Ethnic Residential Segregation, Social Contacts and Prejudice in European Societies

Introduction

Ethnic residential segregation has long been viewed by social scientists as a major aspect of urban inequality and as a structural mechanism through which ethnic and racial minorities are denied equal access to opportunities, rewards and amenities. In the United States, for example, researchers have long demonstrated that blacks, Hispanics and whites rarely live in the same neighborhoods (e.g. Krivo and Kaufman 1999; Denton 1994; Denton and Massey 1988; Farely and Frey 1994; Clark 2002, Charles 2003). Rather, members of ethnic and racial minorities tend to live in segregated- homogeneous and distinct neighborhoods and communities. More specifically, while subordinate ethnic groups and racial minorities tend to reside in the poorer inner-city neighborhoods, members of the majority population tend to reside in the affluent and prestigious neighborhoods of the metropolitan area.

Residential segregation has significant consequences for differential opportunities for quality of life and for standard of living including opportunities for attainment of quality education, exposure to crime, differential access to social services, medical facilities, and cultural amenities (e.g. Collins and Williams 1999; Peterson and Krivo 1993; Poledank 1993; Hart et al 1998). Residential segregation has also significant consequences for development of inter-ethnic interactions, ties and contacts. Specifically, while spatial ethnic segregation reduces opportunities for interactions between members of minority group populations and members of the majority group population, residence in integrated-mixed communities is likely to enhance opportunities for inter-ethnic contacts and inter-ethnic relations. According to contact theory, lack of interethnic contacts is likely to preserve prejudicial views

toward out-group populations while prevalence of positive inter-ethnic contacts is likely to decrease prejudice, hostility and social distance (e.g. Allport 1954; Pettigrew 1988).

Patterns of ethnic residential segregation, interethnic contacts and prejudice have been studied extensively for quite a long time. Consequently, the body of research on these topics has grown and has become substantial. Nevertheless, no-one has systematically examined yet the inter-relations between ethnic segregation, contact and prejudice. That is, no-one has examined whether, to what extent, and in what ways interethnic contacts mediate the relations between residential segregation and ethnic prejudice. This neglect is curious and somewhat unfortunate because the logic embodied in sociological writings on these issues leads us to expect that interethnic contacts would mediate the relations between residential segregation and prejudice.

Thus, and in order to examine this theoretical expectation, we utilize in the present paper data from 21 European countries to examine, for the first time, the social mechanisms underlying the complex relations between residential segregation, inter-ethnic contacts and ethnic prejudice. Although we argue here that inter-ethnic contacts are likely to decrease prejudice and to mediate the relations between residential segregation and prejudice, we also argue that the inter-relations between residential segregation, contacts and prejudice are not linear and that contacts interact with level of residential segregation to produce divergent effects on prejudice. That is, in what follows we demonstrate that the effect of contacts on prejudice varies by level of residential segregation and explain the reasons for such variations. By so doing we will be in a position to contribute to a better understanding of the social and structural

conditions that shape interethnic relations, prejudice and social distance in European societies.

Previous Theory and Research

Ethnic residential segregation is viewed as a major structural feature of most major urban-metropolitan centers in Western societies. Throughout the twentieth century, urban sociologists have repeatedly observed consistent and high levels of residential segregation between blacks and whites in American cities and somewhat lower levels of segregation, yet quite substantial, between whites and Hispanics and between whites and Asians (e.g. Denton 1994; Denton and Massey1988; Clark 1992, 2002). The high levels of ethnic residential segregation that were observed several decades ago in American cities have not declined over the years and still prevail in contemporary America (e.g. Emerson et al 2001; Charles 2003). The persisting and consistent high levels of ethnic residential segregation in American cities are often attributed to three main complementary explanations: economics, discrimination and preferences.

The economic explanation contends that subordinate ethnic minorities (especially blacks) do not share the same neighborhoods with whites because they lack the necessary economic means and resources to live in neighborhoods where whites reside. Although the economic explanation had not received wide and firm support by researchers, it cannot be readily dismissed (e.g. Massey and Fischer, 1999; Darden and Kamel 2000; Alba et al 2000; Krivo and Kaufman 1999). The second explanation focuses on discriminatory practices in the housing market that were used to deny minorities (especially blacks) from equal access to quality residence in white neighborhoods (e.g. Turner et al 2002; Yinger 1995; Ross and Yinger 2002; Turner and Wienk 1993; Goering and Wienk 1996). The third explanation centers on

residential preferences. Studies that examine residential preferences uniformly contend that most whites are reluctant to live in neighborhoods where blacks live, and to a lesser extent, where Hispanics and Asians reside (e.g. Krysan 2002; Krysan and Farley 2002; Farley et al 1994; Charles 2000, 2006; Clark 1991, 1992, 2002). Whether preferences for 'residential homogeneity' stem from prejudice or from fear of potential undesirable social and economic consequences or from a wish to live with your 'own kind' (ethnocentrism), the end outcome of these preferences leads to the persistence of ethnic residential segregation.

Residential segregation as well as its causes and consequences, have been studied in the context of American society extensively and for many decades. Residential segregation in European cities, however, is a relatively recent phenomenon, hence, a new research topic. In other words, since immigrants have begun arriving in Western Europe in large numbers only during the second half of the twentieth century, social scientists have begun devoting attention to the study of ethnic residential segregation in European cities only in recent years (e.g. Musterd et al, 1998; Musterd 2005; Musterd and De Vos 2007; Logan 2006; Peach 1998). These studies result in a four-fold conclusion: first, despite being relatively a recent phenomenon, residential segregation is substantial and wide-spread across European cities; second, patterns of ethnic residential segregation in Europe are quite similar to those observed in the United State; third, the rate of ethnic residential segregation between Europeans and ethnic immigrants, although substantial, are not as high as those between whites and blacks in the United States; they are much more similar to segregation rates observed between whites and Hispanics; fourth, for the most part, rates of residential ethnic segregation in European cities have been increasing over the years.

