

Jane Jacobs' Pathway to Tolerance: Evidence that Urban Structure Influences Attitudes Toward Migrants in Great European Cities

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Abstract

Could the structure of a city's streets influence how its residents feel about migrants? Jane Jacobs railed against modernist urban planners who sought to replace the complex fabric of major cities with suburbanized designs that prioritized sunshine and greenery. She theorized that this design trend had resulted in "dull" cities with empty sidewalks and few opportunities for neighbors to interact with each other. In today's diverse European cities, neighborly interaction may be one key to enhancing social cohesion. Intergroup contact has been shown to reduce prejudice by contact theory researchers, and recent studies have found that even "mere-exposure" to out-groups may have a positive effect on attitudes. Taken together, the work of Jacobs and contact theorists implies that residents of the compact, vital cities should be more likely to hold positive attitudes towards their neighbors—including migrants. David Robinson's framework of geographic variation in attitudes toward migrants concurs, as he includes environmental factors like urban structure alongside population factors. This paper uses a multilevel dataset from 23 European cities in search of evidence for a relationship between one's attitude toward migrants and the design of the city in which they live. It finds that, when controlling for individual-level factors, residents of cities high in "continuous urban fabric" are more likely to agree that migrants are good for their city, while residents of cities with rapidly growing migrant populations are less likely to agree. In exploratory models, individuals with middle-to-low SES see the strongest influence from urban structure on their likelihood to have positive attitudes toward migrants.

As Europe diversifies, look to cities

Over the past half-century, European cities have been enriched by new dimensions of diversity. From the 1970s until the mid-1990s, European diversity policy was dominated by the paradigm of multiculturalism, which focused on establishing rights and cultural recognition for minorities. Since then, however, multiculturalism has faced a rhetorical backlash from both sides of the political spectrum. The right has argued that

multiculturalism eroded national unity, while the left has contended that it failed to achieve meaningful equality (Kymlicka, 2010). Many cities in Europe have now embraced an alternative paradigm, interculturalism, which claims to address the concerns of both right and left through cross-cultural interaction. Parallel to the rise of interculturalism, a debate has been simmering over the so-called “progressive’s dilemma.” This theoretical dilemma holds that diversity and generous welfare states may be politically incompatible. Strong welfare states require high levels of taxation and, therefore, citizens who are willing to pay more in taxes for the benefit of their fellow nationals. If citizens do not feel solidarity towards minorities and migrants, they turn to welfare chauvinism policies which restrict migrants’ access to benefits and allow inequality to grow (Kymlicka, 2015). In the context of these debates, it is clear that European policymakers face a complex challenge to ensure that communities remain cohesive as they diversify and that migrants are met with solidarity and not exclusion. Interculturalists have proposed a wide range of public policy reforms, often highlighting the importance of public spaces as venues of contact and relationship-building between neighbors. These proposals are grounded in Allport’s contact hypothesis, but they also bring to mind the work of Jacobs and Gehl, urban theorists who sought to design city neighborhoods rich in neighborly interaction.

Wessel (2009) argues for an interdisciplinary approach to the study of diversity in cities, with greater engagement from geographers and urban theorists. In highlighting the need for new approaches, he outlines two traditional but divergent strands of research: one which identifies diversity as a source of conflict and another—contact theory—which shows that interaction between in-group and out-group members reduces prejudice. To Wessel, each strand has its shortcomings. While researchers from the “contact perspective” have made strides in advancing past overly prescriptive initial theories, empirical research retains its “narrow focus on contact incidents” (p. 12). Instead, Wessel urges a focus on what he calls “casual contact.” These forms of contact are too minute to be easily classified as incidents and have elsewhere been referred to as exposures or encounters. Such small interactions are key to a geographical perspective on urban diversity: cities are home to millions of such exposures every day, though urban structure plays a key role in determining how frequently

residents cross paths and encounter each other. This temporal perspective is key to Wessel's argument about the uniqueness of cities: encounters in cities may be brief, but for residents they occur regularly, frequently, and repeatedly.

