V231x^5: Nature of tasks: manual vs. intellectual	0.00	1	Demographics
5	V143x.L: Thinking about meaning and purpose of life	0.00	1	Religious values
7	V160Cx.C: I see myself as someone who: tends to be lazy	0.00	1	Big5 - Conscientiousness
8	V8x.Q: Important in life: Work	0.00	1	Social values, attitudes, & stereotypes
9	V106x.C: How much you trust: People of another religion	0.00	1	Social capital, trust, & organizational membership
10	V192x^9: Science and technology are making our lives healthier, easier, and more comfortable	0.00	1	Science & Technology
11	V216x.C: I see myself as an autonomous individual	0.00	1	National Identity
12	V229x8: Employment status	0.00	1	Demographics
13	V77x.C: Schwartz: It is important to this person to always behave properly; to avoid doing anything people would say is wrong	0.00	1	Schwartz - Conformity
14	V137x^5: Democracy: The state makes people's incomes equal	0.00	1	Political culture & political regimes
15	V138x.L: Democracy: People obey their rulers	0.00	1	Political culture & political regimes
16	V195x^7: One of the bad effects of science is that it breaks down people's ideas of right and wrong	0.00	1	Science & Technology
17	V221x3: Information source: Mobile phone	0.00	1	Political interest & political parties
18	V96x^5: Income equality	0.00	1	Economic values
19	V157x^7: Social position: People in their 20s	0.00	1	Social capital, trust, & organizational membership
20	V179x1: Respondent was victim of a crime during the past year	0.00	1	Security
21	V248x^8: Highest educational level attained	0.00	1	Demographics
22	V133x^5: Democracy: People choose their leaders in free elections.	0.00	1	Political culture & political regimes
23	V228Fx.C: How often in country's elections: Election officials are fair	0.00	1	Political interest & political parties
24	V229x3: Employment status	0.00	1	Demographics
25	V8x.L: Important in life: Work	0.00	1	Social values, attitudes, & stereotypes
26	V72x.C: Schwartz: Living in secure surroundings is important to this person; to avoid anything that might be dangerous	0.00	1	Schwartz - Security
27	V133x^9: Democracy: People choose their leaders in free elections.	0.00	1	Political culture & political regimes
28	V182x.Q: Worries: Not being able to give one's children a good education	0.00	1	Security
29	V190x.L: In the last 12 month, how often have you or your family: Gone without needed medicine or treatment that you needed	0.00	1	Happiness and well-being

Table 5.5: Determinants by country cluster and category

	Social values, attitudes, & stereotypes	Social capital, trust, & org. membership	Political culture & political regimes	Political interest & political parties	Security
C1	4	2			
C2	1		1	1	
C3	2				1
Total	7	2	1	1	1

Table 5.6: Representatives nodes in sub-community structure of prejudice against people of another race, Cluster 1 countries

k	Rep. Node	Node Strength	N	Category
1	V37x1: Would not like to have as neighbors: People of a different race	48.55	25	Social values, attitudes, & stereotypes
2	V158x.C: Social position: People in their 40s	2.37	16	Social capital, trust, & organizational membership
3	V195x^5: One of the bad effects of science is that it breaks down people's ideas of right and wrong	0.83	10	Science & Technology

Table 5.7: Representatives nodes in sub-community structure of prejudice against people who speak another language, Cluster 2 countries

k	Rep. Node	Node Strength	N	Category
1	V44x1: Would not like to have as neighbors: People who speak a different language	43.60	83	Social values, attitudes, & stereotypes
2	V107x.L: How much you trust: People of another nationality	7.95	69	Social capital, trust, & organizational membership

Table 5.8: Representatives nodes in sub-community structure of prejudice against people of another race, Cluster 3 countries

k	Rep. Node	Node Strength	N	Category
1	V37x1: Would not like to have as neighbors: People of a different race	36.77	27	Social values, attitudes, & stereotypes
2	V42x1: Would not like to have as neighbors: Heavy drinkers	2.10	19	Social values, attitudes, & stereotypes
5	V237x4: Family savings during past year	1.35	7	Demographics
4	V4x3: Important in life: Family	1.08	17	Social values, attitudes, & stereotypes
3	V175x.C: How frequently do the following things occur in your neighborhood: Drug sale in streets	0.93	7	Security

Table 5.9: Representatives nodes in sub-community structure of prejudice against homosexuals, Cluster 3 countries

k	Rep. Node	Node Strength	N	Category
1	V40x1: Would not like to have as neighbors: Homosexuals	1.16	20	Social values, attitudes, & stereotypes
3	V142x.Q: How much respect is there for individual human rights nowadays in this country	0.68	22	Political culture & political regimes
5	V164x.Q: Is a 70-year old boss acceptable	0.31	15	Social capital, trust, & organizational membership
2	V202x^4: Justifiable: Someone accepting a bribe in the course of their duties	0.19	5	Ethical values and norms
4	V175x.Q: How frequently do the following things occur in your neighborhood: Drug sale in streets	0.18	15	Security

Chapter 6

Revisiting and expanding theories of attitudes towards immigrants

As the famous aphorism goes, "all models are wrong, but some are useful." Similarly, all theories can be wrong but some allow for greater insight into the causal mechanisms which drive different complex phenomenon. Theories are depictions of complex entities which are simplified with the aim of explaining the causal mechanisms behind the phenomenon. Their explanatory power comes from their ability to identify the essential concepts or elements behind a phenomena and to delineate the theoretical (i.e. why X leads to Y), and operational (i.e. how X leads to Y) linkages amongst these concepts (Shoemaker, Tankard, & Lasorsa, 2004). As a result, theory should go beyond simple descriptions of reality to also attempt to explain cause and effect.

In addition, part of the strength and usefulness of a theory is determined by its ability to predict future behavior. Accurate prediction, which is subject to all the noise of the real world outside of theorizing, requires a clear understanding and elucidation of the causal mechanisms underlying a phenomenon. As Shoemaker et al. state, "The proof of the pudding is that knowledge of the dependencies or the contingent conditions often lets us make more accurate predictions about social interactions and other forms of human behavior. In short, there's a big difference between saying, 'It depends, but I don't have any idea on what' and 'It depends, and the two or three most important variables it depends on are X, Y and Z'" (Shoemaker et al., 2004, p.68). Finally, prediction is one way of testing theory that ensures that the researcher is unaware of the future result and can force a reconciliation between what is and what one believes ought to be. In other words, while not the sole aim or final judgement on the accuracy of a theory, prediction is an important tool to help determine the strength and utility of theories.

Thus far, the previous chapters have made references to a variety of theories of attitudes towards immigrants. These include the following: social identity theory, which states that negative attitudes towards out-groups arise in order to consolidate group identities and cooperation within groups; group threat, which posits that negative attitudes arise due to real or perceived threats to resources; contact theory, which states that contact, under certain conditions, breaks down the simple stereotypes and generalizing attitudes that lead to negative attitudes; group position, which argues that groups

identify themselves within a hierarchy of other groups; and intersectionality, the theory that identities are multiplicative, leading to a complex web of inequalities.

As the previous chapters show, these theories can be very useful in helping to explain the results of different studies. However, within a study, evidence for multiple theories may exist at once. Looking at the studies together, no theory emerges as the one with the most evidence or explanatory power. Moreover, theories are generally not very useful in predicting how attitudes will form in different country contexts or under changing conditions: for example, in reaction to increases in the number of immigrants, to new types of immigrants, etc. Theories might predict completely different results, as seen in the case of Chapter 4 where people of lower social classes were more likely to have positive attitudes towards immigrants than people of higher classes, a finding that is predicted by group position theory but in direct contradiction with group threat theory. In this case, because theorizing on what group identity, i.e. lower class identification or national identification, is left outside of the scope of theories on attitudes, it is impossible to predict how a group identity will affect attitudes towards immigrants. In this chapter, I argue that theories of attitudes towards immigrants suffer from two major deficiencies: first, the literature on attitudes towards immigrants has been overly concerned with gathering evidence for and against certain theories, rather than trying to understand under what circumstances certain theories become most applicable. Given that all theories have a solid basis of support, understanding what causes certain theories to become more dominant would do far more for advancing the understanding of attitudes towards immigrants overall. Second, the missing connection between theories of attitudes towards immigrants and theories related to how group membership and identification form renders most of the theories useless, as they can only explain the findings of studies *ex post* and are thus reactionary rather than predictive. I propose that theories could be advanced further in their explanatory and predictive power by 1) identifying factors that cause certain theories to become more salient than others, 2) incorporate the literature on how groups form into how attitude towards group forms, and 3) incorporate the strength or prevalence of negative attitudes into theories.

Section 6.1 and Section 6.2 explain how the findings of the previous studies can be explained by established theories of prejudice and attitudes towards immigrants, as well as how they can frustrate these theories. In doing so, it will highlight some areas where theories can be improved and what new elements can be considered, with the aim of making theories of attitudes more inclusive of different country-contexts and more accurate in explaining and predicting how negative attitudes form. Finally, given the findings of the previous studies and how it affects theories of attitudes towards immigrants, an intervention tailored to reducing prejudice and improving negative attitudes towards immigrants in Japan will be introduced.

6.1 Applicability of theories of attitudes

As stated above, while no one theory was found to be significant in all cases, different theories of attitudes can help to explain individual findings of the previous chapters. In Chapter 3, intersectionality is useful for understanding why there is simultaneously a large income gap between minority ethnic migrants and White migrants and an additional penalty to White

migrants in Brexit voting areas. As the findings show, overall minority ethnic migrants make an average of £174.22 less per month in labor income than White migrants, of which £113.4 can not be explained by differences in observed characteristic and is likely due to discrimination. This finding reinforces the previous literature which also finds a significant ethnic penalty in England and the UK generally, where ethnic minorities receive lower income even after controlling for education and other observable characteristics (Li & Heath, 2008; Berthoud, 2000). The large interaction effect for Black and Asian ethnicity, shown in Figure 3.1c, as well as the large and unexplained gaps between minority ethnic migrants and White migrants shows that immigrant status and ethnic identity interact to create more negative outcomes. The finding that minority ethnic migrants face a multiplicative form of discrimination, one caused by the interaction of their migrant status and their ethnicity, is in line with predictions of intersectionality.[1]

Intersectionality also provides the most insight when examining the additional discrimination that White migrants face in areas with larger Brexit vote shares. As seen in Figure 3.2b, White migrants in Brexit voting areas saw fewer returns than minority ethnic areas which could not be explained by their qualifications or other observable qualities. Living in an area with a greater Brexit vote share was associated with a loss of over £400 per month for White migrants. In other words, while living anywhere within England was associated with a negative income for minority ethnic migrants, White migrants saw immense declines to their income in areas with higher Brexit vote shares which could not be attributed to other characteristics. This finding shows the direct impact of political attitudes on migrants well-being, but also shows that people are "discriminating in their discrimination"; negative attitudes have an unequal effect on White migrants from more recent EU ascension countries, like Poland and Bulgaria, which were the target of the Brexit campaign. As a result, intersectionality provides a useful lens for explaining how migrant status and ethnicity interact to create unequal outcomes for minority ethnic migrants overall and for White migrants in Brexit voting areas.

The results of Chapter 4 are very mixed, with only one determinant being easily explained by current theories of attitudes towards immigrants. Block 2, related to social identities, is the most straightforward in its interpretation, as it shows that weaker identification with one's community is associated with more open attitudes towards immigrants. This finding is generally supported by social identity theory, which argues that greater identification with one's group would cause more negative attitudes towards outsiders. In the case of Block 2, both attachment to one's local community and to the regional organization (ASEAN, APEC, or Asia) are negatively correlated with more exclusionary attitudes, as shown by the negative link between Block 2 and prejudice variable cluster (Block 6) as well as negative attitudes towards immigrants in Block 3 (V39). As the inclusion of both features in the block shows, rather than the object of the attachment being important, strength of attachment is most salient in determining negative attitudes towards immigrants. In other words, stronger group identity leads to more negative attitudes, whether that group is one's local neighborhood

[1] It remains possible that unobserved differences between groups are affecting income outcomes. Chief among these unobserved characteristics is English language ability; however, language ability as a confounding factor seems unlikely as all interviews for the survey are conducted in English. An important question in the discrimination literature is what differences should matter. Some characteristics were deliberately not included as controls because they could hide the effects of discrimination – for example, job position (i.e. management positions, etc.) was not included as it could minimize differences if minority ethnic migrants are being passed up for promotions. Moreover, putting an emphasis on cultural similarity and positive feelings towards members of the same group, as discussed in Section 4.3, may not be motivated by negative attitudes towards an out-group but still has discriminatory effects. Other intangible and unobservable characteristics, such as leadership ability or productivity, are unlikely to be disproportionately found within one group. In other words, having controlled for differences that should be taken into consideration, inequalities persist and are evidence of discriminatory outcomes.

or a regional organization. The other determinants found in Chapter 4, such as absolute/relative moral orientation, views of science and technology, religion, and independence, can be interpreted by social identity theory, but only in a shallow sense. It can be argued that these determinants are the basis on which group membership is formed, through a similar shared understanding of the meaning of religion, the effects of technology, and to what degree certain behaviors are permissible. Alternatively, they may represent value orientations suggested by Schwartz, such as self-direction or tradition. However, their exact interpretation is unclear.

In Chapter 5, we find that rather than one unifying theory at play, different theories were found to be salient depending on the country-level factors. Looking at the relationships between determinants, it becomes clear that in Cluster 1 countries, group position theory appears to be the most relevant for determining attitudes towards immigrants. First, important determinants of attitudes towards immigrants were found to be generalized prejudice, concerns about generational group positions, taste for discrimination towards both immigrants and women, and membership in humanitarian organizations. These findings are echoes with the sub-community level, where social positions and views towards science and technology were also found to be salient. With the exception of view towards science and technology, all of these determinants are all categorized within the social values and social capital categories. Group position argues that negative attitudes arise as groups envision their location within a social hierarchy, competing with other groups for resources, in addition to affective and cognitive components.[2] While the inclusion of taste for discrimination determinants and membership in humanitarian organizations can be explained by other theories,[3] the inclusion of a determinant related to social position of different generations supports the use of group position theory to explain these results. Looking at these determinants as a whole, group position helps explain why concerns about scarce resources and related concerns about social positions appear as determinants in Cluster 1 countries.

In Cluster 2 countries, social identities were found to be important for attitudes towards immigrants. Generalized prejudice and pride in one's nationality were found to be the largest determinants of attitudes towards immigrants, followed by perceptions of how often voters are threatened at the polls. This tendency continues at the sub-community level, where trust towards people of another nationality was found to be salient for prejudice towards people who speak another language. This finding is clearly predicted by social identity theory, which posits that strong attachment to one's in-group lead to more negative attitudes towards immigrants.

The inclusion of a determinant related to worries about losing one's job in Cluster 3 countries is a clear example of group threat theory at work. Looking at the sub-community level of the prejudice against people of another race determinant strengthens this evidence, as family savings were also found to be significant. However, the inclusion of the the prejudice towards homosexuals sub-community and its negative correlation with prejudice towards people of another race complicate this finding. Looking more closely at the sub-community structure of prejudice towards homosexuals also reveals a much different structure than the prejudice towards people of another race determinant, as worries about social position, absolute/relative moral orientation in whether taking bribes is justifiable, and respects for human rights

[2]Namely, superiority, intrinsic difference, and fear and suspicion.

[3]Group threat, for example, would suggest that fears about distributions about jobs, shown in the taste for discrimination determinants, lead to more negative attitudes. Alternatively, social identity would explain that taste for discrimination determinants instead reveal in-group favoritism, with stronger identification within a group leading respondents to want to keep jobs within their in-group.

predominate. In brief, the relationship between worries about one's job and prejudice is clearly predicted by group threat theory, but does little to help explain the inclusion of prejudice towards homosexuals.

Taking together the results of the previous chapters, we find strong evidence for the intersectional effects of attitudes on labor market discrimination in Chapter 3, evidence for social identity theory in Chapter 4, and in Chapter 5, different clusters show evidence for group position, social identity, and group threat. In sum, the findings show a variegated landscape for theories of attitudes, with theories becoming relevant in some circumstances and irrelevant in others. Moreover, as findings such as the prejudice towards homosexuals determinant in Chapter 5 suggest, often these theories are inadequate to explain all of the results of a study.

6.2 Deficiencies in theories of attitudes

As the previous section shows, there are several areas in which these theories fail to explain how and why attitudes towards immigrants form. Specifically, many of these determinants are difficult to explain because theories of attitudes take as given the construction and negotiation of group memberships and identifications which determine negative attitudes towards immigrants.

6.2.1 When theories become salient

Through our analysis of country-level factors in Chapter 5, we find that different theories are associated with different country clusters based on an interaction between country-level GDP per capita and inequality. In other words, we suggest that both level of wealth and its distribution affect what theory best explains how attitudes towards immigrants form. In particular, areas with high income and low inequality show the most open attitudes towards immigrants, as neither group threat, i.e. negative attitudes as a result of scarce resources, nor group position, the hierarchical position of different groups in society are triggered. Concerns about hierarchical position remain, but average attitudes are more open. In areas with low income, like Cluster 3 countries, threats over resources are especially salient. Finally, in areas with high income but high inequality, attitudes are the most negative and the boundaries between groups the most salient, as seen in Cluster 2 countries. Currently, no one theory of attitudes can firmly explain why theories are prompted by these country-level factors. Our finding of inequality and GDP per capita as distinguishing the country clusters from one another may imply that group position affects how attitudes towards immigrants form, with more negative attitudes occurring in countries where hierarchies are strong, such as Cluster 2 countries, and lowest where group positions are more equal in Cluster 1 countries. However, this finding does not explain why how attitudes form appears to vary between country clusters.

As the previous sections show, there is ample evidence for these theories in different circumstances. Each can be useful in understanding some of the results, as is the case with intersectionality in Chapter 3, social identity in Chapter 4, and group position and intergroup conflict in Chapter 5. However, problems arise when theories contradict one another, preventing theory from being a useful tool for prediction and analysis. This contradiction is often seen in the case of contact theory and intergroup conflict, with the former stating that attitudes will likely improve if a greater number of

immigrants arrive in an area by increasing opportunities for contact and certain conditions, such as equal status, are met. Intergroup conflict theory posits the opposite effect, with perceived threats over resources such as employment leading to more negative attitudes towards immigrants, especially if immigrants are similar in status and therefore in competition with the native-born. Given that these theories appear to be salient at different times, as shown in Chapter 5, understanding under what conditions they become relevant would greatly advance the understanding of how attitudes towards immigrants form.

6.2.2 A disconnect between group formation and prejudice

The role of social class in Chapter 4 is one example which shows the importance of identifying salient group identification in order to better predict attitudes towards immigrants. In Chapter 4, respondents' social class was negatively associated with attitudes towards immigrants, with respondents who stated they were in lower classes having more open views to other groups. This finding contradicts the labor market competition theory, or more general group theory, as it shows that those in more precarious financial situations actually have less taste for discrimination on the basis of nationality. As the study only measures the opinion of non-immigrants, it would appear that those in lower classes are directly opposing their interests, as they are more likely to advocate for the sharing of jobs amongst groups rather than restricting them to their in-group. In this case, this finding appears to be evidence of group position taking place, as identification with being lower class brings greater solidarity with immigrants, the majority of whom also belong to this lower class. Importantly, what group membership is being triggered by the situation is extremely relevant to how attitudes are determined and what theory becomes relevant. Group position and group threat theories help explain the findings after they have been established by the empirical work, but give opposing predictions.

An additional consequence of disconnecting how group identity forms in the first place gives little explanation for why certain determinants are found to be significant. In Chapter 4, views about the independence of women, the meaning and practice of religion, and views towards democracy were all found to be salient for attitudes towards immigrants. Absolute/relative moral orientation (i.e., the justifiability of different behaviors) was found to be a significant determinant of taste for discrimination, with more relaxed judgement of certain behaviors being associated with more open attitudes towards immigrants. This feature is categorized as ethical values by the World Values Survey. Using the theories detailed above, it is difficult to explain why this determinant would be relevant to attitudes towards immigrants. An argument could be made that group position, which emphasizes intrinsic differences between groups, is salient as greater rigidity in judgment may lead to more negative attitudes. However, this connection is indirect and tenuous. Alternatively, social identity and group threat, which rely on respondents to first form a conceptualization of an in-group and an out-group, could be used to explain that these ethical and attitudinal norms help create a shared sense of identity within groups.

Similarly, how views on science and technology affect attitudes is not clearly explained by these theories. Determinants related to science and technology appeared in both Chapter 4 and Chapter 5 as a relevant determinant of attitudes towards immigrants. In the case of Chapter 4, science and technology question asked respondents if "Science and technology are making our lives healthier, easier, and more comfortable", while in the case of Chapter 5 it was found to be significant in

the sub-community structure of prejudice against people of another race in Cluster 1 countries. In both cases, those who have more positive views towards science and technology also have more open views towards out-groups. This finding is perhaps most consistent with ideas towards conservatism which was found to be significant (Davidov et al., 2014; Leong & Ward, 2006; Vecchione et al., 2012). Overall, these theories explain these important ethical and attitudinal concerns only obliquely, as perhaps determinants that help form a respondents' sense of group membership and therefore, prior to the rest of the theory. However, as other evidence shows, what group membership is being triggered is very important to how attitudes form.

Finally, theories of attitudes towards immigrants often fail to situate how negative attitudes are related to other forms of prejudice. In Chapter 4, the majority of the prejudice variables were highly correlated with one another and for this reason appeared in the same cluster. However, negative attitudes towards people of another immigrants and towards people of another religion appeared in Block 3, related to absolute/relative moral orientation, while negative attitudes towards unmarried couples living together appeared in Block 8 related to the meaning of religion. Similarly, current theories do little to situate prejudices towards immigrants within the context of devaluing attitudes towards other groups and to advanced understanding of how and when generalized prejudice becomes a salient feature of attitudes.

Comparing the results of Chapter 4 and Chapter 5 would suggest that negative attitudes towards immigrants in East and Southeast Asia should be related to generalized prejudice in the majority of these countries. In Chapter 5, 5 countries were found to belong to Cluster 2 countries (the Philippines, Taiwan, Malaysia, Singapore, and Thailand), two to Cluster 1 countries (Japan and Korea), and two to Cluster 3 countries (China and Hong Kong). However, the inclusion of attitudes towards immigrants and attitudes towards people of another religion in Block 3 suggests that these attitudes are more closely related to absolute/relative moral orientation than to other prejudice variables.[4] There are some possible explanations for this: first the different outcome variables for Chapter 4 and Chapter 5. Taste for discrimination and negative attitudes towards immigrants appear to be related but remain distinct concepts. While negative attitudes towards out-groups generally plays a role in both, when asked about how jobs should be allocated under conditions of scarcity, attitudes towards the justifiability of different behaviors becomes more salient than attitudes towards out-groups generally.

This is most clearly seen in Cluster 3 countries in Chapter 5, where prejudice determinants are mainly clustered in one determinant, but have a negative relationships with prejudice towards homosexuals and drug addicts. This finding may be related to Bergh and Brandt's conception of generalized prejudice as separate clusters of attitudes, namely devalued attitudes towards marginalized groups, as is the case of attitudes towards people of another race, versus devalued attitudes towards groups that defy traditional values, in the case of attitudes towards homosexuals (Bergh & Brandt, 2023). The findings of the sub-community structure reinforce this interpretation as political and ethical values as well as social capital and security concerns are included in the sub-community structure of attitudes towards homosexuals, and social values, demographics, and security concerns are predominate in attitudes towards people of another race. The former contains more determinants related to different values and to social norms about acceptable behavior, while the later is related more

[4]The main area in which the variables in prejudice variables in Block 6 and attitudes towards immigrants differ is in relation to feelings about the meaning of religion, which is positively correlated with negative attitudes towards immigrants and negatively correlated with the other prejudice variables.

to social positions and group threats. Incorporating different forms of prejudice into theories of how attitudes form would do much to help expand the theories of attitudes and improve their accuracy.

6.3 Expanding theories of attitudes towards immigrants

Given the findings of the research in relation with theories of attitudes towards immigrants, this dissertation argues that theories could be improved in the following ways.

First, rather than favoring one theory or another, we propose that theories expand on how different conditions cause certain theories predominate. In Chapter 5, we propose the interaction of wealth and how it is distributed, as measured by GDP per capita and income inequality respectively, to be important factors in triggering certain theories of attitudes. However, the analysis in Chapter 5 represents a preliminary step in understanding how these factors trigger different ways of forming attitudes. Our analysis only included some of the factors suggested by the literature and is by no means a definitive answer to this question. Moreover, some of the most important factors are likely to be difficult to capture through survey data. These include histories of group conflict, media environment and elite messaging, and the general political environment in a country.

