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ATTITUDES TOWARDS IMMIGRANTS AND IMMIGRANT EXPERIENCES: PREDICTIVE MODELS BASED ON REGIONAL CHARACTERISTICS



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EXECUTIVE SUMMARY

In a globally competitive market, New Zealand has set about formulating immigration policy and practices for economic growth and development. At the same time, due consideration has been given to the social impacts of immigration and the challenges of maintaining a socially inclusive, harmonious society. To manage the risks and realise the benefits of immigration it is critical that New Zealand is able to:

- attract and retain skilled immigrants
- ensure that immigrants' skills and talents are used effectively to contribute to economic growth and development
- facilitate immigrant integration and ensure that social cohesion is not threatened.

Consequently, it is important to consider both New Zealand's receptiveness towards new migrants and the challenges that new migrants encounter during settlement in this country.

This report makes use of two current sources of national research to assess a range of social impacts of immigration in New Zealand. The first source is the national Attitudes toward Immigrants, Immigration and Multiculturalism (AIIM) Survey. The second source is Wave 1 of the Longitudinal Immigration Survey: New Zealand (LisNZ), which was based on the responses of new migrants surveyed within 6 months of their taking up permanent residence.

The AIIM Survey data were collected by computer-assisted telephone interview in 2004–2005 and based on the responses of members of 2,020 randomly selected households. The LisNZ data were based on the responses of 7,137 migrants approved for residence between November 2004 and October 2005. These data were weighted to reflect the characteristics of the population approved for residence during this period. Census data were used to provide information on 1) the proportion of overseas-born and 2) the proportion of overseas-born resident for less than 9 years in New Zealand by territorial authority.¹ This represented the total immigrant and new immigrant populations, respectively. Census data also provided information on unemployment rates by territorial authority.

Data from the above sources were analysed with hierarchical linear modelling to address two questions.

- Do New Zealanders' attitudes towards immigrants (valuing immigrants, perceived threat, and endorsement of integration) vary across territorial authorities as a function of immigrant density and unemployment rates?
- Do immigrant experiences (life satisfaction, perceived discrimination, feelings of settlement and safety, and job satisfaction) vary across territorial

¹ The Local Government Act 2002 defines a territorial authority as a city council or district council. There are currently 73 territorial authorities (15 cities and 58 districts). When the data were collected for this report there were 74 territorial authorities, because Banks Peninsula District was separate from Christchurch City until 2006.

authorities as a function of attitudes towards immigrants, immigrant density, and unemployment rates?

The analyses were conducted controlling for income and percentage of New Zealand European residents at the territorial authority level and controlling for individual-level demographic factors (age, gender, education, country of birth, and employment status).

The five key findings were as follows.

- Attitudes towards immigrants in New Zealand are largely positive.
- After controlling for the other factors listed above, most indicators of attitudes to immigrants did not show a significant relationship with the density of immigrants in an area.
- There is some evidence of a curvi-linear relationship between the density of new immigrants and attitudes towards them. While New Zealanders tend to value immigrants more as their numbers increase, at the high end (specifically in Auckland) further increases are associated with more negative attitudes.
- After controlling for other factors, levels of perceived discrimination decrease as immigrant density increases.
- Contrary to international research findings, unemployment trends were not found to be related to attitudes towards immigrants, once control variables were included in the model.

Other findings, controlling for other factors, were that:

- more positive attitudes (stronger endorsement of integration and lower levels of perceived threat) occur in areas with higher incomes
- more positive attitudes towards immigrants are found among women, young people, people with higher levels of education, and people who are overseas-born
- immigrants feel safer in higher income territorial authorities
- men report greater life satisfaction and feeling more settled, but feeling less safe, than women
- younger people and people with a higher level of education experience more frequent discrimination and feel less settled in New Zealand.

In addition, migrants who intend to stay in New Zealand for less than 3 years are more likely to be women and less educated. They also are more likely to report experiencing discrimination, experiencing lower levels of life and job satisfaction, and feeling less settled.

The results are discussed in relation to international research on immigrants and immigration, and policy implications are considered. The relationship between immigrant density and attitudes has been examined in a number of international comparative studies, with many finding a link between higher concentrations of immigrants and greater anti-immigrant sentiments. The findings of our research are inconsistent with many of these findings. Generally speaking we found little evidence of a negative relationship between migrant density and either attitudes towards immigrants or immigrant experiences.

Strategies and interventions such as those that increase favourable intercultural contact, and diminish the perceived threat are recommended to assist in maximising the economic benefits and minimising the social risks of immigration.

1 BACKGROUND AND CONTEXT

The face of New Zealand is changing continuously. With nearly one in four New Zealanders born overseas, New Zealand is a country that has been built on immigration. Permanent migrants have and will continue to play a role in our development as we seek to attract the skills and talents that will help grow our nation. (Christopher Blake, Secretary of Labour, in Masgoret et al, 2009, p.7)

In a globally competitive market, New Zealand has set about formulating immigration policy and practices for economic growth and development. At the same time, due consideration has been given to the social impacts of immigration and the challenges of maintaining a socially inclusive, harmonious society in the face of increasing cultural diversity. To manage the risks and realise the benefits of immigration it is critical that New Zealand is able to:

- attract and retain skilled immigrants
- ensure that immigrants' skills and talents are used effectively to contribute to economic growth and development
- facilitate immigrant integration to ensure that social cohesion is not threatened.

New Zealand attracts 40,000–50,000 new immigrants annually. Over time, however, approximately 20–25 percent of these immigrants leave the country, and the departure rates are highest for those in the Skilled Migrant Category and business categories (Department of Labour, 2009). The factors underpinning New Zealand's migrant loss are not yet well understood, but international research indicates that failure to find a job and failure to fit into the host society are amongst the main reasons for return migration (OECD, 2008).

Ensuring employment opportunities match migrants' skills is critical for New Zealand to maximise the economic benefits of immigration and to retain skilled migrants. Although the Longitudinal Immigration Survey: New Zealand (LisNZ, Wave 1) found that 83 percent of new migrants found work in New Zealand at a similar or higher skill level than in their previous country (Masgoret et al, 2009), other sources suggest that New Zealand may be missing out on migrant skills and talents. Census data show that the overseas-born are more likely to be unemployed and to earn lower wages despite having a higher average level of education than their native-born peers (Bedford et al, 2001; Ministry of Social Development, 2008; Statistics New Zealand, 2002). Furthermore, research by the Centre for Applied Cross-cultural Research has clearly demonstrated bias against overseas-born job candidates by potential employers (Podsiadlowski, 2006) and recruitment agencies (Ward and Masgoret, 2007). These data converge to suggest that not only are migrant skills important for national economic development, but that New Zealanders' perceptions of and attitudes towards new settlers may affect migrants' capacities to contribute to these economic objectives.

New Zealanders' perceptions of new migrants also bear on issues pertaining to social cohesion. Discrimination towards particular immigrant groups has been cited by the Ministry of Social Development (2008) as a social cohesion problem as has the lack of migrant participation in social, cultural, and political life. Belonging and participation are key elements of a socially cohesive society. Indeed, according to Spoonley et al (2005, p 103), a socially cohesive society is achieved when 'ethnically and culturally diverse communities and individuals experience a sense of belonging and their contribution is recognised, celebrated and valued,' and 'all people in New Zealand are able to participate in all aspects of New Zealand life.' It appears that we still have some way to go to achieve this ideal. In 2009 the Human Rights Commission received over 500 race-related complaints with one of the most common areas relating to employment.² There was also a large increase in complaints for inciting racial disharmony (Human Rights Commission, 2010). This, coupled with the 10 percent of New Zealanders who reported discrimination in the 2008 General Social Survey, largely on the basis of nationality, race, ethnicity or skin colour, is a cause for significant concern (Statistics New Zealand, 2009).

Not only does discrimination undermine national social cohesion, it also has direct and detrimental consequences for immigrants and their families. There is ample evidence that perceived discrimination and social exclusion are associated with poorer psychological and social adaptation in immigrants (Ward et al, 2001). Conversely, immigrants who are able to integrate (that is, maintain their original cultural heritage and participate in the wider society) have better psychological and social outcomes, including higher levels of life satisfaction (Berry et al, 2006).

For this country to attain its economic goals and to maintain a culturally diverse and harmonious society, it is important to increase our understanding of both immigrant experiences and our receptiveness to new settlers. Economic aspects of settlement outcomes, such as appropriate employment, as well as psychosocial aspects of the immigrant experience, such as perceived discrimination and life satisfaction, are key issues. The economic and social objectives of immigration and the indicators of success such as recognition of migrants' contributions to New Zealand, harmonious ethnic relations, and migrant well-being suggest that it is also important to examine the direct relationship between public attitudes and immigrant experiences.

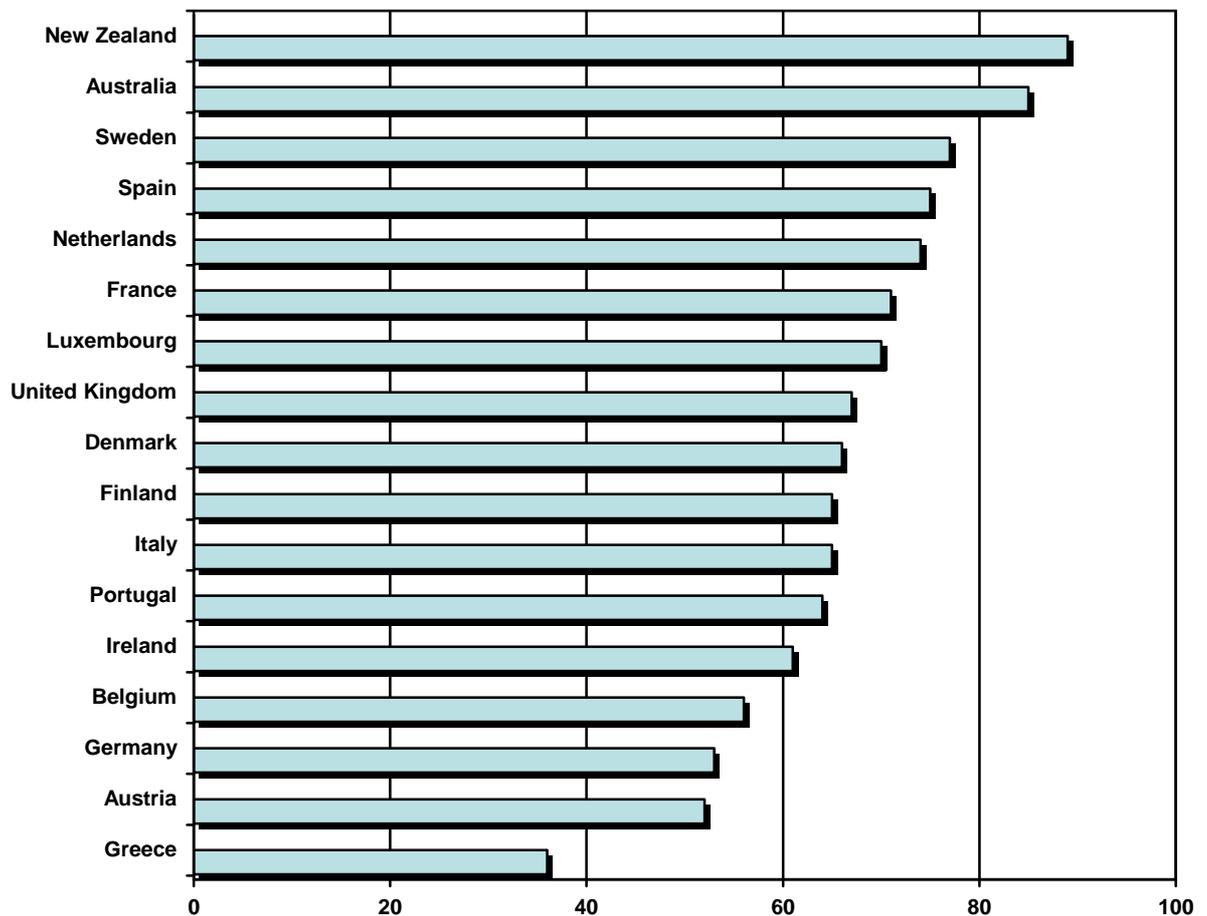
This report makes use of two current sources of national research to assess a range of social impacts of immigration in New Zealand. It focuses on the links between public attitudes and settlement outcomes, involving both New Zealanders' responses to migrants and migrants' opportunities and experiences in New Zealand.