Valentine (2008) and Matejskova & Leitner (2011), however, cast doubt on the efficacy of exposure to diversity in promoting tolerance. Valentine argues that exposure has been naively romanticized by researchers, and that we must instead focus on identifying and creating opportunities for "meaningful contact." Matejskova & Leitner, in an ethnographic study, found "chance contact" across groups to be superficial, fleeting, and ineffective. However, they pay little attention to how the urban structure of the neighborhood they study may alter the frequency and efficacy of encounters. Their research takes place in Marzahn, in East Berlin, which gained a reputation as a "state-socialist eyesore" (p. 723) following the rapid, massive construction of residential high-rises. Indeed, it is this type of urban development that Jacobs railed against as eroding the vitality of city neighborhoods and limiting interaction between neighbors.

Jacobs on how urban fabric influences opportunities for contact

In her landmark book, *The Death and Life of Great American Cities* (1961), Jacobs advocates for the restoration of urban "vitality," which has been threatened by design choices that lead to "dullness," like the housing projects of Marzahn and countless other cities. Vital neighborhoods are full of human activity, foot traffic, and eyes on the street, while dull neighborhoods are quiet and empty. At the sidewalk level, to which Jacobs gives a great deal of attention, vitality brings two key benefits: safety and contact between neighbors. On a bustling street, there is a steady flow of potential witnesses which discourages crime, and there are many opportunities for neighbors to encounter each other. Jacobs writes of the importance of the "public relationships" which can form on the sidewalks of a city neighborhood, and she believes that even in mid-century America these relationships can transcend racial lines. "It is possible to be on excellent sidewalk terms with people who are

very different from oneself, and even, as time passes, on familiar public terms with them. Such relationships can, and do, endure for many years, for decades,” (p. 62) she writes.

Jacobs devotes much of the book to developing four specific features of vital cities and the mechanisms by which they function. To achieve vitality, a neighborhood must have mixed uses to draw foot traffic at all times of day, short blocks to prevent isolation, some older buildings with lower rents, and a high concentration of dwellings and residents to fuel human activity. The specific conditions Jacobs’ develops have drawn the attention of recent research. Delclòs-Alió and Miralles-Guasch (2018) assessed the vitality of Barcelona block-by-block with their JANE Index, and found evidence, in a subsequent paper, that vital neighborhoods attract more pedestrian activity (Delclòs-Alió, Gutiérrez, & Miralles-Guasch, 2019). This validation of Jacobs’ theory echoed similar findings in Seoul (Sung & Lee, 2015; Sung, Lee, & Cheon, 2015). Despite the impressive specificity of the 11-variable JANE Index, however, Delclòs-Alió and Miralles-Guasch allude to a simpler dichotomy between the “traditionally inherent vital nature” of Mediterranean cities and the “paradigm of modernity” which has made certain inroads in Barcelona (2018, p. 506). This conflict can be seen in their results, which find that low-vitality areas are primarily those which were redeveloped with modernist, high-rise residences, in addition to agricultural and industrial areas.

On the very first page, Jacobs acknowledges that despite the specificity to come, her book is an attack on an entire philosophy—modern orthodox city planning—and not “quibbles” or “hair-splitting” about design trends. She traces the history of this orthodoxy to two key figures: Ebenezer Howard, whose Garden City ideal inspired a legion of anti-density followers that Jacobs calls “the Decentralists” and Le Corbusier, who envisioned high-density residential skyscrapers within vast parkland. Though the two schools differed on ideal densities, Jacobs writes that they agreed on one thing: “grass, grass, grass” (p. 22). Of his aspirations for New York, Le Corbusier wrote, “The whole city is a park. The terraces stretch out over lawns and into groves... Here is the city with its crowds living in peace and pure air, where the noise is smothered under the foliage of green trees” (1987).

To Jacobs, lawns are an indicator of the open designs that reduce human activity and contact between neighbors. She takes aim at both the lawns that frequently surround high-rise housing projects and suburban-style, single-family housing where space for lawns thins out crucial concentrations of people. She is not alone in this observation. Gehl, who focuses on the importance of quality spaces in drawing people out of their homes, also makes distinctions between broad design philosophies. He writes that replacing compact urban fabric with high-rise buildings offset by grassy areas has the effect of discouraging foot traffic and reducing the amount of contact between neighbors. In cities that favor open designs or single-family housing, “communal outdoor activities have been reduced to a bare minimum,” he writes (2011, p. 46-47).