Second, theories would be greater improved by incorporating when group memberships become salient. As shown in Chapter 4, social class rather than nationality is more salient for determining attitudes. Moreover, as the results in chapter 3 show, target-specific prejudice can become salient towards groups that would not be expected by the generalized prejudices of the country, as is the case of White migrants in areas with high Brexit vote shares. As Huddy states, "Although the theory addresses the kinds of problems of interest to political psychologists, it has had limited impact on political psychology because of social identity theorists' disinclination to examine the sources of social identity in a real world complicated by history and culture" (Huddy, 2001, p.129). However, this work is critical towards gaining a greater understanding of when and where certain theories became salient, as the previous chapters show.

Similarly, we suggest situating attitudes towards immigrants within the larger context of negative attitudes towards different groups, with Bergh and Brandt's conception of generalized prejudice towards different types of groups being one possible starting point. Incorporating this differentiation into theory would would help address some of the issues related to group membership, as understanding whether attitudes towards immigrants are more similar to negative attitudes towards marginalized groups, such as the poor, towards unconventional groups, such as homosexuals, or towards privileged groups, such as the wealthy.

Finally, theories can be improved is by incorporating the strength of attitudes towards immigrants. As Chapter 5 shows, different theories of attitudes appear to be associated with different levels of negative attitudes across a population, with a greater proportion of respondents expressing negative attitudes in Cluster 2 countries where social identity predominates, followed by Cluster 3 countries where negative attitudes are prompted by group threats, and the most open attitudes in Cluster 1 countries where group position theory is most salient. Current theories generally assume that negative attitudes occur more frequently across a population if the conditions that cause attitudes on an individual level are more widespread.

For example, group threat posits that if a greater number of people are susceptible to threats over resources, then negative attitudes will be more prevalent. However, to the author's knowledge, research into how different formations of attitudes can lead to more negative attitudes, either through experimental or descriptive studies, have not been conducted.[5] Future research into how activating certain formations of attitudes towards immigrants affect the overall proportion and valence of attitudes.

Moreover, the possibility that how attitudes form affects the overall level of negative attitudes towards immigrants would have very important implications for policymakers. In countries where social identities are the most important in determining attitudes, an approach may seek to break down these barriers, whereas where social positions are most important, concerns about distribution might need to be addressed first and foremost. Finally, in Cluster 3 countries where group threats are the most salient, concerns about growth might be required to be included in conversations related to immigration and social cohesion. Secondly, in terms of attitude change, this finding suggests that rather than simply targeting specific attitudes towards immigrants, changing how attitudes form in the first place can be one important way of improving attitudes towards immigrants. For example, changing conversations from discussions of social identities towards one related to shared membership in a group could do much to improve attitudes. Given the inherent of these phenomena, the likelihood of changing attitude formation over a population is incredibly complex and the result of myriad forces; in other words, there is no lever to change a national dialogue. Nonetheless, a greater understanding of how attitudes and a recognition that attitudes can form in different ways, leading to different results, would be vital information for stakeholders aiming to communicate on migration.

6.4 A social implementation of the research

As stated above, theory-building requires a strong understanding of the essential concepts, an understanding of the causal linkages between these concepts, and finally testing through predicting future behavior and verifying its accuracy. As suggested by the previous section, the level of negative attitudes over a population appear to be related to both country-level factors and by what theory attitudes form, with strong social identities leading to more negative attitudes and social position concerns generally having more positive attitudes towards immigrants over a population. In order to better understand how attitudes form, how they can be improved, and to test the relevance of these theories in improving attitudes towards immigrants, a social implementation of the research in Japan will be introduced in this section.

Based on the research in the chapter above, prejudice towards out-groups is a generalizable and centrally located node in determining attitudes towards out-groups in determining attitudes towards immigrants. This project will draw on the large body of research of prejudice reduction interventions to

It is important to note that this study is not interested in changing attitudes towards immigration, which is primarily a policy preference. As a policy preference, its primary determinant should be public opinion based on publics' value

[5] Some experimental studies examine the role of priming in determining attitudes. For example, Mummendey et al. found that respondents were more likely to have negative attitudes towards out-groups if asked to make a positive evaluation of their country by comparing it to other countries. Respondents who were asked to make a positive evaluation by comparing their country to their country in the past or without any conditions were not found to have increased negative attitudes (Mummendey et al., 2001).

judgements, including economic[6], social and cultural effects, and other impacts on well-being.[7] The relationship between attitudes towards immigrants and attitudes towards immigration are complicated and often under-studied (Ceobanu & Escandell, 2010), so while an intervention that seeks to reduce prejudice and improve attitudes towards immigrants may be secondary effects on attitudes towards immigration, this is not the primary aim of study.

The following section will briefly detail the Japanese context of attitudes towards immigrants, adding the results of the previous studies' findings on Japan. Given these findings, a social implementation that targets prejudice through aiming to reduce prejudice towards immigrants through targeting correlates of group position theory will be used.

6.4.1 Determinants of attitudes towards immigrants in Japan

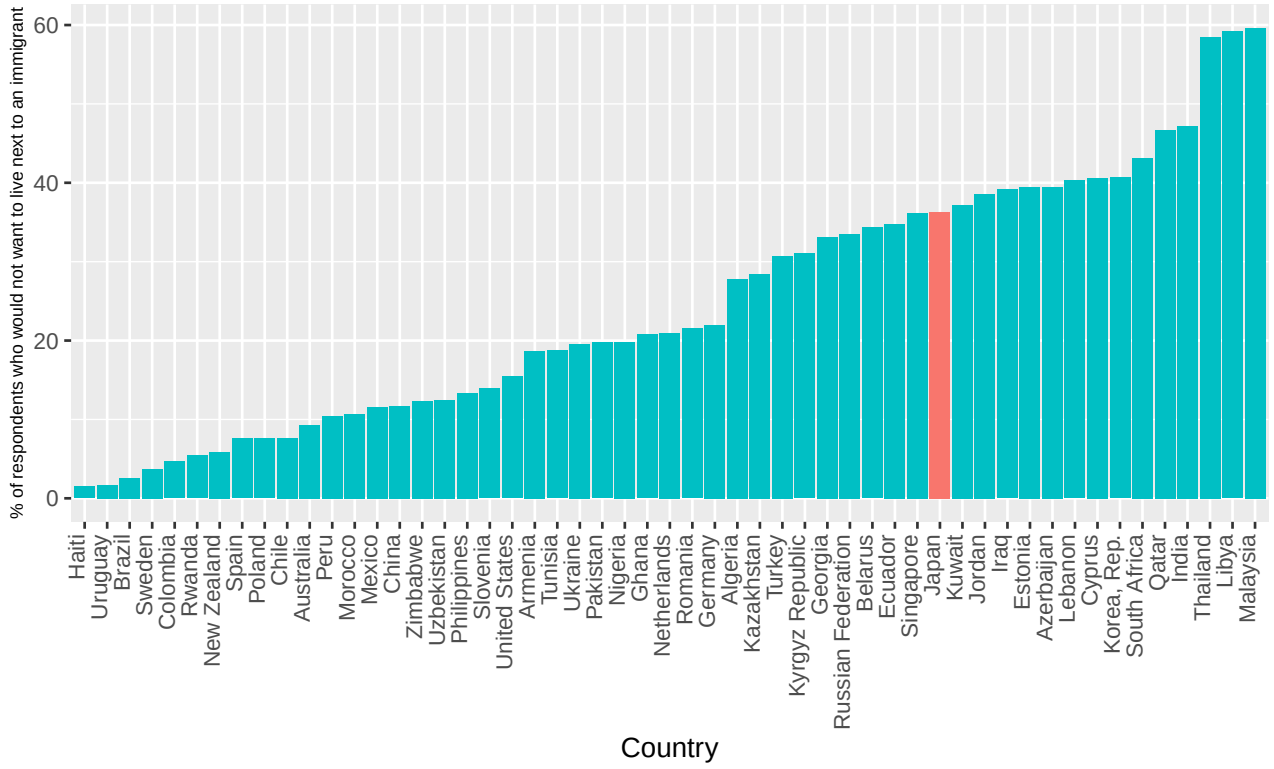


Figure 6.1: Percent of respondents in sampled countries who stated that they would not want to live next to an immigrant or foreign worker. Japan is highlighted in red. Japan has higher negative attitudes than most countries, within the 75% quantile of all countries sampled, and the third highest negative attitudes of the Cluster 1 countries.

Japan represents an interesting location for a social implementation of this research. One of negative effects of this overemphasis of European countries in the literature is the assumption that certain cultural norms and determinants of attitudes can be generalized to all circumstances. However, the context of Japan differs largely from the countries that are often studied. Compared to European countries and Settler countries, the number of foreign residents in Japan is small,

[6]Whether or not immigration is a net economic good, how it affects low-skilled and high-skilled workers, and these effects should be measured is a perpetual debate in economics. Those interested in the economic effects can look to one illustrative example related to the effects of the Mariel boatlift, when Cuban migrants were suddenly given government permission to leave the country and seek asylum in other countries. Scholars have found varying effects on the wages of low-income workers in Miami, where many migrants chose to settle, with some authors finding large decreases in wages (Borjas, 2015), others finding no effect (Peri & Yasenov, 2015; Clemens & Hunt, 2017).

[7]One important consideration the appears frequently in debates surrounding immigration is its effect on crime. See Ousey and Kubrin (2018) for a review.

Table 6.1: Japan results from Chapter 4: *Taste for discrimination*

Var.	Question	Est.	Std. Error	P Value	
(Intercept)		2.77	0.21	0.00	***
V39x1	Would not like to have as neighbors: Immigrants/foreign workers	1.26	0.15	0.00	***
V45x2	When jobs are scarce, men should have more right to a job than women	1.09	0.17	0.00	***
V45x3	When jobs are scarce, men should have more right to a job than women	1.59	0.20	0.00	***
V66x2	Willingness to fight for your country	-0.40	0.15	0.01	**

Null deviance: 1520.0 on 1200 degrees of freedom
Residual deviance: 1337.2 on 1196 degrees of freedom
AIC: 1347.2; McFadden's Psuedo R2: 0.120253; Number of Fisher Scoring iterations: 4

representing around 2% of the total population (Statistics Bureau of Japan, 2021). Prior to the 1990s, this proportion was lower than 1% (Igarashi & Nagayoshi, 2022).

Of the sample in Chapter 5, as seen in Figure 6.1, Japan shows fairly negative attitudes towards immigrants, with around 36% of respondents stating that they would not want to live near an immigrant. This represents the third highest negative attitude out of the Cluster 1 countries, of which Japan is a part, which have a mean percentage 16.83% and a median 10.46%.

Finally, Japan's cultural context differs significantly from previously studied regions. As Igarashi and Nagayoshi note, having negative attitudes towards immigrants are often seen as socially undesirable in Europe and North America. In contrast, Japanese participants in their study were more likely to express explicitly negative attitudes towards immigrants when asked directly about whether or not they would like to live near Chinese or Korean immigrants. However, in a list experiment in which their responses would be unknown to the researchers, respondents were 25 to 30 percentage points less likely to state that they would not want an immigrant as a neighbor (Igarashi & Nagayoshi, 2022). As the researchers state, "These results indicate that norms in Japan are not consistent with conventional norms – it is normative for Japanese citizens to hold negative attitudes towards immigrants" (Igarashi & Nagayoshi, 2022, p.9). Moreover, the researcher finds little difference between respondents with a college degree or high and those with upper secondary education or less, a finding which contradicts previous studies. The authors suggest that social norms bend towards expressing prejudice – even when expressing more moderate feelings in private – may be due to a prevailing belief in ethnic homogeneity: "In a society where most people consider that having the same nationality, ethnicity, and culture are requirements for being legitimate members of the society, immigrants are perceived as outsiders and a subordinate group. Segregating and rejecting these groups may be perceived to help maintain cultural and blood linkages among the Japanese people, and the Japanese people believe that it is socially desirable to be exclusive against immigrants. In other words, positive attitudes towards immigrants may signal that these groups are to be equally treated, which is against the shared belief of group boundary making based on the same nationality, ethnicity, and culture" (Igarashi & Nagayoshi, 2022, p.9).

Looking at the results for Japan from Chapter 4 and Chapter 5 in isolation, we see that these findings are generally echoed by the fact that social position is very salient for negative attitudes towards immigrants. Table 6.1 represents the important determinants of taste for discrimination, i.e. whether Japanese nationals should be prioritized when jobs are

Table 6.2: Results from Chapter 5 LASSO regression for Japan: *Prejudice towards immigrants*

Var.	Question	Est.	Category
V37x1	Would not like to have as neighbors: People of a different race	2.492	Social values, attitudes, & stereotypes
V41x1	Would not like to have as neighbors: People of a different religion	0.679	Social values, attitudes, & stereotypes
V107x.L	How much you trust: People of another nationality	0.535	Social capital, trust, & organizational membership
V43x1	Would not like to have as neighbors: Unmarried couples living together	0.506	Social values, attitudes, & stereotypes
V44x1	Would not like to have as neighbors: People who speak a different language	0.433	Social values, attitudes, & stereotypes
V46x2	When jobs are scarce, employers should give priority to people of this country over immigrants.	-0.366	Social values, attitudes, & stereotypes
V141x.C	How democratically is this country being governed today	-0.199	Political culture & political regimes
V195x^5	One of the bad effects of science is that it breaks down people's ideas of right and wrong	0.158	Science & Technology
V212x.L	I see myself as a world citizen	0.156	National Identity
V51x.L	On the whole, men make better political leaders than women do	-0.150	Social values, attitudes, & stereotypes
V231x.L	Nature of tasks: manual vs. intellectual	0.145	Demographics
V72x.L	Schwartz: Living in secure surroundings is important to this person; to avoid anything that might be dangerous	-0.082	Schwartz - Security
V248x^6	Highest educational level attained	0.074	Demographics
V130x.Q	Political system: Having a democratic political system	0.066	Political culture & political regimes
V76x.L	Schwartz: Adventure and taking risks are important to this person; to have an exciting life	0.055	Schwartz - Stimulation
V215_02x.L	I see myself as citizen of the [APEC]	0.038	National Identity
V229x5	Employment status	0.030	Demographics
V240x1	Sex	0.028	Demographics
V140x.Q	Importance of democracy	0.027	Political culture & political regimes
V239x.L	Scale of incomes	0.006	Demographics

scarce, found in Chapter 4. The results are derived from a multiple logistic regression and therefore contains p-values. Table 6.2 shows the result of the LASSO regression of the important determinants of prejudice towards immigrants, all variables are significant. As Table 6.1 shows, the two outcome variables are closely related, as prejudice against immigrants and foreign workers is one of the strongest predictors of whether or not someone feels that jobs should be given to nationals rather than immigrants when jobs are scarce. Similarly, as seen in Table 6.2 believing that neither group should have priority has a negative effect on attitudes towards immigrants.

Echoing the findings in Chapter 5, Table 6.2 shows that attitudes towards other out-groups, such as people of a different race, religion, are unmarried, or who speak another language, were all significant in determining attitudes towards immigrants. Similarly, social capital concerns, such as trust in people of another nationality, taste for discrimination, and views and science and technology were all found to be significant. Unlike the results from Chapter 5, demographic factors, such as income, education level, and employment were found to be significant, though the coefficient was fairly low effect size once other variables were controlled for. In particular, having mainly manual tasks at work, having completed secondary

school as one's highest education level, being a housewife, being female, and identifying as a low income group were associated with more negative attitudes towards immigrants. These findings are generally in line with the labor market theory of negative attitudes towards immigrants, with lower-skilled, lower-income workers in more blue-collared work (manual tasks) having more negative attitudes towards immigrants. Similarly, women and housewives tend to hold more negative attitudes towards immigrants (O'Rourke & Sinnott, 2006; Andreescu, 2011), though this effect is not found in all studies and often fails to reach statistical significance (Mayda, 2006; Dustmann & Preston, 2007; Fetzer, 2000).[8] Overall, these findings are in line with much of the research on attitudes towards immigrants: demographic and labor market competition concerns are salient, but have small effects once attitudinal and prejudice variables are included.

As the previous studies have shown, prejudice is an important factor in attitudes towards immigrants. Generalized prejudice, namely prejudice towards out-groups generally, as well as target-specific prejudices were found to be significant in all regions in both Chapter 4 and Chapter 5. For this reason, prejudice can be seen as a very stable and generalizable determinant of attitudes towards immigrants. Overall, looking more closely at the determinants of attitudes towards immigrants in more detail show that the findings for Japan in particular largely cohere with the findings from Section 6.4

6.4.2 Implementation for changing attitudes

As shown in the previous section, prejudice is a central determinant of attitudes towards immigrants in Japan for both taste for discrimination and generalized prejudice in terms of prejudice towards immigrants. Moreover, its centrality in all country clusters in Chapter 5 and in the cross-national study in Chapter 4 suggest that prejudice is a generalizable and stable determinant of attitude. For this reason, prejudice will be the focus of the intervention to change attitudes towards immigrants in Japan.

In order to ensure the greatest success for the social implementation, the implementation should take into account how prejudice forms in Japan. As evidenced by its inclusion in Cluster 1 countries in Chapter 5, social position is the most likely formation of prejudice in Japan. Unlike other ways of forming attitudes, this formation of attitudes towards immigrants is associated with fairly positive attitudes towards immigrants. In Section 6.3, one suggestion for improving attitudes towards immigrants was to change how attitudes are formed. However, in this case, other formations of attitudes towards immigrants are associated with more negative attitudes towards immigrants. For this reason, instead of aiming to change how attitudes form, the social implementation will focus instead on targeting the main attitudes which exacerbate negative attitudes according to group position theory. These include feelings of superiority, innate difference, threat over resources, and fear and suspicion. This intervention will focus on targeting the cognitive and emotional aspects of group position, namely feelings of superiority, fear and suspicion towards immigrants, and the belief in innate differences.[9]

There are several ways in which prejudice can be targeted. As summarized in a meta-analysis by Paluck et al. (2021), common approaches include cognitive and emotional training, value consistency, peer influence, social categorization,

[8] Some hypotheses as to why women hold more negative attitudes towards immigrants include that women are less skilled and have lower average incomes, that women are most aware of context changes and sensitive to threat perceptions, and finally that women have more negative attitudes due to gender demographic changes brought on through in-migration (François & Magni-Berton, 2013).

[9] Feelings of threat was not targeted because of time constraints in presenting information about the relationship between economic resources and immigration, as well as a lack of clarity of what symbolic or intangible resources should be included. Some studies have shown positive effects of using information to improve attitudes (Facchini, Margalit, & Nakata, 2016), and more holistic intervention should address these concerns as well.

imagined or actual contact with immigrants, and entertainment.[10] Cognitive and emotional training aims to reduce prejudice by training participants to overcome their prejudices by targeting their implicit negative associations with a group, by creating positive emotional or cognitive associations with the group, or through perspective-taking, where participants empathize with the out-group, imagining themselves in a member of the other group's shoes. Value consistency reminds respondents of their individual or group's egalitarian views, causing participants to improve their attitudes towards immigrants in order to maintain a consistent and positive self-image. Peer influence asks other members within the participants' peer group to deliver message or lead dialogues about greater tolerance, leveraging the influence of shared identities and peer influence. Social categorization seeks to change negative attitudes by reminding participants of a third, shared group identity, thus decreasing negative attitudes. Imagined and real contact with immigrants has also been found to be significant in improving attitudes by decreasing stereotypical and generalizing thinking about out-groups through either actual contact with immigrants, under equal conditions, or through imagining contact. Finally, entertainment uses the power of narrative to improve attitudes towards immigrants by bypassing usual cognitive blocks that seek to critique or counter-argue arguments as well as encouraging imagined contact with others (Paluck et al., 2021; Murrar & Brauer, 2018). Overall, the most effective interventions were found to be ones that used entertainment and narrative to change attitudes (with an average effect size of 0.43), emphasizing values (0.41), social categorization interventions (0.37), imagined contact with the out-group (0.37) and cognitive and emotional training, such as perspective-taking exercises (0.35) (Paluck et al., 2021).

Overall, a perspective-based entertainment social implementation was chosen, because of its efficacy, coherence, and ability to address feelings of fear, innate difference, and feelings of superiority by overlapping the experience of the self and others. As shown in Paluck et al. (2021), entertainment can be highly effective in addressing attitudes due to its ability to overcome usual critiques and because it often requires identification with or affinity towards characters. For the content of the entertainment, a perspective-taking approach was chosen, as both perspective-taking and entertainment require putting oneself in another shoes and taking on the subjective narrative of a different person. For this reason, combining these two approaches seemed natural. Moreover, perspective-taking has the ability to address issues related to fear, superiority, and innate difference, by breaking down the difference between self and other and disrupting group memberships (K. Monroe & Martínez-Martí, 2008). By leveraging this disruption of usual group membership, perspective-taking requires participants to feel more similar to members of other groups, thereby reducing perceptions of difference. Moreover, by promoting imagined contact, it may reduce feelings of fear and suspicion towards immigrants. Finally, by taking advantage of the shared identity of self and other during perspective-taking, it may help reduce feelings of superiority by taking advantage the desire to maintain positive self-image, as participants aim to maintain a positive identity in the face of perceived similarity with other groups.

While values and social categorization methods would likely be very effective interventions to change attitudes in Japan, these were not chosen as they require extensive understanding of the participants which may not be possible given the difficulty of recruiting participants and by the fact that the intervention will have to be tailored to a more specific

[10] It is important to note that the separation between these categories is not neat, but rather, interventions often contain elements of multiple categories.

sub-population within Japan. First, as the research in communication shows, using values to communicate on migration can be very effective, but only if the audience's core values are being addressed. If an intervention emphasizes values of egalitarianism while the participant holds power or tradition as more important, then this intervention can have the opposite effect and increase negative attitudes (Dennison, 2020). As the values of the participants will not be known beforehand, this intervention strategy will not be used. Similarly, social categorization is also a valuable intervention and one which addresses group membership in order to reduce prejudices, but would have to be tailored to a certain sub-population. In summary, while other interventions would likely also be effective in reducing prejudice in Japan, a perspective-taking entertainment intervention was chosen because of its high efficacy, narrative coherence, and ability to effectively address the emotions of fear, superiority, and innate differences.

In summary, as the previous sections have mentioned, theories of attitudes should not only aim to explain findings but also to predict how attitudes might form and how to change them. For this reason, in order to advance understanding of attitudes towards immigrants, a social implementation of the research seeks to improve attitudes towards immigrants based on the finding that attitudes towards immigrants in Japan are mainly determined by prejudice and group position. Given that group position is most salient for determining prejudice in Japan, a social implementation of the research which targets the primary cognitive and emotional components of group positions – namely, feelings of superiority, innate difference, and fear – would likely be most effective in changing and improving attitudes towards immigrants in Japan. A perspective-taking entertainment intervention was selected due to its high efficacy and ability to address these core components of fear, superiority, and innate difference.

Chapter 7

Exploring practical applications of the research

7.1 Introduction

Attitudes towards immigrants represent both cause and consequence of immigrants' integration into a new society. Immigrants that live in areas with more positive attitudes have better outcomes in employment, housing, and health (Carlsson & Eriksson, 2015). Moreover, attitudes can be one way to measure immigrants' acceptance into a new society, a vital and often overlooked dimension of integration which encompasses both equal access and becoming "an accepted part of society" (Penninx, 2005, p.142). Attitudes towards immigrants should also be differentiated from attitudes towards immigration, with the former denoting attitudes towards people and the second attitudes towards the phenomenon of immigration and immigration policies (Ceobanu & Escandell, 2010).

However, both attitudes and integration are multi-dimensional concepts, including psychological, social, political, and economic factors. Debate remains about how attitudes form and when they are relevant; likewise what policies and factors impede or improve integration outcomes remains contested. However, research finds that prejudice has a central role in determining attitudes towards immigrants, regardless of the country context (Kawasaki & Ikeda, 2021a). In the context of this study, prejudice is defined as negative attitudes towards a social group, comprising cognitive, affective, and behavioral components, and its generalization towards all members of this group (Amodio & Cikara, 2021; Paluck et al., 2021). In other words, prejudice applies an evaluation of a group to all of its members, disregarding individual characteristics or experiences.