² In addition to the record number of complaints (814) in response to an email from Te Tai Tokerau member of parliament, Hone Harawira, that many considered offensive.

Attitudes towards immigrants in New Zealand

According to Ward and Masgoret's (2008) national Attitudes towards Immigrants, Immigration and Multiculturalism Survey, New Zealanders have a strong multicultural ideology, with 89 percent agreeing that it is a good thing for a society to be made up of people from different races, religions, and cultures. This is significantly greater than the agreement found in national surveys in Australia and in 15 European Union countries (Figure 1.1). Reflecting this multicultural ideology, New Zealanders also strongly endorse integration. Eighty-two percent agree with the notion that immigrants should be able to maintain their traditional culture while also adopting New Zealand culture. In contrast, only 21 percent endorse assimilation – the notion that immigrants should give up their original culture for the sake of adopting New Zealand culture (Ward and Masgoret, 2008).

Figure 1.1: Multicultural ideology across countries – percentage agreement that it is a good thing for a society to be made up of people from different races, religions, and cultures



Note: These data are reported in Ward and Masgoret (2008). European data are from Eurobarometer (2000), and Australian data are from a national survey by Dunn (2003).

On the whole, attitudes towards immigrants in New Zealand are positive: they are largely perceived as making a valuable contribution to the nation and as posing relatively low levels of threat. This is illustrated in Table 1.1, which reports selected outcomes from the 2004–2005 Attitudes toward Immigrants, Immigration and Multiculturalism (AIIM) Survey (Ward and Masgoret, 2008). In addition, the research found support for government policy on the numbers (53 percent) and the sources (61 percent) of immigrants.

Table 1.1: Attitudes towards immigrants

Statement	Percentage agreement (%)
Valuing immigrants	
Immigrants have made an important contribution to New Zealand.	81
Immigrants have many qualities I admire.	82
Perceived threat	
Immigrants take jobs away from New Zealanders.	25
Immigration increases the level of crime.	26
Immigration tends to threaten New Zealand culture.	25
The unity of this country is threatened by New Zealanders of different ethnic and cultural backgrounds.	20

Source: Ward and Masgoret (2008).

Analysis of the AIIM Survey data has also shown that attitudes towards immigrants are influenced by personal background characteristics. More positive attitudes towards immigrants were found in those who are overseas-born and multilingual. In line with human capital theory, which emphasises the competencies and resources underpinning the capacity to contribute to economic development (Rustenbach, 2010), tertiary-educated people had more positive attitudes than others. However, contrary to the predictions of the theory of economic competition (Rustenbach, 2010), when employment status and income were independently examined, there were no significant differences between the employed and unemployed or across income levels. Age and gender were also found to be unrelated to valuing immigrants, but men and older people viewed immigrants as more threatening.

Finally, there was some evidence of regional variation in attitudes towards new settlers. More specifically, Auckland residents viewed immigrants as posing greater levels of threat (for example, taking jobs, increasing crime, and threatening New Zealand culture) than those living in Wellington and Christchurch.

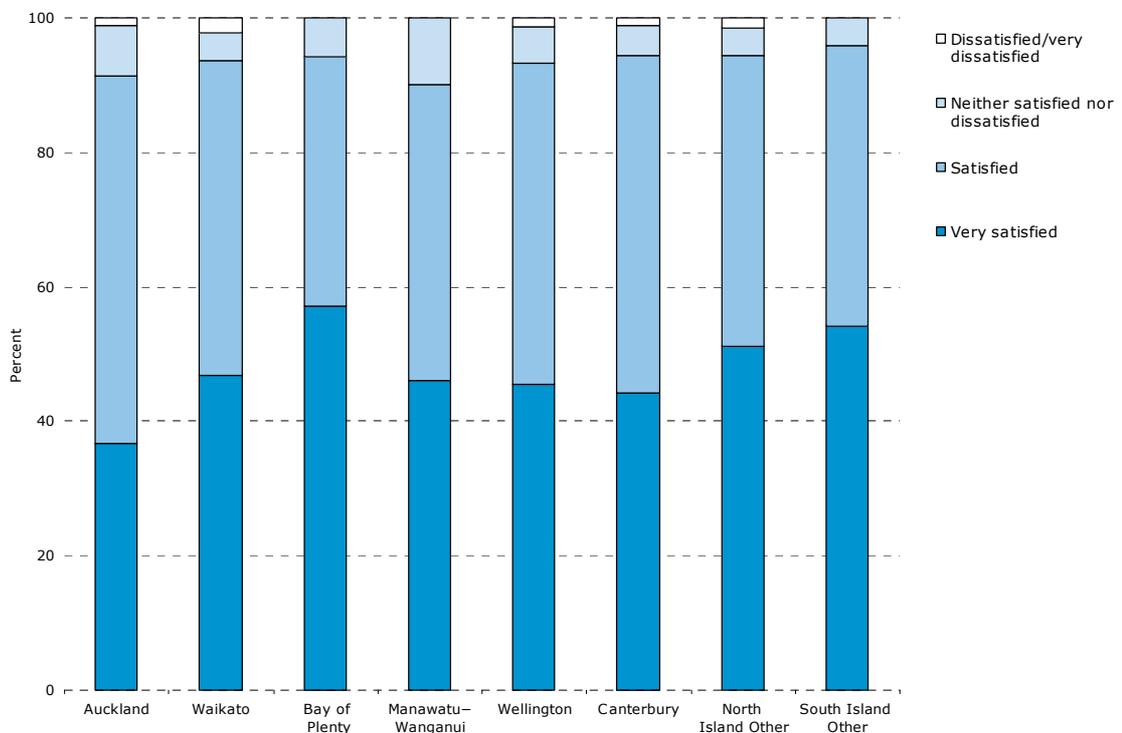
In this report we go beyond the analysis of individual-level characteristics and consider the association between regional-level factors, specifically immigrant density and unemployment, and attitudes towards immigrants.

Immigrant experiences in New Zealand

New Zealand's capacity to attract and retain highly skilled immigrants is affected by the quality of life that is afforded to these newcomers. The Longitudinal Immigration Survey: New Zealand (LisNZ, Wave 1) found that these experiences are largely positive (Masgoret et al, 2009).

Ninety-three percent of migrants reported feeling satisfied or very satisfied with life in New Zealand; however, these patterns were significantly affected by region of origin and region of settlement. Asian immigrants were significantly less likely to be satisfied than those from Europe and North America, and migrants living in the Auckland region were significantly less likely to report feeling satisfied than those living in other regions. Figure 1.2 reports the pattern of life satisfaction across regions.

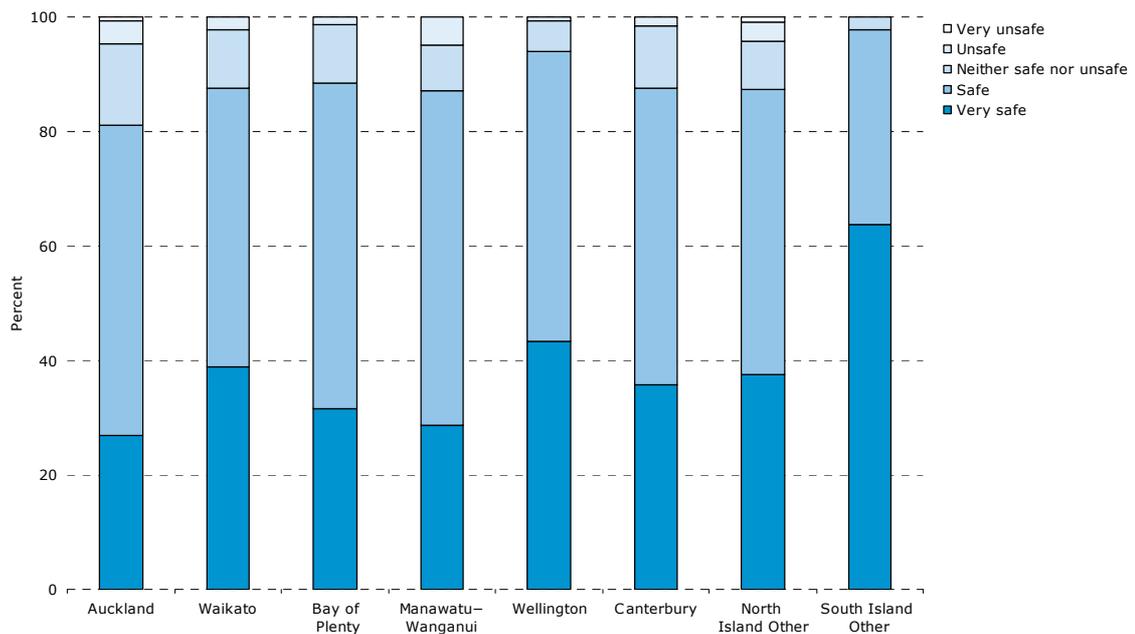
Figure 1.2: Migrant satisfaction with life in New Zealand



Source: Masgoret et al (2009).

Eighty-seven percent of migrants felt settled or very settled, and 86 percent felt safe or very safe. However, there were significant differences across regions. Those living in the Auckland region were significantly less likely to report feeling very safe than those in Wellington, Canterbury, and the Waikato. Migrants in the South Island (outside of Canterbury) were significantly more likely to report feeling very safe than migrants from any other region (Figure 1.3).

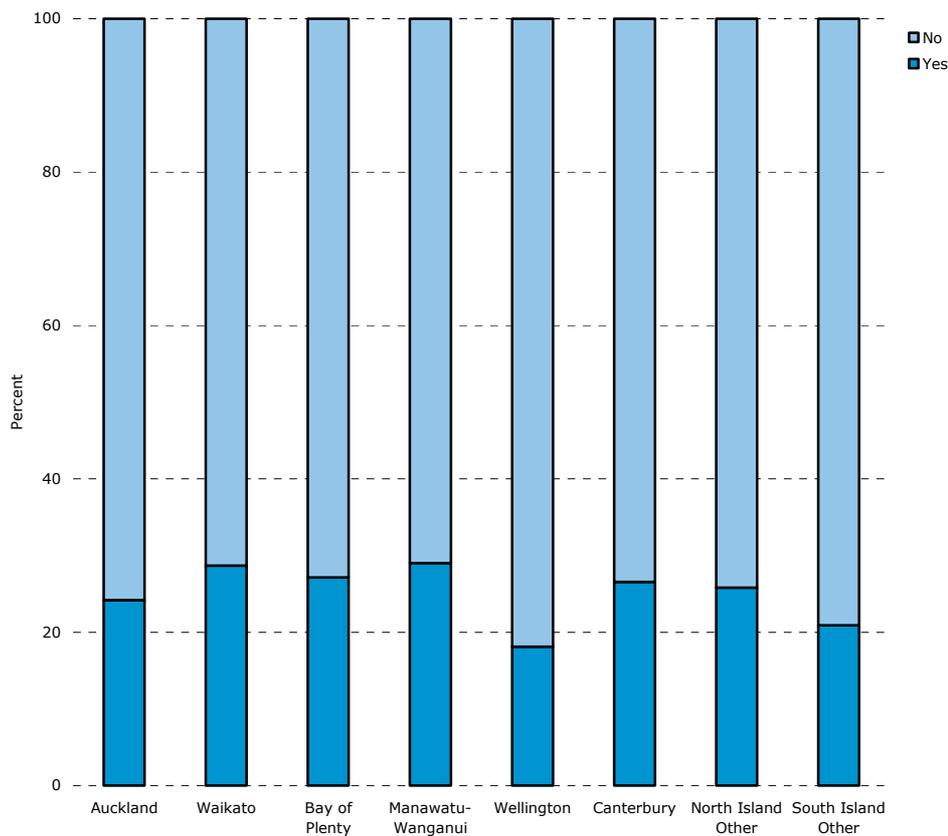
Figure 1.3: Migrant safety



Source: Masgoret et al (2009).