This paper exploits the dichotomy between traditional, compact, continuous urban fabric which promotes contact and modern, open, discontinuous urban fabric which discourages it. The writings of Wessel and Jacobs imply the following: if compact urban designs encourage contact between neighbors and intergroup contact reduces prejudice, then residents of compact cities should be more likely to have positive attitudes towards their out-group neighbors—migrants, in this case. Using a multilevel design with individual- and city-level data from 23 European cities, I examine this implication along with other explanations of geographic variation in attitudes toward migrants.

How attitudes toward migrants shift

Contact theory and the potential of “mere-exposure”

Intergroup contact theory originated with Allport’s (1954) hypothesis that contact across groups would reduce prejudice. His contact hypothesis has grown into the heavily-researched intergroup contact theory, and recent work has shown that the benefits of contact extend beyond reducing prejudice and can also include enhanced empathy and altered political views. For example, studies of black and white college roommates, rich and poor friends, and neighbors of varied incomes have found that intergroup contact may also increase support for egalitarian public policies (Duncan, Boisjoly, Levy, Kremer, & Eccles, 2003; Kearns, Bailey, Gannon, Livingston, & Leyland, 2014; Newman, 2014). Allport

contended that contact would be most effective if four conditions were met: equal status of the participants, common goals among participants, a cooperative environment for contact, and societal or legal support for the interaction. A meta-analysis of 515 empirical studies of the theory found, however, that each of Allport's four conditions are beneficial but not essential, and that even "mere exposure," which falls short of direct contact, can have positive effects (Pettigrew, Tropp, Wagner, & Christ, 2011).

Research on the effect of exposure on attitudes has primarily been conducted in the laboratories of social psychologists. Robert Zajonc (1968), who was an early pioneer in the field, focused on exposure between humans and objects. Two decades after Zajonc's key monograph, Bornstein (1989) conducted a meta-analysis which found extensive support for Zajonc's thesis that repeated exposure increased positive attitudes, and he noted that advertisers had already begun to leverage the power of repeated exposure. Bornstein suggested that researchers should shift their focus to exposure's effect on social interactions. More recent research has heeded this advice and found positive human-to-human effects, often by exposing subjects to photographs of faces in laboratory experiments (Harmon-Jones & Allen, 2001; Rhodes, Halberstadt, & Brajkovich, 2001).

Explanations based on competition and perceived threat

Perceptions by native residents that they face economic or cultural competition from migrants is another theoretical explanation for geographical variation in attitudes toward migrants or other outgroups. This theory—variously referred to as group threat or perceived threat, among other terms—is often traced back to Blumer (1958) who proposed that such attitudes are a product of the relative position of groups within a society. Dominant groups, he theorizes, will develop prejudicial attitudes when an outgroup is perceived to threaten their dominance. In the European context this has been applied at both the individual and group levels. At the individual level, studies have found negative correlations between individuals' economic means and their attitudes toward migrants (A. Heath et al., 2019). In this case, theory suggests that individuals who are more economically vulnerable are more

likely to feel threatened by immigrants. At the group level, the competition explanation predicts that larger migrant populations will be seen as more threatening either economically, culturally, or generally (Dancygier & Laitin, 2014). Recent studies have noted, however, that the perceived size of the national migrant population has more predictive power than the actual size (Gorodzeisky & Semyonov, 2019; Rustenbach, 2010; Schlueter & Scheepers, 2010).

The effect of migrant population size on attitudes has been often studied, but rarely at the city level. A recent meta-analysis of 55 studies identified only 6 that conducted city-to-city comparisons, none of which considered variables related to urban fabric or structure and all of which compared cities in a single country (Pottie-Sherman & Wilkes, 2017). Hjerm (2009) compared municipalities in Sweden and found that migrant population size did not have an effect on attitudes but called for additional research comparing cities across national borders. Green et al. (2010) and Sarrasin et al. (2012) both compared Swiss municipalities and considered intergroup contact, but both operationalize it as friendships with migrants thereby disregarding the exposure effect. Schlueter & Scheepers (2010) conducted a similar study in the Netherlands and additionally considered migrant work colleagues in measuring intergroup contact. Tolsma et al. (2007) also compare Dutch municipalities, though they focus on opposition to ethnic intermarriage. Finally, Taylor (1998) examined white attitudes toward African-Americans based on municipal populations in the United States. Considering this review, two key contributions of this paper are its comparison of cities across Europe and its focus on the exposure effect, not just intergroup friendship.

