Does the neighborhood context explain attitudes toward immigration? A study of opinions on immigration in the city of Turku, Finland

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The aim of this study is to find out if or to what extent residential context can explain attitudes toward immigration. Although immigration is a global phenomenon, the practical challenges related to integration need to be solved locally. For integration to succeed, the majority population needs to accept the influx of new and different cultures as part of a common society. Against this background, it is important to understand the basis of different opinions on immigration and how they are dispersed in the local community. We make use of large data set (n=2977) on attitudes toward immigration in Turku collected in 2012. It allows us to analyze how attitudes toward immigration vary within different parts of the municipality and whether neighborhood context can explain attitudes toward immigration. We find that the most potent explanation related to residential context is the general sentiment toward immigration in a neighborhood.

Keywords: Attitudes, immigration, Turku, neigborhoods, residential segregation

Introduction

While immigration to Finland has been, and still is, relatively moderate compared to many other European countries, it has increased significantly in recent years. As a result of this development, attitudes toward immigration have become increasingly politicized. At the same time it is important to note that immigration is not evenly spread out over the country and the presence of immigrants in the lives of the majority population varies to a large degree. The aim of this study is to gain a better understanding of the extent to which the majority population's attitudes toward immigration are affected by residential context.

Like in other EU member states, immigrants in Finland are concentrated to larger cities (Vaattovaara, Vilkama, Yousfi, Dhalmann, & Kauppinen, 2010; Horttanainen & Wikman-Immonen, 2010). The case at hand, the city of Turku, is second only to the metropolitan area of Helsinki in the size of the immigrant population. European cities in general are becoming increasingly segregated and subsequently some inhabitants are more likely than others to come into contact with the growing number of immigrants (Semyonov & Glikman, 2009). According to Rasinkangas (2013; 2014), this increasing segregation is apparent also in Turku,

and consequently, the suburbs of Turku are one of the places where the majority population is most likely to come into contact with immigrants.

Our research question is whether neighborhood context affects attitudes toward immigrants in the city of Turku, in southwestern Finland? Contextual explanations for attitudes toward minority groups have long been an area of intense debate among social scientists (Rocha & Espino, 2009; Semyonov & Glikman, 2009, p. 694). Primarily two plausible, but at the same time conflicting, explanations for how residential context may affect attitudes toward immigration have been presented. First, according to contact theory, intergroup contact is an efficient means to reduce prejudice and group conflict, in other words, more contact with immigrants will make the majority population more likely to accept them (Allport, 1979; Tropp & Pettigrew, 2005). Second, intergroup threat theories suggest that residential proximity will induce rather than reduce prejudice due to competition over resources. According to this line of reasoning, the influx of immigrants will increase competition, especially in the lower socio-economic tiers, thereby producing negative attitudes toward immigration (Blalock, 1967; Hjerm, 2009; Key, 1949).

The contributions of the study are in part methodological and in part substantive. The methodological contribution comes from our focus on a relatively small residential context, neighborhoods, the importance of which has not been widely analyzed. Even when this is the case, the studies focus on cities and countries with established and sizeable minorities (see for example Sturgis et al., 2014). In this respect, a Finnish city makes an interesting case in the sense that it represents an area where immigration until recently has been relatively small scale. Also, our interest lies with the case of Turku itself, since local differences – and their probable causes - in attitudes toward immigration have not been ex-

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tensively studied in Finland. It remains uncertain how relevant theories that rely on the presence of immigrants (or other minority groups) are in conditions where immigrants are relatively few and far in between. Therefore, we add an additional explanation, which gauges the influence of living among like-minded people on individual attitudes.

The present paper is organized as follows. Next, we discuss more deeply the theoretical explanations related to attitudes toward immigration as well as previous findings on the effects of residential context. After that, we describe the data collected by the Social Science Research Institute at Åbo Akademi University in 2012 and the variables we use. We then present the results from our empirical analysis on the effects of individual and context-level predictors of attitudes toward immigration. Finally, we draw conclusions based on our findings and discuss the potential link between residential segregation and attitudes toward immigration.

Theory and background

What do we mean by attitudes toward immigration? According to Ajzen (2005, p. 3), an attitude is a disposition to respond favorably or unfavorably to an object, person, institution, or event. An attitude is not behavior, but rather a predisposition to respond in a particular way to the attitude object. Attitudes toward immigration are generally discussed under the concept of prejudice. Prejudice can be defined as an intolerant, unfair or irrational unfavorable attitude toward another group of people, but it can also involve unfounded favorable attitudes toward a group (Jones, 1997).

Some authors (cf. Rydgren, 2008) argue that we should differentiate between immigration skepticism, which may have a different rationale from xenophobic or racist attitudes. Rydgren (2008, p. 740) points out that people with racist attitudes are probably xenophobic and immigration sceptics as well, but xenophobic voters are not necessarily racists and immigration sceptics are neither necessarily xenophobes nor racists. Nevertheless, empirical studies suggest that restrictive and prejudiced attitudes often tend to be conflated (Grönlund, Herne, & Setälä, 2015; Hainmueller & Hopkins, 2014, p. 231). In this paper, we refer to attitudes toward immigration in more general terms, which according to Rydgren's line of reasoning should also include attitudes concerning immigrants more specifically.