The majority of migrants were employed (70 percent), and only 4 percent were seeking work. Of those in the labour force, most (79 percent) were satisfied or very satisfied with their jobs and about a quarter (24 percent) reported incidences of discrimination. Migrants from North and Southeast Asia were most likely to report discrimination, and those in Wellington were less likely to report discrimination than those in Auckland, Canterbury, and the Waikato. Figure 1.4 illustrates these findings.

Figure 1.4: Migrants' experiences of discrimination



Source: Masgoret et al (2009).

Overall, research suggests that there are significant regional variations in the patterns of settlement as well as public attitudes towards immigrants. However, in both cases the level of regional analysis is relatively crude. In this report, we consider variations in attitudes and experiences across smaller geographical units, New Zealand's territorial authorities, as a more refined means of examining fluctuations. This represents an advance in immigration research as Rustenbach (2010, p 60) has stated that

Although the number of studies that utilize regional- and national-level variables to study anti-immigrant attitudes has been increasing, the inclusion of national-level variables is still relatively new and studies that include regional-level variables are scarce.

Although there are a number of regional characteristics that may affect attitudes and experiences, including education and income levels, political affiliation, and ethnic composition of the population living there, in this report we concentrate on two key variables: immigrant density and unemployment. We also include individual-level factors in our analyses, specifically gender, age, and education, as these are not discussed in Masgoret et al (2009).

2 IMMIGRANT DENSITY AND UNEMPLOYMENT

The relationship between immigrant density and prejudicial attitudes has been examined in international comparative studies. Although the findings are by no means conclusive, there is substantial evidence that higher concentrations of overseas-born residents and ethnic minorities are linked to greater anti-immigrant sentiments and hostile ethnic attitudes. These trends have emerged in cross-national studies using European data (Quillian, 1995), as well as neighbourhood-level research in Germany and the United Kingdom (Dustmann et al, 2010; Gang et al, 2002). Depending on the relative emphasis on economic, social, and psychological factors, the findings are typically interpreted in terms of economic competition theory (Rustenbach, 2010), ethnic competition theory (Schneider, 2008), or psychological models of group conflict (Esses et al, 1998; Levine and Campbell, 1972).

Not all studies, however, have confirmed a link between immigrant density and public attitudes (Card et al, 2005; Rustenbach, 2010). Furthermore, in at least one instance less opposition to immigration was found in countries with larger immigrant populations (Sides and Citrin, 2007).

We suggest that the equivocal findings may arise from the sole search for linear relationships between immigrant density and public attitudes. More specifically, while an increasing number of immigrants is likely to lead to greater perceptions of threat and hence more prejudicial attitudes, it also affords greater opportunity for intergroup contact and friendship formation. Contact is known to be associated with more positive attitudes towards outgroups in general and immigrants in particular (Voci and Hewstone, 2003; Ward and Masgoret, 2006, 2008). Indeed, a recent meta-analysis of over 500 studies of intergroup contact demonstrated a medium effect size for contact on intergroup perceptions and relations (Pettigrew and Tropp, 2006).

Based on our 2005–2006 research on attitudes towards international students (Ward et al, 2009), we propose that a curvi-linear relationship between immigrant density and public attitudes should also be investigated. This should include exploration of a 'tipping point' at which further increases in the numbers of immigrants result in a change in the direction of the relationship between the concentration of immigrants and attitudes towards them. Our theorising receives some support from Schneider's (2008) recent work on anti-immigrant attitudes in Europe, which demonstrated a non-linear relationship between the percentage of non-Western immigrants and perceived ethnic threat. In Schneider's research an increasing proportion of immigrants was associated with heightened threat until the percentage exceeded approximately 8 percent at which point increasing numbers were linked to decrements.

Findings on immigrant density and its relationship to positive economic, social, and psychological outcomes for new settlers are mixed. It has been proposed that immigrant-dense neighbourhoods can provide valuable networks for employment opportunities, social support, and cultural maintenance, and research has shown that immigrants who live in ethnically homogeneous neighbourhoods report greater life satisfaction than those who reside in more heterogeneous communities (Neto, 2001). At the same time, there is evidence that residence in own-group ethnic enclaves is associated with lower income levels, poorer host-nation language proficiency, problems with social integration, and greater perceived discrimination (Birman et al, 2005; Musterd et al, 2008; Magee et al, 2008; Portes and Schauffler, 1994.) Recent research has found that the relationship between integration and immigrant density varies depending on whether neighbourhoods are composed of the same or diverse immigrant groups. More specifically, it is only those immigrants who live in neighbourhoods with a high concentration of people from the same ethnic group who experience a greater sense of alienation (Miller et al, 2009). As immigrant density may affect the immigrant experience directly or be mediated by attitudes towards immigrants, it is important to examine both its linear and curvi-linear effects on factors such as life satisfaction and perceived discrimination.

Finally, as attitudes towards immigrants are shaped by perceived threat and competition over limited resources, it is not surprising that a number of studies have revealed a link between national rates of unemployment and anti-immigrant sentiments. Prejudice against immigrants is known to increase during economic recession (Quillian, 1995), and higher rates of unemployment are associated with a preference for a reduction in immigrant numbers (Palmer, 1996; Wilkes et al, 2008). Although research undertaken in the United States has reported that unemployment is the strongest predictor of anti-immigrant attitudes (Espenshade and Hempstead, 1996), other studies have found only small or insignificant effects of unemployment on attitudes towards immigrants (Berg, 2010; Card et al, 2005; Sides and Citrin, 2007).

While there is a body of research on the link between rates of unemployment and anti-immigrant attitudes, far less is known about the association between national unemployment and immigrant experiences. The social and psychological consequences for immigrants have rarely been explored, but research has shown that in general people report lower subjective well-being when unemployment rates are high (Di Tella et al, 2003).

3 RESEARCH OBJECTIVES AND QUESTIONS

Given the economic objective of attracting and retaining skilled migrants in a globally competitive market and the social objective of ensuring a socially cohesive society, this research examines attitudes towards immigrants and immigrant experiences in New Zealand. Particular attention is paid to the relationship between New Zealanders' acceptance of new migrants, expressed in terms of attitudes and perceptions, and immigrant settlement outcomes, particularly life and job satisfaction, perceived discrimination, and feelings of being safe and settled.

There are two key research questions.

- Do New Zealanders' attitudes towards immigrants (valuing immigrants, perceived threat, and endorsement of integration) vary across settlement regions as a function of immigrant density and unemployment rates?
- Do immigrant experiences (life satisfaction, perceived discrimination, feelings of settlement and safety, and job satisfaction) vary across settlement regions as a function of attitudes towards immigrants, immigrant density, and unemployment rates?

4 DATA SETS

Attitudes towards Immigrants, Immigration and Multiculturalism Survey

Participants

Two thousand and twenty adults (877 males and 1,143 females) aged 18 and over, who were drawn from a random sample of households in New Zealand, participated in the Attitudes towards Immigrants, Immigration and Multiculturalism Survey. Their ages ranged from 18 to over 65 and were distributed as follows: 18–25 (9 percent), 26–35 (15 percent), 36–45 (22 percent), 46–55 (20 percent), 56–65 (16 percent), and over 65 (18 percent).

The majority of the participants (70.4 percent) described themselves as New Zealand European. Five percent of the participants classified themselves as Māori, 4 percent as Asian, 1 percent as Pacific, and 6 percent as dual or multi-ethnic; the remainder generated other categories to describe their ethnic backgrounds (for example, Greek, Persian, and South African).

Fifty-nine percent of the participants were married.

The majority of participants were New Zealand-born (76 percent), New Zealand citizens (89 percent), and reported English to be their first language (91 percent).

Sixty-nine percent of participants were employed at the time of the survey.

With respect to level of education, 83 percent had completed at least secondary education and 60 percent had post-secondary credentials, including 30 percent tertiary degree holders.

Participants were grouped into three relative income levels: low (22 percent, under \$20,000), medium (40 percent, \$20,000–50,000), and high (26 percent, over \$50,000).

The survey was administered by trained research assistants using a computer-assisted telephone interview facility. Participants were selected from households throughout New Zealand from a list of randomly generated telephone numbers that were purchased for research purposes and were not accompanied by the names of the participants. The interviewers prefaced the survey with an introduction explaining the nature of the study and emphasising that participation in the study was anonymous and voluntary. A total of 3,811 eligible participants were contacted, and 2,020 completed the interview, representing a 53 percent participation rate.³ Data were collected in 2004–2005.

³ Note that the response rate could not easily be calculated but will be lower than the participation rate. The response rate would also require information on the number of attempted contacts made with eligible households.

The data were weighted to take into account the sampling frame and household selection and then post-stratified by age and gender. Weighting by ethnicity was not possible as the ethnic categories varied from census groupings of ethnicity and because of the small numbers within some ethnic groups.⁴

Survey items

Of particular interest in this research are the measures of valuing immigrants, perceived threat, and endorsement of integration that were taken from the larger survey. Valuing immigrants was measured by three items relating to favourable–unfavourable perceptions, liking of immigrants, and the recognition of their contribution to New Zealand society. Perceived threat was assessed by six items that tap realistic (for example, immigrants take jobs away from other New Zealanders) and symbolic (for example, immigration tends to threaten New Zealand culture) threats. Endorsement of integration was assessed by a single item: 'Immigrants should maintain their original culture while also adopting the New Zealand culture.' Responses to all statements were made on a 5-point scale ranging from 'strongly disagree' to 'strongly agree'. Higher scores indicate more positive valuing of immigrants, greater perceived threat, and stronger endorsement of integration, respectively. See Appendix A for items and the psychometric properties of the measures.

Longitudinal Immigration Survey: New Zealand – Wave 1

Sample and data collection

The Longitudinal Immigration Survey: New Zealand (LisNZ) is a long-term study conducted by the Department of Labour in partnership with Statistics New Zealand. This study provides detailed information on the settlement outcomes of migrants over time. The LisNZ involves interviewing migrants at 6 months, 18 months, and 36 months after they have taken up permanent residence in New Zealand.

The current analyses involve the data collected at 6 months (Wave 1) after migrants had taken up permanent residence. The number of participants at Wave 1 was 7,137. The values in this report are based on proportions calculated from weighted population estimates. These weighted estimates allow for inferences on the whole migrant population from the results of the survey.

Sample selection for the survey took place between November 2004 and November 2005, with the interviews taking place between 1 May 2005 and 30 April 2007. The migrants were interviewed face-to-face by Statistics New Zealand interviewers using an electronic questionnaire that was available in one of seven designated survey languages (English, Mandarin, Cantonese, Samoan, Korean, Hindi, and Punjabi).

The target population for LisNZ consisted of all migrants (excluding refugees) who were:

⁴ Because some ethnic groups were under-represented in the sample there is potential for non-response bias in the findings and they may not be representative of the New Zealand population as a whole.