Robinson's framework for understanding geographical variation in attitudes

To organize the theoretical grounding of this paper, I make use of Robinson's (2010) framework for understanding geographical variation in attitudes toward migrants. Robinson asserts that place matters in the formation of attitudes toward migrants, alongside individual-level factors. He proposes three dimensions as a framework for the effect of place. Population characteristics are the first dimension, including the socioeconomic makeup of

both the native and migrant populations, the size of the newly-arrived migrant population, and other characteristics of the migrant population such as legal status. The social and physical environment is Robinson's second dimension. Among many examples of environmental factors, such as resource availability and patterns of mobility, he notes "opportunities for interaction" as factor (p. 2461). The final dimension is the sociocultural and historical background of the place, including how diversity has been treated in the past and how political officials and the media frame immigration. Having sketched out this framework, Robinson calls for further research to identify the pathways by which these factors have an impact on attitude formation. Based on the theoretical background in the preceding sections, the following hypotheses consider two such pathways.

Hypotheses

The primary objective of this paper is to consider the effect of urban structure on residents' attitudes towards migrants. Within Robinson's second dimension, the first pathway of interest is as follows. Residents of cities with more continuous urban fabric have more opportunities to interact with their neighbors, according to Jacobs and Gehl. Those who interact with members of other groups will be less likely to hold prejudices toward those groups, according to contact theory. This implies that that residents of diverse cities with continuous designs will be more likely to hold positive attitudes toward out-groups. For this study, the out-group of interest is migrants.

- ❖ Hypothesis 1: The more continuous urban fabric in a city, the more likely individual residents will agree that migrants are good for the city.

Robinson's framework suggests that place-based explanations for attitudes toward migrants likely act simultaneously and, in some cases, in conflict with other explanations. A recent qualitative study of a neighborhood in Glasgow found that such factors can be deeply intertwined (Bynner, 2019). As such, alongside the first pathway, I expect to identify a second pathway which fits within Robinson's population dimension. Theories that emerged

from Blumer's work suggest that growing migrant populations will be seen as threatening to native populations, either based on economic competition or cultural shifts or both.

- ❖ Hypothesis 2: The more growth in the population proportion of migrants in a city, the less likely individual residents will agree that migrants are good for the city.

A final hypothesis considers the interaction of factors across two of Robinson's dimensions. If continuous urban fabric provides opportunities for interaction with migrants, a large migrant population should further increase such opportunities thus strengthening the relationship between urban structure and attitudes.

- ❖ Hypothesis 3: The larger the migrant population in a city, the stronger the positive correlation between urban fabric continuity and attitudes toward migrants.

Research design and data

To test these hypotheses, I have constructed a multilevel dataset (see: Table 1) combining individual-level data from the Flash Eurobarometer 419 Quality of Life in European Cities 2015 survey and city-level data from the Eurostat Urban Audit. Eurobarometer 419 surveyed residents of 79 European cities in May and June of 2015. Each city's sample of approximately 500 respondents was drawn from the population of EU citizens living in that city. The sample is suitable for this paper, which conducts cross-city comparisons with a primary focus on the attitudes of native residents. The survey includes several demographic questions which are used as individual-level controls, and the following question to be used as the dependent variable, quoted here from the English-language version of the questionnaire:

"I will read you a few statements. Please tell me whether you strongly agree, somewhat agree, somewhat disagree or strongly disagree with each of these statements ... The presence of foreigners is good for [CITY NAME]"

This question serves as the “attitude toward migrants” variable and was recoded to be dichotomous (agree/disagree). It should be noted that the question language does not distinguish between migrants specifically and foreigners who may be present in the city for other reasons.