Indeed, the dramatic influx of ethnic immigrants, foreign workers, ex-colonials and refugees to Europe throughout the second half of the twentieth century has not only changed the ethnic composition of many European countries but also altered the ethnic fabric of most European cities. Metropolitan centers like London, Amsterdam, Frankfurt, Athens, Brussels, Paris, Lisbon and Stockholm, just to name a few, are currently characterized by homogeneous and distinct ethnic neighborhoods (Musterd et al 1998; Musterd 2005; Musterd and De Vos 2007; Logan 2006; Malheiros and Vala 2004; Karsten et al 2006; Hatziprokopiou 2003; Van Kempen and Van Weesep 1997). For example, London has ethnically distinct-segregated neighborhoods populated mostly by Pakistani, Bangladeshi or Indian residents; Amsterdam has neighborhoods inhabited by Surinamese and Moroccan; Athens has Albanian residential areas; Frankfurt has several Turkish neighborhoods; and Paris and Brussels are characterized by a series districts and neighborhoods inhabited mostly by immigrants of North-African origin.

The growing body of research on patterns of residential segregation in European cities demonstrates that spatial segregation is associated with socio-economic status of the residents. That is, racial and ethnic minorities tend to reside in the poorer neighborhoods of the inner city while members of the majority population tend to live in affluent and prestigious neighborhoods. Since individuals posses a 'cognitive map' of communities and neighborhoods and since individuals organize city-neighborhoods on hierarchical scale of desirability according to their social status and ethnic composition, ethnic neighborhoods have become less desirable, if not an undesirable place of residence. In other words, most members of the majority

population do not want to live in places where ethnic and racial minorities reside; they prefer to reside in neighborhoods where only Europeans live (Semyonov et al 2007)[1].

In what follows we contend that spatial ethnic segregation can influence inter-ethnic relations and, thus, be a cause of prejudicial views toward ethnic minorities. The impact of residential segregation on prejudice may occur mainly because spatial segregation is likely to decrease opportunities for inter-ethnic contacts. Limited inter-ethnic contacts, in turn, are conducive, according to contact theory, to emergence of prejudicial views and to preservation of social distance between members of the majority population and members of subordinate ethnic minorities (Allport 1954; Pettigrew 1988).

Contact theory, as originally advanced by Allport (1954), suggests that inter-group contact is an efficient means to reduce prejudice and ethnic conflict. It was further suggested (Pettigrew 1998) that when individuals belonging to different ethnic origins establish personal contacts that are qualitatively different from a short-term acquaintance, prejudice is likely to decrease, especially when such contacts are 'positive', 'constructive' and have 'friendship potential'. Whereas increase in the relative size of the minority population is likely to increase the odds that two random individuals from two different ethnic groups would establish 'positive' and 'constructive' contacts (Wagner et al, 2006), spatial segregation across different and distinct ethnic neighborhoods is likely to decrease the odds for building positive contacts.

Regardless of the structural social conditions that shape the scope and quality of inter-ethnic contacts, researchers demonstrate, rather clearly and quite convincingly, that inter-ethnic contacts are likely to decrease prejudice and social distance between members of the majority population and members of ethnic

minorities (e.g. Wagner et al 2006; Pettigrew 1988; McLaren 2003; Schneider 2008). According to contact theory, positive inter-ethnic contacts are likely to decrease prejudicial views[2].

Prejudice, xenophobia and anti-foreigner sentiment are not only influenced by interethnic contacts but also by socio-demographic attributes of individuals as well as structural-contextual characteristics of their societies. Generally speaking, studies that examined individuals' attitudes toward ethnic minorities either within single countries or across countries have consistently observed that prejudice and discriminatory attitudes tend to be more pronounced among individuals with low socio-economic status (e.g. low education, low income, unemployed) and among older persons and those holding conservative ideologies (e.g. religious, right-wing political orientation) (e.g.Esses et all 2001; Espenshade and Hempstead 1996; Raijman and Semyonov 2004; Semyonov et al 2004; Case et al, 1989; Quillian 1995; Scheeper et al 2002; Kunovich 2004). Prejudice is higher among the first group of people because socio-economically weak and vulnerable persons are more threatened by the direct competition generated by members of subordinate minority populations. Fear of competition, in turn, is likely to increase prejudice and negative sentiments. Among the second group of persons prejudice is higher because older persons and individuals holding conservative ideologies tend to fear and resist changes that out-group populations may introduce to society.

Researchers that examined country-level effects on prejudice and discriminatory attitudes toward out-group populations operate under the premise that prejudicial views also increase with structural sources of competitive threat. More specifically, prejudice is expected to rise with increase in the proportion of the minority population and with declining economic conditions (e.g. Quillian 1995,

Scheeper et al 2002, Semyonov et al 2006). An increase in the relative size of the minority population and decline in economic prosperity are likely to be viewed by members of the majority population as a rise in potential competition over scarce social and economic resources. Increase competition over resources and rewards, in turn, is likely to increase hostility and negative feelings toward out-group populations (Quillian 1995, Scheepers et al 2002, Semyonov et al 2006; Kunovich 2004, Gijsbert et al 2004).

Indeed, the body of research presented here strongly supports the argument that negative attitudes toward out-group populations are likely to be prompted not only by socioeconomic vulnerability at the individual-level but also by structural sources of competitive threat at the country-level. In what follows, thus, when examining the ways inter-ethnic contacts mediate the relations between residential segregation and prejudice we take into consideration the roles played both by individual-level socio-economic attributes and country-level sources of competitive threat.