Japan, in particular, represents a unique country for the study of attitudes towards immigrants. Compared to other developed countries, the number of immigrants living in Japan is very low; Japan has the third lowest immigrant stock as a percentage of the population in the OECD, larger only than Mexico and the Slovak Republic (OECD, 2022). As a result, contact between immigrants and local populations is also low. However, prior to the COVID-19 pandemic, migration had been steadily growing in Japan, causing new encounters between Japanese individuals, institutions and immigrants. The

ageing demographics of the country has in the past spurred greater immigration, and it appears that both the trends of an ageing society and of greater immigration to the country are likely to continue. In terms of attitudes towards immigrants, Japan again represents a particular case. Negative attitudes towards immigrants do not appear to differ according to education (see Figure 7.9), though there is evidence that education has a small effect once attitudinal determinants are included (see Table 6.2). Moreover, while in these countries, anti-prejudice view towards immigrants may be normative and socially desirable, this does not appear to be the case in Japan (Igarashi & Nagayoshi, 2022). Given this context, Japan is an important case study for how to reduce prejudice and improve encounters between local populations and immigrants.

At the front line of these changes are "foreign national supporters," or employees of the Japanese government who regularly interact with immigrants as part of their work but whose work is not specific to helping immigrants. Examples of foreign national supporters include ward office employees, people working in social services and hospitals, etc. Current initiatives by the Japanese government for improving interactions between foreign national supporters and immigrants includes "training...on the implementation of living guidance for foreign nationals, the provision of information on various administrative procedures, securing of housing, support for the Japanese language necessary for general living, and appropriate responses to foreign nationals' consultations for advice or complaints" (Ministerial Conference on Acceptance and Coexistence of Foreign Nationals, 2022, p.11). However, to the best of the author's knowledge, this training covers only practical issues and does not cover the interpersonal and intercultural issues that may arise in these encounters.

7.1.1 Overview of the social implementation project

The goal of this project is to create and test a perspective-taking game which can be used as a tool in educational and training settings that aim to address prejudice amongst Japanese respondents and to explore its use amongst foreign national supporters. Using entertainment and narrative, through film, music, or other mediums, has been found to be one of the most effective forms of intervention for prejudice reduction (Paluck et al., 2021). However, while a variety of perspective-taking games relate to the refugee experience, few focus on the immigrant experience or to experiences within the country of the destination. This project fills a critical gap in these multi-media tools and runs a pilot test of its efficacy.

The aim of the project is to take part in a collective effort to address prejudice by filling a gap in the currently available tools, namely a perspective-taking game related to the immigrant rather than refugee experience. As stated above, both prejudice and attitudes towards immigrants are caused by a variety of factors and life experiences, beginning in early childhood and reinforced or challenged by personality traits, contact with immigrants, norms in one's social group, national discourses, economic conditions, and so on. Therefore, it would be unreasonable to assume that any one game or any one intervention would have the ability to eliminate prejudice in all individuals and for all time. Rather the aim of this project is to help create a tool which currently does not exist and which is effective in addressing prejudice given how attitudes towards immigrants from in Japan.

In order to accomplish, this project first creates a 10- to 15-minute game where players are asked to take the perspective of an immigrant and complete two tasks in a country where people speak a different language from the participants. In order to measure the effect of this game, a survey was created that measures the effects of the game on empathy, subtle

bias, and explicit prejudice, as well as collects qualitative free responses. This survey was then run as a pilot test for a randomized controlled trial (RCT), which would allow for a full understanding of the effects of the game. The results of the pilot test are promising, showing through both qualitative and quantitative responses, that participants took the perspective of immigrants, felt both cognitive and affective responses, and showed more positive attitudes towards immigrants than those asked in a nationally representative survey. Given these promising results, a full RCT would allow for a measurement of the true effect of the game.

7.2 Theoretical background

Prejudice denotes negative attitudes towards a social group, comprising cognitive, affective, and behavioral components, whereas generalized prejudice signifies negative attitudes towards all groups outside of one's own social group (Paluck et al., 2021; Akrami, Ekehammar, & Bergh, 2011). As the results of the previous chapters show, prejudice in Japan is mainly determined by group position, which posits that negative attitudes arise as a result of conceiving groups as hierarchically positioned and reinforcing these group divisions through cognitive and emotional components, namely fear and suspicion of out-groups, feelings of innate difference, feelings of threat, and feelings of superiority. Given these findings, targeting negative attitudes towards immigrants and prejudice in Japan could either attempt to reduce the salience of competition and hierarchy or address the cognitive and emotional components which help reinforce group divisions. This study will address the feelings of innate difference and superiority of group position in an attempt to decrease prejudice and improve attitudes towards immigrants.

Through a meta-analysis of prejudice-reduction interventions, Paluck et al. finds that entertainment interventions to have the largest effect on prejudice reduction due to its ability to bypass usual cognitive blocks to messaging and its ability to promote real and imagined contact and identification with characters (Paluck et al., 2021). Drawing on the effectiveness of entertainment in influencing attitudes, the approach combines perspective-taking and entertainment to encourage empathy and self-outgroup merging. Perspective-taking allow for greater exercise of the cognitive component of empathy, or "the spontaneous ability to take the perspective of, and understand the feelings of another person" (Boag & Carnelley, 2016, p.339). Increased empathy has been shown to be associated with both more positive attitudes as well as a greater propensity to help out-groups (Todd & Galinsky, 2014). The ability to feel empathy also represents a key competency in social-emotional learning, or the "the process through which people acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions" (DePaoli, Atwell, & Bridgeland, 2017, p.3). Moreover, perspective-taking can also help break down barriers between self and others and promote a sense of similarity. Leveraging the shared identity during perspective-taking aims to diminish feelings of superiority by fostering a positive self-image in the context of perceived similarity with other groups (Todd & Galinsky, 2014). Given the role of group position in determining attitudes towards immigrants, as well as the effectiveness of entertainment and perspective-taking in changing attitudes, a video game that asks participants to take on the perspective

of an immigrant could be a highly successful method of improving attitudes towards immigrants in Japan.

While the use of games in learning and education has an ancient history, the use of digital games as an experiential tool in learning and prejudice reduction is a recent innovation. The advantages of digital tools for learning are that they are 1) engaging and immersive, both cognitively and emotionally, 2) that players' feel agency throughout the experience as their choices have meaningful consequences on the progression of the game, 3) and that they take on the perspective of others (Schlund, 2021). However, several limitations and ethical questions remain about the use of games in education. The immersive nature of games can have negative effects on students, preventing them from making connections to people in their everyday lives. Moreover, the feeling of agency that players experience when taking the perspective of another group may cause them to overstate the agency of that group in the real world and have negative effects on empathy. In the case of the SPENT game, players were asked to make financial decisions from the perspective of a character experiencing poverty. People who began the game with stronger belief in meritocracy – that poverty is the cause of a lack of ambition or work ethic – were actually more likely to have negative attitudes towards the poor after playing the game than their counterparts in the control group (Russos & Dovidio, 2016). As such, the efficacy of games to increase empathy cannot be taken for granted and depends heavily on how they are framed and embedded in the learning environment.

Today, there are several games which focus on the experience of migrants, and especially refugees. Some notable examples include the following: the BBC's "Syrian Journey: Choose your own escape route" and Arte's "Bury Me, My Love," in which players attempt to flee Syria for Europe; "The Night Fisherman," a game about a smuggler in the English Channel; and "City of Immigrants," a game from the perspective of a Russian Jewish immigrant to the U.S. in 1907. While the categories between migrants and refugees can often be blurred, the IOM estimated in 2020 that there are 281 million migrants worldwide, compared to 26 million refugees (IOM, 2021). Despite this fact, most games focus on the refugee experience and almost entirely on the journey from one's country, rather than life in the destination country. Only the final game, "City of Immigrants," focuses on migrants' experiences within the destination country, but takes place so far in the past and in such a different immigration context that the main character would not have needed a visa to immigrate. For this reason, a game that focuses on daily life within the country of destination and a more general migrant experience would fill a very noticeable gap in digital media representations of migrant experience.

As noted above, games do not necessarily have the intended effects of their designers. For this reason, it is necessary to test the effect of the game, the gold standard being a randomized controlled trial. By randomly allocating participants to either the group that receives the treatment – in this case, playing the game – or a control, an RCT helps establish effects of an intervention targeting a complex phenomenon and eliminates bias by ensuring that the groups differ only in that one received the treatment and the other did not. Taking pre-test measures, like demographics and generalized feelings towards immigrants, can help control for any imbalances *ex post facto*, for example if one group begins with more favorable attitudes, but assigning groups based on pre-observable characteristics can lead to bias and therefore, is avoided. Observing an individual's attitudes before taking the game and after taking the game is also less rigorous than an RCT, because any changes in the outcome may simply be due to the time delay and would have occurred without the intervention. By comparing one group that did not receive the treatment and another which did, RCTs help establish the

actual effect on the population.

Despite these benefits, RCTs have some limitations. First, the findings cannot be extrapolated to other populations. For example, the effect of an intervention targeting pregnant women may not be applicable to women generally. Second, differences in how the intervention is delivered can lead to large variation in the outcomes and may be difficult to observe (Glennerster & Takavarasha, 2013; Torgerson & Torgerson, 2008). Despite these limitations, an RCT establishes strong evidence for the effect of intervention on a certain population.

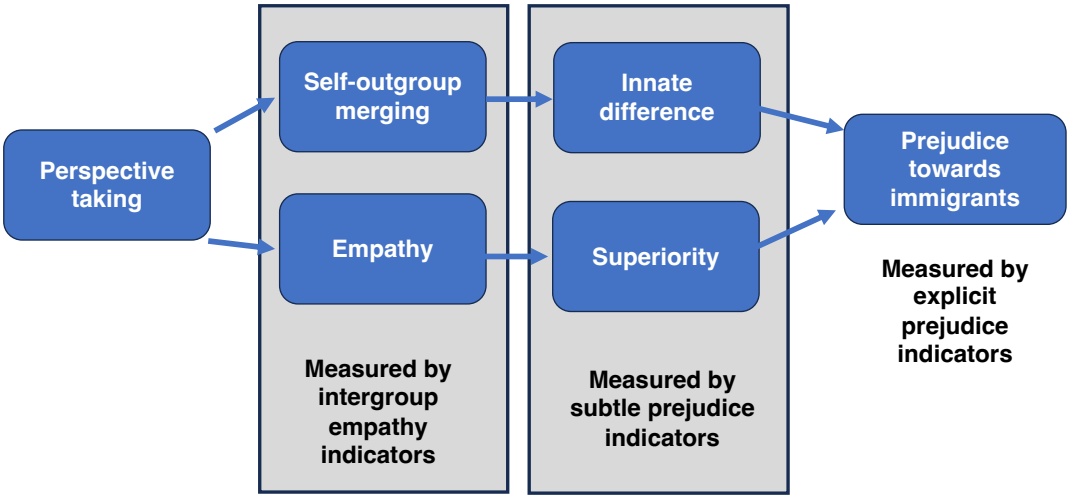


Figure 7.1: Diagram of the conceptual design of the intervention.

Figure 7.1 outlines the basic conceptual design of the social implementation and survey. Through the perspective-taking exercise, participants will experience greater empathy towards immigrants and self-outgroup merging. Through greater empathy, feelings superiority should be reduced, while through self-outgroup merging, feelings of innate difference should be reduced. As negative attitudes towards immigrants are formed through group position in Japan, targeting these emotions should lead to more positive attitudes towards immigrants overall. However, as mentioned in the studies above, the perspective-taking exercise may not have its intended effects. As the game is conducted in a different language, one negative effect may be by causing discomfort and anxiety amongst participants, leading them to have more negative attitudes towards immigrants (Voci & Hewstone, 2003; Stephan & Stephan, 1985). For this reason, a measure of intergroup anxiety will also be included to test if the game is unintentionally increasing negative emotions and thereby negative attitudes towards immigrants.

In summary, the current theoretical landscape shows that prejudice reduction interventions that use entertainment and ask participants to take the perspective of a different group have been found to be very effective. Perspective-taking exercises which use digital game formats have several advantages for engaging participants and giving them agency in

the game, and while several migration-related games have appeared in several years, few focus on immigrant experience within the destination country. Given how attitudes form towards immigrants in Japan, a video game that targets feelings of innate difference and feelings of superiority towards immigrants through perspective-taking would be likely be particularly effective. Finally, digital games have several limitations, and their effects may differ from the ones intended by the designers. For this reason, establishing the effect of the game through an RCT helps validate that the game is in fact motivating greater empathy and improving attitudes towards immigrants.

7.3 Policy background - OECD Network of Communication Officers on Migration

In order to understand the current state of policy and migration research on the international level, the author conducted an overseas internship at the OECD International Migration Division. Created after World War II to administer the Marshall Plan, the OECD sets policy standards and best practices for its member countries, as well as providing a research base and international forum for best practices. Its member countries are high-income countries, including most countries in the European Union, Japan, the United States, Australia, Canada, etc., with Colombia becoming the newest member of the OECD eight months before the author's internship began. In particular, its 14 substantive directorates help provide the evidence base for enacting policy by collecting and harmonizing data from member countries, providing analysis, and providing expertise for member countries as they implement specific policies. For example, a member country which plans to institute a new points-based immigration system may call on the OECD's expertise.

Within the OECD Directorate for Employment, Labour and Social Affairs, the International Migration Division (IMD) provides data and monitoring of migration and integration within member countries and important non-member countries. Its flagship publication, *International Migration Outlook*, has been part of the OECD's Continuous Reporting System on Migration for over 25 years and details important trends in migration flows and special topics, as well as providing country notes, describing both key statistics and important policy changes. In addition, it maintains the following OECD Databases on Migration: the OECD International Migration database, which describes migration flows, naturalization trends, etc.; the Database on Immigrants in OECD Countries, which collects data on labor market and demographic characteristics; and the Indicators of Immigrant Integration, a data set of how immigrants fare in OECD countries in terms of employment, social inclusion, education, civic engagement, and social cohesion. While much of the work of the OECD concentrates on European countries, the organization also focuses on the Asia-Pacific region, as shown through its yearly Roundtable on Labor Migration in Asia, a collaboration with the Asian Development Bank and the International Labor Organization.

As part of its work on integration and migration, the OECD IMD also maintains the Network of Communication Officers on Migration (NETCOM), network of communication officers and policy advisors to share best practices in communicating on migration and integration policies. NETCOM maintains a website which collects both best practices from NETCOM members as well as work by the OECD IMD on how to communicate on migration-related issues. These include data sets and analysis of public opinion on migration, toolkits on migration narratives, and addressing misinfor-

mation related to migration. In addition, NETCOM also has regular presentations where policymakers and academics can share their experiences and expertise in communicating on migration.

Currently, NETCOM showcases several projects that aim to reduce prejudice and improve social cohesion through narratives from migrants and various interactive tools. These include tools like Prague's Anti-Prejudice campaign which helps fight misinformation by having participants take a short quiz to test their knowledge of the state of migration in Czech Republic, e.g. how many immigrants live in the country, reasons for migration, the number of crimes committed by immigrants, etc. (Integration Centre Prague, 2021). Others showcase stories told by migrants themselves, as is the case of the Finnish #CanAnyoneHear campaign which has refugees write about their experiences in blog posts related to three thematic areas, namely when they feel they are heard in Finnish society, their dreams and goals, and when they feel like they are part of Finnish society (OECD NETCOM, 2022). Other projects use a variety of media types to help communicate experiences from refugees, through interviews, theater exhibitions and video (European Refugees Oral History Project, 2022). These tools differ from the current project in that while they show migrants' stories and likely invoke empathetic responses from participants, few employ perspective-taking, in which the participant is asked to imagine themselves as an immigrant. Moreover, no tools are related specifically to the Japanese context or Asia-Pacific context, with the majority also focusing on the refugee experience rather than a more general experience.

7.4 Methodology

As a pilot test for a full-scale RCT, the main aim of the project is to test that the survey and intervention are working as intended and to collect as many qualitative responses as possible in order to collect richer data on the experience of the game. Due to the limited number of participants, it was decided to give all of the participants the game in order to get a better understanding of their qualitative responses to the game and to find any problems with the game and survey.

In order to gauge the effect of the game, a survey was created that collected by qualitative responses from the participants and responses to survey instruments developed by other scholars. Given the research on perspective-taking games, the following hypotheses were constructed:

H_0: *Compared to the control group, participants in the treatment group will have more positive attitudes towards immigrants, mediated by greater empathy.*

H_A: *Compared to the control group, participants will have more negative attitudes towards immigrants, mediated by greater intergroup anxiety.*

The structure of the implementation, from the point of view of the participants, is shown in Figure 7.2. The survey was translated into Japanese using a translation service. A copy of the survey is included in Appendix D.3. First, respondents were asked to sign an informed consent form and sent a copy. Appendix D.2 contains a copy of the informed consent form. This form was separate from the rest of the survey, so as not to collect identifiable information. Next, respondents were given the IOM definition of immigrants to make sure that all respondents could refer to the same definition, even if their personal definition might differ.

Figure 7.2: Stages of the intervention that participants will encounter.

Next, participants took a pre-test survey which checked whether respondents were eligible to participate, asked demographic questions, and included a "feelings thermometer" where respondents were asked if they had generally negative or positive feelings towards immigrants, using a scale of 1 to 10. Respondents were then directed to a link from which they could download the game and play it in their browser. The link to download the game is provided in Appendix D.1.

The post-test consisted of 7 parts. First, respondents were asked to "think back on the exercise", write a few sentences about anything they felt, thought, or anything that stood out to them during the exercise. Next, they completed the post-test survey which included the following sections: subtle prejudice questions developed by (T. F. Pettigrew & Meertens, 1995), to test for feelings related to difference and superiority; immigration policy questions (Scheepers, Gijsberts, & Coenders, 2002);[1] empathy questions (Sirin, Villalobos, & Valentino, 2016); questions related to explicit forms of bias and prejudice, used in the World Values Survey (WVS); questions to gauge intergroup anxiety, or how anxious respondents felt being amongst immigrants (Stephan & Stephan, 1985; Voci & Hewstone, 2003); and finally questions related to player engagement (Wertley, 2014). Finally, participants were given a space to leave any additional questions or comments, though it was not required.

7.4.1 Independent variable – prejudice

As mentioned above, prejudice is defined as a negative evaluation of a social group that is generalized to members of that group. In the case of this project, the survey utilizes the same question related to explicit prejudice, whether or not the respondent would want to live next to an immigrant. Prejudice variables related to other groups are also included to gauge respondents responses in relation to other groups.

7.4.2 Mediating variables – empathy and subtle prejudice

The theoretical framework for the intervention relies on group position as a theory to change attitudes. As such, greater empathy should reduce beliefs in intrinsic difference and feelings of superiority, thereby also decreasing negative attitudes towards immigrants. Measurements for empathy are taken from Sirin et al.'s scale for intergroup empathy (2016). Measurements of cognitive and affective parts of group position are taken from Pettigrew and Meerten's subtle prejudice scale, which is characterized by an exaggeration of cultural differences and a denial of positive emotions towards out-group members (T. F. Pettigrew & Meertens, 1995).[2] Cultural difference is measured by the following two questions: "How

[1] The results of these questions can be found in Figure D.1

[2] Pettigrew and Meerten's subtle prejudice scale also include an additional category of questions related to traditional values. The results of these are included in Appendix D.6. Moreover, an index of subtle prejudice was constructed according to Pettigrew's research design. It showed no relationship with empathy and was negatively correlated with intergroup anxiety.

similar do you think Japanese and immigrants are in terms of their religious beliefs and practices?" and "How similar do you think Japanese and immigrants are in terms of the values they teach their children?" Feelings of superiority and denial of positive emotions are measured by the following two questions: "How often have you felt admiration for immigrants?" and "How often have you felt sympathy for immigrants?"

7.4.3 Game development

In order to prevent any student from having a background in the foreign language used in the game, a constructed language called "toki pona" was used. Constructed languages are created by a single person, rather than by through natural social processes, usually for a specific purpose, like fiction, or as an experiment. According to its official website website, only a few thousands of people speak toki pona, making it unlikely that players would have encountered the language before playing the game (Lang, 2022). Given the relative simplicity of the language and the small number of speakers, toki pona was chosen as the language of the game. Several resources were used in order to learn the language well enough to create a game script and tutorial for the players. These included the official toki pona book, the Reddit page for toki pona, Glosbe, and Omniglot.com (Ager, 2022).

The game itself was created using a combination of video and Twine, an open-source interactive fiction software. Players are told they must complete two tasks by listening and responding in toki pona. Players are first given a tutorial in the basics of the toki pona. The gameplay includes watching a video of actors speaking in toki pona, with subtitles in toki pona, and players are asked to select the correct response in toki pona from a list of four options in order to progress and complete two tasks. In the doctor's office scenario, participants are asked why them came in and are given a few commands, e.g. to have their temperature taken. If participants answer incorrectly several times, a translator is brought in and the participants are then given the same instructions in Japanese. In the second scenario, the participants ride a bicycle and then are stopped by a police officer for not wearing a helmet. They are asked a few questions, e.g. "what is your name", "can I see your ID card", etc. If they answer correctly, they are let go with a verbal warning; if not, then they are given a fine. These scenarios were chosen because they represent institutions that participants also encounter in their daily lives, but within in the game must interact with in a different language. The translator was included into the doctor's office scenario to show how accommodations can ease the process.

7.4.4 Ethics

This intervention was designed to be exempt from Institutional Review Board (IRB) review according to the guidelines outlined in (for Human Research Protections, 2021). No identifiable information was included, including names or emails.

In addition, it is important to ask whether or not it is ethical as researchers to conduct interventions that seek to change people's attitudes. I argue that it is ethical due to the following considerations. First, prejudice constitutes a distinct form of attitude because it is based on heuristic and reductionist understanding of individuals, often attended by a devaluation of that person or group. Unlike attitudes towards policy decisions which include considerations about the relative values that an individual would prefer a society to pursue, prejudice is an interpersonal attitude that necessarily reduces and diminishes

the attitude-holder's understanding of another, with direct and negative consequences on the well-being of others. Second, believing that an intervention should not take place is an implicit support of the status quo or maintaining prejudice. Rather, non-intervention is often seen as a choice without ethical consideration or consequences because inaction is seen as ethically neutral. However, if instead one takes the point of view that inaction has ethical implications, then the ethics of conducting an intervention or not should be considered in relation to one another. However, researchers in particular have different obligations than practitioners or policymakers. In particular, researchers are obligated to create knowledge and to reduce the influence of their biases. Eliminated all personal biases and truly coming to an objective point of view is impossible, and claiming objectivity is often a strategy to instead occlude one's subjectivity. In general, researchers are obligated to both detail their assumptions, as I have above, and to submit to peer review in order to elucidate any blind spots. To summarize, as prejudice constitutes a reduction of individuals, because researchers have an obligation towards pursuing and establishing knowledge, and because inaction constitutes an ethical choice, I argue that the intervention is ethically permissible.

7.4.5 Recruitment

Recruitment for survey took place in two waves. In order to be eligible to complete the survey, students had to be an undergraduate or graduate student at a Japanese university and hold Japanese citizenship. In the first wave, three professors at Kyushu University and Ritsumeikan Asian Pacific University to ask if they would be willing to circulate a registration form amongst their students. In exchange for their time, the respondents would be paid 1000 yen. In total, 5 students were recruited during this wave. Students were sent the survey and game on December 19, 2022 and the survey was closed on December 26th.

In the second wave of recruitment, professors from the author's institution were asked if they would be willing to send the recruitment email to their colleagues who would then be able to send it to their own students at other universities. These students recruited in the second wave were not eligible to receive an honorarium for the time. Through this method, 7 additional students were registered. These students completed the survey by February 23rd, 2023.

7.5 Results

Overall, 12 participants were recruited to play the game, of which 9 participants completed the survey and 8 were eligible to participate. Graduate students were allowed to participate, but all respondents were undergraduate students. 3 students were from Nihon University, 3 from Ritsumeikan Asia Pacific University, and 2 from Aichi Prefectural University. 3 participants were female, while 5 were male. While one respondent was over the age of 36, the majority were in their early twenties. Moreover, one respondent had an immigrant parent, while all other respondents had two Japanese citizen parents. Two students had lived outside of Japan for at least three months, while the other 6 had not lived outside Japan for an extended period of time.

Overall, half the respondents (4 people) spend no time with immigrants in various situations and have no friends who

are immigrants. As shown in Figure 7.3, respondents were most likely to spend time with students in school and outside school, while very few encountered them in their neighborhoods or workplaces. Barring the response to the workplace question, the respondent with a foreign parent often spent much more time with immigrants than the other respondents, so their response is highlighted in blue.