City-level variables come from Eurostat’s database of city statistics from its Urban Audit and include variables on land cover and population. Eurostat’s land cover data, based on the Copernicus Urban Atlas, provides the share of a city’s land dedicated to particular uses including “continuous residential urban fabric” and “discontinuous residential urban fabric” (European Commission, 2017). Continuous urban fabric is defined as areas of a city in which some buildings contain residences and at least 80% of the surface area is covered by buildings, streets, or other artificial surfaces. Discontinuous urban fabric, therefore, is the area in which some buildings contain residences but less than 80% of the area is artificially covered (Kosztra, Buttner, Hazeu, & Arnold, 2017). The distinction between these two types of urban fabric mirrors the distinction Jacobs makes between dense urban designs that promote vitality and so-called “modern orthodox city planning” that emphasizes greenery and openness but reduces interaction between neighbors. The variable I will use to test Hypothesis 1 and Hypothesis 3 is the proportion of total residential urban fabric in a given city that is designated as continuous. The migrant population growth variable I will use to test Hypothesis 2 comes from Eurostat’s population data, which is provided by national or local authorities and is available at somewhat irregular intervals. To maximize data availability, I have chosen the years 2001 and 2015 to identify the change in migrant population, which is calculated as the difference in the population proportion of migrants over that time period.

As controls, at the city level I include the static 2015 migrant population proportion, the overall population of the city, and the population density of the city, as well as a dummy variable of the city’s region in Europe. The regions used are geographical but closely reflect the country groupings developed by Bail (2008) and Heath and Richards (2019) based on social and political acceptance of migration. The regional control variable is also important

given regional trends in urban planning, as Delclòs-Alió and Miralles-Guasch (2018) noted in developing their JANE Index of urban vitality. At the individual level, age, gender, education, nationality, occupation and economic wellbeing are also be used as controls. More information on all of the variables, including some exceptions made to increase the city-level sample size, can be found in Table 1.

The analysis was conducted using several multilevel logistic regression models. After accounting for city-level data availability, the dataset includes 10,469 individual-level observations within 23 cities, nested in 3 regions (see: Table 2). To enhance interpretability and model specification, the city-level variables are rescaled as one-standard-deviation z-scores. In order to best account for the small level-3 sample size of just 3 regions, I have followed the prescription of McNeish and Wentzel (2017) whose simulations found that, in models with incidental third levels at which there are no explicit research questions, a two-level model with a fixed-effect dummy variable for the third level is optimal. As such, I model random intercepts at the city level and utilize a dummy variable to distinguish regions.

Findings

Hypothesis tests

The data was analyzed by fitting a series of multilevel logistic regression models. The empty model found an inter-class correlation coefficient (ICC) of 0.12, justifying the use of multilevel analysis and indicating that, in this data, a relevant portion of the variance between individual attitudes toward migrants is related to individuals' city of residence. Table 3 reports the six models used to test the hypotheses and further explore the data and its implications.

Model 1 includes the individual-level control variables, the level-3 region dummy variable, and three city-level variables: migrant population proportion in 2015, change in migrant population between 2001 and 2015, and urban fabric continuity. To simplify interpretation,

city-level variables are reported as z-scores, wherein one unit represents one standard deviation. In this model, and all subsequent models, I find support for Hypotheses 1 and 2.

Hypothesis 1 proposes that those who live in cities with compact urban designs will be more likely to have positive attitudes towards migrants due to increased opportunities for contact and exposure. In Model 1, I find support for this theory based on the significant positive relationship between city-level urban fabric continuity and individual attitudes with an odds ratio of 1.35. Therefore, in this model, a person living in a more compact city (one unit is 16.6 percentage points of urban fabric continuity) is 35% more likely to have a positive attitude toward migrants. As a point of comparison, migrants themselves are 200% more likely to have positive attitudes toward fellow migrants in this model.

Hypothesis 2 is based on theories that growing migrant populations may seem threatening to natives. In Model 1, I find a significant negative relationship between attitudes toward migrants and change in migrant population with an odds ratio of 0.43. This indicates that, holding all else equal, a resident of a city in which the migrant population increased by one-standard-deviation (4.1 percentage points, in the cities modeled) is less than half as likely to agree that migrants are good for the city.

Hypothesis 3 proposes that the effect of urban design which promotes interaction should be even stronger in cities with large migrant populations and, thus, more migrants with whom natives may interact. In this model, however, I do not find significant support based on the interaction between the urban fabric continuity and migrant population variables. This may be due to the unobserved effect of residential or activity space segregation.