Data Source and Variables

Data for the present study were obtained for 21[3] countries from the 2003 European Social survey (ESS). Data were collected for national representative samples (age 15 and older) through face to face interviews that were conducted in respondents' homes. The 2003 ESS provides, in addition to socio-demographic attributes of respondents, information about the ethnic composition of the neighborhoods in which respondents reside as well as information on friendship contacts with members of ethnic minorities. The ESS also provides data on a series of measured items that pertain to both prejudicial views and social distance. The analysis reported here was restricted to European citizens who are members of the majority population. This procedure

yielded a sample of 35,948 persons [4]. The detailed distribution of the sample size for the 21 countries is provided in Table 2.

Ethnic residential segregation is defined by a distinction between three types of neighborhoods according to their ethnic composition: places without non-European residents (hereafter homogeneous neighborhoods), neighborhoods where some residents are of non-European ethnic origin (hereafter mixed neighborhoods), and neighborhoods where most residents are of non-European origin (hereafter ethnic neighborhoods). The socio-demographic attributes of individuals that are used in the analysis as individual-level predictors of contact, prejudice and social-distance include: age (in years), gender (man=1), marital status (married = 1), education (years of formal schooling), household income (12 ordinal categories of income per capita), employment status (three dummy variables distinguishing among unemployed, employed and out of the labor force), political orientation (10 categories from left to right) and urban-rural distinction (rural = 1).

Inter-ethnic contact is used in the analysis, once, as dependent variable, and once, as an intervening variable. It is defined by the distinction between respondents that have immigrant friends and those that do not have immigrant friends (value 1 was assigned to the first category while 0 was assigned to the second category). Two variables -- social distance and prejudicial views – are utilized in the analysis as dependent variables. Although the two are inter-related, each captures a different aspect of attitudes toward out-group populations[5]. 'Social Distance' is constructed with two measured indicators on scales ranging from 0 to 10. These two indicators (willingness to have an immigrant from a different race or ethnicity as a family member and willingness to have an immigrant from a different race or ethnicity as a boss) have long been used as measures of social distances. 'Prejudicial views' are

measured by respondents' perceptions of threat posed by foreigners in the following domains: jobs, the economy, health and welfare, cultural life, crime and overall life. The six items are measured on a scale ranging from 0 to 10 and are used to construct the index 'prejudicial views' (prejudice as a group position). An exploratory factor analysis reveals that the two indices -- 'social distance' and 'prejudicial views' --pertain to two distinct concepts [6]. The detailed definition of the variables used in the analysis and their mean value and standard deviation are provided in Table 1.

Table 1 about here

The country-level contextual variables that were selected to represent structural sources of competitive threat are size of the non-European population and economic conditions. Size of the non-European population residing in the country was obtained from the publications of the Eurostat for the years 2000 and 2001 and economic conditions were equated with Gross Domestic Product (GDP) per capita (averaged for the years 200-2002). Percent non-European is considered a better measure than percent all foreigners[7] and GDP is considered a better proxy of economic conditions than GNP or unemployment rate because it is estimated using the 'purchasing power parity method' which takes into account variations in standard of living and cost of living across countries. Both variables were repeatedly used in previous studies of anti-foreigner sentiment and prejudice (e.g. Quillian, 1995, Scheepers et al 2002, Semyonov et al 2006; Kunovich 2004). The distributions of these two country level variables are provided in Table 2.

Analysis and Findings

In Table 2 we present characteristics of the 21 countries included in the study for a descriptive cross-national overview. Column 1 displays percent distribution of residents living in homogeneous neighborhoods (neighborhoods without non-Europeans). Column 2 lists percent of persons reporting as having friendship contacts with ethnic minorities, column 3 displays mean values of the 'prejudice index' and column 4 includes mean values for the 'social distance' index. Columns 5 and 6, respectively, display percent non-European foreigners residing in the country and GDP per capita and column 7 lists the number of sample cases for each country.

Table 2 about here

The data in Table 2 show that reported residential segregation is quite high in most European countries (i.e. living in ethnically homogeneous neighborhoods)[8]. In Poland, 84 percent of the interviewees indicate that they live in areas where there are no residents of another ethnic or racial origin. Residence in homogeneous neighborhoods (i.e. areas without inhabitants of non-European origin) is also quite high (over 60 percent) in Belgium and in Finland, Denmark, Hungary and Sweden. The lowest level of residential segregation is reported in Greece, where almost 20 percent indicate living in an area with no ethnic minorities. In most other countries, percent of interviewees reporting living in homogeneous neighborhood (areas populated exclusively by Europeans) ranges between 40 and 60 percent.

The data also reveal considerable variation in interethnic contact across countries. Contacts are rare in Poland, Greece and Hungary (where under 30 percent of the population reported having immigrants as friends) but quite frequent in

Luxembourg and Switzerland (where over 70 percent of the respondents reported having immigrants as friends). In Norway, Germany and Austria about half of the interviewees reported having interethnic friendship contacts.

Table 2 also shows considerable cross-country variations in attitudes citizens express toward out-group populations – ethnic minorities and immigrants. The most negative attitudes (measured on the 'prejudice index') are expressed by Greek citizens (7.1), followed by citizens of Hungary and the Czech Republic. The least negative prejudicial views (even slightly positive) are expressed in Sweden (4.5), followed by Luxembourg and Finland. In all other countries prejudicial views toward immigrants and ethnic minorities were negative ranging between 5.4 and 5.7. Social Distance is most evident in Greece, Belgium and the Czech Republic and least pronounced in Austria, Luxembourg, Spain and Portugal.