At the level of the nation-state, at least in European welfare states, the formation of attitudes toward immigration is linked to two kinds of explanations: socio-psychological and economical. The first explanation relies on an argument that immigration implies ethnic, linguistic and/or racial diversity, which would break down the homogeneous identity and broad sense of solidarity that laid the ground for national, encompassing welfare arrangements. The second explanation relies on an argument that the social expenditure costs increase if immigrants are disproportionally dependent on welfare (van Oorschot, 2008).

Attitudes toward immigration tend, however, to vary rather considerably within countries. According to Jaakkola (2009, p. 25), Turku and Helsinki display the most positive attitudes toward immigration. For a long time there was a large disparity in attitudes toward immigration between rural and urban areas in Finland, with the rural areas being more reluctant to accept the influx of immigrants. Even though this difference is much smaller today than it was some twenty years ago, residents from the large cities in Finland are still more tolerant of immigration than people from the countryside (Jaakkola, 2009).

Research on intergroup contact or local intergroup threat has traditionally played an important role in explaining attitudes toward minority groups on a subnational demographic context. Residential proximity provides the opportunity to interact with immigrants, potentially affecting out-group categorization by the majority population (Hainmueller & Hopkins, 2014, p. 236). Residential context can affect attitudes toward immigration through two principal channels, both of which are related to group identity. The first, and perhaps most important explanation is that residential context mediates the frequency of everyday contact between the majority population and minority groups. Second, residential context can affect attitudes toward immigration through in-group consolidation: attitudes develop or become strengthened as a result of coming into contact with shared views (Schkade, Sunstein, & Hastie, 2010).

How these mechanisms can shape attitudes toward immigration depends partly on residential segregation. Contact between the majority population and immigrants or other minorities is neither completely random nor purely based on individual preferences. Education, occupation and income influence people's choice of residence and this results in certain demographic groups being overrepresented in some neighborhoods while underrepresented in others (Rasinkangas, 2013, p. 32; Semyonov & Glikman, 2009, p. 694). Residential location affects access to the job market, transportation, and education and, when social differentiation between different demographic groups and geographical areas increase, some neighborhoods can experience failed development and become stuck in socio-economically weaker positions (Barr, 2012; Rasinkangas, 2013). When these differences become pervasive, it is referred to as residential segregation. Residential segregation divides population groups into various neighborhood contexts and shapes the living environment at the neighborhood level and is viewed as major aspect of urban socio-economic inequality (Charles, 2003; Massey & Denton, 1993).

Due to the economic realities of most immigrants, they seldom share neighborhoods with the more affluent parts of the majority population (Semyonov & Glikman, 2009, p. 694). Hence, residential segregation becomes a factor for interactions between members of minority group populations and members of the majority group population, by reducing contact potential in homogenous areas and increasing it in more heterogeneous areas. The varying levels of contact with immigrants has in turn spurred two distinct theories on how contact with immigrants affect people's attitudes toward immigration.

According to contact theory, as originally advanced by Allport (1979), inter-group contact is an efficient means to

reduce prejudice and ethnic conflict. Since group identity and out-group stereotyping are considered intrinsic to prejudice, limited contact with immigrants would be conducive to the emergence of prejudiced views and to the preservation of social distance between the majority population and immigrants. Social contact is not directly a contextual variable, but it is greatly influenced by contextual factors such as ethnic segregation. Attitudes toward immigration would subsequently be explained by the fact that some groups are more likely than others to come into contact with people unlike themselves. Direct contact with minority groups increases affability because increased contact makes it difficult for groups to accept typically negative stereotypes (Forbes, 1997). A general condition for contact theory (Allport, 1979) is that the contact should be of such frequency, duration and closeness that it has the potential to lead to meaningful relationships between the individuals concerned. This is a criterion that can be quite hard to measure, especially in Finland where the minority groups are of such limited size that most residential areas have little ethnical diversity. Nonetheless, increase in the relative size of the minority population would increase the odds that two random individuals from different ethnic groups meet and thereby establish 'positive' and 'constructive' contacts (Wagner, Christ, Pettigrew, Stellmacher, & Wolf, 2006).

Previous research supports the idea that intergroup contact can affect racial attitudes favourably (cf. Tropp & Pettigrew, 2005). Jaakkola (2009, p. 29) finds that personal contact with immigrants in Finland is correlated with more positive attitudes toward immigrants. The more immigrants the respondents had a personal relationship with, the more positively they view both employment-based and humanitarian based immigration. In accordance with the social contact thesis we present the following hypothesis (H1): In residential areas where the majority population is more likely to come into contact with immigrants, they are less likely to view immigration in negative terms.