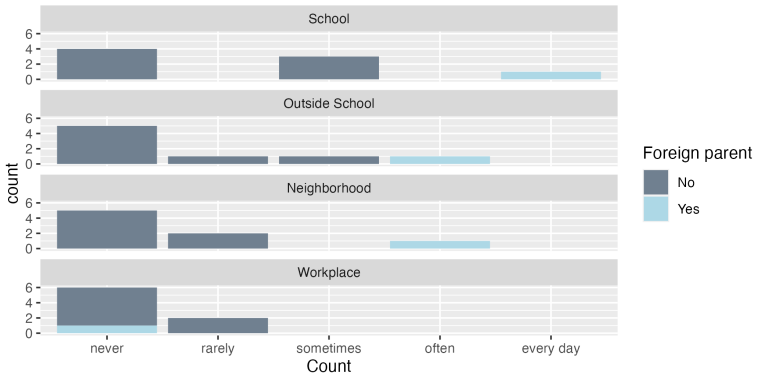


Figure 7.3: Questions about contact with immigrants. "How often do you spend time with immigrants [in the following places]"? Respondents generally have no or rare contact with immigrants, with the exception of the participant with a foreign parent.

As shown in Figure 7.4, the majority of respondents (5 out of 8) have no close friends who are immigrants, while 3 participants had 2 or more friends who were immigrants.

Before proceeding to the game, respondents were asked to rate their general feelings towards immigrants, with 10 indicating more positive feelings and 1 indicating more negative feelings. Respondents have generally positive attitudes, with most respondents rating their feelings as 8 or greater.

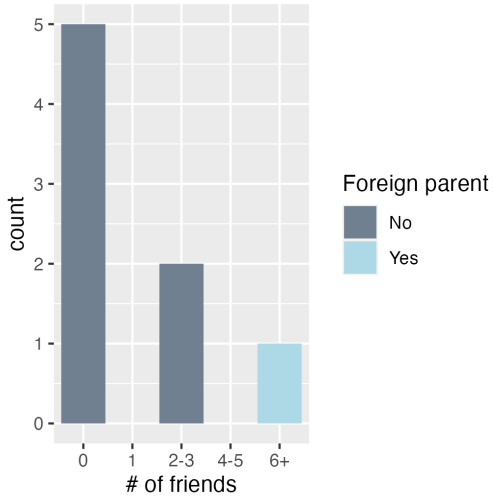


Figure 7.4: Responses to the pre-test question: "How many of your close friends are immigrants?" The majority of respondents have very few immigrant friends.

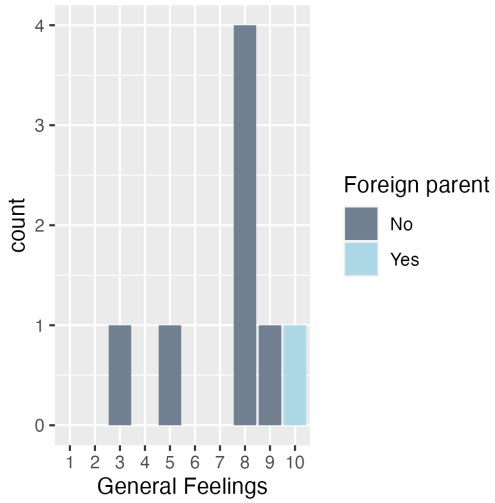


Figure 7.5: Responses to pre-test question: "On a scale of 1 to 10, please select the number that best represents your general feelings towards immigrants, with higher numbers meaning more positive feelings." Respondents had fairly positive feelings towards immigrants before beginning the intervention.

7.5.1 Qualitative responses

Given the limited sample size, the qualitative responses are a vital source of information into the experience of the, as they allow for a more rich understanding of the participants' experience after playing the game. Immediately after playing the game, the respondents were asked to write a few sentences about what they thought and felt during the game. Figure 7.6 uses a word cloud to visualize the most common words which respondents used.

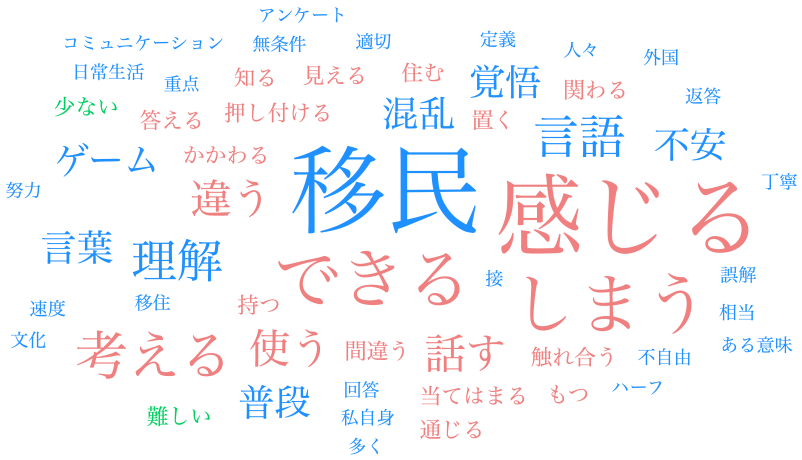


Figure 7.6: Word cloud of qualitative responses by frequency of appearances. Created in User Local.

From looking at the responses, several themes emerge: emotional and cognitive reactions such as confusion or nervousness, relating to their own experiences with immigrants and perspective-taking responses, and comments about the salience of the exercise. Parts of the relevant responses for each theme are shown in Table 7.1, and the full responses are shown in Appendix D.4. However, many of the responses could be coded as belonging to multiple categories – for example, the comment that the respondent would feel confusion is someone spoke to them in a foreign language could be put in negative reaction or could be put in perspective-taking, as they are imagining themselves in a different situation; equally, the comment which noted that migrants do not live nearby, so the game was a preparation for a situation they had not encountered, is listed in personal experience with immigrants, but could also be put into salience. Rather than trying to identify which comment belongs to which theme, the aim here is to identify the major themes of the comments overall. The responses are shown in full in Appendix D.4.

The first theme regarded negative reactions towards the experience, such as confusion, anxiety, fear, or nervousness. In particular, participants found that the game was difficult and that they could not do things at a normal speed. They mention the experience of not being understood or difficulty answering questions. Moreover, some of them felt that their efforts did not have an effect on the game. The prominence of the verb しまう in the word cloud in Figure 7.6 also helps show that students felt some difficulty with the exercise. These negative reactions were also expressed more affectively,

Table 7.1: Examples of questions about salience, negative feelings, and perspective-taking responses from qualitative responses

Cognitive and emotional responses	Confusion	“混乱していた。間違ったことを言ってしまったり、誤解されたらどうしようと思った。” “自分が理解できていない言語を普段と同じ速度で話されてしまうと混乱してしまい適切な返答をすることができないと感じました。”
	Difficulty	“言葉が理解できない不自由さを感じました。” “ゲームを通してですがコミュニケーションをするのが大変でした……人の話を理解しようと聞き、丁寧な言葉で接しようと考えていました。”
	Anxiety	“普段使っている言語が日本語ですが、違う言語を使って話そうとすると話が通じているのか不安でした。人の話を理解しようと聞き、丁寧な言葉で接しようと考えていましたが、緊張してしまいました。”
Perspective-taking responses	Relating to own experiences with immigrants	“「移民」というだけで無条件に多くのことを押し付けられ、目に見えない努力をないものとされていると感じました。” “特に、違う文化に入ることになるので、移民の方は相当な覚悟を持って行動したのだと感じた。”
	Imagining self as immigrant	“日常生活でかかわる移民はいるのかどうか考えていました。” “移民の方が近くに住んでいないため、今回のゲームである意味移住することの覚悟を感じた。” “「移民」というだけで無条件に多くのことを押し付けられ、目に見えない努力をないものとされていると感じました。”
Salience		“移民になぜそこまで重点を置いてるのか気になる”

though mentions of anxiety or worry. These negative states of the difficulty of understanding and communicating were in part the intention of the game, to give a sense of some of the difficulties that immigrants may feel in foreign countries.

In the second category, respondents specifically related their experience of the game to experiences they have had with immigrants or the lack of experience they have had with immigrants. These themes were put into two categories, one in which respondents commented on thinking about other people’s experiences and the second where respondents imagined themselves as immigrants. Both of these show strong perspective-taking and the cognitive empathetic response that the game is intended to elicit. Finally, salience asks why the exercise is necessary or why immigrants’ experiences are relevant to their context.

7.5.2 User experience

As Figure 7.7 shows, players had generally positive reactions to the game. Overall, they felt that the game was engaging, the correct length, and felt that the game kept them involved. This finding is encouraging as it shows that the perspective-taking game was successful in terms of keeping students engaged in the narrative, a necessary component for entertainment to be effective (Paluck et al., 2021). One question which received more mixed reviews, however, related to whether the game would help them remember the things they learned.

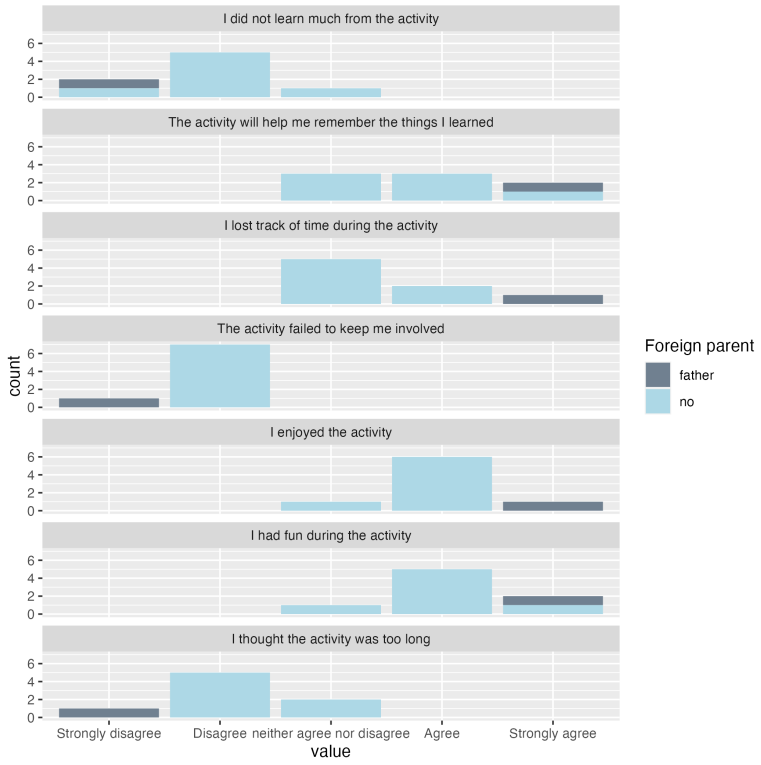


Figure 7.7: Results of survey related to player engagement.

7.5.3 Attitudes towards immigrants

The following section describes the results of the survey related to empathy, intergroup anxiety, and attitudes towards immigrants. As this study is only a pilot test, the results cannot be considered as representative of the population of Japanese students, nor as evidence of whether or not the intervention worked, as there is no control group with which we can compare. However, the results are included in this report to illustrate what would be the results of a full-scale RCT.

For the dependent variable, participants were asked whether they would not want to live next to certain groups of people, the results of which are shown in Figure 7.8. As the results show, no respondent answered that they would not like to live near any group. When asked whether or not they would mind living next to a person with a different religion or an unmarried couple, three and one respondent answered they "did not know", respectively. When compared to the results from the World Values Survey shown in Figure 7.9, these results are surprising as around 30% of respondents to the WVS did not want to live next to immigrants. This percentage is slightly higher for the college-educated, while for all other groups, the college-educated were less likely to state they did not want to live next to that group. With the exception of the responses to the immigrant question, the pattern of responses is fairly similar between the surveys, with more respondents being unsure or not wanting to live near people who were unmarried or who follow a different religion than people of a different religion or who speak a different language.

The second set of indicators used to measure more subtle forms of bias and the affective and cognitive components of group position. The first, shown in Figure 7.10, relate to innate difference, asking how much Japanese and immigrants differ in terms of values they teach their children and their religious practices. The second, shown in Figure 7.11, target

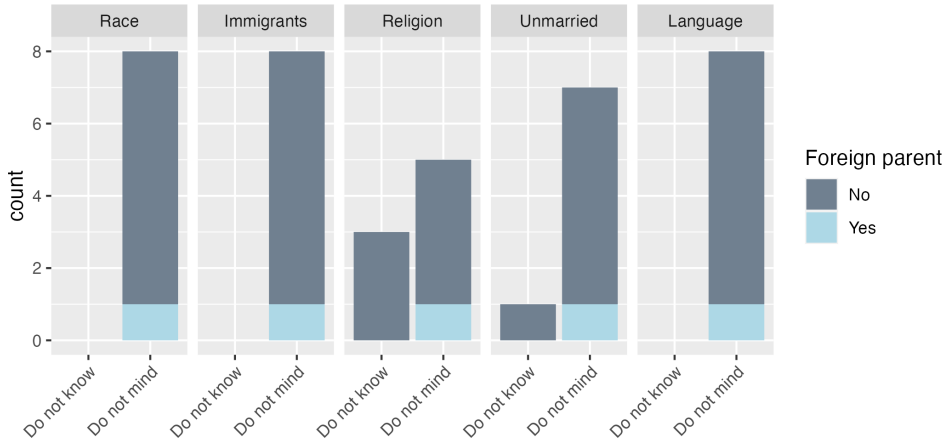


Figure 7.8: Number of participants who would not like to live near certain groups. No respondent answered that they would not live to live next to a certain group. Respondents were most mixed about living next to a person of another religion.

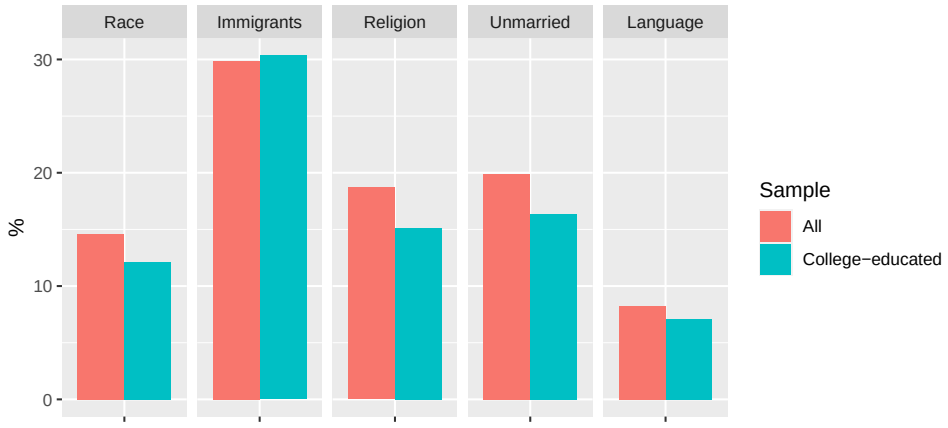


Figure 7.9: Percentage of Japanese respondents to World Values Survey who would not like to live near certain groups, all respondents and the college-educated. Japanese respondents were most likely to state that they would not like to live next to immigrants or foreign workers out of every group, with little difference between the general and college-educated population.

superiority and what Pettigrew calls "denial of positive emotions" (T. F. Pettigrew & Meertens, 1995, p.71).

These responses are often put into an index variable; however, a mistake was made while making the survey, giving the two affective questions – "How often have you felt sympathy for immigrants" and "How often do you feel admiration for immigrants" – only four possible responses instead of five. While not ideal, these two questions were rescaled to a 5-point scale before being included in the index. As this is only a pilot test and the results of the survey are only included for illustrative purposes, the results of the index are included.

Finally, the main aim of the intervention is to test the relationships between empathy, affective and cognitive components of group position, and explicit attitudes. The distribution of these variables can be found in Appendix D.7. As stated above, there were two hypotheses: first, the game would increase empathy, leading to less belief in innate differences and feelings of superiority, and therefore more positive attitudes towards immigrants. Alternatively that the game would

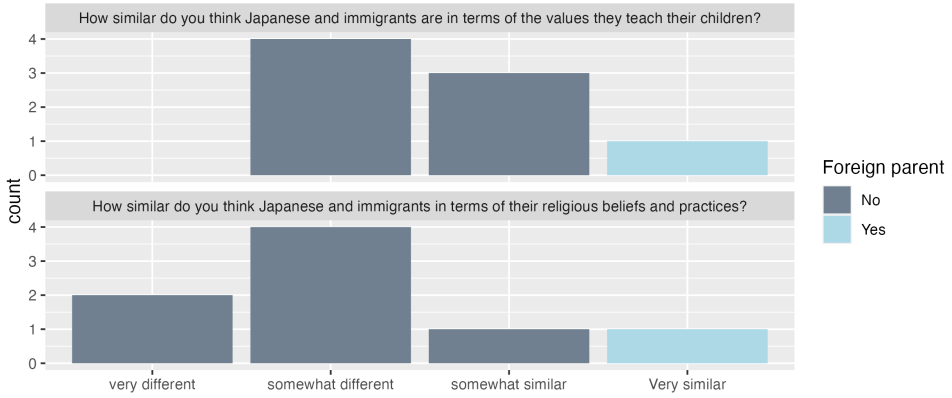


Figure 7.10: Responses to perceptions of innate difference questions.

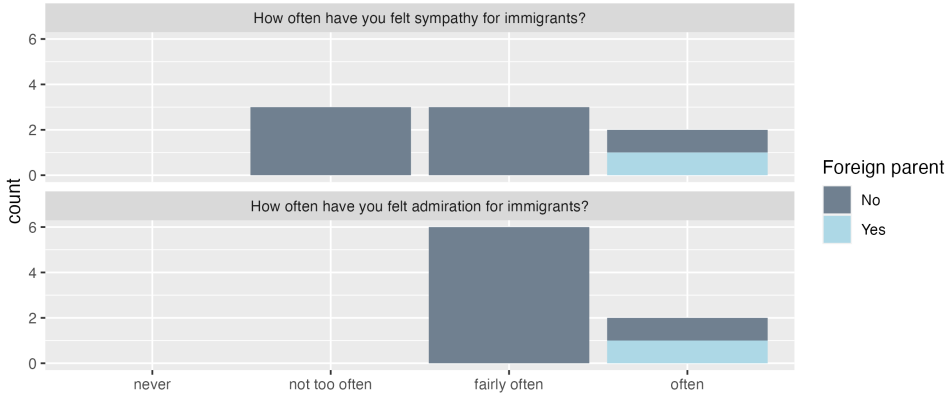


Figure 7.11: Responses to questions related to feelings of superiority and denial of positive emotions.

increase anxiety and lead to more negative attitudes. In a true RCT, we would compare the results between the control group who did not play the game and the treatment game who did play the game. As there was no control group in the pilot test, we cannot judge the effect of the game on empathy and on other attitudes. Moreover, because there was no differentiation in explicit attitudes – all respondents had positive attitudes – these relationships cannot be explored. However, the results for the relationships between empathy and attitudes towards feelings of difference and feelings of superiority were explored in the figures below.

As Figure 7.12 and Figure 7.13 show, the small sample size makes it impossible to say if these relationships exist or are due to sample size issues. There appears to be a slight trend of greater empathy leading to less belief in difference and less superiority. Finally, rather than intergroup anxiety increasing feelings of difference and superiority, intergroup anxiety appears to have a positive effect on feelings of difference (Figure 7.14) and superiority (Figure 7.15. Moreover, it appears that anxiety and empathy are correlated as shown in Figure 7.16.

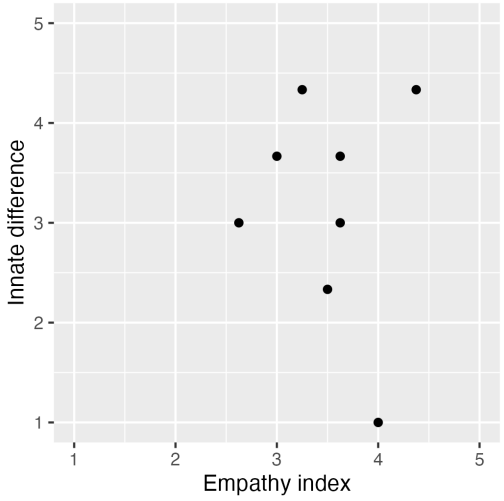


Figure 7.12: Relationship between empathy and feelings of difference

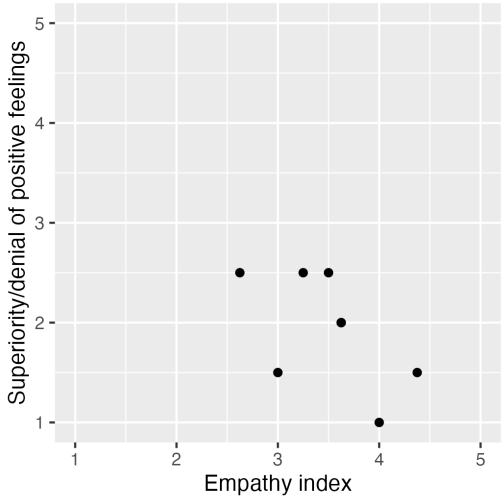


Figure 7.13: Relationship between empathy and superiority and denial of positive feelings

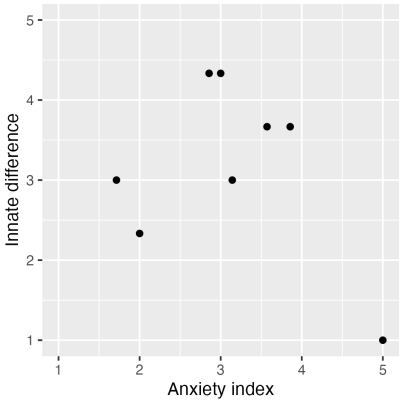


Figure 7.14: Relationship between intergroup anxiety and feelings of difference

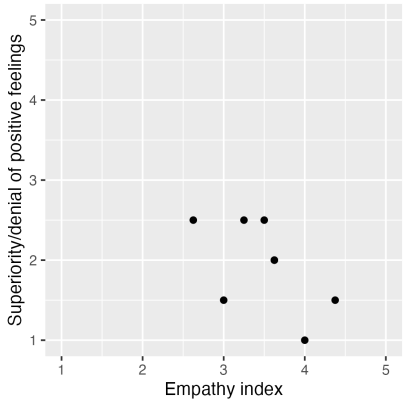


Figure 7.15: Relationship between intergroup anxiety and superiority and denial of positive feelings.

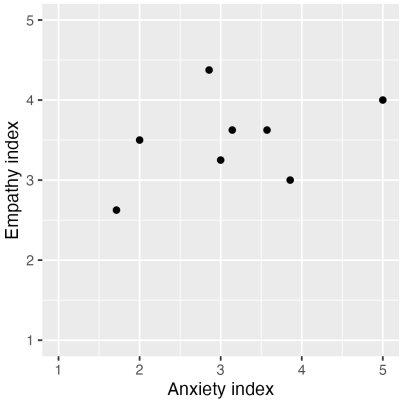


Figure 7.16: Relationship between intergroup anxiety index and empathy index. Greater anxiety appears to be associated with more empathy.

7.6 Discussion

Overall, the pilot test was successful in establishing that the game was eliciting empathetic responses through the qualitative responses and shows some tentative results in the quantitative answers. From the qualitative responses, it is clear that participants felt some of the discomfort in navigating a country where they did not speak the language, and many were able to put themselves into the shoes of immigrants that they knew or imagined themselves living in a foreign country. They found the game engaging and their comments were broadly positive. Participants enjoyed and were immersed by the game as shown from the responses to the user engagement section of the post-test survey. Some of the qualitative responses asked for greater information, specifically asking why the game focused on immigrants. This finding is reinforced by the responses to the user experience questions of the survey, where respondents were not sure how the game would help them remember what they learned. While many respondents made the connection between the experience of the game

and immigrants in their own lives, the game could have been more explicit in making this connection. In retrospect, the pilot test would be improved by including questions about the salience of immigrants and immigration, beyond asking participants about their contact with immigrants. Qualitative questions or survey questions which ask how important respondents believe immigration is as a political and social issue would have been useful in improving the game and its presentation. Finally, as mentioned in the section on survey development, the survey would be made more rigorous if it was possible to include a follow-up survey and test the long-term effects rather than the immediate effects.

For the quantitative results, none of the participants showed explicit prejudice against immigrants, a marked difference from the official responses to the World Values Survey. However, a control group and larger sample size are necessary in order to determine that this finding is due to the effect of the game or due to the sample. As Figure 7.5 shows, attitudes towards immigrants were fairly positive at the outset of the implementation. While there appears to be a positive correlation with greater empathy and less feelings of difference and superiority, it is not possible to conclude that this result is due to an actual relationship or due to the small sample size. Moreover, the lack of a control group means that we cannot determine whether empathy was increased by the perspective-taking exercise. The positive correlation between greater anxiety and empathy was a surprising result that warrants further study.