Countries do not differ only in rates of residential segregation, interethnic contacts, prejudice, and social distance but also in other characteristics such as size of the non-European population residing in the country and GDP per capita, as well as by the socio-demographic composition of their residents. Therefore, it is essential to examine cross-national variations in interethnic contacts and in prejudicial views while taking into account variations in both socio-demographic characteristics of individuals and structural characteristics of the countries. Thus, in the analysis that follows we estimate a series of regression models and hierarchical linear models predicting, respectively, interethnic contacts (Table 3), prejudicial views and social distance (Table 4) as a function of residential segregation, socio-demographic attributes of individuals and characteristics of the countries.

In Table 3 we report estimated coefficients of hierarchical linear regression models predicting (log) odds for developing positive contacts (friendship) with

members of ethnic minorities as a function of residential segregation (defined by ethnic composition of place of residence) and socio-demographic characteristics (i.e. age, gender, education, income, rural-urban distinction, political orientation, and employment status) measured at the individual level and the size of the non-European population and GDP per capita measured at the country-level. Equation 1 estimates the impact of residential segregation (introduced as dummy variables) on odds of having friendship contact with individuals belonging to ethnic minorities. In equation 2 the socio-demographic characteristics of the individuals are introduced as control variables and in equation 3 size of the non-European population and GDP are included as two country-level predictors of social contact.

Table 3 about here

The findings displayed in Table 3 lend firm support to the expectation that residence in homogeneous neighborhoods decrease opportunities for contact between members of the in-group population and members of out-group populations while residence in mixed areas and ethnic neighborhoods increase odds for interethnic positive contacts. The coefficients in equation 1 suggest that odds of residents of homogeneous neighborhoods to develop interethnic friendship relations are considerably lower than residents of mixed neighborhoods (b=.634) or residents of ethnic neighborhoods (b=.780). Specifically, when compared to residents of homogeneous neighborhoods, relative odds to develop friendship with members of ethnic minorities are 1.88 and 2.18, respectively, higher for residents of mixed neighborhoods and for residents of ethnic neighborhoods. When the individual-level variables are added to equation 2 and when the country-level variables are also

included in equation 3, the relative odds having interethnic friendship for residents of homogeneous neighborhoods hardly change and remain significantly lower when compared either to residents of areas with 'some ethnic minorities' or residents of areas where 'most are ethnic minorities'. The data displayed by equations 2 and 3 also suggest that odds for interethnic contacts tend to rise with education and income and to decline with age and right-wing political orientation. The odds for positive contacts are higher among men and lower among rural people. The analysis at the country level does not provide support to the expectation that opportunities for interethnic contact increase with the relative size of the minority population (as evident by the insignificant effect of size of the non-European population on contact in equation 3). The data suggest, however, that odds for interethnic contacts are likely to increase with economic prosperity (as evident by the positive and significant effect of GDP on contact in equation 3).

In Table 4 we examine whether and to what extent residential segregation affects attitudes toward ethnic minorities and whether positive contact intervenes in the relations between segregation and attitudes toward ethnic minorities. Thus, we estimate a series of HLM regression equations predicting, respectively, 'prejudicial views' (equations 1 -5) and 'social distance' (equations 1a-5a). In equation 1, we let the dependent variable (i.e. prejudicial views' or 'social distance') be a function of the measure of 'neighborhood residential segregation' plus socio-demographic attributes (at the individual-level). In equation 2 we add 'contact' to the set of individual-level predictors to examine the extent to which contact intervenes between segregation and attitudes toward minorities. In equation 3 we also include an interaction between the 'residential segregation' variables and contact. In equation 4 we introduce two country-level variables to the set of predictors (size of the non-European population

and GDP per capita) and in equation 5 we also include an interaction term between size of the minority population and contact [9]. The first interaction term (equations 3 and 4) enables us to examine whether contact differentially affects negative attitudes toward minorities in different contexts of neighborhood segregation. The second interaction term (equation 5) enables us to examine whether the effect of contact on attitudes changes with size of the non-European population.

Table 4 about here

With only a few exceptions, the findings for the individual level analysis are quite similar for the two dependent variables ('prejudicial views' and 'social distance') and for the most part, lead to similar conclusions. The coefficients in all equations suggest that both prejudice and social distance are likely to decline with education and income and to increase with right-wing political orientation. Prejudicial views and social distance are more pronounced among the unemployed and among persons living in rural places. Whereas men and women do not differ in their prejudicial views, men score significantly higher than women on the social distance index.

The effects of the country-level variables -- GNP and size of the non-European population -- on prejudicial views (equations 4 and 5) and on social distance (equations 4a and 5a) differ considerably. The negative-significant effect of percent non-Europeans on prejudice in equation 5 provides support for the hypothesis that prejudice is likely to increase with the relative size of the out-group population. However, contrary to expectations, percent non-Europeans does not significantly influence prejudice in equation 4. Nor does it influence social distance in equations 4a and 5a. Consistent with expectations, GDP exerts negative impact on prejudice in

equations 4 and 5, lending support to the theoretical expectation that economic prosperity is likely to decrease prejudice. Economic conditions, however, do not exert any impact on social distance as evident by the insignificant effect of GDP in equations 4a and 5a.