Theories of inter-group threat have suggested that residential proximity can also increase prejudice due to competition over scarce resources (Hopkins, Tran, & Williamson, 2014; Key, 1949; Oliver & Mendelberg, 2000). Group threat theory identifies an implicit or explicit challenge to dominant group's position as the catalyst for prejudice. Hence, fear of competition would be a likely source for prejudice and negative sentiments (Blalock, 1967; Blumer, 1958). This theory finds support from studies examining individuals' attitudes toward ethnic minorities, which consistently show that prejudice tends to be more pronounced among individuals with low socio-economic status (e.g. low education, low income, unemployed). Due to residential segregation, low socio-economic status individuals from the majority population also are more likely to share neighborhoods with immigrants. Prejudice would be higher among this group due to a threat generated by the presence of subordinate minority populations (Schneider, 20088; Semyonov & Glikman, 2009). Because the competition in question is mainly economic and not cultural, the proportion of the minority group or groups in a neighborhood is of special importance. In line with this reasoning the majority views a larger minority group as a bigger threat than a smaller one (Hjerm, 2009). In accordance with the inter-group threat thesis we expect that (H2): In residential areas where there are more immigrants, the majority population, especially if they belong to low SES groups, is more likely to view immigration in negative terms.

The contact and threat theories have played a major part in explaining the prejudice by whites toward blacks and other minorities in various areas in the United States (Hjerm, 2009), but they are not necessarily as useful in the Finnish context, where immigration is and has been very small scale in comparison and racial conflict is more or less non-existent. In such circumstances it might be necessary to look for alternative explanations. According to theories on group polarization (cf. Sunstein, 2009; Schkade, Sunstein, & Hastie, 2010), attitudes become strengthened as a result of coming into contact with shared views. Due to the growing segregation in our societies, neighborhoods consist to an increasing extent of people who share similar characteristics. Whether it is of their own choosing or not people have a tendency to affiliate with people like themselves (cf. Mutz, 2006, p. 9), and thereby they are likely to be affected by the general sentiment in their nearby environment. Residential segregation makes it more likely for people to meet other people who experience the world in the same way as they do and less likely to meet those with another perspective. In neighborhoods where a large portion of the population holds a positive view of immigration, one is likely to meet people who experience the world the way they do and less likely to meet those who are more critical of immigration. And the opposite is of course true for neighborhoods where a large number of immigration critics reside. We might, therefore, expect people's attitudes to become consolidated by the dominant attitudes of their immediate surroundings. According to our third hypothesis (H3): the dominating view, whether pro-immigration or anti-immigration, in a neighborhood will correspondingly affect individual views.

In summary, we expect that the residential context influences individual attitudes, which cannot be explained apart from the environments where individuals live in. In the following section, we present the data and methods we use to explore the three hypotheses we have formulated based on theoretical literature and earlier empirical findings.

Data and variables

The case of Turku

The City of Turku is located in the southwestern part of Finland and has a population of approximately 200,000. The dispersion of immigrants in the City of Turku is quite uneven (Salminen, 2012; Rasinkangas 2014), and in a study of the Turku area Rasinkangas (2013) shows that ethnic segregation is increasing. The influx of immigrants is mostly concentrated to the largest suburban areas. The share of immigrants is the highest in Varissuo (40 per cent are non-native speakers, making it the most multicultural residential area in Finland) and there are altogether five neighborhoods

where more than 20 per cent of the population speaks a foreign native tongue as their first language. On the other hand, there are many areas in Turku with very few immigrants. The majority of native-born Finns are actually very likely to reside in neighborhoods that are extremely homogenous when it comes to ethnic composition. Hence, neighborhoods are very different when it comes to interaction between majority and minority populations.

Data

The study makes use of both survey and register data. The data on attitudes toward immigration used in this study originate from a research project on deliberative democracy. The main purpose of the research project was to organize an experiment where a large group of citizens gathered to discuss immigration policy in Finland. However, as part of the recruitment process for this experiment, a random sample of potential participants in the experiment was surveyed on their attitudes toward immigration.

The recruitment survey (T1) in the research project was mailed out to a simple random sample of 12,000 adults in the Turku region in early 2012. Of the addressed sample, 39 percent (n = 4,681) responded to the survey. Of these respondents, 3,350 lived in the City of Turku. We decided to leave out the Swedish-speaking national minority from our data, because their position in relation to other minority groups is not strictly comparable to that of the Finnish-speaking majority (final sample n = 2,977). T1 was fairly short, consisting only of 14 questions whose aim was to measure the respondents' attitudes toward immigration. It included items on how the respondents feel about the scale of immigration, how they feel about immigrants' adaptation to Finnish society, the economic impact of immigration, as well as about working with or living next to immigrants. The survey also included a few questions regarding basic socio-demographic factors. Other surveys (T2-T5) and an experimental treatment were used to measure additional factors and attitude change in a smaller subsample of the population, but these data are not suited for the purposes of this study.

The benefit of having a large-N survey in a single municipality is that it allows for comparisons of units at the sub-municipal level. We decided to use neighborhoods as the contextual factor, because we think that neighborhoods, rather than larger areas like zip codes, represent the area where people actually live their daily lives and with which they identify. Neighborhoods are sufficiently small for residents to have shared experience and for the inhabitants to be in frequent contact with other people living in the area. A zip code might not only include neighborhoods with very different characteristics, it is also likely to be so large that the residents do not necessarily have comprehensive first-hand knowledge of what is going on in the area.

The City of Turku is divided into nine larger sub-areas and 134 smaller sub-areas or neighborhoods. The register data on small sub-areas in the municipality of Turku were collected by Statistics Finland for the City of Turku in 2012. The register data include information on a number of socio-economic variables at the neighborhood level. For the purpose of our analysis, the survey data on individual attitudes toward immigration were combined with information from these municipal sub-areas.