- approved for residence in New Zealand from 1 November 2004 to 31 October 2005
- aged 16 years or over at the time of residence approval
- either already in New Zealand at the time of residence approval or arrived in New Zealand within 12 months of residence approval.

The population included principal and secondary applicants from the approved application.⁵ It excluded refugees, temporary migrants, and people from Australia, Niue, the Cook Islands, and Tokelau.⁶ The sample frame was constructed from Immigration New Zealand's Application Management System.

Measures

The measures in LisNZ related to discrimination frequency, life satisfaction, settlement, safety, job satisfaction, and intention to stay in New Zealand.

Discrimination frequency

This measure was derived based on two items. The first item is 'While in New Zealand, have you ever felt that someone was discriminating against you because you were a migrant?' (dichotomous item, yes/no). The second item is 'Has that happened once or twice, 3 or 4 times, or more than that?' (3-point scale). Three-quarters (75.7 percent) of migrants reported never having experienced discrimination for being a migrant, while almost a quarter (24.3 percent) reported experiencing at least some discrimination for being a migrant in New Zealand. Migrants who did not experience discrimination were assigned a 0 on the frequency measures, and those who reported discrimination were assigned a 1 ('once or twice'), 2 ('3 or 4 times'), or 3 ('more than that').

Life satisfaction

Satisfaction with life in New Zealand was assessed using the following scale item: 'Please use card J10 to tell me overall how satisfied or dissatisfied you are with living in New Zealand' (5-point scale – very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied).

Settlement

Respondents' settlement in New Zealand was assessed using the following scale measure: 'Thinking about all the things we've talked about, please use card M1 to tell me how settled or unsettled you feel in New Zealand' (5-point scale – very settled, somewhat settled, neither settled nor unsettled, not very settled, not at all settled).

⁵ Secondary applicants are supplementary people included in the application such as partners and children.

⁶ Special circumstances exist for these countries. People from Niue, the Cook Islands, and Tokelau are New Zealand citizens, and Australians do not require approval to reside in New Zealand.

Safety

Feelings of safety were assessed using the following scale item: 'Thinking only about crime in New Zealand, please use card G2 to tell me how safe or unsafe you feel in New Zealand' (5-point scale – very safe, safe, neither safe nor unsafe, unsafe, very unsafe).

Job satisfaction

Respondents' rating of satisfaction with their current main job was assessed by the following scale item: 'Looking at card E189, please tell me how satisfied or dissatisfied you are with your main job' (5-point scale – very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied).

Data were coded so that higher scores represent greater perceived discrimination, life satisfaction, feelings of settlement, safety, and job satisfaction.

Intention to stay in New Zealand

Migrants were asked about their settlement intentions in New Zealand and were given the option of indicating 'three years or less' or 'more than three years'.

Census data

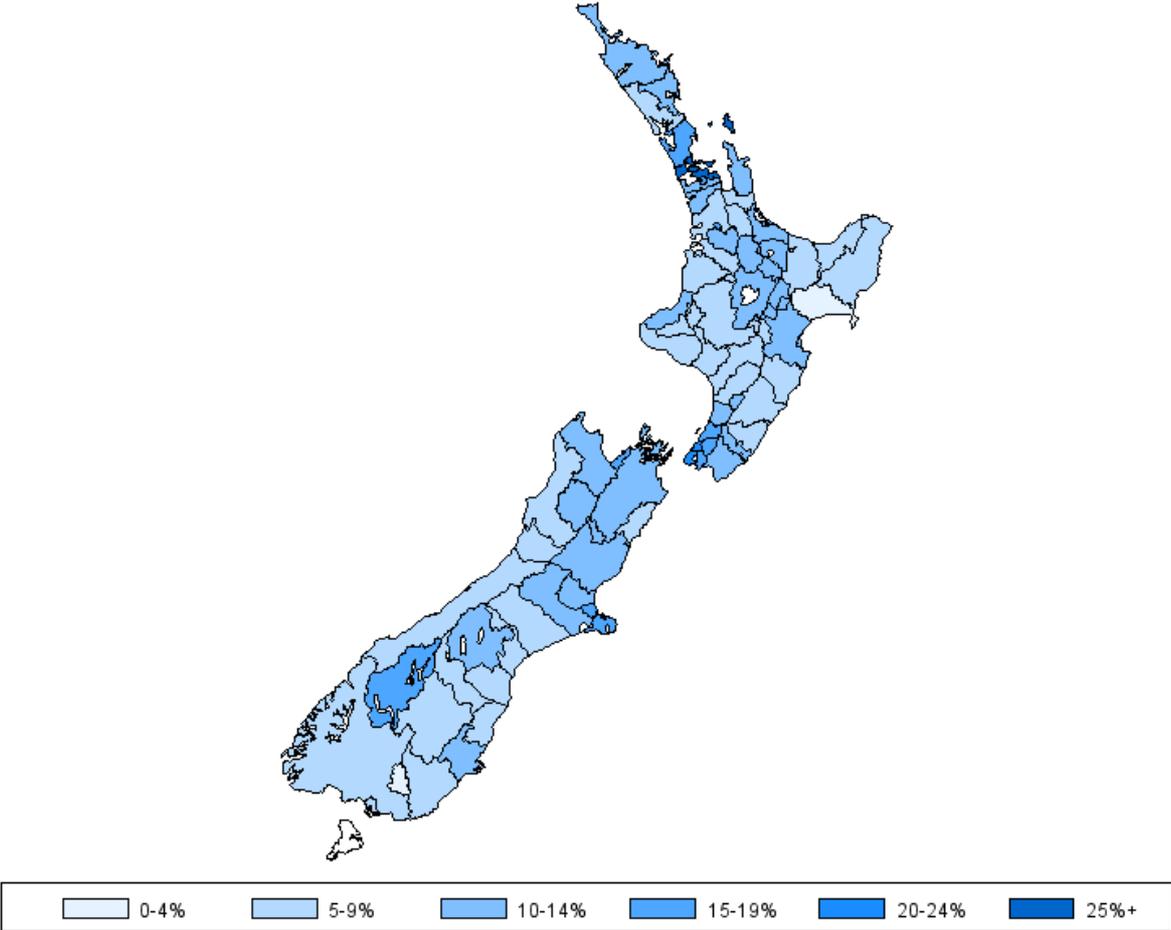
As research has demonstrated that immigrant density influences attitudes towards immigrants, it is a common practice to rely on census data that precede the collection of attitude data (Rustenbach, 2010; Schneider, 2008). As such, the 2001 census data were used in these analyses. Geographical regions were defined in terms of New Zealand's 74 territorial authorities. For each territorial authority the proportion of the overseas-born population and the proportion of the overseas-born population resident in New Zealand within the previous 9 years were recorded. These represent 'general' immigrants and 'new' immigrants, respectively, with the 'new' immigrants being those who arrived after the 1986 and 1991 changes in New Zealand immigration policy. These changes precipitated an influx of skilled immigrants from non-traditional and diverse sources.

The percentage of total overseas-born persons by territorial authority ranges from approximately 5 percent to 34 percent while the proportion of new immigrants ranges from 1 percent to 18 percent. These are graphically illustrated in Figures 4.1 and 4.2. Figure 4.3 reports the unemployment rates in 2001 by territorial authority. The rates ranged from 2.6 percent to 19.3 percent with a national rate of 7.5 percent.

Table B1 in Appendix B presents additional demographic information by territorial authority, including ethnic composition and educational levels. Table B1 shows that regions with high proportions of overseas-born are also regions with relatively high Asian and Pacific populations. This is not surprising in that the 2001 census showed that 78 percent of the Asian population and 42 percent of the Pacific population were overseas-born.

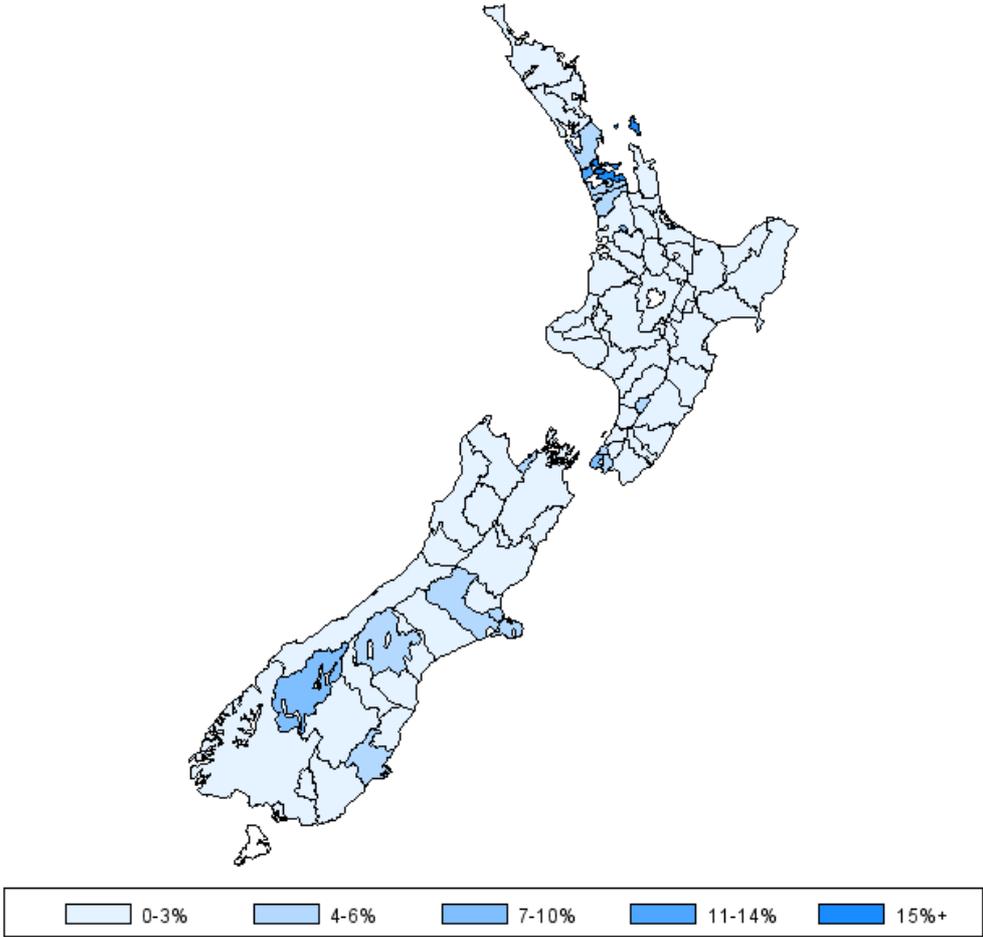
Also of note is that the four territorial authorities with the highest proportions of overseas-born and the highest proportions of new immigrants were in the Auckland region (Manukau City, Auckland City, North Shore City, and Waitakere City). The following three were all in the Wellington Region (Wellington City, Porirua City, and Lower Hutt City). This illustrates the fact that high migrant density in New Zealand largely occurs in an urban setting.