The analysis reveals curious and quite intriguing and consistent effects of residential segregation on prejudice and social distance. The data displayed in equation 1 and 1a show that prejudice and social distance are lowest in mixed neighborhoods (areas where 'some residents are ethnic minorities'). Prejudice and social distance, however, do not differ in ethnic neighborhoods from ‘all European’ neighborhoods. The findings revealed by equations 1 and 1a demonstrate that the effect of ethnic composition of the neighborhood on either prejudice or social distance is not monotonous. When contact is included in the set of predictors, the findings suggest that contact does not fully mediate the relations between residential segregation and attitudes toward ethnic minorities (the effects of residence in mixed neighborhoods in equations 2 and 5 and equations 2a and 5a remain negative and significant). Furthermore, the data show that the effect of residence in ethnic neighborhoods changes its sign and becomes positive and significant. Apparently, when variations in the scope of contacts across neighborhoods are taken into account, prejudice as well as social distance, are significantly higher in ethnic neighborhoods and lower in mixed than in homogeneous neighborhoods.

The data displayed in Table 4 demonstrate, rather clearly, that the effect of contact on either prejudice or on social distance is negative and significant in all equations. This finding reaffirms the thesis that positive interethnic contact decreases negative attitudes toward out-group populations. Yet, the significant negative interaction terms between contact and neighborhood's ethnic composition in equations

3 and 4 (for prejudice) and in equations 3a and 4a (for social distance) suggest that the impact of contact on reduction in prejudice is more powerful and consequential for residents of ethnic neighborhoods than for residents of mixed neighborhoods or homogeneous neighborhoods. It is highly probable that selection processes through which different populations are sorted into the different areas of the city have resulted in differential effect of contacts across neighborhood. We will return to discuss this issue in details in the concluding section of the article. The negative and significant effect of the interaction term between percent non-European and contact in equations 5 and 5a provides firm support to the argument that reduction in negative attitudes toward ethnic minorities due to positive contact is more pronounced in countries with large number of non-European than in countries with small number of non-Europeans.

Conclusions

The major goal of the study was to examine the complex relations between ethnic residential segregation, inter-ethnic contacts and attitudes toward ethnic minorities, especially the extent to which contact mediates the relations between segregation and prejudicial views as well as between segregation and social distance. The data lend firm support to the theoretical expectation that ethnic residential segregation (i.e. residence in homogeneous neighborhoods) decreases opportunities for development of positive inter-ethnic contacts while residence in mixed and ethnic communities enhances such contacts. That is, positive contacts are most evident among European who reside in ethnic neighborhoods and least evident in neighborhoods populated exclusively by European residents. The data also provide firm support for the hypothesis that positive inter-ethnic contact decreases prejudice and social distance. However, the data provide only limited support for the hypothesis

that contacts mediate the relations between ethnic residential segregation and attitudes toward ethnic minorities.

The analysis reveals that at the individual-level odds for developing positive contacts with members of ethnic minorities are higher among individuals with high education and high income and lower among older people, persons holding right-wing political orientation, among men and among rural persons. Contrary to theoretical expectation, the data suggest that at the country-level opportunities for establishment of positive contacts between members of the majority group and members of ethnic minorities do not increase with size of the minority population. Opportunities for development inter-ethnic positive contacts tend to increase, however, with economic prosperity.

The analysis lends firm support for the thesis that positive contacts are likely to decrease both prejudicial views and social distance. Yet, positive inter-ethnic contacts do not fully mediate the relations between residential segregation and negative attitudes toward ethnic minorities. The findings reveal that the magnitude of the effects of inter-ethnic contacts on reduction in negative attitudes toward ethnic minorities varies across different type of ethnic neighborhood. Specifically, the reduction in negative attitudes toward ethnic minorities due to positive inter-ethnic contacts is more pronounced among residents of ethnic neighborhoods (areas where most residents are ethnic minorities) than among residents of mixed neighborhoods (areas where some residents are ethnic minorities) and than residents of homogeneous neighborhoods (areas without ethnic minorities).

The stronger – more consequential- impact of contacts on reduction in negative attitudes toward ethnic minorities in ethnic neighborhoods may reflect differential selection processes into neighborhoods. Many Europeans who reside in

ethnic neighborhoods do not wish to live where they currently reside (and, thus, may feel trapped). In effect, the results of our analysis reveal that when the scope of inter-ethnic contacts is taken into consideration, Europeans who live in ethnic neighborhoods are more prejudiced than Europeans who reside in other types of neighborhoods. Perhaps, when compared to others, Europeans who reside in ethnic neighborhoods have to overcome and cross 'higher psychological barriers' than others before establishing friendship relations with ethnic minorities. It is possible, thus, that once these barriers are crossed, the impact of inter-ethnic positive contacts on reduction of negative attitudes becomes more pronounced in the ethnic neighborhoods than in other places. On the other hand, it is also possible that members of ethnic populations that reside in 'Europeans neighborhoods' are highly selective and are not representative of the ethnic populations (i.e. they are of relatively of higher socio-economic status). Thus, positive contacts with 'non-representative' out-group populations are not as consequential for reduction of negative attitudes toward ethnic populations.

The causal order between prejudice and residential choice or between prejudice and interethnic contact is beyond the scope of this paper. Nor can it be tested with the cross-sectional data utilized here. Nevertheless the argument that initial predispositions toward ethnic minorities would affect the ways through which interethnic contacts are formed and mediate the relations between residential segregation and prejudicial attitudes seems quite plausible. The findings presented here reveal, rather forcefully, that ethnic residential segregation decreases opportunities for the establishment of interethnic contacts and positive interethnic contacts, in turn, are likely to reduce negative attitudes and social distance between the majority population and ethnic minorities. The social mechanisms underlying the

complex relations between residential segregation, contacts and prejudice are yet to be further studied and delineated.

Endnotes

1. Preferences for residence in homogeneous neighborhoods (i.e. areas inhabited exclusively by European residents) were found to be influenced by preferences for cultural homogeneity, by fear of negative impact that foreigners may exert on society, and by sense of social distance (Semyonov et al 2007). From this perspective, ethnic residential segregation can be also viewed, at least in part, as a product of social distance and prejudice.