In this study, we include 107 small areas or neighborhoods. This includes all neighborhoods from which we have respondents in our survey data. The neighborhoods naturally vary in many respects. Some are densely populated, the central parts and major suburbs in particular. Others are more sparsely populated with mostly detached housing, particularly on the islands outside Turku and in other more peripheral areas. The number of inhabitants in the neighborhoods varies from a few hundred to almost 9,000, and the number of respondents varies between 1 and 135. Neighborhoods that were not included in our analysis simply had no or very few inhabitants. Due to the small number of people living in some neighborhoods they may not have been part of the random sample or the few who got the survey have chosen not to fill it out.

Dependent variable

Our dependent variable is an index variable consisting of eight items (out of 11 surveyed) regarding different issues related to immigration in Finland. Each item was first recoded into a scale from 0 to 1, so that 1 indicates the most immigration-friendly attitude. While the index touches upon quite different themes regarding immigration, its items cover the central aspects related to attitudes toward immigrants, including the socio-psychological and economical aspects. All 11 attitudinal items loaded on one single factor (using principal components analysis), but to create a more coherent index we included only the eight with highest correlations ($\rho > 0.65$) with this factor. This resulted in a strongly coherent index. The questions together with the principal components analysis can be found in the appendix.

Independent variables

The following variables measure differences in residential context between the neighborhoods: (I) share of young adults (20-29), (II) share of adults above 15 years of age with a college level degree or higher, (III) level of unemployment, (IV) average income for adults above 15 years of age, (V) share of non-native speakers, and finally, (VI) a population density measure that takes into account both population size and the share of detached housing. In some of our analyses we also use a neighborhood specific measure of attitudes toward immigration based on the average attitudes of the respondents in each neighborhood.

The share of young adults in the neighborhood (20-29) is perhaps not the most obvious choice among contextual variables for explaining attitudes toward immigration, but it can be considered an important variable for several reasons. Previous research indicates young people are more tolerant than older generations. Thus, a large share of young people may contribute to a more tolerant environment. Since Turku is one of the most prominent student cities in Finland, with students making up about 10% of the population (Statistics Fin-

Table 1
Coding of variables and descriptive statistics.

	Question phrasing and coding	Valid N	Mean	SD	Min.	Max.
Dependent variable						
Immigration in Finland	Index (7 items) measuring individual attitudes toward immigration in Finland. 7 = most positive.	2977	3.75	1.83	0	8
Individual level variables						
Age	Age in years	2977	51	17	18	78
Gender	Female = 1, Male = 0	2977	0.56	0.50	0	1
Low education	Dichotomous variable: Low education (1) is vocational degree or elementary school, (0) High education is matriculation exam or higher.	2977	0.41	0.49	0	1
Contextual variables - neighborhood						
Young adults	Share of 20-29 year olds in the neighborhood. Square root transformation in regression analyses.	2977	19.8	12.3	1.5	71.4
Highly educated	Share of highly educated people in neighborhood. College level vocational degree or higher is considered highly educated.	2977	31.8	9.5	11.0	64.5
Unemployment	Share of unemployed persons in the neighborhood.	2977	12.9	6.2	2.1	30.8
Share of non-native speakers	Share of people with foreign native language in neighborhood.	2977	7.6	8.6	0.0	39.4
Income level	Mean income (1000 €) in neighborhood.	2977	26.5	5.4	12.7	78.8
Population density	Population density score (0-100) of neighborhood. Population size controlling for detached housing.	2977	26.4	26.3	0.1	100
Residential attitude mean	Mean attitude in neighborhood.	2977	3.75	0.59	1.83	5.68

Table 2
Top 5 neighborhoods with the most positive and negative attitudes toward immigration.

	Immigration in Finland (0-8)	Young adults (%)	Highly educated (%)	Unemployed (%)	Non-native speakers (%)	Income 1000 €	Population density (0-100)
Yliopisto I	5.07	38.07	38.83	8.67	10.47	22.8	17.6
Tuurepori VI	4.96	29.94	42.75	7.2	3.68	30.2	19.0
Sirkkala I	4.76	46.39	37.89	7.48	3.63	23.9	69.9
Länsiranta	4.73	19.37	34.00	13.02	3.76	28.0	17.9
Verkatehdas VI	4.70	34.3	38.11	11.51	4.04	27.2	36.2
Länsi-Maaria-Jäkärlä	2.98	12.8	17.68	17.24	9.02	24.8	13.4
Härkämäki-Jyrkkälä	2.96	16.94	11.07	25.27	12.72	20.0	37.1
Varissuo	2.96	14.89	15.7	29.24	39.45	18.6	100.0
Etelä-Paattinen	2.83	6.99	25.74	6.75	2.2	29.1	1.8
Asuin-Pitkämäki	2.72	7.14	44.93	5.67	1.86	35.9	1.7

Note: only neighborhoods with 20 or more respondents.

land, 2012), the age group of 20-29 year olds is quite dominant. Moreover, this age group in Finland belongs to the first generation that has had a lifelong experience of a more ethnically heterogeneous society. The remaining residential context variables are much more straightforward. Education, employment and income are considered key variables for socioeconomic status (Brady, Verba, & Schlozman, 1995; Rosenstone & Hansen, 2003) and these variables are therefore important indicators of residential segregation. These indicators are measured by the share of highly educated individuals within the neighborhood, the unemployment rate, and mean income. The share of non-native speakers in the neighborhood (non Finnish or Swedish) is a variable used to represent the level of ethnic diversity in each neighborhood. Our last measure is a measure of population density and acts as proxy for how likely people are to come into contact with each other in a neighborhood. The closer people live to each other the harder it is to avoid interactions with others.