Figure 4.1: Percentage of overseas-born across territorial authorities, 2001



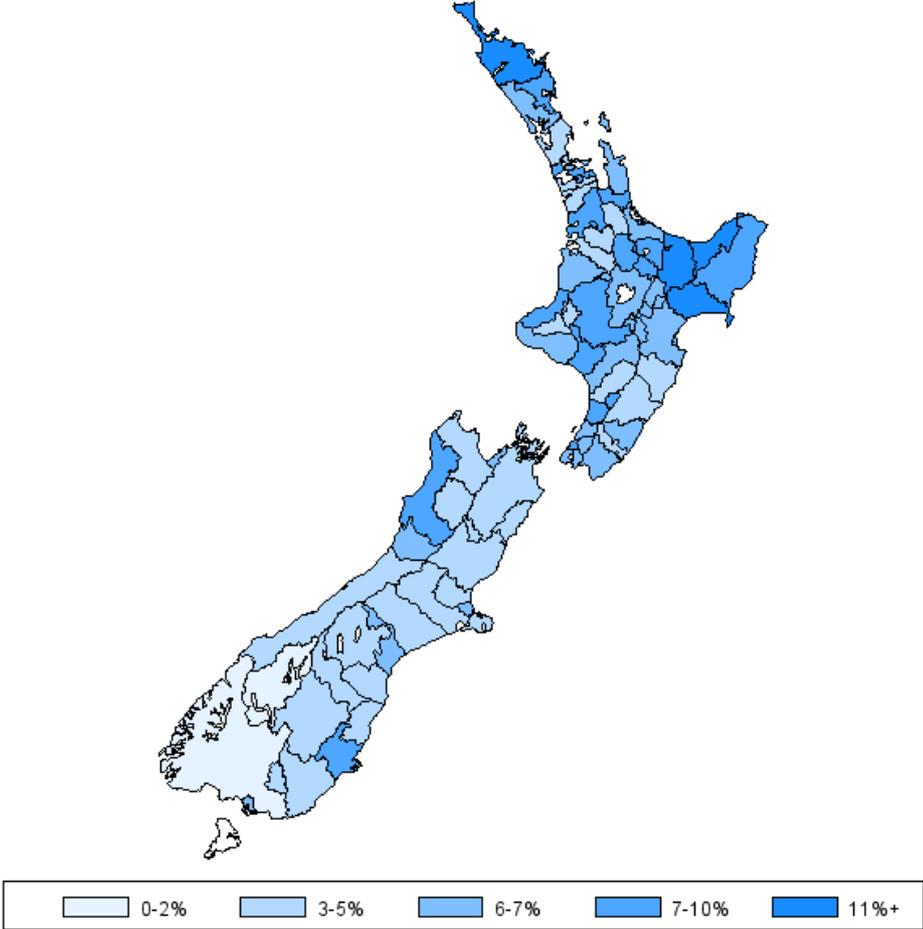
Source: 2001 census statistics for usually resident population by territorial authority.

Figure 4.2: Percentage of overseas-born (in New Zealand less than 9 years) across territorial authorities, 2001



Source: 2001 census statistics for usually resident population by territorial authority.

Figure 4.3: Unemployment rates across territorial authorities, 2001



Source: 2001 census statistics for usually resident population by territorial authority.

5 ANALYSES

Key questions

Data were analysed with hierarchical linear modelling to address two questions.

- Do New Zealanders' attitudes towards immigrants (valuing immigrants, perceived threat, and endorsement of integration) vary across settlement regions as a function of immigrant density and unemployment rates?
- Do immigrant experiences (life satisfaction, perceived discrimination, feelings of settlement and safety, and job satisfaction) vary across settlement regions as a function of attitudes towards immigrants, immigrant density, and unemployment rates?

Analytical approach: Hierarchical linear modelling

Hierarchical linear modelling is a statistical approach that can be used to deal with *clustered* or *grouped* data (Raudenbush and Bryk, 2002). For instance, the attitudes towards immigrants of two people from the same region in New Zealand will tend to be more similar than the attitudes of two people from different regions in New Zealand. If we used ordinary multiple regression analysis, we would ignore this kind of clustering, which would ultimately lead to standard errors and confidence intervals that are unrealistic. Eventually, we may conclude on the basis of our analysis that there is an effect even if in fact there is no such effect. Hierarchical linear modelling is in general more 'conservative' than the more traditional approach of multiple regression analysis. The latter produces significance tests that ignore the presence of clustering in the data.

More specifically, hierarchical linear modelling uses models that differ from ordinary regression models in the presence of two random variables (that is, the measurement-level random variable and the subject-level random variable). This has important advantages besides the ones already mentioned. First, we can generalise to a wider population. Secondly, fewer parameters are needed. If we used ordinary regression with dummy variables, we would need many additional parameters. This is especially important with a limited amount of data. Third, the precision of predictions for regions with relatively little data can be improved.

Hence, for the present study hierarchical linear modelling was selected as the most appropriate technique to model attitudes towards immigrants as well as immigrants' experiences in New Zealand. This is based on the notion that individuals' attitudes and experiences are likely to be influenced by the characteristics of the region in which they live. Hierarchical linear modelling is able to take this into account. Our analyses aim to examine the extent to which particular regional characteristics affect attitudes towards immigrants and immigrants' experiences. That is, we sought to understand why people in some regions have more favourable or unfavourable attitudes or more positive or negative migration experiences than in others. In all analyses we controlled for the effects of income and the percentage of New Zealand Europeans at the level of territorial authority. Problems of multi-collinearity did not permit the inclusion of the percentage of Māori, Asian peoples, and Pacific peoples.

Hierarchical linear modelling allowed us to incorporate personal background characteristics into the analyses so that both regional- and individual- level effects could be examined. Age, gender, and education were used in all analyses, and in the case of predicting attitudes towards immigrants, employment status and country of birth were also included.

Quadratic effects were examined for the association between immigrant density and unemployment rates, and both attitudes towards immigrants and immigrant experiences.

6 RESULTS

This section summarises the findings on attitudes towards immigrants and immigrant experiences. The detailed results of the hierarchical linear modelling analyses are in Appendix C.

Attitudes towards immigrants

Three aspects of attitudes towards immigrants were examined: valuing immigrants, perceived threat, and endorsement of integration. In each case, their association with regional immigrant density (both total number and new immigrants) and unemployment was explored. Regional income levels and percentage of New Zealand Europeans were used as control variables. At the individual level, the influence of age, gender, education, employment status, and country of birth were examined.

The analyses revealed that individual-level factors were the primary predictors of attitudes towards immigrants. As reported by Ward and Masgoret (2008), those who were more highly educated and overseas-born valued immigrants more ($B = 0.12$, $SE = 0.01$, $p < .001$ and $B = -0.14$, $SE = 0.03$, $p < .001$, respectively) and perceived them as less threatening ($B = -0.14$, $SE = 0.02$, $p < .001$ and $B = 0.14$, $SE = 0.04$, $p < .001$, respectively). Women ($B = 0.08$, $SE = 0.04$, $p < .05$) and younger people ($B = 0.03$, $SE = 0.01$, $p < .01$) also viewed immigrants as less threatening. There was further evidence that integration was more strongly endorsed by women ($B = -0.13$, $SE = 0.04$, $p < .01$) and those who were overseas-born ($B = -0.10$, $SE = 0.05$, $p < .05$).⁷

There were few regional-level effects. Lower levels of perceived threat ($B = -0.02$, $SE = 0.01$, $p < .001$) and stronger endorsement of integration ($B = 0.01$, $SE = 0.01$, $p < .05$) were found in territorial authorities with higher incomes.⁸ A curvi-linear effect was also detected for the density of new immigrants ($B = -0.02$, $SE = 0.01$, $p < .05$) on valuing immigrants. Figure 6.1 depicts the pattern, which shows that after reaching a point of around 10 percent, further increases in the density of new immigrants appear to be associated with more negative perceptions.⁹ However, the territorial authorities with the most negative perceptions of migrants were all in areas of low new-migrant density.

⁷ B represents the parameter estimate for this variable in the hierarchical linear model, SE represents the estimated standard error relating to this, and p is the p-value associated with this estimate. The p-value represents the probability of obtaining a test statistic at least as extreme as the one that was actually observed, assuming that the null hypothesis is true. The null hypothesis is that there is no relationship between the two variables (controlling for other variables in the model).

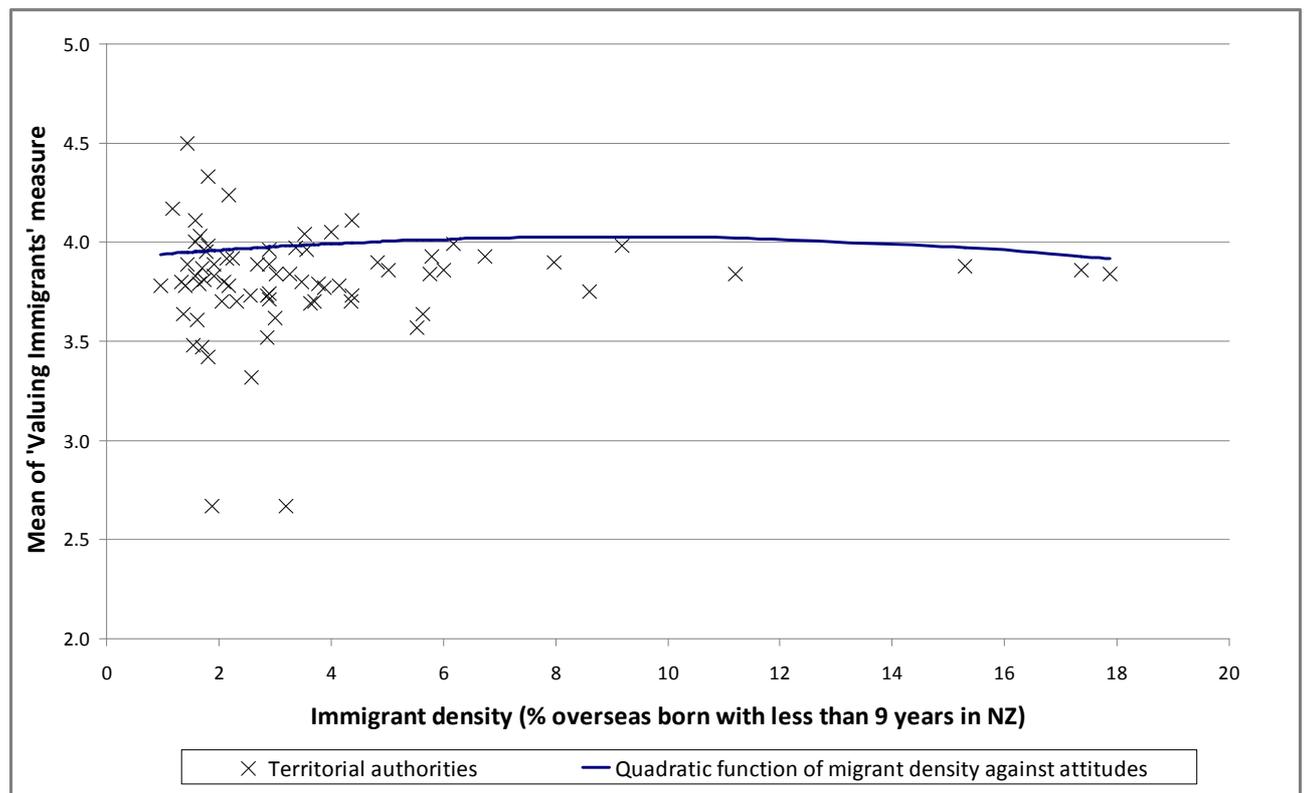
⁸ These figures are taken from the model based on the percentage of recent immigrants. B and SE vary slightly in the model for the percentage of overseas-born, but are also statistically significant. (B and SE are explained in footnote 7.)

⁹ Predictor variables are held at 0 in Figure 6.1.

It is also worth noting that the models constructed here were based on quite highly aggregated geographic units that could mask more localised effects. There are also systematic differences between areas with low migrant density (which are often rural or provincial centres) and those with high density (urban territorial authorities in Auckland and Wellington). While we have tried to control for these systematic differences, it could be that other (unobserved) characteristics of high migrant density territorial authorities could be associated with some of the significant effects.

Contrary to international research findings, unemployment trends were not related to attitudes towards immigrants.

Figure 6.1: Valuing immigrants as a function of the density of recent immigrants



Note: Predictor variables are held at 0 in this figure.