Based on the results of the qualitative responses and the survey, the game would be strengthened by expanding the content. As one respondent mentioned, they often felt that their efforts had no little or invisible consequences on the narrative. While participants are intended to feel some frustration, having participants feel as if they have no agency in the game could have negative effects on immersion and engagement. Improving the tutorial portion to be more interactive and clear would be a good first step to minimizing this issue. More central to the game's integrity, however, is that the two scenarios currently only depict authority figures and not social situations. As a result, there are no depictions of social situations amongst peers, where students are likely to encounter immigrants. Including a scene of socializing would make the game much more applicable to the participants' context. Moreover, one of the strengths of digital tools is that the characters in the game can help model prosocial or helpful behavior. As the game is currently, very few scenes show characters modeling behavior that participants might take as an example, with the exception of the fairly limited role of the translator. Finally, an interesting extension of the game would be to include explicitly cultural aspects. While there was some consideration of including these elements in the planning of the game, it was decided to not include these aspects, because of time limitations and as sensitive and complex topics, they should be handled with care and be consistent within the game. As such, including cultural aspects – such as different forms of address towards different characters, would make the game richer and allow for broaching different conversations about cross-cultural encounters.

7.7 Use of game in education and training

From the responses of the participants, improving the context around the game would be one way to improve outcomes. As one participant noted, it was unclear how this was relevant to their lives. As the results from the pre-test shows, many participants do not interact with immigrants often. Given these findings, I propose that the game could be especially

relevant and effective for training of people in authoritative roles, such as police officers, doctors, and government employees, etc. Due to the scenarios included in the game, playing would allow them to take the perspective of people they encounter. Moreover, embedding the game in a training would answer some of the questions about salience raised by the participants. For this reason, this game could be especially suited to help training foreign national supporters in not only the content necessary to help foreign nationals but also to help manage emotions, feel empathy, and create more supportive relationships with immigrants.

Based on the literature, several conditions would be necessary to create an effective training curriculum which includes this game as a tool. As noted in the UNESCO MGIEP review of the literature, social-emotional learning interventions work best when they partner with the larger community and are specific in what key behaviors and skills they would like to target (Chatterjee Singh & Duraiappiah, 2020). In the case of training foreign national supporters, a framework for developing interpersonal intelligence, which includes communication, cultural competence, and empathy, would likely be most appropriate to the goals of the training, but the plan would have to be developed in collaboration with the government, employees, and the larger community, including local immigrants (Black, 2021). Depending on the aims and needs of the community, changes to game content and the survey may be required at this point. Second, embedding prejudice reduction and the game into more general trainings related to support foreign nationals, rather than as a stand-alone training, would likely increase its efficacy, so this consideration should be included in the planning stage. Finally, after the game, space for reflection should be allowed, either through group discussion or having participants' write out their feelings and thoughts about the game. Participants should be asked to relate it to how they will approach their work with immigrants in the future (Chatterjee Singh & Duraiappiah, 2020). Given the research in social-emotional learning, embedding the game in such a program is likely to have a more positive effect on prejudice reduction than simply playing the game on its own.

Based on other prejudice interventions (Health Innovation Network South London, 2023; Kende, Lášticova, Minescu, Lantos, & O'Connor, 2020; Nelson & Brooks, 2016), a prejudice intervention using this game may include some of the following structure.[3] A proposed structure is shown below Table 7.2. Ideally, intervention facilitators would include government employees as well as members of local immigrant community to cause the intervention to both include contact and peer-learning (Paluck et al., 2021; Kende et al., 2020). First, participants should be informed that the purpose of this section of the training is to discuss and communicate about some of the specific challenges that foreign national supporters may encounter when working with immigrants, and that participants should communicate honestly and respectfully. Health Innovation Network South London's toolkit mention specifically "avoiding personal attacks, actively listening to others, being mindful of one's own biases, and acknowledging the impact of words and actions" (2023, p.9). Second, participants are asked to share some of their experiences and perspectives as foreign national supporters, for example any times they have had conflicts or misunderstandings with foreign nationals, positive experiences, or questions that they have. These questions should be open-ended, allowing participants to share their experiences openly.

[3] As mentioned above, interventions should be created in collaboration with stakeholders and align with the goals and needs of the community. For this reason, the details here are somewhat speculative, based on what the needs of foreign national supporters in Japan may be. Moreover, local specificity – for example, in municipalities with a large number of immigrants, short-term or long-term immigrants, high-skilled or low-skilled, the median age of the locals, whether there has been conflict between immigrants and locals, etc. – cannot be included but remains an important consideration when creating interventions. The aim is for these details to be illustrative in what a prejudice reduction might look like, rather than being a definitive plan or program.

Table 7.2: Steps of a possible prejudice reduction intervention amongst foreign national supporters in Japan, based on toolkit from Health Innovation Network South London (2023).

	Steps	Explanation
1	Introduction	Establish contents and goals of the intervention as well as ground rules for productive discussion.
2	Opening Discussion	Ask about participants to share some of their experiences and perspectives as a foreign national supporter.
3	Intervention	Playing game. Sharing information about foreign nationals in Japan and in their local community.
4	Discussion and Action Planning	Ask about experiences from the game and any new questions or comments that arise after learning more about foreign nationals in their community. Ask participants to consider goals and actions for next encounter with foreign nations.
6	Closing	Summarize and thank participants
7	Follow-up	Understand the impact and limitations of the intervention through interviews with participants and facilitators, survey, etc.

Having established participants' current understanding, the next section should help participants engage in both perspective-taking through playing the game, as well as gain greater information of the immigration situation, both locally and nationally. By doing so, the intervention aims to provide both overall context for immigration in Japan as well as addressing the social-emotional components of cultural encounter. The next section, discussion and action planning, will allow participants to both reflect on their experiences playing the game, how their perspectives have changed, or areas that they still do not understand or find troubling. This section should also ask participants to look forward to future interactions with foreign nationals, establish what kind of goals they, both individually and as a group, have for these situations, as well as methods that could help them achieve these goals. Finally, after concluding, getting feedback from participants and other stakeholders is essential to improving the intervention.

Finally, there are several areas where the game could be expanded upon in order to improve its effect on prejudice. First, the game could be expanded to include different scenarios. In particular, the game had participants interact solely with people of authority, i.e. a police officer, a doctor, and a translator. For this reason, the game in its current state appears to be most applicable for foreign national supporters, who as government employees, are generally in positions of greater power when meeting immigrants. For this reason, playing the game allows for foreign national supporters to experience the other side of these interactions. However, the game could be improved by including interactions that take place on equal footing, for example in a social situation. Including such a scenario would allow participants to experience a scenario on a social situation would hopefully encourage participants to bring greater empathy into their daily lives, not just in official interactions, as well as expand the audience for the game to people who interact with immigrants primarily in social situations, such as students. Second, the game did not model appropriate or helpful behavior, meaning that participants were not given guides on how they could alter their behavior to have better interactions with immigrants. Doing so could improve the intervention by showing participants, empowering them to make small but meaningful changes. However, exactly what behavior or reactions are appropriate and helpful is difficult to define and requires further study. Finally, as prejudices tend to be correlated, the game could be expanded to include other groups that are the subject of prejudice. In particular, as shown in Figure 7.8, respondents had the most ambivalent relationship to people of another religion. While

no respondent stated that they did not want to live next to a certain group, 3 participants stated they did not know, a finding which was dissimilar from the other groups asked. The game included an actor wearing a hijab, a visual marker of religious difference; however, the game did not include mention of religion, and participants received little context on attitudes towards people of another religion. Including a discussion on these correlated prejudices – either through discussion in the trainings or through the game context itself – could greatly improve the effectiveness of the game.

7.8 Summary

In summary, the social implementation of the research was somewhat successful in improving attitudes towards immigrants. First, the game was successful in having participants put themselves in the shoes of an immigrant, as shown by the qualitative responses where respondents explain these perspective-taking experiences and strong emotional and cognitive reactions, as well as the results of the user experience survey which shows that respondents were immersed in the game. Overall, respondents expressed less prejudice towards other groups than those in the World Values Survey. The results of participants' attitudes of intrinsic difference and superiority as shown in Figure 7.10 and Figure 7.11, were somewhat positive but not definitively. Given the results of the Chapter 5 and the emphasis on homogeneity and Japan's cultural uniqueness, this finding may not be surprising and requires a control group to understand how participants compare. Moreover, the results of the quantitative survey show that there is a negative relationship with empathy and attitudes, which suggests that effective perspective-taking was successful in having participants feel less subtle prejudice, i.e. feelings of intrinsic difference and superiority towards immigrants. While a full RCT is necessary in order to understand the causal relationship, the correlation between greater perspective-taking and decreased distance and more positive emotions are a positive sign that the intervention can be effective. For this reason, the social implementation shows promising evidence that negative attitudes towards immigrants in Japan are related to social position and can be improved by addressing feelings of superiority and innate differences through a perspective-taking entertainment intervention.

The intervention's theoretical coherence and practical efficacy could be improved by included elements that address feelings of threat and fear and suspicion, an area for future extension of this project either by embedding it in a training or greater dialogue about immigrants and immigration. Moreover, the results of the pilot test show promising results for the application of this game as a tool in educational and training environments for foreign national supporters in Japan. The responses showed that much of the intended effects were achieved, including engaging the participants, provoking cognitive and affective reactions, and having them take the perspective of immigrants or relate the experience to immigrants they know. Moreover, the respondents showed markedly more positive attitudes towards immigrants than the respondents to the nationally representative survey. Due to these results, it appears likely that the game is effective; however, a full RCT, preferably conducted with the target group of government employees, is still necessary to determine the actual impact of the game relative to a control group and whether this effect is large enough to merit the game being used in teaching environments for foreign supporters. Moreover, questions about salience which appeared in the qualitative responses would be addressed by embedding it in trainings for foreign national supporters. In conclusion, this game fills a critical

gap in perspective-taking exercises related to immigrant experience, shows promising results in the pilot test, and could be deployed in trainings for foreign national supporters in Japan.

Chapter 8

Conclusion

This thesis has approached what determinants of attitudes towards immigrants can be considered generalizable, and which are dependent on their national environment, offering new avenues for both conceptualizing and reducing prejudice. Through the work detailed above, we find that while prejudice is a significant determinant of attitudes towards immigrants, different theories of attitudes form these evaluations depending on the local and country-level factors. As such, rather than finding support for one theory of prejudice overall, we instead find that theories become salient at various times due to the local and national conditions, suggesting the interaction of the level of inequality in a country and its level of GDP per capita as two important factors. Thus, scholarship on this issue would be propelled forward if, rather than focusing on specific determinants, theories of attitudes towards immigrants and theories of prejudice generally focused on understanding when certain theories become salient, link theories on group formation to theories of prejudice, and finally incorporate the strength of attitudes into theories. Finally, through a perspective-taking entertainment intervention, we implement these findings to improve attitudes towards immigrants in a Japanese context, finding some promising results for changing attitudes towards immigrants by addressing determinants based on group position theory, the most relevant theory of prejudice in the country as found in Chapter 5.

As shown in Chapter 3, attitudes have a tangible effect on immigrants' well-being, measured in the study through income and life satisfaction, and therefore, are not merely a theoretical object of study but one with practical importance and one that deserves attention from policymakers. Moreover, we find clear evidence of an ethnic penalty, showing that after controlling for skill level, years in the country, industry, and other observable characteristics, minority ethnic migrants make far less than their White counterparts. However, we find that all else being equal, White immigrants living in areas with a greater Brexit vote share saw a large and significant decrease in their income compared to their minority ethnic counterparts. These findings suggest that intersectionality may be a more powerful tool to understand the myriad forms of prejudice that individuals encounter, which are often obscured when looking at average differences.

In Chapter 4, we find that while some theories of attitudes are supported by our analysis, namely that stronger group identities was positively associated with more negative attitudes towards out-groups, many of the determinants cannot be explained by our findings. In particular, we see evidence for the importance of absolute/relative value orientations,

science and technology, independence, and religion playing a role in determining attitudes, but which cannot be explained by the current theories. This in part forms our suggestion that how group membership forms, rather than being considered posterior to the study of attitudes towards immigrants, are included as relevant determinants of attitudes. The contradictory role of social class, which has positive relationships with attitudes in some countries and negative for other countries, only reinforces this finding that how groups form is critical to understanding and predicting how attitudes will form.

Chapter 5 shows most clearly how different theories of attitudes become salient depending on the country-context. We propose inequality and GDP per capita as two imoprtant factors in contextualizing attitudes towards immigrants. We find that social capital concerns were salient in high-income, low-inequality countries, social identity and political concerns in high-income, high-inequality countries, and well-being and prejudice against homosexuals in low-income countries. While we find that prejudice towards out-groups is a generalizable determinant of attitudes towards immigrants, how it forms is dependent on different country-contexts, group position concerns being most salient in high-income low-inequality countries, social identities being most salient in high-income, high-inequality countries, and group threat beings most salient in low-income countries. Our finding that low-income countries differentiate between attitudes towards people of another race and towards homosexuals reinforces the current literature that prejudice towards out-groups become more associated in higher-income countries. Moreover, comparing the sub-community structure of the attitudes towards people of another race determinant and the determinant related to attitudes towards homosexuals, it becomes clear that these two determinants form through very different mechanisms, with negative attitudes towards people of another race incorporating determinants related to security and precarity, while attitudes towards homosexuals are shaped by a variety of ethical and political concerns. This finding underlies the contribution of our network science method, as it allows deeper investigation into not attitudes towards immigrants but also allows us to gain greater insight into the determinants of attitudes themslves. Moreover, this finding forms part of the basis by which we suggest incorporating Bergh and Brandt's categorization of generalized prejudice into three subcategories of marginalized groups, unconventional groups, and privileged groups (Bergh & Brandt, 2023). The results of this study help give a broader view of how inequality and GDP per capita interact to help contextualize attitudes.

As these chapters show, no single theory can accurately describe and predict how attitudes form in various circumstances. Moreover, a single study often contains evidence for multiple theories at once. Taken in isolation, these theories can do little to help researcher predict how attitudes will change and resists a clear conceptual understanding of how attitudes form. For this reason, Chapter 6, we suggest that instead of focusing on gathering evidence for or against one theory, researchers instead turn their attention to under what conditions certain theories become salient and the effects of different theory on the strength and valence of attitudes towards immigrants. The implications of this finding have clear and immediate effects on both researchers and policymakers seeking to better understand attitudes towards immigrants and temper prejudice's role in determining attitudes. In particular, changing formations of attitudes towards immigrants appears to be one avenue of changing attitudes that has been neglected but could be very influential in reducing prejudice over a large population. Similarly, understanding when certain group memberships and identifications become salient, rather than simply taking them as given, or applying a more nuanced understanding of how groups are evaluated using

Bregh and Brandt's categorization of generalized prejudice would do much to improve the accuracy of attitudes towards immigrants.

In the aim of improving attitudes towards immigrants and in advancing a theory of attitudes that targets group position, we created a social implementation of our research, using Japan as a case study. Given the findings of our previous study, we implemented a social intervention that targets feelings of superiority and innate difference, correlates of group position which was found to be the most influential theory of attitudes in Japan. We chose an entertainment perspective-taking intervention because of the evidence of its strong support in the literature and because of its ability to create overlap between the self and other and to increase empathy. Our study shows promising results for improving attitudes towards immigrants amongst Japanese students, as qualitative responses from our participants showed engagement and empathetic responses. While the small sample size prevents a definitive answer of the game's effectiveness, the quantitative results show promising results of a positive relationship between empathizing with immigrants and reduced feelings of superiority and perceptions of innate difference. By firmly establishing the game's impact by comparing its effects with a control group, embedding the game within a wider training, and by using the game with other populations, such as foreign national supporters, we hope that this game can represent one tool for educators and other stakeholders hoping to help reduce prejudice towards immigrants.

In sum, our work places attitudes into a more holistic perspective by expanding the number of countries studied to include under-researched countries and identifying prejudice as a generalizable determinant of attitudes. However, simultaneously, we urge for more contextual understandings of attitudes through linking the literature on how groups form, by understanding when theories become salient, and by incorporating attitude strength into theories of attitudes. As our findings reinforce the importance of various theories of attitudes, such as intersectionality in Chapter 3, social identities in Chapter 4, as well as group position and group threat in Chapter 5, we propose instead that researchers factors trigger theories, suggesting inequality and GDP per capita as two important factors which contextualize attitude formation. The findings of these studies have important implications for researchers and policymakers interested in improving public opinion and intergroup attitudes, namely through underlining the importance of contextual factors and by pointing to ways of improving attitudes through shifting conversations about attitudes towards less divisive formations of attitudes. As the results in Chapter 3 show, improving attitudes could have significant effects on migrants' subjective and economic well-being, and based on the results of Chapter 7 could be accomplished through tools that use empathy, perspective-taking, and social-emotional learning concepts.

While these findings have important implications for the study of attitudes, the current studies offer a very broad, low-resolution description of attitudes towards immigrants internationally. Given this limitation, what is the value of this work in the context of research on attitudes towards immigrants? First, it approaches the two questions that are often contested, namely, generalizability and national attitudes towards immigrants. In social sciences, generalizability is often contested because social facts are inherently situated within a certain cultural context and are interpreted by an observer who brings their own cultural background. Despite this fact, publics, policymakers, and scholars often make reference to "how people are" or extrapolate one context to another. For this reason, research that approaches generalizability while

stating the limitations and assumptions of the research can help deepen this conversation beyond an enumeration of case studies without a clear framework for how they compare to one another.[1] Even with the broad and low-resolution nature of the findings, the research provides a foundational understanding of the variations in attitudes towards immigrants on an international scale. This can serve as a starting point for more in-depth studies that explore the intricacies of national attitudes in different regions or countries, as well as give context to these studies.

As this work is not definitive, greater study is necessary in order to confirm the findings and to eliminate other possible explanations. While we suggested inequality and GDP per capita as two important country-level factors determining attitudes, a more rigorous examination of which country-level factors are the most salient as well as the causal mechanism behind country-level factors and the level of negative attitudes towards immigrants is the natural next step of the research findings. Welfare burden and how resources are distributed within a country is one factor that should be tested, though data availability prevented us from including them in this study. Moreover, while we find an association between country-level factors, formations of attitudes towards immigrants, and level of negative attitudes, it is not clear how these factors are inter-related. Less permeable boundaries between groups based on social identities could lead to more negative attitudes and reduce cooperation amongst groups, thereby creating greater inequality; equally, increased inequality and scarcity could prompt greater group differentiation and more negative attitudes. A longitudinal approach would allow for greater insight into how attitudes and attitude formation changes over time and as country-context changes, allowing for both a much deeper understanding of how attitudes form but also allow for greater prediction.

Moreover, this study has suggested greater understanding of how group membership and identification forms and what factors cause group identities to become salient. Addressing these questions, which are critical to the understanding of how intergroup attitudes form, is one area that resists solely quantitative studies of attitudes, as it requires a deep understanding of countries' histories and current socio-political environments. Equally, using solely qualitative methods would severely limit the ability to compare amongst very different circumstances and risks perpetuating the current deficiency of the literature which overemphasizes areas where much research has already been conducted. One factor in attitude and attitude formation that is outside the scope of this research but which is of high salience is the role of media, communication, and interpersonal social relationships in determining attitudes. A mixed methods approach could address these questions by gather substantial textual data on attitudes toward immigrants using quantitative methods. This data could then be organized, interpreted, and analyzed this data through qualitative methods, such as grounded theory, allowing for a more comprehensive and deep understanding of how group identification forms and is enforced.

One area for research which was hinted at by Chapter 3 but which remained outside the scope of this research is the local dimension in attitudes. As Chapter 3 shows, negative attitudes on the local level can have a significant effect on immigrants' outcomes. How this local dimension interacts with national conditions is a question that remains in the literature and is an added layer of complexity in how attitudes towards immigrants form. By investigating this, it will become apparent if, as the saying goes, all politics is local and thus, local conditions will have more significant sway on attitudes, or, as seen in how sociotropic conditions often are more important on attitudes than individual circumstances

[1] Meta-analyses are another method that can help approach this question, though they also have their limitations.

(Hainmueller & Hopkins, 2014), perceptions of the national environment hold more salience.

Finally, our research has taken the country as the primary unit of analysis, as this is the level on which debates about immigration take place. However, it is equally possible that people with more exclusionary or open attitudes towards immigrants, people living in areas with rapidly growing immigrant populations, or people living in areas with high inequality share greater similarities to one another than to others in their country. Mayda (2006) provides one example of approaching the study of attitudes on the individual-level, comparing how attitudes towards immigrants depend on the interaction of individual economic circumstances and changing demographics due to the relative skill level of immigrants.

In conclusion, the study of how attitudes towards immigrants and out-groups form contains many areas for expanded research and innovation because it involves fundamental human processes – spanning the psychological, social, economic, and political – of determining who is acceptable and who belongs. Rather than being theoretical exercises, understanding how and why attitudes form have a profound impact on both immigrants' and native-born people's lives. How humans react to newcomers on an individual and on a group level, how unknown and feared groups become familiar, and where our own agency lies in these processes remain questions of immense complexity and critical importance in order to create more cohesive communities and societies.

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Appendix A

Individual and local-level analysis appendix

A.1 Predictor variables

The list below describes the covariates used in the analysis. The variable name from the Understanding Society data set is included in curly brackets.

Male gender {sex_dv} A dummy variable indicating whether the individual identifies as male. 0: "female" and "inconsistent"; 1: "male".

Age {age_dv} A continuous variable of the individual's age in years.

Ethnicity {ethn_dv} A categorical variable for the individual's ethnicity. Due to sample size issues, the ethnicities were combined into four larger categories: *White* (includes "British", "Irish", "Gypsy or Irish Traveller", and "any other white background"), *Black* ("Caribbean", "Africa", "any other black background", "white and black Caribbean", "white and black African"), *Asian* ("Indian", "Pakistani", "Bangladeshi", "Chinese", "any other Asian background", "white and Asian"), *Other ethnicity* ("Arab", "any other ethnic group", "any other mixed background"). It should be noted that people of mixed backgrounds were included in the category of their BAME ethnic background.

Education {hiqual_dv} A categorical variable showing the highest educational or vocational qualification attained by the respondent. Categories are "No education", "Other qualification", "GCSE etc.", "A-level, etc.", "Other higher degree", and "Degree".

Employment type {jbstat} A categorical variable for the type of employment of the respondent, used in the two. labor income decompositions. 0: self-employed, 1: employed, full-time or part-time.

Job status {jbstat} A categorical variable for the job status of the individual, used in the life satisfaction decomposition. The following categories were used: *employed* ("self employed", "paid employment (full-time/part-time)"), *unemployed* ("unemployed"), *out of the work force* ("retired", "on maternity leave", "family care of home", "LT sick

or disabled", "unpaid, family business", "doing something else") and *in education or training* ("full-time student", "government training scheme", "on apprenticeship")

Job industry {jbsic07_cc} A categorical variable of the industry a respondent is employed in. This variable used the 6 broad industry groups provided by the UK Office of National Statistics in 2007. These categories are *Knowledge intensive services (KIS)*, *Less knowledge intensive services*, *Low to medium technology manufacturing*, *Medium to high technology manufacturing*, *Other production*, and *Real estate*.

Years in the UK A continuous variable that measures the time in years since the respondent first moved to Britain to live {yr2uk4} and the year of the survey.

Martial status {marstat_dv} A categorical variable of the relationship status of the individual. The categories are *Married/civil partner*, *Living as a couple*, *Widowed/Surviving civil partner*, *Divorced/dissolved civil partner*, *Separated/incl. from civil partner*, and *Never married*.

Physical health {sf12pcsv_dv} The SF-12 Physical Component Summary, an index measuring the respondent's physical health, based on their responses to questions related to subjective health, activity level, pain levels, etc. This continuous variable ranges from 0 to 100, with higher scores representing better physical health.