Among the control variables, the results are consistent with previous findings in the literature. Younger, more educated, and more financially stable respondents are more likely to report positive attitudes toward migrants, as are migrants themselves. This model uses region of Europe as a proxy for cultural and historical immigration trends across the continent. As expected, region has a strong and significant impact. Those living in the

Eastern European cities are less likely to have positive attitudes towards migrants, compared to those living in Western European cities, while those living in the Southern European cities are more likely.

Model 2 includes overall population and population density as city-level control variables. Density and urban fabric continuity are distinct concepts. Density, defined here as population per square kilometer, captures only the concentration of residents and not whether the design of their city facilitates interaction. For example, a discontinuous development of residential high-rises may be high in density but low in Jacobian vitality. Indeed, it is exactly this form of urban redevelopment that Jacobs argued against. As such, the theoretical framework of this paper does not predict any effect of overall population nor density. As seen in Table 1, neither variable has significance in the model and, based on AIC, the inclusion of these variables slightly degraded model fit. As such, the variables are omitted from subsequent models.

Exploratory models

These findings indicate that there is a relationship between urban structure and attitudes toward migrants. As I have proposed, this relationship may be due to a mechanism based in contact theory. I have argued that a key sociological difference between continuous and discontinuous urban fabric is the extent to which such designs encourage contact between neighbors. Nevertheless, an alternate mechanism may be at play. To better understand how urban structure may be acting at an individual level in this model, I have fit four exploratory models. Models 3-5 sequentially include interactions between the urban fabric variable and each of the three available socioeconomic status variables. In comparison to those with higher SES, the models find that those whose education ended at age 16 to 19, those who are employed as manual workers, and those who have trouble paying bills “from time to time” are more likely to be positively influenced by compact urban designs. This despite the persistent finding that each of these groups is less likely to hold positive views toward migrants overall.

These results may be due to the particular type of light-touch contact that continuous urban design encourages. For example, those with higher SES may be more likely to have been exposed to foreigners, either through educational opportunities, travel, or otherwise. As such, for these individuals contact experienced on city streets may have less marginal impact. For those with less education or economic means, however, interacting with migrant neighbors may be their primary source of cross-group exposure.

If this is so, why then is the influence of urban structure only stronger among those with modest means and not the lowest-SES individuals in the model? Robinson's framework, and these models, suggest that multiple factors are always at play in forming attitudes toward migrants. It may be the case that feeling threatened by migrants due to competition for resources is an overpowering force among those who are gravely struggling economically. If so, we would expect that an interaction between SES and change in migrant population would show a stronger negative relationship with the lowest-SES group. In this data, the only variable that identifies those who are clearly struggling economically is the question regarding bill trouble. Model 6 shows that, indeed, those who report having trouble paying bills "most of the time" are even more likely to be negatively influenced by increasing migrant populations. These findings are purely exploratory, but may indicate that the "mere exposure effect" on city streets is most powerful among those who have had few other opportunities for exposure, but not among those with serious economic concerns that give rise to feelings of competitive threat.

Discussion

Policy implications

Much more research is needed to confirm a linkage between compact urban designs and positive attitudes towards migrants. However, Jacobs and others have argued extensively against the modernist turn in city planning for a host of reasons—any effect on the integration of migrants would only add to that list. Interested policymakers should consider this issue from both wide and narrow perspectives. While the structure of many cities dates back centuries, the philosophical approach of councilmembers and planners can still have a

powerful impact as projects are approved and city life evolves. They should reject viewpoints that romanticize what Jacobs called the “suburbanized anti-city” and instead seek to understand the value and function of complex, chaotic urban fabric and the communities that form within it.

While a broad philosophical shift is crucial, block-level policy prescriptions have also been proposed. Jacobs devotes a full chapter to how ill-conceived housing projects and civic centers can be reintegrated into streetscapes, with an emphasis on promoting foot traffic and mixed uses at the ground level. Constructing and improving public spaces may also encourage residents to spend time outdoors and interact with their neighbors, and Gehl emphasizes that the quality of these spaces can be decisive. Interculturalism, which has emerged as the favored diversity management approach of many European policymakers, is said to have been “founded on interaction promotion in public spaces” (Zapata-Barrero, 2015, p. 3). Some of its key theorists, however, are careful to avoid describing public spaces as a silver bullet. Cattle (2012) recommends fostering interaction in public spaces among key policy initiatives but notes that there is little evidence of the effectiveness of these policies. Wood (2015) believes that close friendships across groups are unlikely to form through passing interactions in public spaces, but he argues that such interactions are still meaningful and offers a series of recommendations regarding public spaces for interculturalist policymakers.