Immigrant experiences

Immigrant density (both total and new immigrants), unemployment, and attitudes towards immigrants (valuing immigrants, perceived threat, and endorsement of integration) were examined as predictors of immigrant experiences. Regional income levels and percentage of New Zealand Europeans were used as control variables. At the individual level the influences of age, gender, and education were examined.

Perceived discrimination

Neither attitudes towards immigrants nor unemployment was significantly related to perceived discrimination. However, there was a significant effect for the density of overseas-born ($B = -0.20$, $SE = 0.07$, $p < .01$) suggesting that perceived discrimination diminished with increasing immigrant density.¹⁰

At the individual level younger people ($B = -0.08$, $SE = 0.01$, $p < .001$) and people with higher levels of education ($B = 0.13$, $SE = 0.05$, $p < .01$) reported greater perceived discrimination.

Life satisfaction

Neither unemployment rates nor immigrant density exerted a significant influence on satisfaction with life in New Zealand. However, there was a marginally significant effect for perceived threat ($B = -0.20$, $SE = 0.12$, $p < .10$). Findings suggested that immigrants' life satisfaction may be lower in regions where residents perceived immigrants as more threatening.

Gender was a powerful predictor of life satisfaction with men reporting greater life satisfaction than women ($B = 0.09$, $SE = 0.02$, $p < .001$).

Settlement

Although unemployment, immigrant density and attitudes towards immigrants were unrelated to feelings of settlement, those who were older ($B = 0.02$, $SE = 0.01$, $p < .05$), male ($B = 0.11$, $SE = 0.02$, $p < .001$), and less educated ($B = -0.10$, $SE = 0.03$, $p < .001$) felt more settled in New Zealand.

Safety

Immigrants who were female ($B = -0.04$, $SE = 0.02$, $p < .05$) and lived in regions with higher incomes ($B = 0.01$, $SE = 4.22E-03$, $p < .01$) reported feeling safer.¹¹ Feelings of safety were not associated with immigrant density, unemployment, or attitudes towards immigrants.

Job satisfaction

There were no significant predictors of job satisfaction.

Intention to stay in New Zealand

Job and life satisfaction, feelings of safety and settlement, and perceived discrimination were examined as predictors of intentions to stay in New Zealand. Logistic regression analysis indicated that those who expressed the intention to remain for less than 3 years were more likely to be female and less educated. They also reported more frequent discrimination, less life satisfaction, lower job satisfaction, and feeling less settled. See Appendix D.

¹⁰ These figures are taken from the model based on the percentage of recent immigrants. B and SE vary slightly in the model for the percentage of overseas-born, but are also statistically significant. (B and SE are explained in footnote 7.)

¹¹ These figures are taken from the model based on the percentage of recent immigrants. B and SE vary slightly in the model for the percentage of overseas-born, but are also statistically significant. (B and SE are explained in footnote 7.)

Summary

In summary, the major research objective was the investigation of the relationship of regional immigrant density and unemployment to attitudes towards immigrants and the relationship of these three factors to immigrant experiences.

This was done controlling for the effects of income and percentage of New Zealand European residents across territorial authorities. The outcomes showed that in general individual-level variables appeared to exert more consistent and powerful influences on both attitudes towards immigrants and immigrant experiences than did regional-level factors. Furthermore, no significant effects were found for regional unemployment, and limited effects were found for immigrant density.

The significant findings were as follows.

- At the territorial authority level, immigrant density and income levels were the only significant predictors of attitudes towards immigrants and immigrant experiences.
 - A curvi-linear effect was found for new immigrant density on valuing immigrants. More negative attitudes were found in regions of low and high density, although territorial authorities with the most negative attitudes all had low new-migrant density.
 - Immigrants were less likely to report experiencing discrimination in regions with higher proportions of overseas-born.
 - Immigrants were viewed as less threatening and integration was more strongly endorsed in territorial authorities with higher incomes, and immigrants themselves felt safer in those regions.
- Individual-level characteristics were robust predictors of both attitudes towards immigrants and immigrant experiences.
 - Although there was some variation with respect to valuing immigrants, perceived threat, and endorsement of integration, more positive attitudes were found in women and younger, more educated, and overseas-born people.
 - Men reported greater life satisfaction and feeling more settled, but less safe, and had intentions to stay longer in New Zealand than women.
 - Younger people and people with a higher level of education were more likely to report experiencing discrimination and felt less settled in New Zealand; nevertheless, those with a higher level of education were more likely to indicate an intention to remain in New Zealand for a longer period.

7 DISCUSSION

The research examined the association of immigrant density and unemployment with attitudes towards immigrants and immigrants' experiences in New Zealand. The relationship between host national receptiveness of immigrants, assessed in terms of perceived threat, valuing immigrants, and endorsement of integration, and immigrants' settlement experiences was also investigated. The significant results are discussed in this section.

Attitudes towards immigrants

There was no strong relationship discovered between density of migrants and attitudes to immigrants. A curvi-linear relationship between the density of new immigrants and their perceived value (that is, the tendency to like and admire immigrants and to see them as making an important contribution to New Zealand) was found, however. Attitudes towards immigrants become more positive as their numbers increased until a certain point. After that, increasing density was associated with more negative attitudes. This has particular relevance for some territorial authorities in the greater Auckland area. However, territorial authorities with the most negative attitudes all had low new-migrant density.

It is possible that contact initially drives the association. Greater concentrations of immigrants afford opportunities for more intercultural contact, resulting in more favourable perceptions and greater liking of immigrants. It is not clear, however, if perceived threat is responsible for the negative turn in attitudes found in those areas with the highest concentrations of recent immigrants. It is also possible that some other unaccounted for characteristic of Auckland territorial authorities or of migrants residing in Auckland territorial authorities was responsible for this association. The Attitudes towards Immigrants, Immigration and Multiculturalism Survey found that residents in Auckland perceive greater threat from immigrants than do residents in Wellington and Christchurch, but the analysis of the association between density and threat reported here did not produce a significant effect.

Unemployment rates bore no relationship to valuing immigrants, perceived threat, or endorsement of integration even though the national rate was moderate (7.5 percent) and the regional rates were variable (2.6–19.3 percent) as shown by the 2001 census. This was unexpected as both economic and psychological models of group conflict highlight the negative consequences of threat and competition for intergroup relations (Esses et al, 2001; Rustenbach, 2010). These models suggest that under conditions of limited resources perceived threat leads majority members to adopt strategies that minimise competition from immigrants. According to Esses et al (1998), this may occur in three ways: 1) expressing negative attitudes towards immigrants to highlight their inherent 'lack of worth'; 2) engaging in overt discriminatory behaviours; and 3) avoiding immigrants by decreasing their numbers (for example, limiting immigration) or proximity (for example, creating segregated neighbourhoods). As this has been borne out in international research (Espenshade and

Hempstead, 1996; Palmer, 1996; Wilkes et al, 2008), it is not clear why the results did not replicate in New Zealand.

Lower levels of perceived threat and greater endorsement of integration were found in territorial authorities with higher income levels. This finding is also consistent with economic and psychological theories of intergroup conflict and is in accordance with international research that has shown both individual and collective economic prosperity is linked to pro-immigrant sentiments. At the national level this includes an association between within-country improvements in gross national product over time and positive attitudes towards immigrants (Kehrberg, 2007); at the international level gross national income has been shown to relate to support for policies that build cohesion between immigrants and native-borns (Leong and Ward, 2006).

Beyond this, individual-level factors (being young, female, overseas-born, and highly educated) predicted positive attitudes towards immigrants. These trends have likewise been observed in research conducted in Europe and the United States (for example, Hood and Morris, 1997; Kehrberg, 2007; Quillian, 1995).

The limited influence of regional-level factors on attitudes towards immigrants is consistent with Rustenbach's (2010) observations that most variance in attitudinal outcomes is explained at the individual level. On the basis of the differential effects of regional- and individual-level factors on attitudes, Rustenbach (2010, p 69) goes further to argue that 'to change anti-immigrant attitudes, one must appeal to the individual'.

Immigrant experiences

Among the key predictor variables (immigrant density, unemployment rates, and attitudes towards immigrants) only the first of these was significantly associated with immigrant experiences. The effects, however, were limited to the prediction of perceived discrimination.

Immigrants perceived less discrimination when they lived in more immigrant-dense regions. Social psychological theories about intergroup contact and cultural distance provide two avenues for the interpretation of these findings. In the first instance, greater density of immigrants may foster more contact opportunities for New Zealanders, and contact is known to lead to reductions in prejudice and discrimination (Pettigrew and Tropp, 2006). Findings from a Canadian national survey showed that overall there was a positive relationship between level of contact and attitudes towards members of other ethnic groups. More importantly, neighbourhood-level analyses revealed that as the proportion of a particular ethnic group increased, attitudes towards that group by out-group members became more positive (Berry, 2006; Berry and Kalin, 1995; Kalin, 1996). Along similar lines, European research has shown a positive relationship between ethno-cultural diversity at the neighbourhood level and inter-ethnic trust (Lancee and Dronkers, 2008).

From another perspective, newcomers who live in immigrant-dense regions are more likely to interact with others who, like themselves, are also overseas-born. Psychological research has convincingly demonstrated that 'we like people like us', including those who are culturally similar (Ward and Leong, 2006). Indeed, this study has already shown that more positive attitudes towards immigrants are found in those born overseas. Not surprisingly, then, newcomers are likely to experience less prejudice and discrimination in immigrant-dense regions.

Findings also showed that immigrants who lived in wealthier territorial authorities felt safer. This is not unexpected given the established relationship between low socioeconomic status and violent crime and research that has demonstrated residents of lower socioeconomic status neighbourhoods perceive greater criminal activity, even if this is not objectively the case (Wilson et al, 2004).

Regional unemployment was unrelated to settlement outcomes despite international research convincingly demonstrating that unfavourable economic conditions, such as recession and unemployment, negatively impact on psychological well-being and lead to higher levels of depression and lower levels of life satisfaction in both the immigrant and general populations (Di Tella et al, 2003; Fenwick and Tausig, 1994; Reynolds, 1997; Zunzunegui et al, 2006). Whether the failure to replicate these effects in the New Zealand study is influenced by the methods for measuring unemployment is difficult to establish. However, as unemployment rates were not significantly related to settlement outcomes or attitudes towards immigrants, this suggestion warrants further consideration.

It is also somewhat surprising that attitudes towards immigrants did not emerge as a significant predictor of immigrant experiences. The linkage has been widely discussed in the literature and generally assumed to be the case (Bourhis et al, 1997). However, this is the first study to our knowledge that has investigated direct links between national attitudes and settlement outcomes. Previous research has shown that immigrants' *perceptions* of host attitudes are related to their settlement experiences; specifically, immigrants report higher life satisfaction when they believe that host nationals strongly endorse integration (Ward et al, 2008). In this research, however, we found only a marginally significant effect for perceived threat with immigrants tending to report lower life satisfaction in territorial authorities where immigrants were viewed as more threatening.

Individual-level factors, including gender, age, and education, exerted significant influences on immigrant experiences. Men reported greater life satisfaction and feelings of settledness, but felt less safe in New Zealand. Gender differences in life satisfaction are known to vary across cultures, and the characteristics of the sample under study need to be carefully considered to interpret trends (Lucas and Gohm, 2003). It would be worthwhile to examine characteristics of the LisNZ sample that might contribute to males' enhanced life satisfaction and feelings of settledness. For example, are they more likely to be principal than secondary applicants for residence? More likely to be employed and enjoy better social and professional networks? These factors exert protective influences against the psychological stresses of immigration as research has suggested that 'trailing spouses' are more likely to be discontent with international moves and have lower levels of well-being and that social isolation contributes to psychological and emotional distress (Shaffer and Harrison, 2001; Tabor, 2010; Ward, 2007). The research findings on safety are more difficult to interpret as studies have consistently shown that women feel less safe and more vulnerable with respect to violent crime (Franklin and Franklin, 2009; Pantazis, 2000).