2. Despite this uniform agreement, the idea that prejudice and social distance can also affect social contacts and residential choices cannot be rejected. The analysis presented here, however, cannot determine the causal order of the association between prejudice and contact. Since our primary interest is to examine expectations derived from contact theory, residential segregation and social contact are introduced to the analysis, respectively, as independent and intervening variable, and prejudicial views and social distance are treated here as the dependent variables.

3. Israel was excluded from the analysis, because of the unique meaning of the concept "immigrant" in this society.

4. The weight we use takes into account the proportion of different groups in the country and the proportion of each country's population in Europe.

5. The correlation between prejudice toward foreigners and the desire for social distance is r=0.417*

6. The factor analysis procedure has resulted in a two-factor solution. The first factor pertains to 'prejudicial views" (α=0.8402) and the second factor (α=0.8402) pertains to 'social distance'. Detailed results of the two factor solution will available from the authors upon request.

7. In light of the complexity in defining foreigners in Europe, we followed previous researchers on this issue (Quillian 1995; Scheepers et al 2002; Semyonov et al 2006) and used estimates of the proportions of non-European residents provided by Eurostat (2003). The Eurostat is a highly reputable and recognized international institution that maintains high standards in data collection and standardization of definitions.

8. We have to keep in mind, however, that the distribution of the foreign population across neighborhoods is also affected by their proportion in the population. The smaller is the relative size of ethnic minorities residing in the country the lower are the odds of residence in integrated neighborhoods.

9. In the two-level models estimated here the dependent variable are prejudice toward foreigners and the desire for social distance, the individual level variables are the set of socio-demographic characteristics of the respondents, nested in the country-level variables (e.g. size of the out-group population and economic conditions). The two-level model with a vector of individual-level variables and one country-level variable can be represented by the following equations:

$$Y_{ij} = \beta_{0j} + \beta_{1j}\chi_{ij} + \varepsilon_{ij} \ , \qquad (1)$$

where Yij is the prejudice toward foreigners/the desire for social distance of individual i in country j, β_{0}j is the intercept for country j, X is a vector of individual characteristic, β_{1}j is a vector of its coefficients, and ε ij is the error term. Note, that in the case of prejudice, the coefficients of current neighborhood, contact with foreigners and ethnic neighborhood*contact interaction have been allowed to vary across

countries, while the effects of the rest socio-demographic variables are constrained to be equal across countries. In case of social distance, the coefficients of ethnic neighborhood, contact with foreigners and the mixed neighborhood*contact interaction have been allowed to vary across countries, while the effects of the rest socio-demographic variables are constrained to be equal across countries. The intercept serves as dependent variable in the country-level equations:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} z_j + \upsilon_{0j} \ , \qquad (2)$$

where γ_{00} is the grand across-country intercept, Z is a vector of country-level characteristics, γ_{01} is the vector of its coefficients, and υ_{0}j is an error term referring to country differences in prejudice toward immigrants/desire for social distance that are not attributable to the specific country-level variable. Equations 1 and 2 are estimated simultaneously, producing maximum-likelihood estimates of the variance components, which are then used to generate the β and γ coefficients.

Table 1· ***Definition, Percent or Mean (Standard Deviation)of the Individual-Level and Country-Level Variables Included in the Analysis***

Variables	Definition	Mean (SD)
Individual-Level Variables (n = 35,948 persons)		
Gender	Men = 1	47.7%
Marital status	Married = 1	57.7%
Age	In years	46.65 (18.15)
Type of locality	Rural=1	35.7%
Education	In years	11.80 (4.12)
Left-right political orientation	"Where would you place yourself on this scale" Measured on scale: 0 = left, 10 = right	4.91 (2.14)
Monthly income per capita	In EURO: means of 12 categories of household income were standardized by number of persons in household. The categories were created for each country in euro.	846.43 (835.93)
Employed	Economically active = 1	48.5%
Not in labor forces	Not in the labor forces = 1	45.9%
Unemployed	Unemployed = 1	5.5%
Type of current living area:	How would you describe the area where you currently live?	
Neighborhood where almost nobody are of different ethnic origin	An area where <u>almost nobody</u> is of a different race or ethnic group from most [country] people = 1	45.9%
Neighborhood where some residents are of different ethnic origin	<u>Some people</u> are of a different race or ethnic group from most [country] people=1	40.7%
Neighborhood where most residents are of different ethnic origin	<u>Many people</u> are of a different race or ethnic group=1	11.3%
Positive contact	1= have immigrant friends	44.8%
Social distance	Mean score of two 0-10 scale items Now thinking of people who have come to live in [country] from another country who are of a different race or ethnic group from most [country] people. How much would you mind or not mind if someone like this married a close relative of yours? Now thinking of people who have come to live in [country] from another country who are of a different race or ethnic group from most [country] people. How much would you mind or not mind if someone like this will be your boss? 0=not mind at all, 10=mind a lot	3.32 (3.05)

Perceived threat - perceptions of the negative impact of foreigners	Mean score of six 0-10 scale items: " Would you say that people who come to live here generally take jobs away from workers in [country], or generally help to create new jobs?" "Most people who come to live here work and pay taxes. They also use health and welfare services. On balance, do you think people who come here take out more than they put in or put in more than they take out?" "Would you say it is generally bad or good for [country]'s economy that people come to live here from other countries?" "Would you say that [country]'s cultural life is generally undermined or enriched by people coming to live here from other countries" "Is [country] made a worse or a better place to live by people coming to live here from other countries? " "Are [country]'s crime problems made worse or better by people coming to live here from other countries?" 0 = positive, 10 = negative	5.50 (1.66)
Country-Level Variables (n = 21 countries)		
Size of minority[1]	Mean of percentage of Non EUR foreigners in 2000 and 20011	3.21 (2.47)
GDP per capita[2]	RGDPL: Real gross domestic product per capita (constant price: Laspeyers), unit $, Mean of 2000,2001,2002	21544.05 (11002.08)