Anti-immigration attitudes are not only influenced by inter-ethnic contacts, but also by individuals' socio-demographic characteristics. It is well known that opinions on immigration vary a lot between different demographic groups. Previous research has found that women, younger people, and those with higher education have more positive attitudes toward immigration, while men, older people and those with lower education tend to be more negative (Clawson & Oxley, 2012, p. 253). For this reason, we also include basic socio-demographic variables in our analysis in order to control for the relative importance of the contextual effects. More information on each variable can be found in Table 1.

Methods

In the following section we make use of the above-mentioned variables in order to test the hypotheses laid out in the theoretical section. Our analysis proceeds in three steps. A common starting point for studies on segregation is to identify differences at the area level (Rasinkangas, 2013).

Following this approach, we start by examining how neighborhoods vary when it comes to both attitudes and social differentiation. The next step is to take a more systematic look at the characteristics of the different neighborhoods by looking at how attitudes and the different residential characteristics correlate. Finally, after having established the variation, as well as the main systematic differences for the neighborhoods in Turku, we engage in the main analysis using a number of multi-level regression models.

Multi-level regression models (Hox, 2010; Luke, 2004; Rabe-Hesketh & Skrondal, 2012) are used to gauge the effect of all contextual factors simultaneously, while at the same time controlling for the influence of individual level factors. Multi-level modelling assumes that individuals interact with the social context in which they belong, which is an empirical way of understanding the relationship between the context and the individual. Thereby it is able to account for the fact that all the individual respondents are nested within neighborhoods with specific characteristics. Another benefit of using multilevel regression analysis is that we do not have to worry about the relatively large variance in the number of respondents at the neighborhood level. A common problem when using multi-level modelling is relatively few cases at the level of the nesting, but since our data set includes more than 100 neighborhoods this is not a major concern. In the regression analysis we start by looking at the effect of the context level variables used in the descriptive part of the analysis. In subsequent models we include individual level characteristics of the respondents and different interactions. In our final models we also include the mean attitude of the neighborhoods as an independent variable.

The empirical analysis

Since it would be almost impossible to engage in a more in depth descriptive analysis of all 107 neighborhoods in our data set, we begin by looking at a sample of ten different neighborhoods in Turku. These show that attitudes toward

immigration indeed vary between neighborhoods. The sample represents some of the neighborhoods with the most positive and the most negative attitudes toward immigration. This way it should be possible to get some idea of the variation within Turku both when it comes to attitudes toward immigration and residential context.

As seen from Table 2, the areas vary on a number of characteristics. The first five neighborhoods are the areas that are most positive toward immigration and have noticeably higher score on our dependent variables compared to the bottom five which represent the most neighborhoods with the most negative attitudes. The difference is large, but it is by no means extreme. For the index variable, which includes 8 variables, the most positive neighborhoods score around 5 and the most negative have scores below 3.

Among the neighborhoods where the respondents display the most positive attitudes toward immigration we find that a relatively large share of the residents are young adults and highly educated. Of the five neighborhoods with the most positive attitudes toward immigration, four are notable for their large student populations (between ten and twenty percent of the inhabitants). Not only do the neighborhoods with the most negative attitudes display quite the opposite pattern on these variables, they also have higher levels of unemployment and of non-native speakers. While income has no apparent relationship to the respondents' attitudes, based on these select cases there seems to be a positive relationship between socio-demographic residential segregation and negative attitudes toward immigration.

With regard to our hypotheses, the neighborhood of Varissuo seems to fit the inter-group threat theory quiet well. Not only is there a large share of non-native speakers in Varissuo, but its unemployment rate is also relatively high, while income and education levels are markedly lower. At the same time the neighborhood displays some of the most negative attitudes toward immigration. In line with group threat theory, it seems that a competition over resources is a plausible explanation for the negative attitudes in this neighborhood. However, the negative relationship between attitudes and the presence of minority groups within a neighborhood is by no means linear. The neighborhoods of Etelä-Paattinen and Asuin-Pitkämäki are ethnically very homogenous, while at the same time displaying quite negative attitudes toward immigration. Not only are they ethnically homogenous, they also have relatively low unemployment and relatively high mean incomes. In this sense, the attitudes in Etelä-Paattinen and Asuin-Pitkämäki would seem to be explained by lack of contact with minority and would thereby be a better match for our first hypothesis, which suggests that if the majority population come into contact with immigrants, they are less likely to view immigration in negative terms. However, it should be noted that both neighborhoods differ from the most positive neighborhoods on one account, the share of young adults living in the area.