Policy action is particularly important in cities with growing migrant populations. My findings concur with Putnam’s (2007) claim that, in the short term, diversity can have adverse effects on social solidarity. Putnam also wrote, however, that over time new forms of solidarity and identity emerge and negative effects fade. Importantly, my findings suggest that this process can be accelerated, and that providing opportunities for intergroup contact may be one pathway to do so, even in cities with growing migrant populations. In Barcelona, a city with both rapidly changing demographics and a high level of Jacobian vitality, 79.8% of residents reported positive views of migrants.

Future research

Future research should try to better understand the sociological implications of data on the continuity and discontinuity of urban fabric and how that data can be exploited. One step is to determine how closely the continuity distinction correlates with the design conditions that Jacobs proposes. The JANE Index developed by Delclòs-Alió & Miralles-Guasch (2018) may provide a means to achieve this. The data used here was gathered by the Copernicus Land Monitoring Service and its stated purpose is for environmental, not sociological, research. This paper relies on the fortunate occurrence that the presence of grass is key to how Copernicus identifies types of urban fabric and to the distinction Jacobs makes between cityscapes ideal for neighborly interaction and those that discourage it. Nevertheless, this uncommon use of Copernicus' data increases the likelihood of some unconsidered confounding factor. Comparing cities within a single context or country may be one way to better isolate the influence of urban design on attitudes.

Jacobs wrote that, "Cities are an immense laboratory of trial and error, failure and success, in city building and city design" (p. 6). The embrace of modernist city planning over the past century seems to have weakened the ability of Europe's great cities to positively integrate migrants into their communities. Meanwhile, the rise of the far right in many countries indicates that this challenge is only intensifying. Addressing this challenge will require more research alongside trial on the ground level to repair our cities and make them more welcoming to migrants and all others.

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Tables

Table 1. Data source details

	Level	Question/Format
Dependent Variable		
Attitude toward migrants	Individual	“The presence of foreigners is good for [city name],” recoded as dichotomous: agree, disagree
Independent Variables		
Continuous urban fabric	City	Proportion of 2012* residential urban fabric designated as continuous
Change in migrant population	City	Difference between 2001** and 2015*** migrant populations as proportions of overall population
Migrant population	City	2015*** migrant population as a proportion of overall population
City population	City	2015 population of city aged 15 or older
City density	City	2015 population of city per square kilometer
Age	Individual	Continuous
Gender	Individual	Dichotomous
Education	Individual	Categorical based on age at completion of education: up to 15, 16-19, 20 and older, still studying
Occupation	Individual	Categorical variable: employed, self-employed, manual worker, not working
Bill trouble	Individual	Categorical variable: “Difficulties paying bills in the last 12 months”: most of the time, from time to time, never/almost never
Nationality	Individual	Dichotomous variable: listed nationality matches country of residence or not
Region in Europe	Region	Dummy variable
<p><i>Sources: Individual-level data and city populations from Flash Eurobarometer 419 (Quality of Life in European Cities 2015). Other city-level data from the Eurostat Urban Audit.</i></p> <p>* Except Barcelona, Madrid, Malaga, and Oviedo (2014) ** Except Paris (1999), Geneva (2000), and Liege (2004) *** Except Amsterdam and Paris (2014)</p>		

Table 2. Cities in model by region

Southern Europe	Western Europe	Eastern Europe
Barcelona, ES	Amsterdam, NL	Bratislava, SK
Madrid, ES	Antwerpen, BE	Kosice, SK
Malaga, ES	Berlin, DE	Sofia, BG
Oviedo, ES	Brussel, BE	
Roma, IT	Dortmund, DE	
Torino, IT	Essen, DE	
Verona, IT	Geneva, CH	
	Hamburg, DE	
	Leipzig, DE	
	Liege, BE	
	Munchen, DE	
	Paris, FR	
	Rostock, DE	