1. Sources: Eurostat: Yearbook 2003; Living conditions in Europe - Statistical pocketbook. Data 1998-2002. 2003 edition; Demographic statistic 2002. OESD: "Trends in international migration", 2001, 2002.
2. Source: A. Heston, R. Summers and B. Aten, Penn World Table Version 6.1, Center for International Comparisons at the University of Pennsylvania (CICUP), 2002

Table 2· ***Descriptive Statistics (Percent or Mean) of the Country-level Characteristics***

Country	% who report residing in homogeneous area	Friendship Contacts	Prejudice index	Social distance index	% Non EU foreigners	GDP per capita	N
Austria	46.8	52.2	5.25 (1.73)	1.92 (2.57)	8.40	24255.63	2154
Belgium	63.1	44.8	5.72 (1.52)	4.07 (3.15)	2.85	22702.50	1803
Czech Republic	44.1	31.2	6.20 (1.61)	4.41 (3.08)	2.10	5804.81	1354
Denmark	63.7	46.1	5.19 (1.61)	3.30 (3.16)	3.85	30521.48	1464
Finland	67.2	41.6	4.96 (1.44)	3.28 (2.84)	1.40	23972.00	1969
France	29.9	67.6	5.40 (1.88)	3.28 (3.25)	3.50	22861.83	1439
Germany	37.6	51.3	5.52 (1.57)	3.08 (2.92)	6.65	23104.06	2774
Greece	19.5	28.4	7.09 (1.81)	5.06 (3.61)	6.50	11389.25	2429
Hungary	65.0	28.8	6.23 (1.67)	3.57 (3.30)	0.63	5408.65	1682
Ireland	59.1	41.7	5.40 (1.70)	3.42 (3.10)	1.15	27450.81	1978
Italy	36.5	35.3	5.30 (1.50)	3.83 (2.96)	2.10	19359	1203
Luxemburg	50.4	77.5	4.84 (1.61)	2.34 (3.23)	5.10	45698.30	1023
Netherlands	58.0	42.6	5.40 (1.37)	3.19 (2.73)	2.90	24377.10	2319
Norway	55.6	51.5	5.21 (1.37)	3.76 (2.89)	2.30	38919.43	1982
Poland	84.1	21.0	5.53 (1.60)	3.28 (3.19)	0.10	4645.65	2110
Portugal	52.8	40.2	5.68 (1.67)	2.96 (3.10)	1.20	11007.12	1476
Slovenia	52.0	52.9	5.67 (1.48)	3.70 (3.14)	2.20	10197.20	1514
Spain	39.4	37.7	5.27 (1.49)	2.90 (2.94)	1.75	14712.4	1684
Sweden	64.0	67.6	4.51 (1.57)	2.15 (2.63)	3.40	26211.78	1941
Switzerland	36.0	74.8	5.22 (1.36)	2.60 (2.66)	8.30	34709.25	1828
UK	49.2	44.6	5.69 (1.73)	3.30 (2.90)	2.75	25026.03	1994

Source: European Social Survey (ESS, 2002)

Table 3· ***Coefficients (S.E.) of Logistic Regression Predicting Odds for Developing Positive Contacts with Members of Ethnic Minorities***[1]

Variables	Model 1	Model 2	Model 3
Intercept	-0.356	-0.425	-0.486*
	(0.029)	(0.091)	(0.124)
Individual-level variables[2]			
Current neighborhood[3]			
Mixed neighborhood	0.634*	0.501*	0.508*
	(0.025)	(0.028)	(0.030)
Ethnic neighborhood	0.780*	0.628*	0.580*
	(0.038)	(0.044)	(0.039)
Gender	-	0.140*	0.134*
		(0.025)	(0.031)
Marriage status	-	0.035	-0.018
		(0.028)	(0.047)
Age	-	-0.023*	-0.022*
		(0.001)	(0.002)
Education	-	0.084*	0.083*
		(0.004)	(0.008)
Income per capita	-	0.001*	0.001*
		(0.000)	(0.000)
Working status[4]:	-		
not in the labor market	-	0.105	0.119
		(0.058)	(0.089)
employed	-	0.133*	0.151
		(0.057)	(0.084)
Political orientation	-	-0.044*	-0.040*
		(0.006)	(0.011)
Rural	-	-0.136*	-0.191*
		(0.028)	(0.036)
Country level variables[5]			
Percent of foreigners	-	-	0.036
			(0.042)
GDP*100	-	-	0.003*
			(0.001)
Country -level random effects - u_0	-	-	0.23289

Source: European Social Survey (ESS, 2002)

1. Model 1 and Model 2 present coefficients of logistic regression equations predicting odds for developing positive contacts with minorities by individual-level variables and with control for 21 countries as dummy variables (the coefficients are not presented).
2. All the slopes of individual-level variables are constrained to be identical across 21 countries. Education, political orientation, age and income have been centered around their grand means. The dummy variables are un-centered.
3. Omitted category - neighborhoods where almost no residents are of different ethic group
4. Omitted category - employed
5. The level-2 predictors have been centered around their grand mean
*p<0.05 (one-tailed tests)

Table 4· *Coefficients (SE) of One and Bi-Level Regressions Predicting Prejudice toward foreigners (Models 1-5) and the Desire for Social Distance (Models 1a-5a) on Individual-level and Country-level Variables*[1]