A.2 Summary statistics

A.2.1 Continuous variables

Table A.1: Working age population

	Min.		Median		Mean		Max.	
Variable	FB-born	UK-born	FB-born	UK-born	FB-born	UK-born	FB-born	UK-born
Monthly Labor Income	0.000	0.000	1300.000	1382.330	1413.816	1491.735	3800.000	3802.480
Age	18.000	18.000	43.000	43.000	43.090	42.205	65.000	65.000
Percent Leave	0.214	0.214	0.489	0.542	0.478	0.538	0.736	0.756
Segregation	0.089	0.087	0.218	0.216	0.234	0.238	0.512	0.512

Table A.2: Working age population, foreign-born

	Min.		Median		Mean		Max.	
Variable	BAME	White	BAME	White	BAME	White	BAME	White
Monthly Labor Income	0.000	0.000	1239.400	1432.100	1357.973	1532.191	3700.000	3700.000
Years in UK	1953.000	1951.000	1997.000	1998.000	1993.014	1992.479	2016.000	2015.000
Percent Leave	0.214	0.214	0.489	0.507	0.474	0.487	0.723	0.736
Segregation	0.089	0.095	0.231	0.201	0.241	0.220	0.512	0.512

Table A.3: Population over age of 18

	Min.		Median		Mean		Max.	
Variable	FB-born	UK-born	FB-born	UK-born	FB-born	UK-born	FB-born	UK-born
Age	18.000	18.000	45.000	49.000	46.606	49.619	100.000	101.000
Physical health	5.980	4.640	52.400	53.460	48.799	49.695	73.630	72.790
Percent Leave	0.214	0.214	0.489	0.544	0.480	0.540	0.756	0.756
Segregation	0.089	0.087	0.224	0.214	0.241	0.238	0.512	0.512

A.2.2 Categorical variables

Table A.4: Distribution of categorical variables, by population

Variable		Working age		Working age migrants		18+	
		FB-Born	UK-Born	BAME	White	FB-Born	UK-Born
Gender	Female/Inconsistent	50.03	52.18	47.33	56.06	56.99	55.20
	Male	49.97	47.82	52.67	43.94	43.01	44.80
Education	No qualifications	6.99	2.50	8.37	3.92	11.19	9.24
	Other qualification	10.09	5.98	9.57	11.19	11.02	8.80
	GCSE	13.60	21.04	14.45	11.76	12.75	20.28
	A-levels	16.77	24.49	16.29	17.53	17.14	22.24
	Other higher degree	13.09	13.44	12.81	14.07	12.35	12.58
	Degree	39.46	32.54	38.52	41.52	35.55	26.87
Job Status	Employed	16.74	12.25	15.94	18.92	60.32	58.09
	Unemployed	83.26	87.75	84.06	81.08	5.31	3.80
	Out of work force					29.32	34.01
	Edu/Training					5.05	4.10
Residence	Rural	5.27	20.12	1.30	14.30	5.75	21.76
	Urban	94.73	79.88	98.70	85.70	94.25	78.24
In bottom quintile of deprivation		36.16	17.76	41.95	22.26	36.60	18.23
Ethnicity	White	30.17	88.22			29.93	89.74
	Black	20.87	4.27			21.07	3.54
	Asian	44.83	6.74			44.26	6.04
	Other ethn.	4.13	0.76			4.74	0.68
Life satisfaction	Completely dissatisifed					2.44	2.10
	2					5.09	4.59
	3					7.02	7.26
	4					10.58	9.54
	5					20.96	17.16
	6					39.57	45.87
	Completely Satisfied					14.35	13.47
Marital status	Married/Civil partner					62.30	52.98
	Living as couple					6.21	12.63
	Widowed/surviving civil partner					4.17	5.76
	Divorced/dissolved civil partner					6.25	6.69
	Separated (incl. from civil partner)					2.26	1.39
	Never married					18.81	20.54
Job industry	KIS	15.94	14.45				
	Less KIS	70.11	67.29				
	Low-Med Tech Manu	5.92	5.13				
	Med-High Tech Manu	1.79	4.04				
	Other	5.10	7.79				
	Real Estate	1.14	1.29				

A.3 KBO results tables

A.3.1 Labor income: UK born and foreign born - KBO decomposition

Table A.5: Unexplained differences in labor income between foreign-born and UK-born respondents

	UK born $\bar{x}$	FB born $\bar{x}$	UK born β	β^*	FB born β	KBO coefficient	P-value	
Intercept	1.00	1.00	304.10	429.32	785.82	-481.72	1.34E-03	**
Male	0.48	0.50	426.13	399.94	280.80	72.05	1.92E-06	***
Age	42.20	43.09	9.52	8.50	5.10	189.73	1.09E-03	**
Black	0.04	0.21	-13.19	-62.51	-134.91	17.21	1.87E-02	*
Asian	0.07	0.45	-69.45	-114.85	-161.67	24.05	7.17E-02	.
Other ethn.	0.01	0.04	105.25	14.64	-99.88	5.42	4.69E-02	*
Other qualification	0.06	0.10	170.35	150.70	97.37	6.56	2.88E-01	
GCSE	0.21	0.14	250.61	213.58	133.26	18.72	8.16E-02	.
A-levels	0.24	0.17	376.86	329.50	180.24	36.63	4.39E-03	**
Other higher degree	0.13	0.13	526.31	471.58	282.08	32.15	4.58E-04	***
Degree	0.33	0.39	809.27	765.72	644.91	61.85	1.31E-02	*
Employed (ft/pt)	0.88	0.83	465.28	445.22	369.66	80.52	6.47E-02	.
Less KIS	0.67	0.70	-249.28	-244.36	-213.36	-25.05	4.28E-01	
Low-Med Tech Manu	0.05	0.06	-0.44	-33.63	-164.06	9.43	1.53E-02	*
Med-High Tech Manu	0.04	0.02	132.92	138.66	124.72	0.02	9.94E-01	
Other	0.08	0.05	3.35	6.61	17.48	-0.81	8.62E-01	
Real Estate	0.01	0.01	-139.33	-108.38	43.12	-2.12	1.99E-01	
Pct Leave	0.54	0.48	-173.29	-180.57	-85.76	-41.39	6.01E-01	
Urban	0.80	0.95	40.77	45.84	100.37	-55.70	3.97E-01	
IMD - Bottom Quintile	0.18	0.36	-150.83	-163.90	-190.46	11.93	2.52E-01	
Segregation	0.24	0.23	-251.04	-280.55	-487.19	55.46	1.65E-01	

Table A.6: Interaction effects in labor income between foreign-born and UK-born respondents

	Mean difference	UK Beta	FB Beta	KBO coefficent	P-Value	
Intercept	0.00	304.10	785.82	-0.00		
Male	-0.02	426.13	280.80	-3.12	6.18E-02	.
Age	-0.88	9.52	5.10	-3.91	2.11E-02	*
Black	-0.17	-13.19	-134.91	-20.20	1.46E-02	*
Asian	-0.38	-69.45	-161.67	-35.13	2.83E-02	*
Other ethn.	-0.03	105.25	-99.88	-6.91	7.49E-02	.
Other qualification	-0.04	170.35	97.37	-3.00	3.11E-01	
GCSE	0.07	250.61	133.26	8.73	8.81E-02	.
A-levels	0.08	376.86	180.24	15.19	4.15E-03	**
Other higher degree	0.00	526.31	282.08	0.87	6.33E-01	
Degree	-0.07	809.27	644.91	-11.37	2.27E-02	*
Employed (ft/pt)	0.04	465.28	369.66	4.29	8.06E-02	.
Less KIS	-0.03	-249.28	-213.36	1.01	4.65E-01	
Low-Med Tech Manu	-0.01	-0.44	-164.06	-1.30	2.10E-01	
Med-High Tech Manu	0.02	132.92	124.72	0.18	9.46E-01	
Other	0.03	3.35	17.48	-0.38	8.71E-01	
Real Estate	0.00	-139.33	43.12	-0.29	6.17E-01	
Pct Leave	0.06	-173.29	-85.76	-5.25	5.88E-01	
Urban	-0.15	40.77	100.37	8.85	3.97E-01	
IMD - Bottom Quintile	-0.18	-150.83	-190.46	-7.29	2.32E-01	
Segregation	0.00	-251.04	-487.19	0.95	2.78E-01	

A.3.2 Labor income: BAME migrants and White migrants - KBO decomposition

Table A.7: Explained differences in labor income between White migrants and BAME migrants by variable

	Mean difference (White - BAME)	β^*	KBO coefficent	P-value	
Intercept	0.00	1128.46	0.00		
Male	-0.09	264.05	-23.03	1.09E-04	***
YrsinUK	0.54	2.08	1.11	4.47E-01	
Other qualification	0.05	452.54	21.71	4.43E-03	**
GCSE	-0.00	172.60	-0.81	8.02E-01	
A-levels	0.02	138.19	2.48	2.97E-01	
Other higher degree	-0.02	7.51	-0.18	8.55E-01	
Degree	0.03	4.66	0.14	8.94E-01	
Employed (ft/pt)	-0.03	359.39	-10.68	7.26E-02	.
Less KIS	-0.11	-197.35	21.40	6.86E-04	***
Low-Med Tech Manu	0.02	-119.45	-2.98	1.00E-01	
Med-High Tech Manu	0.02	175.39	2.70	2.35E-01	
Other	0.06	78.10	4.43	3.83E-01	
Real Estate	-0.00	57.74	-0.06	9.11E-01	
Pct Leave	0.01	-74.46	-0.97	6.17E-01	
Urban	-0.13	65.99	-8.58	3.13E-01	
IMD - Bottom Quintile	-0.20	-212.14	41.78	9.37E-10	***
Segregation	-0.02	-583.92	12.37	3.13E-03	**

Table A.8: Unexplained differences in labor income between BAME and White migrants

	White $\bar{x}$	BAME $\bar{x}$	White β	β^*	BAME β	KBO coefficient	P-value	
Intercept	1.00	1.00	1152.16	1128.46	1147.93	4.23	9.85E-01	
Male	0.44	0.53	314.43	264.05	253.37	27.77	3.46E-01	
YrsinUK	24.52	23.99	3.45	2.08	1.99	35.83	4.74E-01	
Other qualification	0.24	0.19	375.96	452.54	461.47	-20.26	3.71E-01	
GCSE	0.09	0.10	178.08	172.60	184.31	-0.63	9.38E-01	
A-levels	0.11	0.09	151.57	138.19	128.66	2.30	7.89E-01	
Other higher degree	0.05	0.08	-11.13	7.51	32.66	-2.96	5.06E-01	
Degree	0.05	0.02	-17.32	4.66	7.39	-1.17	7.03E-01	
Employed (ft/pt)	0.81	0.84	496.99	359.39	305.95	156.49	4.26E-02	*
Less KIS	0.62	0.73	-156.08	-197.35	-198.16	26.34	6.55E-01	
Low-Med Tech Manu	0.08	0.05	-7.98	-119.45	-194.52	12.54	1.43E-01	
Med-High Tech Manu	0.03	0.01	185.79	175.39	127.75	0.94	8.37E-01	
Other	0.09	0.03	133.40	78.10	-11.76	8.13	4.57E-01	
Real Estate	0.01	0.01	-121.33	57.74	122.20	-2.60	2.84E-01	
Pct Leave	0.49	0.47	-693.84	-74.46	166.56	-416.12	4.14E-03	**
Urban	0.86	0.99	150.50	65.99	-25.27	162.50	2.41E-01	
IMD - Bottom Quintile	0.22	0.42	-288.48	-212.14	-168.91	-35.13	5.97E-02	.
Segregation	0.22	0.24	-59.30	-583.92	-749.20	155.20	6.02E-02	.

A.3.3 Life satisfaction - KBO decomposition

Table A.9: Explained differences between UK born and foreign born in life satisfaction

	Mean difference (UK - foreign born)	β^*	KBO coefficent	P-value	
Intercept	0.00	3.43	0.00		
Male	0.02	-0.03	-0.00	2.04E-01	
Age	3.01	0.01	0.03	1.59E-17	***
Black	-0.18	0.01	-0.00	7.54E-01	
Asian	-0.38	-0.02	0.01	4.07E-01	
Other ethn.	-0.04	-0.25	0.01	1.82E-03	**
Other qualification	-0.02	-0.07	0.00	1.51E-01	
GCSE	0.08	-0.04	-0.00	3.13E-01	
A-levels	0.05	0.03	0.00	5.24E-01	
Other higher degree	0.00	0.00	0.00	9.84E-01	
Degree	-0.09	0.03	-0.00	3.71E-01	
Living as couple	0.06	-0.06	-0.00	2.30E-02	*
Widowed	0.02	-0.08	-0.00	7.28E-02	.
Divorced	0.00	-0.39	-0.00	2.58E-01	
Separated	-0.01	-0.56	0.00	7.67E-04	***
Never married	0.02	-0.26	-0.00	8.05E-03	**
Unemployed	-0.02	-0.52	0.01	8.08E-05	***
Out of work force	0.05	0.08	0.00	7.43E-03	**
Edu/training	-0.01	0.43	-0.00	1.01E-02	*
Physical health	0.90	0.03	0.03	3.22E-07	***
Pct Leave	0.06	-0.14	-0.01	1.33E-01	
Urban	-0.18	-0.12	0.02	1.08E-06	***
IMD - Bottom Quintile	-0.16	-0.08	0.01	2.03E-04	***
Segregation	-0.00	0.08	-0.00	5.23E-01	

Table A.10: Unexplained differences between UK born and foreign born in life satisfaction

	UK born $\bar{x}$	FB born $\bar{x}$	UK born β	β^*	FB born β	KBO coefficient	P-value	
Intercept	1.00	1.00	3.34	3.43	3.87	-0.52	4.43E-02	*
Male	0.45	0.43	-0.02	-0.03	-0.06	0.02	4.50E-01	
Age	49.62	46.61	0.01	0.01	0.00	0.45	2.30E-06	***
Black	0.04	0.21	-0.10	0.01	0.11	-0.02	5.41E-02	.
Asian	0.06	0.44	0.02	-0.02	-0.03	0.00	8.35E-01	
Other ethn.	0.01	0.05	-0.31	-0.25	-0.20	-0.00	5.16E-01	
Other qualification	0.09	0.11	-0.10	-0.07	0.05	-0.02	1.55E-01	
GCSE	0.20	0.13	-0.05	-0.04	0.03	-0.01	4.41E-01	
A-levels	0.22	0.17	0.03	0.03	0.00	0.01	7.71E-01	
Other higher degree	0.13	0.12	-0.02	0.00	0.14	-0.02	1.07E-01	
Degree	0.27	0.36	0.03	0.03	0.09	-0.02	4.56E-01	
Living as couple	0.13	0.06	-0.04	-0.06	-0.21	0.01	5.32E-02	.
Widowed	0.06	0.04	-0.10	-0.08	0.05	-0.01	2.24E-01	
Divorced	0.07	0.06	-0.39	-0.39	-0.36	-0.00	7.72E-01	
Separated	0.01	0.02	-0.64	-0.56	-0.36	-0.01	1.23E-01	
Never married	0.21	0.19	-0.25	-0.26	-0.23	-0.00	8.21E-01	
Unemployed	0.04	0.05	-0.59	-0.52	-0.25	-0.02	5.93E-03	**
Out of work force	0.34	0.29	0.04	0.08	0.18	-0.04	3.64E-02	*
Edu/training	0.04	0.05	0.43	0.43	0.34	0.00	4.93E-01	
Physical health	49.70	48.80	0.03	0.03	0.03	-0.17	2.15E-01	
Pct Leave	0.54	0.48	-0.04	-0.14	-0.67	0.31	1.66E-02	*
Urban	0.18	0.37	-0.12	-0.12	-0.16	0.01	4.35E-01	
IMD - Bottom Quintile	0.78	0.94	-0.07	-0.08	-0.22	0.14	9.27E-02	.
Segregation	0.24	0.24	0.03	0.08	0.49	-0.11	1.21E-01	

Appendix B

Regional analysis appendix

B.1 Results of logistic regression

China – Logistic Regression

term	estimate	std.error	statistic	p.value	
(Intercept)	4.39393583	0.50904894	8.63165693	6.05E-18	***
V54	-0.4405676	0.12467252	-3.5337987	0.00040963	***
V109	-0.358034	0.14145912	-2.5310068	0.01137356	***
V125_01	-0.305763	0.11905256	-2.5683028	0.01021978	***
factor(V45)2	-1.1706827	0.25335555	-4.6207106	3.82E-06	***
factor(V45)3	-1.5008698	0.22454187	-6.6841422	2.32E-11	***
factor(V48)2	-0.8268549	0.21116544	-3.9156732	9.02E-05	***
factor(V48)3	-1.1305743	0.23158019	-4.8819994	1.05E-06	***
factor(V147)2	1.06716685	0.39309418	2.71478673	0.00663185	***
factor(V147)3	0.90182362	0.42582031	2.11785015	0.03418776	***
factor(V148)2	-0.9623983	0.36259514	-2.6541954	0.00794978	*

Null deviance: 1972.0 on 1547 degrees of freedom
Residual deviance: 1715.1 on 1540 degrees of freedom
AIC: 1731.1
McFadden's Psuedo R^2: 0.166333

Number of Fisher Scoring iterations: 4

Hong Kong – Logistic Regression

term	estimate	std.error	statistic	p.value	
(Intercept)	5.31282732	0.77189169	6.88286633	5.87E-12	***
V126	-0.3353879	0.16782265	-1.9984665	0.04566611	*
V130	-0.6146335	0.19910447	-3.0869902	0.00202194	**
V199	-0.1321788	0.0581423	-2.2733672	0.02300406	*
V228I	-0.5110071	0.16388021	-3.1181745	0.00181975	**
factor(V41)2	0.84718297	0.30855343	2.74566054	0.00603892	**
factor(V45)2	-1.3775266	0.35222483	-3.9109298	9.19E-05	***
factor(V45)3	-0.7408031	0.3504151	-2.114073	0.03450903	*

Null deviance: 477.20 on 506 degrees of freedom
Residual deviance: 413.12 on 499 degrees of freedom
AIC: 429.12
McFadden's Psuedo R^2: 0.13428521

Number of Fisher Scoring iterations: 5

Japan – Logistic Regression

term	estimate	std.error	statistic	p.value	
(Intercept)	2.76767221	0.21195762	13.0576676	5.75E-39	***
factor(V39)2	-1.2638604	0.1553768	-8.1341643	4.15E-16	***
factor(V45)2	-1.0888349	0.1656912	-6.5714712	4.98E-11	***
factor(V45)3	-1.5879835	0.20491377	-7.749521	9.22E-15	***
factor(V66)2	-0.4034266	0.152375	-2.6475906	0.00810676	**

Null deviance: 1520.0 on 1200 degrees of freedom
Residual deviance: 1337.2 on 1196 degrees of freedom
AIC: 1347.2
McFadden's Psuedo R^2: 0.120253

Number of Fisher Scoring iterations: 4

Malaysia – Logistic Regression

term	estimate	std.error	statistic	p.value	
(Intercept)	2.72998475	0.5278709	5.17169014	2.32E-07	***
factor(V61)2	-0.031682	0.29073553	-0.1089718	0.91322489	
factor(V61)3	0.82255168	0.28801043	2.85597885	0.00429044	**
factor(V61)4	1.12712701	0.36742828	3.0676109	0.00215777	**
V184	-0.4731522	0.11901552	-3.9755504	7.02E-05	***
V192	0.21274474	0.05035087	4.22524439	2.39E-05	***
V204	-0.1711385	0.04235751	-4.0403344	5.34E-05	***
factor(V45)2	-1.1514644	0.24431614	-4.7130099	2.44E-06	***
factor(V45)3	-1.1193799	0.28726699	-3.8966536	9.75E-05	***
factor(V48)2	-1.0828248	0.22243177	-4.8681212	1.13E-06	***
factor(V48)3	-1.7410353	0.52938975	-3.2887589	0.0010063	**
factor(V148)2	-2.2008139	0.56372459	-3.9040587	9.46E-05	***
factor(V187)2	-0.5295447	0.23674166	-2.2368041	0.02529915	*

Null deviance: 808.67 on 1210 degrees of freedom
Residual deviance: 638.15 on 1198 degrees of freedom
AIC: 664.15
McFadden's Psuedo R^2: 0.2108573

Number of Fisher Scoring iterations: 6

Philippines – Logistic Regression

term	estimate	std.error	statistic	p.value	
(Intercept)	1.89646916	0.35394249	5.35812803	8.41E-08	***
V77	-0.1519241	0.06397813	-2.3746254	0.01756677	*
V128	0.25553719	0.08511742	3.00217279	0.0026806	**
V213	-0.7020766	0.12521989	-5.6067499	2.06E-08	***
factor(V43)2	0.77308525	0.1837443	4.20739718	2.58E-05	***
factor(V45)2	-0.6456982	0.19433068	-3.3226777	0.00089158	***
factor(V45)3	-0.6454602	0.20091885	-3.2125419	0.00131566	**
factor(V48)2	-0.8546764	0.17971423	-4.7557526	1.98E-06	***
factor(V48)3	-0.6704574	0.21678939	-3.0926668	0.00198367	**
factor(V151)2	0.62511093	0.18438651	3.39022046	0.00069836	***

Null deviance: 1159.1 on 1174 degrees of freedom
Residual deviance: 1025.8 on 1165 degrees of freedom
AIC: 1045.8
McFadden's Psuedo R^2: 0.1150037

Number of Fisher Scoring iterations: 5

Singapore – Logistic Regression

term	estimate	std.error	statistic	p.value	
(Intercept)	2.62065076	0.52353012	5.00573062	5.57E-07	***
V72	-0.3565203	0.07193718	-4.955995	7.20E-07	***
V97	-0.1224456	0.0399422	-3.0655698	0.00217256	**
V99	-0.094237	0.03799181	-2.4804552	0.01312148	*
V210	-0.0993697	0.03621942	-2.7435476	0.00607792	**
V215_13	0.44524184	0.11810007	3.77003876	0.00016322	***
factor(V39)2	-0.4888557	0.17483975	-2.7960217	0.00517359	**
factor(V45)2	-1.3754769	0.21572359	-6.3761079	1.82E-10	***
factor(V45)3	-0.8028467	0.22442608	-3.5773325	0.00034712	***
factor(V66)2	-0.7655783	0.18306887	-4.1819141	2.89E-05	***
dClass	0.31374911	0.09653412	3.25013694	0.00115349	**

Null deviance: 1122.59 on 932 degrees of freedom
Residual deviance: 950.52 on 922 degrees of freedom
AIC: 972.52
McFadden's Psuedo R^2: 0.153282

Number of Fisher Scoring iterations: 4

South Korea – Logistic Regression

term	estimate	std.error	statistic	p.value	
(Intercept)	1.66140731	0.65002771	2.55590231	0.01059128	*
V61	-0.1660801	0.07398151	-2.2448869	0.02477539	*
V71	0.14265224	0.06400153	2.22888783	0.02582137	*
V114	-0.3016685	0.12098053	-2.4935297	0.012648	*
V140	0.15077705	0.0486902	3.09666102	0.00195714	**
V198	-0.1200538	0.03983936	-3.0134478	0.00258297	**
V218	0.15075901	0.06977815	2.16054745	0.03073031	*
factor(V40)2	-0.68123	0.1785433	-3.8154889	0.00013591	***
factor(V45)2	-1.5196313	0.26052291	-5.8330047	5.44E-09	***
factor(V45)3	-2.0984352	0.26951755	-7.7858946	6.92E-15	***

Null deviance: 1059.65 on 902 degrees of freedom
Residual deviance: 895.98 on 893 degrees of freedom
AIC: 915.98
McFadden's Psuedo R^2: 0.1544599

Number of Fisher Scoring iterations: 5

Taiwan – Logistic Regression

term	estimate	std.error	statistic	p.value	
(Intercept)	2.70383851	0.56003441	4.82798637	1.38E-06	***

V60	-0.2649926	0.08503503	-3.1162757	0.00183151	**
V101	0.15369359	0.05171888	2.97171157	0.00296145	**
factor(V36)2	-1.0083183	0.45142264	-2.2336459	0.02550638	*
factor(V38)2	-0.5407718	0.2481893	-2.1788685	0.02934144	*
factor(V42)2	-0.7778493	0.28775934	-2.7031243	0.0068691	**
factor(V45)2	-1.0044567	0.3804198	-2.6403902	0.00828106	**
factor(V45)3	-0.6674111	0.28344748	-2.3546201	0.01854165	*
factor(V150)2	0.58581399	0.30411272	1.92630544	0.05406625	.
factor(V187)2	-0.7348895	0.26778361	-2.7443409	0.00606325	**
Null deviance: 592.23 on 956 degrees of freedom Residual deviance: 520.88 on 947 degrees of freedom AIC: 540.88 McFadden's Psuedo R^2: 0.1204793 Number of Fisher Scoring iterations: 6					

Thailand – Logistic Regression

term	estimate	std.error	statistic	p.value	
(Intercept)	5.99007572	0.65111505	9.19971939	3.59E-20	***
factor(V48)2	-1.5133172	0.21187103	-7.142634	9.16E-13	***
factor(V48)3	-2.0988062	0.2397346	-8.7547072	2.05E-18	***
factor(V66)2	-0.7012321	0.28482476	-2.4619773	0.01381734	*
factor(V150)2	-0.5412021	0.18992253	-2.8495942	0.0043775	**
V55	0.1658165	0.04194868	3.9528417	7.72E-05	***
V72	-0.2865268	0.08529502	-3.3592444	0.00078156	***
V100	-0.1359758	0.03745899	-3.6299913	0.00028343	***
V114	-0.4184168	0.10113194	-4.1373362	3.51E-05	***
V130	-0.4034519	0.14601639	-2.7630587	0.00572625	**
V182	-0.3072919	0.08435801	-3.6427111	0.00026978	***
v	-0.6010312	0.12598241	-4.7707547	1.84E-06	***
Null deviance: 1194.10 on 918 degrees of freedom Residual deviance: 785.45 on 907 degrees of freedom AIC: 809.45 McFadden's Psuedo R^2: 0.3422233 Number of Fisher Scoring iterations: 5					