While comparing neighborhoods in this manner is an interesting exercise, we should keep in mind that the sample was drawn at the municipal level and, even though we picked out neighborhoods with more than 20 respondents, the numbers are not necessarily representative. Nonetheless these results indicate that there might be very different explanations for attitudes toward immigration at the neighborhood level.

To get a better idea as to how the different contextual level characteristics and individual attitudes toward immigration are related, we ran bivariate correlations (see table 3). This also gives us more systematic evidence on the presence of residential segregation in the neighborhoods of Turku. The correlations between the neighborhoods' characteristics indicate a clear pattern of residential segregation. A large share of highly educated individuals is strongly negatively correlated with unemployment and the share of non-native speakers in the neighborhood, while having a large share of highly educated in the neighborhood is strongly correlated with the mean income. Neighborhoods with a large share of non-native speakers suffer from high unemployment, while the mean income of a neighborhood is strongly correlated with its share of unemployed and non-native speakers. Considering findings from previous research on segregation (cf. Rasinkangas, 2013; Salminen, 2012), these finding are quite expected.

The results from bivariate correlations not only indicate a marked level of segregation, they also suggest that attitudes toward immigration vary with regard to characteristics of the neighborhood. We find that neighborhoods with a larger share of young adults or larger share of highly educated and prosperous individuals tend to be more positive towards immigration. However, neighborhoods that lack the aforementioned characteristics or struggle with high levels of unemployment tend to be less enthusiastic regarding immigration. Regarding our hypotheses we find little to suggest that a higher share of non-native speakers in a neighborhood would produce more positive or more negative attitudes. The second hypothesis fares slightly better, as levels of unemployment are correlated with negative attitudes. It is, nevertheless, hard to draw any conclusions with regard to our third hypothesis based on this analysis.

The mere presence of residential segregation or bivariate relationships between neighborhood characteristics and attitudes toward immigration gives only a preliminary answer to the primary research question (does contextual variation explain attitudes). For this reason we make use of multi-level modelling in the final part of our analysis. We ran five different multi-level regression models using the attitudes toward immigration index as the dependent variable. Although our previous analyses already indicate that the contextual level variables are related to the phenomenon we are examining, we began our regression analysis with an empty model in order to assess the relationship between the different analytical levels. The empty or null model indicates that 7 per cent of the variation can be explained by between neighborhood variations. In the second model we include all the variables describing the residential context. Neighborhoods that have a larger share of young adults or inhabitants with higher education are clearly more positive toward immigration, even when controlling for other residential characteristics. For each increase of ten-percentage points in the share of young adults the average attitude toward immigration increase by

Table 3
Correlations between immigration attitudes and neighborhood context variables (N = 107).

	Immigration attitudes	Young adults	Highly educated	Unemployed	Non-native Speakers	Income	Population density
Immigration attitudes	*1.00*	*0.18*	*0.34*	*-0.20*	*(-0.16)*	*0.21*	*(-0.03)*
Young adults		1.00	(0.10)	(0.06)	(0.15)	-0.42	0.43
Highly educated			1.00	-0.74	-0.52	0.75	-0.27
Unemployed				1.00	0.73	-0.58	-0.38
Non-native speakers					1.00	-0.44	0.48
Income						1.00	-0.39
Population							1.00

Note: All correlations significant at 0.05 level, except for ()

0.22 points and a ten percentage point increase in the share of the highly educated translates into 0.45 points of more positive attitudes. The share of unemployed, non-native speakers or the level of income does not have a significant relationship with the attitudes toward immigration in the second model.

In the third model we also include age, gender and education as individual level variables. The individual level indicators are included in order to control the effect of the group-level indicators. Previous research has indicated that these socio-demographic factors strongly influence attitudes toward immigration and they should thereby be a good way of controlling for the relative influence of the residential context. We find that the individual level variables included are indeed potent explanatory factors. Gender and education are both strongly significant (p < 0.001). The directions of these relationships follow a well-known pattern. Women are on average 0.25 units more positive toward immigration than men and respondents with a matriculation exam or more education are 1.20 units more positive than those with lower education. The effect of the respondents' age is however not significant when controlling for the neighborhood context variables. The contextual variables have an apparent impact on attitudes toward immigration, but so do individual level measurements like gender and the level of education.

The inclusion of the individual level variables has limited effect on the variables describing residential context. Both variables that had a significant effect in model 2 remain significant in model 3, which would suggest that attitudes cannot be explained simply by individual level factors. The share of young people in the neighborhood loses some of its explanatory power, but still remains strongly significant. The relative stability of the residential context variables indicate support for our third hypothesis regarding the effect of the dominating view on attitudes toward immigration at the neighborhood level. Unemployment also becomes significant in this model, indicating that neighborhoods with higher unemployment would be more positive toward immigration. This is quite interesting since the simple correlations in table 3 indicated the opposite relationship. In order to more explicitly test the first and second hypothesis we also introduce two interactions in model 3. The first interaction examines the relationship between population density and share of non-

native speakers in order to gauge the likelihood for people to come into contact with immigrants (H1) and the second interaction examines relationship between low education and the share of non-native speakers (H2). The inclusion of the interaction terms have little effect and thereby give no further support for our hypotheses regarding inter-ethnic contacts.