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1a	Model 2a	Model 3a	Model 4a	Model 5a
Intercept	6.683*	6.880*	6.851*	5.870*	5.904*	3.020*	3.381*	3.359*	3.939*	3.966*
	(0.068)	(0.068)	(0.068)	(0.151)	(0.140)	(0.131)	(0.130)	(0.131)	(0.250)	(0.227)
Individual level variables[2]										
Current neighborhood[3]*:*										
Mixed	-0.219*	-0.161*	-0.115*	-0.139*	-0.162*	-0.388*	-0.279*	-0.281*	-0.395*	-0.337*
	(0.019)	(0.019)	(0.025)	(0.037)	(0.028)	(0.036)	(0.036)	(0.049)	(0.052)	(0.052)
Ethnic	0.057	0.128*	0.351*	0.277*	0.139*	0.049	0.172*	0.553*	0.510*	0.224*
	(0.031)	(0.031)	(0.045)	(0.083)	(0.060)	(0.060)	(0.060)	(0.087)	(0.117)	(0.097)
Contact with foreigners	-	-0.530*	-0.453*	-0.469*	-0.536*	-	-0.959*	-0.893*	-0.923*	-0.956*
		(0.018)	(0.024)	(0.025)	(0.029)		(0.034)	(0.046)	(0.065)	(0.049)
Interaction term:										
Mixed area* contact	-	-	-0.102*	-0.074*	-	-	-	-0.012	0.070	-
			(0.035)	(0.035)				(0.068)	(0.088)	
Ethnic area*contact	-	-	-0.410*	-0.239*	-	-	-	-0.677*	-0.527*	-
			(0.060)	(0.076)				(0.115)	(0.090)	
Contact*percent of foreigners	-	-	-	-	-0.054*	-	-	-	-	-0.059*
					(0.010)					(0.023)
Gender	-0.021	-0.005	-0.004	0.010	0.008	0.120*	0.148*	0.150*	0.223*	0.221*
	(0.017)	(0.017)	(0.017)	(0.034)	(0.033)	(0.032)	(0.032)	(0.032)	(0.061)	(0.060)
Marriage status	-0.011	-0.016	-0.017	0.052*	0.051*	0.065*	0.053	0.053	0.105	0.107
	(0.018)	(0.018)	(0.018)	(0.026)	(0.027)	(0.034)	(0.034)	(0.034)	(0.084)	(0.083)
Age	0.003*	0.001	0.001	0.001	0.001	0.025*	0.020*	0.020*	0.018*	0.019*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Education	-0.096*	-0.086*	-0.086*	-0.080*	-0.079*	-0.121*	-0.104*	-0.104*	-0.108*	-0.108*
	(0.002)	(0.002)	(0.002)	(0.011)	(0.011)	(0.005)	(0.005)	(0.005)	(0.012)	(0.013)
*Income per capita*100*	-0.007*	-0.006*	-0.006*	-0.008*	-0.008*	-0.009*	-0.006*	-0.006*	-0.008*	-0.009*
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)
Working status:										
not in the labor market	-0.289*	-0.271*	-0.269*	-0.276*	-0.278*	-0.319*	-0.292*	-0.290*	-0.310	-0.324
	(0.044)	(0.043)	(0.043)	(0.141)	(0.142)	(0.084)	(0.083)	(0.083)	(0.163)	(0.169)
Employed	-0.258*	-0.237*	-0.234*	-0.220	-0.223	-0.258*	-0.226*	-0.223*	-0.288	-0.302
	(0.043)	(0.043)	(0.043)	(0.140)	(0.141)	(0.083)	(0.082)	(0.082)	(0.189)	(0.196)
Political orientation	0.087*	0.082*	0.082*	0.096*	0.095*	0.184*	0.177*	0.176*	0.179*	0.178*
	(0.004)	(0.004)	(0.004)	(0.026)	(0.027)	(0.008)	(0.008)	(0.008)	(0.026)	(0.026)
Rural	0.103*	0.080*	0.081*	0.064	0.062	0201*	0.163*	0.163*	0.103	0.102
	(0.018)	(0.018)	(0.018)	(0.049)	(0.048)	(0.035)	(0.035)	(0.035)	(0.059)	(0.061)
Country level variables										
Percent of foreigners	-	-	-	0.033	0.094*	-	-	-	-0.103	-0.004
				(0.042)	(0.042)				(0.061)	(0.097)
GDP*100	-	-	-	-0.002*	-0.002*	-	-	-	-0.001	-0.001
				(0.001)	(0.001)				(0.001)	(0/001)
Variance component										
Country -level random effects - u_0	-	-	-	0.17690	0.15938				0.54615	0.49323
Individual-level random effect - r				2.08613	2.08972				7.32017	7.33368

Source: European Social Survey (ESS, 2002)

1. Models 1-3 and Models 1a-3a present the coefficients of linear regression predicting prejudice toward foreigners and the desire for social distance by individual-level variables and with control for 21 countries as dummy variables (the coefficients are not presented).

2. In models 4-5 the slopes of the current neighborhood, contact with foreigners and the ethnic neighborhood*contact interaction have been allowed to vary across countries, while in models 4a-5a the slopes of ethnic neighborhood, contact with foreigners and the mixed neighborhood*contact interaction have been allowed to vary across countries. All other individual-level variables are constrained to be identical across 21 countries. Education, political orientation, age and income have been centered around their grand means. The dummy variables are un-centered.

3. omitted category - neighborhood where almost no residents are of different ethic group

4. omitted category - employed

5. The level-2 predictors have been centered around their grand mean

*$p<0.05$ (one-tailed tests)

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