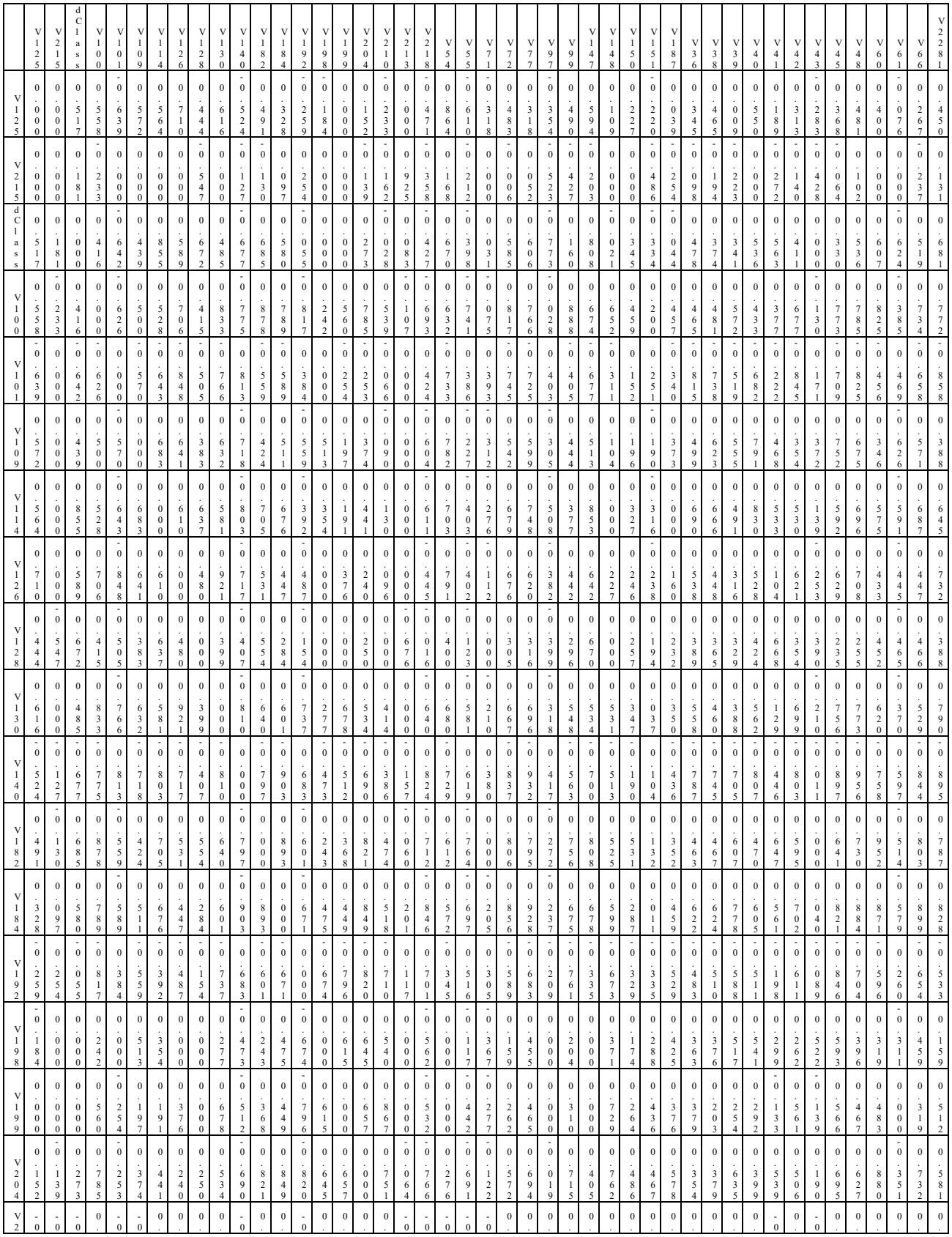
B.2 Bipartite network weighted adjacency matrix

	V125	V215	dClass	V100	V101	V109	V114	V126	V128	V130	V140	V182	V184	V192	V198	V199	V204	V210	V213	V218	V54	V55	V71	V72	V77	V97	V99	V147	V148	V150	V151	V187	V36	V38	V39	V40	V41	V42	V43	V45	V48	V60	V61	V66	V228I
CHN	-1.176318	0	0.4594794	-0.772404	0.8196817	-1.494319	0	-0.925254	0	-1.279404	0.9968062	0	0	0.9944898	0	0	0	0.9536296	0	0.5029627	-1.873257	0.5741057	0.3852777	-0.621101	0	0	-0.900712	0	-0.341764	0	0	-0.420988	0	-0.293059	0	-0.349928	0	0	-1.333337	-0.076338	0	0	0	0
HKG	0	0	0	-0.781622	1.0844147	0	0	-1.211496	0	-1.900839	1.0946737	0	0	1.1732203	0	-1.418579	0	-1.159923	0	0	0	0	0	-0.928579	-0.922361	0	0	0	-0.520868	0	0	0	-0.679278	0	0	0	0.7269281	-0.072941	0.5845365	-1.054918	-0.087338	0	0	-1.641395
JPN	0.8180201	0	0	0	-0.874533	0	0	0	0	0	0.7469572	0	-0.575924	0.5141255	-0.767561	0	-0.354957	0	0	0	-1.094623	-0.538341	-0.781193	-1.114469	0	0	0	0	0	0	0	-0.501926	0	0	-1.178067	0	-0.587027	-0.860434	-1.291867	-0.592947	0.5341223	0	-0.464148	0
MYS	0	0	0	-1.522394	0	0	0	0	0	-1.054754	1.8665259	-1.371436	-1.745424	1.9715903	-0.770165	-1.382385	-1.915081	-1.882784	1.0926978	1.8255831	-1.120303	-1.259854	-1.251037	0	-1.798168	-0.417228	-0.840329	-0.704752	0	0	0	-0.536722	0	0	-0.443416	-1.430223	-0.964846	-0.816991	0	-0.506940	0	-1.501875
PHL	0	0	-1.004018	0	0	0	0	0	0.8122314	0	0.8236172	0	-0.776191	0	0	0	0	0	-2.062537	0.8901853	-0.696387	0.7110684	0	-1.602172	-1.022701	0	0	0	0	0.7585607	0.3856103	0	0	0	0	0.5022022	0.7461548	-0.563633	-0.956496	0	0	0	-0.662469
SGP	0	0.8210771	1.0666056	-0.956368	0	0	0	0	0	0	0	-0.480002	-0.490833	1.3597633	0	0	-0.492754	-0.669255	0.6271867	0	0	0	0	-2.005594	-0.934575	-1.552597	-1.709653	-0.35475	0	0	0	-0.372484	-0.405329	-0.652195	0	0	-0.333361	0	-1.089517	-0.649313	0	0	-0.530445	0
KOR	0	0	0	0	0	-1.096062	-0.960745	0	0	-0.558815	1.5955341	0	-0.565302	1.4933408	-1.508899	-0.965586	-0.632084	-0.780774	0	0.7758853	0	0	0.9659675	-0.971658	0	0	0	0	0	0	0	-1.074074	-0.611264	-0.305411	-0.858283	0	-0.279874	-0.043053	-1.496012	-0.781294	0	0	-0.305486	0
TWN	0	0	0	0	1.3586804	0	0	0	0	0	1.4186193	0	-0.712706	0	0	0	0	0	0	0	0	0	0.9821954	-0.953226	-0.976185	0	0	-0.640584	0.8244547	0	-0.551604	-1.502691	-0.809226	-0.698153	-0.045027	0	-0.907517	0	-1.304384	-1.170313	0	0	-0.535283	-1.421819
THA	-1.152989	0	-3.536376	-1.527559	1.9608207	-1.319487	-1.983406	-1.405901	-0.813614	-1.758214	3.7122704	-1.831048	-1.973519	0.7249471	0	0	-0.796052	-2.507669	1.1591649	0	0	0	-3.739340	-2.761402	1.0424665	-1.050594	0	-1.050281	-0.355977	0.4252267	0	-1.318170	-0.679968	-0.861223	-0.719994	-0.846147	-0.754391	0	-1.187068	-2.118378	-0.671783	0.4650416	-0.932658	-2.801552

B.3 Country network weighted adjacency matrix

	CHN	HKG	JPN	MYS	PHL	SGP	KOR	TWN	THA
CHN	0.0000	0.4517	0.2432	0.3928	0.3075	0.3576	0.4397	0.3752	0.5765
HKG	0.4517	0.0000	0.2598	0.6296	0.3633	0.3991	0.5183	0.5852	0.5922
JPN	0.2432	0.2598	0.0000	0.3800	0.2075	0.4357	0.5518	0.4396	0.4259
MYS	0.3928	0.6296	0.3800	0.0000	0.3658	0.5519	0.5997	0.4662	0.6076
PHL	0.3075	0.3633	0.2075	0.3658	0.0000	0.2114	0.2665	0.4008	0.5043
SGP	0.3576	0.3991	0.4357	0.5519	0.2114	0.0000	0.3737	0.3890	0.3733
KOR	0.4397	0.5183	0.5518	0.5997	0.2665	0.3737	0.0000	0.5537	0.5162
TWN	0.3752	0.5852	0.4396	0.4662	0.4008	0.3890	0.5537	0.0000	0.6431
THA	0.5765	0.5922	0.4259	0.6076	0.5043	0.3733	0.5162	0.6431	0.0000

B.4 Feature network weighted adjacency matrix



10	.233	.162	.028	539	.066	.090	130	096	000	414	.386	474	518	.710	540	867	751	000	.074	.432	.213	.426	.096	303	474	211	398	082	697	302	499	301	299	136	348	100	.002	519	.097	440	372	553	000	418	462
V213	0.000	0.925	0.083	-0.107	0.000	0.000	0.000	0.000	-0.676	0.000	-0.157	-0.060	0.201	0.117	0.000	0.000	-0.064	-0.074	0.000	-0.442	0.208	-0.263	0.000	0.191	0.183	-0.240	-0.196	-0.093	0.000	0.000	-0.600	-0.314	-0.045	-0.089	-0.103	0.000	-0.337	-0.064	-0.529	0.056	0.225	0.000	0.000	-0.109	0.162
V218	-0.471	-0.358	-0.427	-0.693	0.424	-0.604	-0.611	-0.445	-0.016	-0.640	0.824	-0.712	-0.846	0.701	-0.562	-0.532	-0.766	-0.432	-0.442	0.000	-0.632	0.801	0.321	-0.675	-0.750	0.273	-0.576	-0.458	-0.553	-0.414	0.066	-0.283	-0.446	-0.494	-0.456	-0.630	-0.301	-0.469	0.127	-0.743	-0.783	-0.745	0.318	-0.609	-0.643
V54	0.864	0.168	0.670	0.632	-0.733	0.782	0.703	0.791	0.400	0.680	-0.729	0.612	0.572	-0.345	0.000	0.000	0.276	-0.213	0.208	-0.632	0.000	-0.539	-0.147	0.733	0.612	-0.441	0.535	0.740	0.100	0.284	-0.411	0.138	0.430	0.533	0.364	0.628	0.387	0.390	-0.120	0.600	0.715	0.499	-0.513	0.515	0.597
V55	-0.610	-0.212	-0.398	-0.741	0.386	-0.227	-0.403	-0.402	-0.123	-0.581	0.619	-0.764	-0.697	0.516	-0.117	-0.442	-0.691	-0.426	-0.263	0.801	-0.539	0.000	0.205	-0.546	-0.497	0.252	-0.614	-0.424	-0.669	-0.459	-0.160	-0.232	-0.246	-0.280	-0.144	-0.329	-0.214	-0.414	0.421	-0.444	-0.560	-0.828	-0.025	-0.409	-0.638
V71	-0.318	0.000	0.031	-0.075	0.393	-0.312	-0.276	-0.112	0.000	-0.210	0.380	0.000	-0.205	0.305	-0.367	-0.277	-0.122	-0.096	0.000	0.321	-0.147	0.205	0.000	-0.100	-0.218	0.000	-0.090	0.000	-0.248	0.534	0.000	-0.242	-0.686	-0.743	-0.123	-0.715	0.145	-0.503	0.023	-0.422	-0.381	0.000	-0.266	-0.264	-0.234
V72	0.483	-0.006	0.585	0.817	-0.745	0.542	0.679	0.676	0.305	0.667	-0.837	0.806	0.856	-0.589	0.159	0.262	0.572	0.303	0.191	-0.675	0.733	-0.546	-0.100	0.000	0.929	-0.091	0.744	0.844	0.334	0.209	-0.311	0.232	0.651	0.659	0.732	0.553	0.373	0.733	-0.159	0.805	0.918	0.655	-0.614	0.854	0.831
V77	0.318	0.052	0.606	0.766	-0.725	0.599	0.748	0.620	0.316	0.696	-0.932	0.795	0.928	-0.683	0.455	0.465	0.694	0.474	0.183	-0.750	0.612	-0.497	-0.218	0.929	0.000	-0.202	0.619	0.749	0.432	0.185	-0.190	0.348	0.764	0.709	0.827	0.680	0.426	0.807	-0.014	0.893	0.957	0.703	-0.682	0.917	0.869
V97	-0.354	-0.523	-0.773	-0.028	0.403	-0.305	-0.508	-0.382	-0.399	-0.318	0.417	-0.272	-0.237	-0.209	0.000	0.000	-0.019	0.211	-0.240	0.273	-0.441	0.252	0.000	-0.091	-0.202	0.000	0.321	-0.270	0.000	-0.205	0.198	0.000	-0.182	-0.037	0.028	-0.338	-0.334	-0.100	0.000	-0.039	-0.204	-0.360	0.370	-0.062	-0.405
V99	0.490	-0.427	0.160	0.888	-0.405	0.444	0.377	0.442	0.296	0.548	-0.563	0.756	0.675	-0.761	0.204	0.310	0.715	0.398	-0.196	-0.576	0.535	-0.614	-0.090	0.744	0.619	0.321	0.000	0.612	0.503	0.360	0.196	0.424	0.335	0.502	0.576	0.347	0.402	0.491	0.000	0.684	0.641	0.647	-0.275	0.705	0.490
V147	0.594	-0.203	0.808	0.674	-0.677	0.513	0.853	0.642	0.670	0.534	-0.700	0.808	0.678	-0.335	0.000	0.000	0.405	0.082	-0.093	-0.458	0.740	-0.424	0.000	0.844	0.749	-0.270	0.612	0.000	0.000	0.344	-0.333	0.000	0.571	0.587	0.554	0.568	0.561	0.544	0.000	0.538	0.686	0.605	-0.622	0.744	0.679
V148	0.109	0.000	-0.021	0.652	-0.311	0.104	0.000	0.227	0.000	0.531	-0.513	0.525	0.599	-0.673	0.371	0.729	0.762	0.697	0.000	-0.553	0.100	-0.669	-0.248	0.334	0.432	0.000	0.503	0.000	0.000	0.112	0.622	0.748	0.273	0.233	0.380	0.158	0.147	0.558	-0.112	0.557	0.493	0.689	0.000	0.441	0.569
V150	0.227	0.000	0.345	0.459	0.152	0.196	0.327	0.246	0.257	0.347	-0.190	0.531	0.287	-0.329	0.174	0.264	0.486	0.302	0.000	-0.414	0.284	-0.459	0.534	0.209	0.185	-0.205	0.360	0.344	0.112	0.000	0.165	-0.138	-0.322	-0.323	-0.023	-0.073	0.346	-0.205	0.000	0.050	0.062	0.555	-0.238	0.075	0.119
V151	-0.220	-0.486	-0.334	0.200	0.251	-0.190	-0.316	-0.238	0.194	0.037	0.104	0.132	0.011	-0.335	0.288	0.436	0.467	0.499	-0.600	0.066	-0.411	-0.160	0.000	-0.311	-0.190	0.198	0.196	-0.333	0.622	0.165	0.000	0.623	-0.193	-0.181	0.038	-0.211	0.228	0.012	0.347	-0.004	-0.209	0.310	0.231	0.017	-0.091
V187	0.039	-0.254	-0.044	0.457	-0.340	0.373	0.000	0.160	0.232	0.350	-0.436	0.352	0.459	-0.529	0.425	0.376	0.578	0.301	-0.314	-0.283	0.138	-0.232	-0.242	0.232	0.348	0.000	0.424	0.000	0.748	-0.138	0.623	0.000	0.294	0.368	0.624	0.262	0.478	0.444	0.454	0.587	0.415	0.462	-0.322	0.533	0.346
V36	0.345	-0.098	0.478	0.465	-0.815	0.499	0.690	0.538	0.389	0.558	-0.787	0.463	0.622	-0.483	0.363	0.379	0.354	0.299	-0.045	-0.446	0.430	-0.246	-0.686	0.651	0.764	-0.182	0.335	0.571	0.273	-0.322	-0.193	0.294	0.000	0.923	0.621	0.847	0.182	0.906	0.020	0.757	0.804	0.351	-0.361	0.754	0.741
V38	0.465	-0.194	0.374	0.481	-0.738	0.623	0.666	0.448	0.365	0.460	-0.745	0.467	0.624	-0.510	0.376	0.203	0.379	0.136	-0.089	-0.494	0.533	-0.280	-0.743	0.659	0.709	-0.037	0.502	0.587	0.233	-0.323	-0.181	0.368	0.923	0.000	0.656	0.893	0.305	0.780	0.148	0.783	0.787	0.329	-0.338	0.787	0.593
V39	0.009	-0.223	0.341	0.572	-0.519	0.555	0.491	0.316	0.329	0.388	-0.705	0.607	0.778	-0.588	0.517	0.254	0.635	0.348	-0.103	-0.456	0.364	-0.144	-0.123	0.732	0.827	-0.028	0.576	0.554	0.380	-0.023	-0.038	0.624	0.621	0.656	0.000	0.521	0.628	0.646	0.458	0.819	0.756	0.520	-0.786	0.930	0.583
V40	0.5	0.0	0.5	0.4	-0.6	0.7	0.8	0.5	0.4	0.5	-0.8	0.4	0.6	-0.5	0.5	0.2	0.3	0.1	0.0	-0.6	0.6	-0.3	-0.7	0.5	0.6	-0.3	0.3	0.5	0.1	-0.0	-0.2	0.2	0.8	0.8	0.5	0.0	0.3	0.6	0.2	0.7	0.7	0.3	-0.3	0.6	0.5

	50	00	36	33	82	91	30	28	24	62	07	70	05	11	41	92	99	00	00	30	28	29	15	53	80	38	47	68	58	73	11	62	47	93	21	00	55	33	13	45	45	83	94	71	57
V41	0.189	-0.272	0.563	0.377	-0.222	0.468	0.533	0.104	0.668	0.129	-0.446	0.647	0.561	-0.198	0.299	-0.133	0.539	-0.002	-0.337	-0.301	0.387	-0.214	0.145	0.373	0.426	-0.334	0.402	0.561	0.147	0.346	0.228	0.478	0.182	0.305	0.628	0.355	0.000	0.134	0.677	0.342	0.315	0.618	-0.699	0.637	0.271
V42	0.313	-0.140	0.411	0.677	-0.845	0.354	0.530	0.621	0.354	0.699	-0.803	0.595	0.702	-0.611	0.262	0.561	0.506	0.519	-0.064	-0.469	0.390	-0.414	-0.503	0.733	0.807	-0.100	0.491	0.544	0.558	-0.205	0.012	0.444	0.906	0.780	0.646	0.633	0.134	0.000	-0.150	0.794	0.846	0.526	-0.328	0.776	0.884
V43	-0.283	-0.428	0.000	-0.130	0.171	0.372	0.139	-0.253	0.390	-0.210	-0.011	0.000	0.040	-0.089	0.522	-0.139	0.190	-0.097	-0.529	0.127	-0.120	0.421	0.023	-0.159	0.014	0.000	0.000	0.000	-0.112	0.000	0.347	0.454	0.020	0.148	0.458	0.213	0.677	-0.150	0.000	0.135	-0.087	0.000	-0.481	0.278	-0.275
V45	0.368	-0.064	0.330	0.773	-0.709	0.752	0.592	0.629	0.235	0.756	-0.897	0.641	0.821	-0.846	0.593	0.566	0.695	0.440	0.056	-0.743	0.600	-0.444	-0.422	0.805	0.893	-0.039	0.684	0.538	0.557	0.050	-0.004	0.587	0.757	0.783	0.819	0.745	0.342	0.794	0.135	0.000	0.941	0.582	-0.559	0.860	0.737
V48	0.481	0.102	0.536	0.785	-0.825	0.675	0.696	0.708	0.255	0.773	-0.956	0.730	0.884	-0.704	0.396	0.467	0.627	0.372	0.225	-0.783	0.715	-0.560	-0.381	0.918	0.957	-0.204	0.641	0.686	0.493	0.062	-0.209	0.415	0.804	0.787	0.756	0.745	0.315	0.846	-0.087	0.941	0.000	0.649	-0.569	0.864	0.881
V60	0.400	0.000	0.607	0.825	-0.456	0.346	0.575	0.433	0.452	0.620	-0.758	0.952	0.871	-0.596	0.319	0.483	0.880	0.553	0.000	-0.745	0.499	-0.828	0.000	0.655	0.703	-0.360	0.647	0.605	0.689	0.555	0.310	0.462	0.351	0.329	0.520	0.383	0.618	0.526	0.000	0.582	0.649	0.000	-0.419	0.696	0.754
V61	-0.076	0.000	-0.624	-0.385	0.469	-0.626	-0.591	-0.445	-0.465	-0.370	0.597	-0.514	-0.579	0.260	-0.311	0.000	-0.351	0.000	0.000	0.318	-0.513	-0.025	-0.266	-0.614	-0.682	0.370	-0.275	-0.622	0.000	-0.238	0.231	-0.322	-0.361	-0.338	-0.786	-0.394	-0.699	-0.328	-0.481	-0.559	-0.569	-0.419	0.000	-0.680	-0.471
V66	0.267	-0.237	0.519	0.734	-0.658	0.571	0.687	0.447	0.466	0.529	-0.844	0.803	0.899	-0.654	0.459	0.319	0.732	0.418	-0.109	-0.609	0.515	-0.409	-0.264	0.854	0.917	-0.062	0.705	0.744	0.441	0.075	-0.017	0.533	0.754	0.787	0.930	0.671	0.637	0.776	-0.278	0.860	0.864	0.696	-0.680	0.000	0.748
V2281	0.450	0.131	0.681	0.772	-0.858	0.388	0.645	0.732	0.388	0.790	-0.895	0.787	0.828	-0.533	0.159	0.512	0.581	0.462	0.162	-0.643	0.597	-0.638	-0.234	0.831	0.869	-0.405	0.490	0.679	0.569	0.119	-0.091	0.346	0.741	0.593	0.583	0.557	0.271	0.884	-0.275	0.737	0.881	0.754	-0.471	0.748	0.000

Appendix C

International attitudes towards immigrants

C.1 Countries and clusters

Table C.1: Countries included in the study and their country cluster

Cluster	Countries
1	Algeria, Armenia, Australia, Azerbaijan, Brazil, Japan, Republic of Korea, Netherlands, New Zealand, Pakistan, Palestine, Peru, Poland, Spain, Sweden, Uruguay
2	Belarus, Chile, Cyprus, Ecuador, Georgia, Germany, Estonia, Haiti, India, Jordan, Kazakhstan, Kuwait, Libya, Malaysia, Philippines, Singapore, South Africa, Taiwan, Thailand, United States
3	China, Colombia, Ghana, Hong Kong, Iraq, Kyrgyz Republic, Lebanon, Mexico, Morocco, Nigeria, Qatar, Romania, Russian Federation, Rwanda, Slovenia, Tunisia, Turkey, Ukraine, Uzbekistan, Zimbabwe

C.2 Country clusters by region

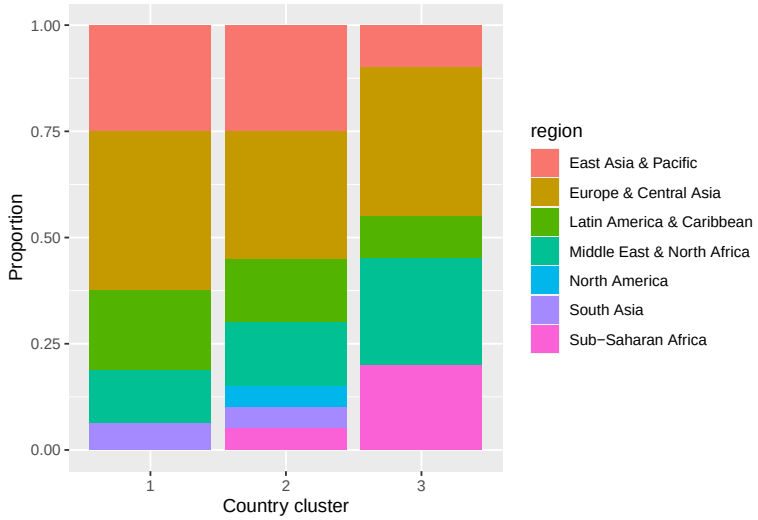


Figure C.1: Country clusters by region.