Our fourth and fifth models are somewhat different from the previous models, the reason being our introduction of a variable measuring the average attitude of the respondents in each neighborhood. We included the mean for attitudes toward immigration at the neighborhood level to get a better estimate of the influence of neighborhood characteristics on individual attitudes (H3). As we rely on an average calculated based on our respondents in each neighborhood, we left out the neighborhoods with five or fewer respondents in the last two models. The threshold had almost no effect on the outcome, but we still did not want a single or just a few individuals to represent the average of the neighborhood and chose to remove all neighborhoods with five or fewer respondents from this analysis. Our fourth regression model suggests that the effect of the mean attitudes in the neighborhoods is very strong. The regression coefficient of 0.9 implies that holding constant all other variables, the individual attitude increase by 0.9 for each point the mean attitude increases. Based on our findings from table 2 indicating that most neighborhoods vary between 2.7 and 5.1 on our index of attitudes toward immigration (on a scale from 0-8), this would in practice mean that an individual in a restrictive area is approximately two points more negative than in a permissive area. Since the effect is quite substantial we decided to run a fifth regression model to further test the robustness of these findings. In order to avoid potential problems related to multicollinearity, we removed all neighborhood context variables included in the previous model. In the fifth model, where we include only the individual level measurements and the mean attitude the results still remain very similar[1]. The regression coefficient

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[1] The robustness of the analysis was also tested by removing all neighborhoods with less than 20 respondents and the outcome still remained intact. The analyses where we have removed some neighborhoods, subsequently have fewer units of analysis both at the individual and neighborhood level. It is also worth noting that

Table 4
Multilevel models explaining the effect of neighborhood context on attitudes toward immigration (index).

	Model 1		Model 2		Model 3		Model 4		Model 5	
Fixed effects	*Coef.*	*(SE)*	*Coef.*	*(SE)*	*Coef.*	*(SE)*	*Coef.*	*(SE)*	*Coef.*	*(SE)*
Young adults			0.022***	(0.005)	0.013**	(0.005)	-0.006	(0.005)		
Highly educated			0.045***	(0.90)	0.030***	(0.009)	-0.011	(0.009)		
Unemployment			0.02	(0.01)	0.028*	(0.014)	0.006	(0.013)		
Non-native speakers			-0.013	(0.008)	-0.016	(0.013)	-0.006	(0.012)		
Income level			-0.015	(0.015)	-0.011	(0.015)	0.004	(0.016)		
Population density			-0.001	(0.002)	-0.001	(0.003)	-0.001	(0.002)		
Age					-0.003	(0.002)	-0.004†	(0.002)	-0.003	(0.002)
Gender					0.25***	(0.06)	0.252***	(0.062)	0.251***	(0.062)
Low Education					-1.20***	(0.09)	-1.159***	(0.088)	-1.051***	(0.067)
Density*Non-native					-0.005	(0.015)	-0.000	(0.012)		
Low Educ*Non-native					0.011	(0.007)	0.011	(0.007)		
Residential Att. Mean							0.936***	(0.086)	0.740***	(0.055)
Constant	3.77***	(0.061)	2.11***	(0.453)	3.06***	(0.458)	1.064*	(0.486)	1.405***	(0.242)
Random effects										
Group level: Var (cons)	0.22	(0.05)	0.02	(0.02)	0.02	(0.02)	0.00	(0.00)	0.00	(0.00)
Individ. level: Var (res)	3.11	(0.08)	3.12	(0.08)	2.81	(0.07)	2.72	(0.07)	2.73	(0.07)
Number of observations	2977		2977		2977		2922		2922	
Number of groups	107		107		107		89		89	
Wald chi2	-		141.98		480.15		680.44		665.28	
Log likelihood	-5963.67		-5928.02		-5770.15		-5606.81		-5612.97	
Prob > chi2	-		0.000		0.000		0.000		0.000	

Significance: ***<0.001, ** <0.01, * 0.05, †<0.10

for the mean attitude of the neighborhood is smaller (0.7), but it is still substantial and clearly significant. All in all, there appears to be a strong relationship between the general attitude in a neighborhood and individual attitudes toward immigration, which lends considerable support to our third hypothesis.

Discussion

Despite the fact that the initial observations regarding contextual effects on racial and minority attitudes were made more than 60 years ago (Key, 1949), social scientists are still working toward a detailed understanding of how social context is linked to attitudes toward immigration. Some suggest that increased contact with minority groups generates more positive attitudes among the majority population (Allport 1979, Tropp & Pettigrew 2005), while others claim the exact opposite (Blalock, 1967; Hjerm, 2009; Key, 1949). Interaction with minority groups is strongly related to residential segregation, as this phenomenon not only affects the likelihood for the majority population to come into contact with minority groups, but also the conditions under which these interactions happen. Since European cities are becoming increasingly segregated, this is an increasingly important dimension for understanding attitudes toward immigration.