Younger people and people with higher levels of education experienced more discrimination and fewer feelings of settledness. Findings on the relationships between perceived discrimination and age (Jasinskaja-Lahti et al, 2006) and level of education (Todorova et al, 2010) are consistent with immigrant research in Europe and the United States.

Finally, the research shows that the psychological and social aspects of settlement experiences may affect migrants' willingness to remain in New Zealand. Those who indicated an intention to remain for less than 3 years reported more discrimination, less life and job satisfaction, and feelings of being less settled than those with intentions to stay for 3 years or more. Although causal links can only be addressed with longitudinal data afforded by LisNZ Wave 2, where immigrant experiences at 6 months can be modelled as predictors of experiences 1 year later, these findings point to an association between migration intentions and well-being.

8 CONCLUSION: A NOTE ON POLICY IMPLICATIONS

The formulation of current immigration policy is underpinned by the vision of optimising immigration for enduring economic prosperity and for achieving an inclusive society. This research addresses success indicators such as increasing public recognition of immigrant contributions and reducing perceived discrimination.

On the positive side, the findings show that New Zealanders have generally favourable attitudes towards immigrants and that these attitudes improve as immigrant numbers increase. Furthermore, this appears to be at least partially driven by increased intercultural contact. While contact per se is associated with more positive attitudinal outcomes, international research has shown that contact under favourable circumstances (intimate, cooperative, positive, and equal status contact with shared common goals) is most effective (Pettigrew and Tropp, 2006). Facilitating and improving this type of contact where culturally diverse groups routinely meet (the workplace, neighbourhood, and classroom) will promote harmonious relationships and a more socially cohesive society.

From the migrant perspective, increasing immigrant density is linked to lower levels of perceived discrimination. From the host national perspective, increasing density of new immigrants is associated with more positive attitudes, although there is some evidence this may only be until the proportions hit a certain point. After that, attitudes become slightly more negative. This suggests that attitudes, while still moderately positive, become less so in the greater Auckland region (Auckland, Manukau, Waitakere and North Shore). The AIIM survey data indicate that residents in Auckland perceive greater threat from immigrants than those in Wellington and Christchurch, and research by Gendall et al. (2007) found that attitudes toward immigrants were usually more negative in Aucklanders than other New Zealanders. Furthermore, the LisNZ data have pointed to regional differences in life satisfaction with migrants in Auckland less likely to report feeling very satisfied than those in other regions. As such, it may be prudent to continue implementing policies, such as the awarding of extra selection points to migrants who settle outside of Auckland, to encourage newcomers to settle outside of the highest migrant density area. However, this finding also needs to be considered within the context of the economic geography literature that has confirmed benefits of agglomerations. That is, firms who operate in areas with greater population density (particularly high skilled) tend to be more productive.

The research findings also suggest that it is important to address the issue of threat. New Zealanders are less likely to recognise migrants' economic and cultural contributions under conditions of threat (Ward and Masgoret, 2008). Furthermore, heightened public perceptions of threat may negatively affect life satisfaction in migrants. Increased intercultural contact diminishes threat. Therefore, formal strategies and interventions designed to reduce threat can promote better relations between migrants and their native-born peers and possibly enhance migrant satisfaction. In contrast, negative media messages and anti-immigration political rhetoric work against achieving these goals (Esses et al, 1998; Esses et al, 2002; Spoonley, 2003). In the end, managing threat is important for retaining skilled migrants and fostering a socially cohesive society.

In conclusion, strategies aimed at increasing favourable intercultural contact, diminishing perceived threat, and carefully monitoring the impacts of immigrant density are likely to assist in maximising the economic benefits and minimising the social risks of immigration. While we have gained some insights into the role migrant density plays, further research is necessary before conclusive findings can be made about whether increased density has a positive or negative impact overall.

APPENDICES

Appendix A: Survey questions

Attitudes towards Immigrants, Immigration and Multiculturalism Survey

Valuing Immigrants (Cronbach alpha = 0.72)

How much do you agree or disagree that:

1. Immigrants have many qualities I admire.
2. The more I hear about immigrants, the less I like them.
3. Immigrants have made an important contribution to New Zealand.

Perceived Threat (Cronbach alpha = 0.81)

How much do you agree or disagree that:

1. Immigrants take jobs away from other New Zealanders.
2. The unity of this country is weakened by New Zealanders of different ethnic or cultural backgrounds.
3. Immigration tends to threaten New Zealand culture.
4. Immigration increases the level of crime.
5. In schools where there are too many immigrants, the quality of education suffers.
6. Immigrants bring diseases into New Zealand that would not otherwise be here.

Endorsement of Integration

How much do you agree or disagree that:

7. Immigrants should maintain their original culture while also adopting the New Zealand culture.

Response Options: Disagree Strongly, Disagree; Neutral; Agree, Agree Strongly

Longitudinal Immigration Survey: New Zealand

Perceived Discrimination

Questions and Response Options: 1) While in New Zealand, have you ever felt that someone was discriminating against you because you were a migrant? (Yes/No) and 2) has that happened once or twice, 3 or 4 times, or more than that (3 point scale). Coded 0 (no discrimination) to 3 (more than three times).

Life Satisfaction

Question: Overall how satisfied are you with your life in New Zealand?

Response Options: Very Satisfied, Satisfied; Neither Satisfied nor Dissatisfied; Dissatisfied; Very Dissatisfied

Settlement

Question: Overall how settled do you feel in New Zealand?

Response Options: Very Settled; Settled; Neither Settled nor Unsettled; Unsettled; Very Unsettled

Safety

Question: Thinking only about crime in New Zealand, how safe or unsafe do you feel in New Zealand?

Response Options: Very Safe; Safe; Neither Safe nor Unsafe; Unsafe; Very Unsafe

Job Satisfaction

Question: How satisfied or dissatisfied you are with your main job?

Response Options: Very Satisfied, Satisfied; Neither Satisfied nor Dissatisfied; Dissatisfied; Very Dissatisfied

Intention to Stay in New Zealand

Question: How long do you intend to live in New Zealand?

Response Options: Three years or less; More than three years

Appendix B: Overseas-born usually resident population by territorial authority

Table B1: Usually resident population by territorial authority in descending order of percentage overseas born, 2001 (census data)

Territorial authority	Total popn	% overseas-born	% overseas-born (<10 yrs in NZ)	% Māori ethnicity	% Pacific ethnicity	% Asian ethnicity	% aged over 64	% no formal qualifications	% bachelor degree or higher
Manukau City	283,200	33.7	15.1	16	26	14	8	18	5
Auckland City	367,737	33.6	17.2	8	13	18	10	12	16
North Shore City	184,821	33.5	17.7	6	3	12	11	12	12
Waitakere City	168,750	27.5	11.1	13	14	10	9	17	6
Wellington City	163,824	24.3	9.1	7	5	10	9	9	22
Porirua City	47,370	21.7	5.8	20	26	4	7	18	7
Lower Hutt City	95,478	19.5	5.7	16	9	7	11	18	8
Rodney District	76,182	19.2	5.6	8	2	2	15	18	6
Banks Peninsula District	7,833	18.5	6.0	7	1	1	14	16	12
Kapiti Coast District	42,447	18.3	3.3	11	2	2	22	18	7
Queenstown-Lakes District	17,043	18.2	8.5	5	1	4	10	12	9
Hamilton City	114,921	17.4	7.9	19	3	7	10	17	10
Upper Hutt City	36,372	16.9	4.0	13	4	3	12	18	6
Christchurch City	316,224	16.8	6.7	7	2	6	14	18	9
Papakura District	40,668	16.5	5.5	23	8	6	10	21	4
Nelson City	41,568	15.6	4.8	8	1	2	14	19	7
Palmerston North City	72,036	14.6	6.1	13	3	6	11	16	10
Franklin District	51,669	13.9	4.1	15	3	4	10	19	4
Dunedin City	114,342	13.8	5.0	6	2	4	13	18	11
Tauranga District	90,906	13.7	4.4	16	2	2	17	20	5
Thames-Coromandel District	25,176	13.2	3.0	14	1	1	20	23	4
Mackenzie District	3,717	13.2	4.4	5	0	3	12	18	5
Napier City	53,661	12.7	3.6	17	2	2	15	22	5

Territorial authority	Total popn	% overseas-born	% overseas-born (<10 yrs in NZ)	% Māori ethnicity	% Pacific ethnicity	% Asian ethnicity	% aged over 64	% no formal qualifications	% bachelor degree or higher
South Waikato District	23,469	12.5	2.3	29	12	2	10	24	3
Whangarei District	68,094	12.5	3.6	23	2	2	14	20	5
Rotorua District	64,473	12.3	3.9	34	4	3	11	19	5
Tasman District	41,352	12.2	3.5	7	1	1	13	20	5
Waipa District	40,293	12.2	3.7	15	2	2	13	20	6
Western Bay of Plenty District	38,232	12.1	3.7	17	1	1	14	21	4
Taupo District	31,521	11.5	2.9	28	3	1	12	20	4
Selwyn District	27,312	11.5	4.3	6	1	2	8	17	7
Hastings District	67,428	11.4	3.5	23	5	2	12	21	5
Horowhenua District	29,820	11.1	1.8	19	3	2	19	27	3
South Wairarapa District	8,742	10.9	1.8	13	1	1	15	22	6
Far North District	54,576	10.8	2.9	40	2	1	13	21	3
Waimakariri District	36,900	10.5	3.0	7	1	1	12	22	4
New Plymouth District	66,603	10.5	3.3	13	1	2	15	22	5
Carterton District	6,849	10.4	1.9	10	2	1	14	23	4
Marlborough District	39,552	10.0	2.9	10	1	1	15	22	4
Hurunui District	9,885	10.0	2.9	5	0	1	13	21	4
Masterton District	22,617	10.0	2.6	16	3	1	16	23	5
Wanganui District	43,269	9.9	2.8	20	2	2	16	23	4
Hauraki District	16,764	9.9	2.1	18	2	2	15	26	2
Whakatane District	32,814	9.7	2.9	40	2	1	11	21	4
Waikato District	39,852	9.6	2.7	26	2	2	10	22	5
Kawerau District	6,975	9.5	1.5	56	4	1	9	25	2
Matamata-Piako District	29,469	9.5	2.6	13	1	2	14	24	3
Kaikoura District	3,480	9.2	3.2	14	0	1	15	24	4

Territorial authority	Total popn	% overseas-born	% overseas-born (<10 yrs in NZ)	% Māori ethnicity	% Pacific ethnicity	% Asian ethnicity	% aged over 64	% no formal qualifications	% bachelor degree or higher
Kaipara District	17,460	9.2	2.2	21	2	1	13	24	3
Westland District	7,776	8.5	2.1	11	1	1	12	23	4
Waitaki District	20,088	8.4	1.8	4	1	2	19	26	3
Timaru District	41,964	7.8	2.2	6	1	1	18	25	4
Buller District	9,624	7.8	1.7	8	1	1	15	27	3
Manawatu District	27,510	7.7	1.9	12	1	1	12	22	5
Rangitikei District	15,099	7.3	1.4	23	1	1	13	24	4
Central Hawke's Bay District	12,828	7.2	1.7	21	2	1	12	24	4
Central Otago District	14,463	7.2	1.7	6	0	1	18	23	5
Ashburton District	25,443	7.1	2.2	5	0	1	16	25	4
Gisborne District	43,974	7.0	2.2	44	3	1	12	22	4
Invercargill City	49,830	7.0	1.6	13	2	1	14	25	4
Grey District	12,891	6.8	1.4	7	1	1	13	26	3
Otorohanga District	9,279	6.6	1.8	27	1	1	10	25	3
Ruapehu District	14,292	6.5	1.9	38	2	2	10	23	3
Waimate District	7,098	6.5	1.6	4	1	0	18	27	3
Taranua District	17,859	6.5	1.6	18	1	1	13	25	3
Stratford District	8,886	6.2	1.6	9	0	1	14	25	3
Opotiki District	9,201	5.9	1.0	54	2	1	12	25	2
Waitomo District	9,456	5.8	1.6	37	2	1	11	26	3
Clutha District	17,172	5.8	1.6	8	0	1	13	26	3
Southland District	28,716	5.8	1.8	8	0	1	11	24	3
South Taranaki District	27,537	5.6	1.4	19	1	1	12	26	3
Gore District	12,459	4.8	1.4	10	1	1	15	28	3
Wairoa District	8,913	4.6	1.2	55	1	1	12	25	2

Notes: This table presents immigrant density figures along with information on key demographic variables that are not included in our hierarchical linear modelling analyses.