Appendix D

Appendix for social implementation project

D.1 Link to game

https://drive.google.com/file/d/1EBEOX6X_EzZqbQ67lFJ90q4XqC3mpst8/view?usp=sharing

Download instructions

1. Download as html file.
2. Launch and play in web browser, e.g. Chrome.

D.2 Consent form

同意書

プロジェクト名:外国人に対する認識についての調査

調査の目的と手順:この調査の目的は、移民に対する社会の認識について理解することです。この調査の所有時間は、約 30 分から 1 時間程です。調査の参加条件は日本人の大学生または大学院生である事です。調査やタスクはすべてパソコンを 使って行われます。

最初に事前調査を受けていただきます。その後、オンラインアクティビティー を終了することが求められますが、最後まで行うのに 15~30 分かかります。次に事後調査を受けていただきます。これらの調査では、 移民に対する認識やオンラインアクティビティーに対する認識が問われます。

リスクと効果:この調査に関連したリスクは認められていませんが、あなた自身の認識についての質問が問われます。もし不快に感じられる質問があれば、答えなくてかまいませ ん。参加者には、銀行振込で 1,000 円の報酬が支払われます。

個人情報の管理について:提出された情報は、個人が特定されない形で保持さ れます。氏名やメールアドレスは、調査の中で収集するデータと結びつけられません。この調査では平均的な回答を得ることが目的であるため、文書化されたこの調査報告書から個人として特定されることはありません。研究代表者の Rachael Kei Kawasaki のみがこのデータにアクセスすることができ、情報のすべてが鍵のかかったオフ ィスに常時安全に保管されます。

研究成果の公開について:この調査で得られた結果は、雑誌の記事や口頭発表で使用される可能性があります。結果についての口頭発表は 1 月下旬から 2 月初めに行われますので、ご出席くだ さい。その発表についての具体的内容は後ほど詳しく学部全体にお知らせしますが、発表 への出席は自由です。

同意を撤回する権利:この調査への協力は自由意志です。この調査に参加するには、同意書に同意していただくことが必要です。参加選択によってあなたが不利になったり、調査を実施する研究者や学部や大学とあなたの関係に影響したりすることは一切ありません。

調査に参加すると決めた場合、回答を提出する前のどの時点でも同意撤回が可能です。ただし、調査が無記名で行われることから、提出後に回答を取り 消すことはできません。撤回によるペナルティーなどは一切ありません。

調査を終える前に撤回することを選択した場合は、謝礼が受け取れるように、次のメールアドレスに連絡の上、同意を取り消すことを説明してください。(棄権の理由を説明する 必要はありません): kawasaki.kei.52e@st.kyoto-u.ac.jp.

同意及びコピーを受け取る権利:あなたは自分の意志でこの調査研究に参加するか否かを決めることになりますので、ご自身の記録のために、同意書のコピーを1部お送りします。

研究に関する相談の対応：当研究調査への参加に同意する前、実施中または実施後に、この調査に関す質問等がありましたら、研究者の河崎レイチェル慧 宛てに、メールか電話でご連絡ください。

連絡先:

河崎レイチェル慧(研究代表者)

メール: kawasaki.kei.52e@st.kyoto-u.ac.jp

電話: 090 5943 1858

* Indicates required question

1. Email *

2. この調査への参加に同意される場合は「同意します」をチェックしてください。 *

   参加に同意されない場合は、このウィンドウを閉じて、調査から退出してください。 ご協力ありがとうございました。

   Mark only one oval.

   ◯ 参加に同意します

D.3 Survey

外国人に対する認識のアンケート

この度は、本アンケートにご協力いただきありがとうございます。あなたの回答は、 移民に対する考え方を理解する上で、大きな参考になります。

ガイドライン

1. このアンケートは、携帯電話ではなく、必ずパソコンで回答してください。30分~1時間程 度集中できる静かな場所で、スピーカーを使用できるようにしてください。
2. 質問には、できるだけ正直に答えてください。答えにくい質問もあるかもしれませんが、 私はあなた自身の意見に興味があります。他の人々があなたの答えに同意しなくてもかまいません。
3. 答えるのに抵抗がある質問があった場合は、自由に飛ばしてください。
4. アンケートを中止したい場合は、いつでもアンケートを終了し、主任研究員(河崎レイチェル慧) kawasaki.kei.52e@st.kyoto-u.ac.jp までメールを送信してください。
5. すべての回答は、完全に匿名で収集されます。

ご質問がある場合はいつでも、主任研究員(河崎レイチェル慧) kawasaki.kei.52e@st.kyoto-u.ac.jp までメールを送信してください。

改めて、ご協力に感謝いたします!

* Indicates required question

移民の定義

このアンケートは全体を通して、移民について取り上げています。移民とは、国際移住機関(IOM)と国際連合経済社会局(DESA)によって、「少なくとも1年(12カ月)の期間、彼または彼女の通常の居住国以外の国に移住し、移住先の国が実質的にその人の新しい通常の居住国になる人」と定義されています。

つまり、移民とは、その国に1年以上滞在し、その国が通常の居住地となるのであれば、その国で働く人、勉強する人、難民、家族のもとに来る人なども含まれるのです。

予備調査

オンライン活動を始める前に、あなた自身について、いくつかの簡単な質問をさせていただきます。

1. 性別 *

Mark only one oval.

- ◯ 男性
- ◯ 女性
- ◯ 回答たくありません

2. 現在、学部生ですか?それとも大学院生ですか? *

Mark only one oval.

- ◯ 学部生です
- ◯ 大学院生です
- ◯ 回答たくありません
- ◯ Other: _____

3. あなたは日本国籍を持っていますか? *

Mark only one oval.

- はい
- いいえ
- 回答たくありません

4. あなたの年齢を教えて下さい。 *

Mark only one oval.

- 18歳未満
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36歳以上
- 回答たくありません

5. ご両親のどちらかが外国籍の方ですか? *

Mark only one oval.

- ◯ いいえ
- ◯ 母が外国籍です
- ◯ 父が外国籍です
- ◯ 両親が外国籍です
- ◯ 回答たくありません

6. あなたは外国に3カ月以上住んだことがありますか? *

Mark only one oval.

- ◯ はい
- ◯ いいえ
- ◯ 回答たくありません

7. 移民と一緒に過ごすことはありますか。 *

Mark only one oval per row.

	無い	めったに無い	時々ある	頻繁にある	毎日	回答したくありません
学校で	◯	◯	◯	◯	◯	◯
学校以外で	◯	◯	◯	◯	◯	◯
近所で	◯	◯	◯	◯	◯	◯
仕事先で	◯	◯	◯	◯	◯	◯

8. あなたの親しい友人のうち、何人が移民ですか? *

Mark only one oval.

- いない(0)
- 1人(1)
- 2〜3人(2-3)
- 4〜5人(4-5)
- 6人以上(6+)
- 回答たくありません

9. 移民に対してどのような感情を抱いているか、1~10の数値でお答えください。 * 高い数値はポジティブな感情を表します。

Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
ネガ	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	ポジティブな感情

オンライン活動

オンライン活動は、外国人の視点に立ったゲームです。

- 以下のHTMLファイルをダウンロードしてください。
- ファイルをダウンロードする必要があります。Googleドキュメントではプレイできません。
- インターネットに接続されている必要があります。
- このウィンドウは閉じないでください。ゲーム終了後、このウィンドウに戻り、アンケートを終了してください。

何か問題や質問がありましたら、お気軽に調査責任者の川崎レイチェル・ケイ (kawasaki.kei.52e@st.kyoto-u.ac.jp)までメールをお送りください。

オンライン活動をダウンロードする

事後調査

10. ここまでで行ったアンケートを振り返ってみてください。アンケートの間、あなたはどのように感じていましたか? 何を考えていましたか? 印象に残ったことは何ですか? *

Untitled Section

11. 日本で暮らす移民について、以下の記述にどの程度賛成ですか?

	強く反対する	反対	賛成も反対もしない	賛成	強く賛成する	回答たく ありません
日本に住んでいる 移民がもっ と努力すれば、 日本人と同じように 暮らせるだろう						
日本に住んでいる移民は、 良い日本市民であるために必要な価値観や行動と異なるものを 持っている。						

12. この国に住む移民は、自分と同じ日本人とどのように異なり、または似てい ると思いますか?

	非常に異なる	異なる 部分がある	似ている部分がある	非常に似ている	回答たくありません
日本人と 移民は、 子供たち にどのよ うな価値観を教え るかとい う点にお いて、ど の程度似ていると 思います か?					
日本人と 移民は、 宗教的な 信条や習 慣の面において、 どの程度 似ている と思いま すか?					

13. 日本に住む移民について、次のように感じたことがありますか?

	無い	ほぼ無い	たまにある	頻繁にある	回答たくありません
移民に共感 したことは あります か?					
移民に感心 したことは あります か?					

14. 次の質問に対して、あなたはどの程度賛成ですか?

	強く反対する	反対	賛成も反対もしない	賛成	強く賛成する	回答たく ありません
合法的な移 民であれば、日本に 直系親族を呼び寄せる 権利を持つべきだ。						
合法的な 移民は、仕事に就いていない場合 は出身国 に送り返す べきであ る						
合法的な 移民は、すべて彼らの 出身国に 送り返すべ きである。						
合法的な 移民は、容易に帰化で きるように すべきであ る。						
合法的な 移民は、 日本国民 と同じよう に仕事に就くことが できるべき である。						

合法的な 移民は、 日本国民 と同じよう に教育を 受けること ができるべきであ る。						
合法的な 移民は、 日本国民 と同じよう に医療を 受けること ができるべ きである。						
合法的な 移民は、日 本国民と 同じように 住む場所、 住居を選 択できるべ きである。						

15. 以下の記述は、あなたをどの程度よく表していると思いますか?

	全く私のことを表していませ ん	2	3	4	かなり私のことを表してい ます	回答たくありません
自分が正しいと思えば人の議論に耳 を傾けることはあまりありません。この移民に対する事柄も同様です。						
私はしばしば、彼らの出身国が人々に与える影 響を目の当たりに し、感傷を 覚えます。						
「相手の立 場に立って 物事を見 るということは、特にそれが外 国人の場 合、難しく感じることがあります。						

「移民の不幸」については、普段はあまり気にすることはありません。						
私は、彼らの出身国によって不利益を被っているのを見たとき、彼らに対して擁護したい気 持ちになります。						
私はよく、自分より不幸な外国の人たちに対 して、温かい、心配する気持ちを抱くことがあります。						
私は、外国の人を批判する前に、自分がその人の立場 だったらどう 感じるか、想像してみます。						
私は、外国の方に不快な思いをさせられ たとき、しばらくの開いた「相 手の立場になって」考えてみることにしています。						

16. このリストには、さまざまなグループの人々が含まれています。この中で、あなたがご近所付き合いをしたくないな、と思われる方はいらっしゃいますか?

	近所にいてほしくありません	近所にいても気にしませ ん	わかりません	回答たくありません
異なる人種の人々				
移民・外国人労働 者				

異なる宗教の人				
同棲している未婚 のカップル				
日本語を話さない人				

様々な国から来た生徒がいるクラスの中で、自分だけが日本人の生徒 だと想像してみてください。あなたはどのように感じますか? 次の質問で答えてください。

		1	2	3	4	5	
17.	幸福を感じる						不幸を感じる
18.	不安になる						安心感を 覚える
19.	恐怖を感じる						恐怖は感じない
20.	気まずさを感じる						気楽さを感じる
21.	心配になる						喜びを感じる
22.	内向的・防衛的になる						外交的になる
23.	自信が持てる						自信が持てない

24. この活動に関する以下の記述にどの程度同意されますか？

	強く反対する	反対	賛成も反対もしない	賛成	強く賛成する	回答たく ありません
この活動 から学ぶ ことはあま りありませ んでした。						

この活動 は、私が学んだことを思い出すのに役立ちそうです						
時が経つのを忘れるほど熱中していました。						
この活動は 私の関心を引くことはありませ んでした。						
私はこの活 動を楽しみました。						
私はこの活動に面白さを感じました。						
私はこの活動 は長すぎると感じました。						

25. その他、ゲームやアンケートなどについて、ご意見・ご質問があればお聞かせください。

_____

_____

_____

_____

_____

_____

D.4 Responses to qualitative question

Table D.1: Responses to the qualitative response question, as well as the respondent's answer to the pre-test general feelings question.

Qualitative response	General feelings
移民になぜそこまで重点を置いてるのか気になる	10
言葉が理解できない不自由さを感じました。	9
混乱していた。間違ったことを言ってしまったり、誤解されたらどうしようと思った。	8
私自身が移民の方と触れ合った経験について考えていました。「移民」というだけで無条件に多くのことを押し付けられ、目に見えない努力をないものとされていると感じました。	8
自分が理解できていない言語を普段と同じ速度で話されてしまうと混乱してしまい適切な返答をすることができないと感じました。	8
私は、アンケートの間移民の問題について答える時とても不安でした。外国の人と関わった機会が少なく回答できるか難しく感じました。ゲームを通してですがコミュニケーションをするのが大変でした。普段使っている言語が日本語ですが、違う言語を使って話そうとすると話が通じているのか不安でした。人の話を理解しようと聞き、丁寧な言葉で接しようと考えていましたが、緊張してしまいました。	8
移民の方が近くに住んでいないため、今回のゲームである意味移住することの覚悟を感じた。特に、違う文化に入ることになるので、移民の方は相当な覚悟を持って行動したのだと感じた。	5
日常生活でかかわる移民はいるのかどうか考えていました。ハーフであるといった情報をもっていても、その人々の過去を知らないため、移民の定義に当てはまるかどうかわからなかった。	3

D.5 Results of immigration policy questions in social implementation

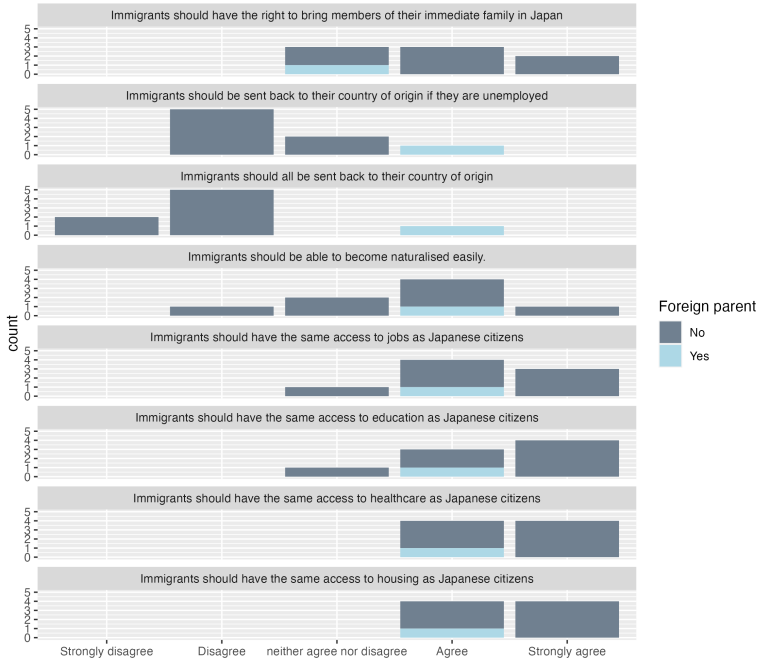


Figure D.1: Responses by participants to policy questions. NOTE: all questions asked used the phrase "Legally established immigrants" instead of immigrants.Overall, respondents agreed with immigrants having the same access to institutions as Japanese citizens, especially in regards to housing and healthcare. They were mainly against deporting immigrants, though slightly more in agreement with deporting immigrants who were unemployed. Finally, a greater number neither agreed nor disagreed when it came to naturalization and bringing family members. Interestingly, the respondent with a foreign parent often showed more restrictive policy preferences than the other respondents, even in favor of sending all immigrants home, despite having some of the most positive attitudes towards immigrants. This finding could be a misunderstanding on the part of the participant or evidence of what scholars have previously noted, namely that attitudes towards immigration and attitudes towards immigrants, while often related, are distinct attitudes and separate attitudes.

D.6 Subtle prejudice

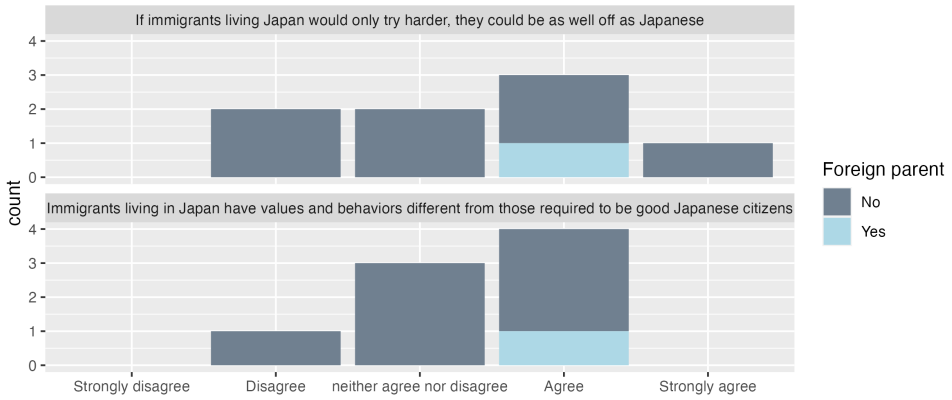


Figure D.2: Answers to traditional values portion of subtle prejudice scale (Pettigrew and Meertens, 1995)

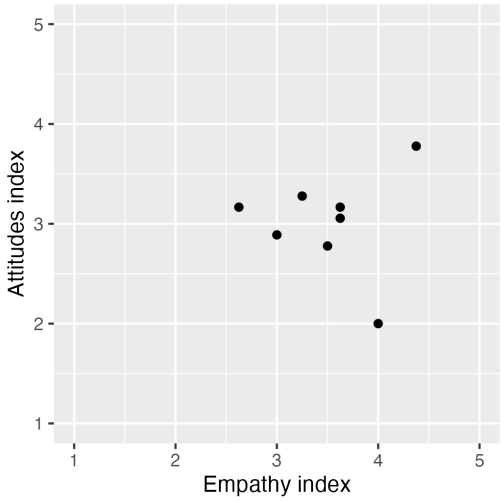


Figure D.3: Relationship between empathy and subtle prejudice

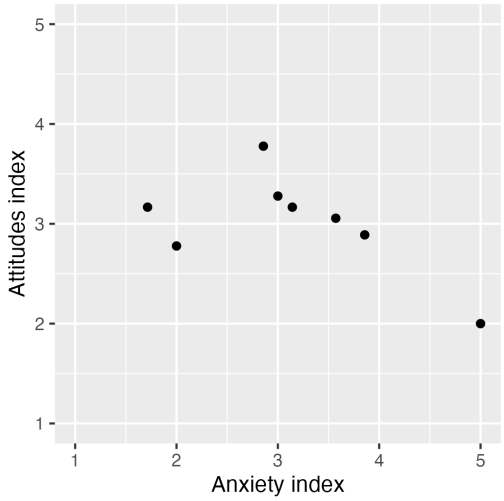


Figure D.4: Relationship between anxiety and subtle prejudice.

D.7 Distribution of variables

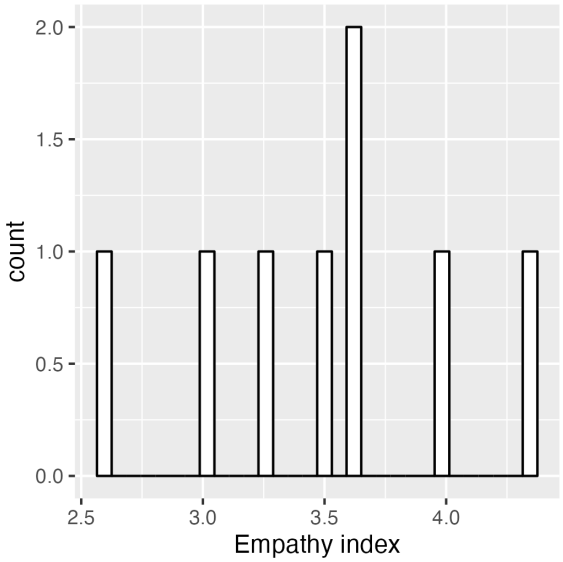


Figure D.5: Distribution of scores for empathy index

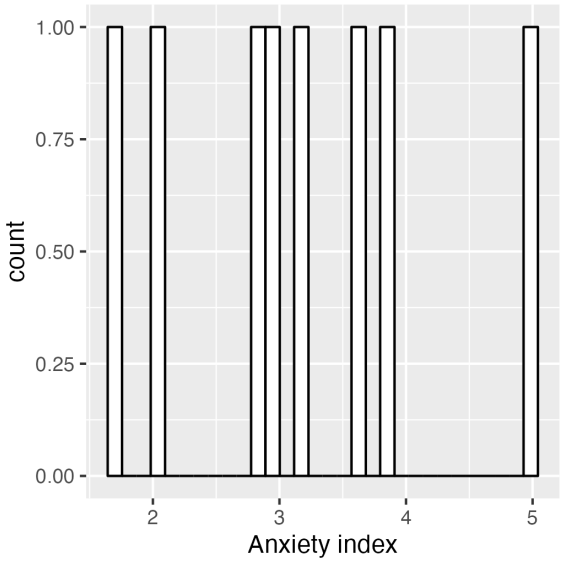


Figure D.6: Distribution of scores for intergroup anxiety index

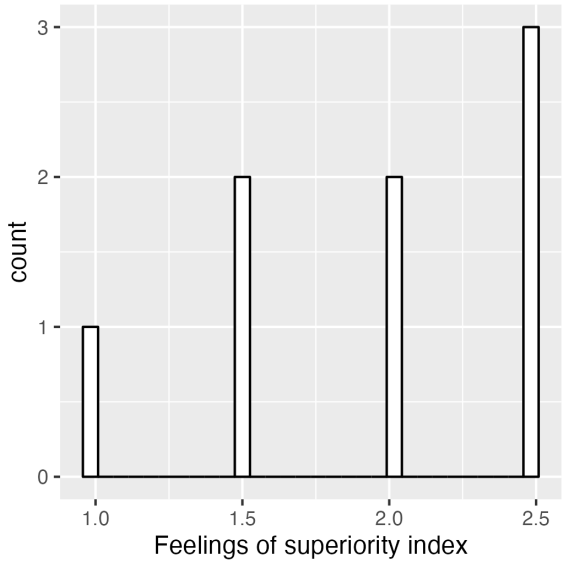


Figure D.7: Distribution of scores for feelings of superiority index

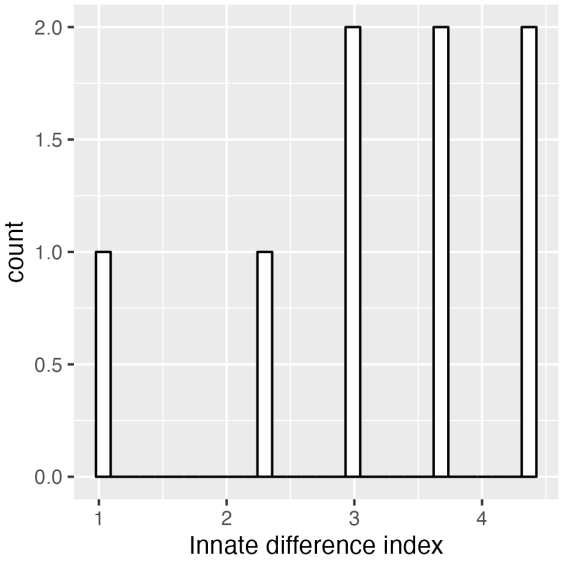


Figure D.8: Distribution of scores for innate difference index