The aim of this paper has been to contribute to this discussion by looking at how characteristics of neighborhoods in the city of Turku may explain attitudes toward immigration among the majority population. We expected a variation in attitudes between different neighborhoods and that these variances would be explained by different characteristics, which define these neighborhoods. Based on the theoretical discussion, we formulated three hypotheses regarding residential context and how it is associated with attitudes toward immigration. Our two first hypotheses were based on contact and inter-threat theories respectively, the first (H1) suggesting that in residential areas where the majority population are more likely have first hand experience with immigrants, they are less likely to view immigration in negative terms. The second hypothesis (H2) suggested basically the opposite and that a higher share of immigrants leads to more negative attitudes especially among low-SES groups. Since much of the work on attitudes towards immigration and minority groups originates from the United States, where the conditions are very different from Finland (due to the late influx of immigrants in the latter), we included a third hypothesis regarding the impact of residential context. This hypothesis (H3) suggested that main contextual driver for immigration attitudes at the neighborhood level would be general attitude regarding the issue in the neighborhood.

In line with the primary theories in the field of ethnic and racial attitudes we find that the residential context is related to attitudes toward immigration. However, contrary to most other studies on the subject, we do not find much to support for the contact nor the threat hypothesis. Some neighborhoods display features that would seem to go in line with these hypotheses, but the evidence does not hold up in more systematic tests of the data. Most studies where the neigh-

borhood context is used to explain attitudes toward minority groups originate from the United States. In a rare study on the impact of the neighborhood context in the European context Sturgis et al (2014) find support for the contact theory, but only when area-level economic deprivation is controlled for. However, this study focuses on London, arguably one of the most ethnically diverse cities in the world.

It seems that it is our third hypothesis on in-group consolidation that presents the best explanation for how residential context is related to attitudes on immigration in Turku. Positive attitudes toward immigration seem to be linked with characteristics of the neighborhood in the sense that a large share of young adults or highly educated is related to more positive attitudes. But as our bivariate analysis suggests, the overlap between highly educated neighborhoods, which was the most important contextual predictor for positive attitudes, and the share of non-native speakers is not very big. Thus, it is unlikely that these positive attitudes to a substantial degree would be explained by positive and constructive contacts with the minority group. Furthermore, our regression analysis suggests that the average attitude in the neighborhood is an important explanatory factor. In fact the substantive effect of the average attitude of the neighborhoods, and inability of the two first hypotheses to explain attitudes toward immigration, would suggest that residential segregation has limited influence on attitudes toward immigration. However, we cannot exclude the possibility that the traditional explanations are also relevant for attitudes in specific neighborhoods.

Our best explanation for the outcomes of this study has to do with the case itself. Even though immigration to Finland has been growing rapidly in the last two decades, there are still relatively few immigrants in Finland and Turku compared to many other countries and cities. Since there are relatively few neighborhoods with a large ethnic diversity, only a limited portion of the majority population are likely to create meaningful contacts with a member from a minority group based on where they live. Similarly, relatively few neighborhoods have minority groups large enough to present a perceived threat to the majority population living there. For this reason, it is perhaps not that surprising that contextual effects are related to general attitudes toward immigration among the majority population, rather than the type of contact people have with immigrants.

Admittedly the relatively small share of ethnic minorities also presents a problem for the external validity of the findings from this study. Nonetheless, our analysis point out the complexity involved in analyzing the relationship between segregation and attitudes toward immigration. And even if a Finnish city might not be the best place to test the validity of contact and threat theories, given their origins, we still think that more research should be made on how attitudes toward immigration and minorities are affected by the general sentiment in the nearby surroundings. Residential segregation is prevalent in most western countries and subsequently there

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the estimates of the other contextual-level variables remain robust to the exclusion of the neighborhoods with the fewest respondents.

are a lot of places where the level of interaction with immigrants is limited.

A potential shortcoming of the study is that focuses only on the significance of the area where people live. It does not tell anything about the effects of the work and other environments. However, previous research shows that people are generally relatively willing to interact with minorities when it does not require close personal contact (such as interaction with colleagues), but less accepting of more intimate interaction (such as living in mixed neighborhoods) (Oskamp & Schultz, 2005). From a methodological viewpoint, a higher response rate for the survey would also have been desirable.

Moreover, future research on majority attitudes toward immigration should take into account potential diffusion effects. Residential characteristics and prejudiced attitudes are not necessarily confined to specific neighborhoods and it has been suggested (cf. Bon & Cheylan, 1988) that parts of the majority population living close to areas with a large share of immigrants are more prejudiced than those living within these areas.

Acknowledgements

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APPENDIX

Table A1: Factor analysis for Immigration in Finland index variable.

Immigration survey items	Components
1. Finland should take more immigrants. Do you think this is a bad or a good suggestion?	0.889
2. Migration of foreigners into Finland should be restricted as long as there is unemployment in Finland. [r]	0.806
3. Do you think Finland will change into a better or a worse place to live when people from other countries move to Finland?	0.869
4. It is good for the Finnish economy that people from other countries move to Finland.	0.846
5. Immigrants take away jobs from native Finns. [r]	0.738
6. The state and the municipalities use too much money to aid immigrants. [r]	0.809
7. Immigration poses a serious threat to our national originality.	0.828
8. Generally speaking, immigrants adapt well into the Finnish society.	0.719
Eigenvalue	5.31
% Variance explained	66.41
Cronbach's alpha	0.88

Note: Extraction Method: Principal Component Analysis with Varimax rotation.

Questions 1 to 3 were presented on a scale from 0 to 10, while questions 3 to 11 were presented as a standard Likert scale with four values.
[r] = Reversed coding in the sum variable.