Appendix C: Hierarchical linear modelling analyses

In the present study, respondents are nested within regions. This means that individuals from one region have the same exposure to this region's characteristics. Hence, their responses are not independent of one another. While this would violate the basic assumption of independence in linear multiple regression, hierarchical linear modelling recognises dependencies (Raudenbush and Bryk, 2002). Taking nested data into account is important, since failing to do so leads to underestimation of standard errors of regression coefficients and therefore to an overstatement of statistical significance.

Hence, we used two-level hierarchical modelling for our data analyses estimated with the computer program HLM 6.08. In hierarchical linear modelling terms, people's responses were our level 1 variables. Statistics characterising the regions (for example, percentage of overseas-born) were our level 2 variables. We examined the dependencies in the data by estimating variance associated with regional differences in average responses (intercepts). This was accomplished by declaring intercepts to be random effects.

The main question that motivated our analysis was whether there was significant variability of the intercept across regions and whether we could account for this variability with data characterising these regions. That is, we sought to understand *why* some regions had higher means than others (so-called regression with means-as-outcomes). See Raudenbush and Bryk (2002).

Table C1: Hierarchical linear modelling regression analyses with Attitudes towards Immigrants, Immigration and Multiculturalism Survey data

	Dependent variables					
	Integration		Valuing immigrants		Perceived threat	
<i>Model with percentage of recent immigrants in respondents' territorial authority</i>						
Grand mean	4.03***	(0.06)	3.99***	(0.04)	3.55***	(0.05)
Individual-level effects						
Age group	0.01	(0.01)	2.43E-03	(0.01)	0.03**	(0.01)
Gender	-0.13**	(0.04)	-0.05	(0.04)	0.08*	(0.04)
Education	0.01	(0.02)	0.12***	(0.01)	-0.14***	(0.02)
Employment status	0.01	(0.04)	-0.03	(0.04)	-0.05	(0.05)
Country of birth	-0.10**	(0.05)	-0.14***	(0.03)	0.14***	(0.04)
Territorial authority effects						
Zper9	-0.05	(0.03)	0.05	(0.03)	4.62E-03	(0.05)
SQZper9	-0.01†	(0.01)	-0.02*	(0.01)	0.01	(0.01)
Unemployment	0.01	(0.01)	0.01	(0.01)	4.72E-03	(0.01)
Income	0.01*	(0.01)	0.01	(4.87E-03)	-0.02***	(0.01)
% European ethnicity	-1.31E-03	(2.71E-03)	3.39E-04	(1.91E-03)	1.71E-03	(2.64E-03)

	Dependent variables					
	Integration		Valuing immigrants		Perceived threat	
<i>Model with percentage of overseas-born in respondents' territorial authority</i>						
Grand mean	4.02***	(0.06)	3.99***	(0.03)	3.56***	(0.05)
Individual-level effects						
Age group	=0.01	(0.01)	2.46E-03	(0.01)	0.03**	(0.01)
Gender	-0.13**	(0.04)	-0.05	(0.04)	0.08*	(0.04)
Education	0.01	(0.02)	0.12***	(0.01)	-0.14***	(0.02)
Employment status	0.01	(0.04)	-0.03	(0.04)	-0.05	(0.05)
Country of birth	-0.10*	(0.05)	-0.14***	(0.03)	0.14***	(0.04)
Territorial authority effects						
Zperover	-0.04	(0.04)	0.03	(0.03)	0.02	(0.04)
SQZover	0.02	(0.01)	-0.02	(9.95E-03)	0.02	(0.01)
Unemployment	0.01	(0.02)	0.01	(0.01)	0.01	(0.01)
Income	0.01*	(4.52E-03)	0.01	(6.30E-03)	-0.03***	(5.74E-03)
% European ethnicity	2.85E-04	(3.26E-03)	-1.13E-03	(2.21E-03)	3.30E-03	(2.78E-03)

Notes

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Gender is coded as 0 = female and 1 = male; employment status is coded as 0 = no employment and 1 = employment; country of birth is coded as 0 = other countries and 1 = New Zealand; ZPer9 = Percentage of recent immigrants in respondents' territorial authority, z-standardised; SQZper9 = ZPer9 squared; ZPerover = percentage of overseas-born in respondents' territorial authority, z-standardised; SQZPerover = ZPerover squared.

Entries are unstandardised regression coefficients with standard errors in brackets. All variables were grand-mean centred in hierarchical linear modelling, except for standardised and binary variables.

The hierarchical linear modelling analyses were weighted at the individual level using the variable final weights.

Table C2: Multilevel regression analyses with Wave 1 data from the Longitudinal Immigration Survey: New Zealand

	Dependent variables									
	Life satisfaction		Perceived discrimination		Feeling of being settled		Job satisfaction		Feeling of safety	
<i>Model with % of new immigrants in respondents' territorial authority</i>										
Grand mean	4.42***		0.44	(0.05)	4.33***	(0.03)	4.08***	(0.04)	4.17***	(0.03)
Individual-level effects										
Age group	0.03†	(0.01)	-0.08***	(0.01)	0.02*	(0.01)	-0.02	(0.01)	-0.01	(0.01)
Gender	0.09***	(0.02)	-0.02	(0.03)	0.11***	(0.02)	-0.01	(0.02)	-0.04*	(0.02)
Education	-0.06	(0.04)	0.13**	(0.05)	-0.10***	(0.03)	-0.02	(0.02)	4.41E-04	(0.02)
Territorial authority effects										
ZPer9	-0.04	(0.04)	-0.17†	(0.09)	-0.05	(0.04)	-0.02	(0.04)	-0.04	(0.03)
SQZPer9	8.96E-04	(0.01)	0.03	(0.02)	0.01	(0.01)	0.00	(0.01)	-1.67E-03	(0.01)
Unemployment	0.01	(0.01)	6.01E-04	(0.03)	0.01	(0.01)	-0.02	(0.15)	3.75E-03	(0.01)
Income	3.73E-03	(0.01)	4.23E-03	(0.02)	-4.17E-03	(0.01)	-3.12E-03	(4.55E-03)	0.01**	(4.22E-03)
% European ethnicity	2.46E-03	(2.28E-03)	-0.01	(0.01)	2.8E-03	(2.25E-03)	-1.01E-03	(2.00E-03)	-4.15E-04	(1.90E-03)
Valuing migrants	0.07	(0.16)	0.24	(0.36)	-0.07	(0.22)	0.14	(0.22)	0.07	(0.14)
Perceived threat	-0.20†	(0.12)	-0.25	(0.32)	-0.13	(0.19)	0.05	(0.16)	-0.16	(0.10)
Integration	-0.14	(0.12)	-0.03	(0.14)	-0.10	(0.12)	0.14	(0.11)	0.01	(0.09)

	Dependent variables									
	Life satisfaction		Perceived discrimination		Feeling of being settled		Job satisfaction		Feeling of safety	
<i>Model with % of overseas-born in respondents' territorial authority</i>										
Grand mean	4.43***	(0.03)	0.41	(0.04)	4.31***	(0.03)	4.07***	(0.04)	4.17***	(0.03)
Individual-level effects										
Age group	0.03†	(0.01)	-0.02***	(0.01)	0.02*	(0.01)	-0.02	(0.01)	-0.01	(0.01)
Gender	0.09***	(0.02)	-0.02	(0.03)	0.11***	(0.02)	-0.01	(0.02)	-0.04*	(0.02)
Education	-0.06	(0.04)	0.13**	(0.05)	-0.10***	(0.03)	-0.02	(0.02)	6.28E-04	(0.02)
Territorial authority effects										
ZPer9	-0.01	(0.04)	-0.20**	(0.07)	-0.02	(0.04)	0.01	(0.04)	-0.05	(0.03)
SQZPer9	-0.01	(0.01)	0.04†	(0.02)	0.01	(0.01)	-0.01	(0.01)	3.42E-03	(0.01)
Unemployment	4.63E-03	(0.01)	0.01	(0.03)	0.01	(0.01)	-0.02	(0.02)	0.01	(0.01)
Income	2.29E-03	(0.01)	0.02	(0.01)	-0.01	(0.01)	-4.84E-03	(0.01)	0.02**	(0.01)
% European ethnicity	1.92E-03	(2.58E-03)	-0.01	(0.01)	3.92E-03	(2.41E-03)	-1.05E-03	(2.46E-03)	1.16E-04	(2.62E-03)
Valuing migrants	0.08	(0.16)	0.31	(0.33)	-0.10	(0.22)	0.11	(0.23)	0.04	(0.14)
Perceived threat	-0.20†	(0.12)	-0.32	(0.31)	-0.11	(0.18)	0.06	(0.17)	-0.14	(0.10)
Integration	-0.13	(0.11)	-0.02	(0.12)	-0.09	(0.12)	0.15	(0.11)	0.03	(0.09)

Notes: † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Gender is coded as 0 = female and 1 = male; education is coded as 0 = no education or not specified (gained/not gained) and 1 = post-school education; ZPerover = percentage of overseas-born in respondents' territorial authority, z-standardised; SQZPerover = ZPerover squared; Zper9 = percentage of recent immigrants in respondents' territorial authority, z-standardised; SQZper9 = percentage of recent immigrants squared.

Attitudes towards immigrants, perceived threat, and integration are aggregated variables (weighted by the variable final_weight) at territorial authority-level from the Attitudes towards Immigrants, Immigration and Multiculturalism Survey data set. Entries are unstandardised regression coefficients with standard errors in brackets. All variables were grand-mean centred in hierarchical linear modelling, except for standardised and binary variables.

Appendix D: Results of logistic regression

Table D1: Logistic regression – differences between migrants who intend to stay for 3 years or more, or less than 3 years

Variable	B	SE	Wald	df	Sig	Exp(B)
Job satisfaction	.155	.054	8.070	1	.004	1.167
Feeling safe	.104	.064	2.631	1	.105	1.110
Feeling settled	.672	.065	106.170	1	.000	1.958
Life satisfaction	1.020	.073	196.071	1	.000	2.773
Perceived discrimination	.201	.051	15.437	1	.000	1.223
Gender	-.311	.096	10.421	1	.001	.733
Age	.024	.045	.273	1	.601	1.024
Education	.828	.166	24.897	1	.000	2.289
Constant	-4.406	.670	43.192	1	.000	.012

Notes: *B* is the hierarchical linear modelling model parameter estimate; *SE* is the standard error relating to the parameter estimate; *Wald* is the Wald chi-square statistic relating to the parameter estimate; *df* is the number of degrees of freedom taken by each parameter in the model; *Sig* is the p-value associated with each parameter estimate; *Exp(B)* is the exponentiated parameter estimate, which is often referred to as an 'odds ratio'.

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