Table 3. Multilevel logistic regression models

	1	2	3	4	5	6
Continuous urban fabric	0.304** (0.124)	0.428** (0.179)	0.237* (0.129)	0.256** (0.130)	0.275** (0.125)	0.306** (0.124)
Change in migrant pop.	-0.833*** (0.184)	-0.945*** (0.211)	-0.833*** (0.184)	-0.841*** (0.183)	-0.829*** (0.184)	-0.833*** (0.185)
Migrant pop.	0.212 (0.133)	0.331 (0.215)	0.210 (0.132)	0.213 (0.132)	0.211 (0.132)	0.213 (0.133)
Urban fabric : Migrant pop.	0.260 (0.249)	0.409 (0.300)	0.258 (0.249)	0.261 (0.247)	0.255 (0.249)	0.262 (0.249)
Age	-0.006*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)
Gender (Ref: Male)						
Female	0.007 (0.049)	0.007 (0.049)	0.008 (0.049)	0.006 (0.049)	0.005 (0.049)	0.004 (0.049)
Education (Ref: Age 20 or older)						
Age 15 or less	-0.723*** (0.080)	-0.725*** (0.080)	-0.721*** (0.080)	-0.719*** (0.080)	-0.719*** (0.080)	-0.716*** (0.080)
Age 16-19	-0.468*** (0.054)	-0.469*** (0.054)	-0.463*** (0.054)	-0.469*** (0.054)	-0.468*** (0.054)	-0.468*** (0.054)
Still studying	0.435*** (0.156)	0.437*** (0.156)	0.429*** (0.157)	0.434*** (0.156)	0.437*** (0.156)	0.431*** (0.156)
Nationality (Ref: Native)						
Migrant	0.694*** (0.149)	0.693*** (0.149)	0.699*** (0.149)	0.696*** (0.149)	0.696*** (0.149)	0.690*** (0.149)
Bill trouble (Ref: Never or almost never)						
Most of the time	-0.481*** (0.080)	-0.480*** (0.080)	-0.483*** (0.080)	-0.483*** (0.080)	-0.469*** (0.080)	-0.435*** (0.085)
Time to time	-0.284*** (0.061)	-0.283*** (0.061)	-0.285*** (0.061)	-0.288*** (0.061)	-0.289*** (0.061)	-0.299*** (0.062)
Occupation (Ref: Employed)						
Self-employed	-0.060 (0.090)	-0.060 (0.090)	-0.061 (0.090)	-0.060 (0.090)	-0.058 (0.090)	-0.060 (0.090)
Manual worker	-0.473*** (0.106)	-0.473*** (0.106)	-0.474*** (0.107)	-0.437*** (0.108)	-0.479*** (0.107)	-0.474*** (0.107)
Not working	-0.166*** (0.064)	-0.166*** (0.064)	-0.167*** (0.064)	-0.165*** (0.064)	-0.169*** (0.064)	-0.166*** (0.064)
Region (Ref: Western Europe)						
Eastern	-0.840** (0.333)	-0.863** (0.338)	-0.846** (0.333)	-0.843** (0.331)	-0.835** (0.332)	-0.843** (0.333)
Southern	0.762** (0.365)	0.924** (0.411)	0.755** (0.365)	0.769** (0.363)	0.763** (0.365)	0.764** (0.365)
City population		-0.115 (0.101)				
City density		-0.117 (0.181)				
Education : Urban fabric						
Age 15 or less			0.108 (0.081)			
Age 16-19			0.112* (0.066)			
Still Studying			0.147 (0.166)			

Occupation : Urban fabric						
Self-employed						0.092 (0.116)
Manual worker						0.501*** (0.135)
Not working						0.026 (0.065)
Bill trouble : Urban fabric						
Most of the time						-0.089 (0.093)
Time to time						0.178** (0.073)
Bill trouble : Migrant pop. change						
Most of the time						-0.132* (0.077)
Time to time						0.047 (0.056)
Constant	1.434*** (0.185)	1.407*** (0.194)	1.434*** (0.184)	1.432*** (0.184)	1.433*** (0.184)	1.435*** (0.185)
Observations	10,469	10,469	10,469	10,469	10,469	10,469
AIC	10,888.300	10,889.970	10,890.730	10,878.800	10,884.130	10,887.870

Note: *p<0.1; **p<0.05; ***p<0.01