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Radical right-wing support among urban voters in Germany: Disentangling the roles of immigration, immigration history, segregation, and poverty in the neighborhood

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ABSTRACT

We examine how Germany's largest wave of immigration in recent history contributed to the election of a radical right-wing party (AfD) to the German parliament for the first time since the end of World War II. We focus on urban voters and use unique data from 34 of Germany's largest cities, divided into 1,905 neighborhoods, covering 2014–2017. We find that local poverty strengthens the AfD, while greater local immigrant presence weakens AfD support. Immigrants are more concentrated in poorer neighborhoods, but crucially, local poverty does not undermine the effect of immigrant presence. Immigrant concentration in poorer neighborhoods indirectly increases AfD support in advantaged neighborhoods. The latter offer fewer opportunities for intergroup contact and are less likely to have prior meaningful history of immigration, rendering their residents more vulnerable to acculturative stress. Indeed, very low prior shares of immigrants predict higher AfD support when the local share of immigrants suddenly increases.

KEYWORDS

Radical right; voting;
neighborhood; poverty;
segregation; acculturative
stress; halo effect

Introduction

In 2017, the German party Alternative for Deutschland (AfD) was elected to the federal parliament. It marked the first time since the end of World War II that a nationalist radical right party (Volkens et al., 2018) entered the German parliament. The party's success has sparked a debate about who the AfD's voters are. The typical AfD supporter feels disadvantaged by society, suffers from status anxiety and is skeptical about democracy (Bergmann et al., 2017; Rippel & Seipel, 2018). The strongest motive for voting AfD, however, is resentment against immigration (Lengfeld & Dilger, 2018).

The 2017 election provided an opportunity to observe regional differences in the AfD's success: The party was most likely to succeed in constituencies characterized by high unemployment, a larger share of immigrants, and in regions shaped by high out-migration combined with an aging population (typically in rural areas and especially in East Germany which is the area of the former German Democratic Republic that collapsed in 1989; e.g., Bergmann et al., 2017; Follmer et al., 2018; Franz et al., 2018). Since the 299 constituencies in Germany generally each comprise about 250,000 inhabitants, these studies do not provide any insights into neighborhood-level dynamics.

However, studies from other European countries point to the importance of local characteristics in understanding local differences in the success of radical right-wing parties such as the proportion of immigrants in a particular neighborhood or the residential segregation between immigrants and natives across a given city (e.g., Martig & Bernauer, 2018; Rydgren & Ruth, 2013; Van Wijk et al., 2020). The regional data used in previous studies of geographic variations in the AfD's success make it impossible to meaningfully examine the role of these local factors. Furthermore, and specifically for

the German case, data aggregated to larger geographic units likely hide the true local impact of the recent wave of immigration to Germany on voting behavior, as newly arriving immigrants were very unevenly distributed even within smaller cities (Helbig & Jähnen, 2019).

We are able to fill this gap by using unique neighborhood-level data from 34 of Germany's largest cities that covers the years 2014 to 2017, enriched with official election data from two federal parliamentary elections in 2013 and 2017. In addition to considering more established factors, such as the share of immigrants in a neighborhood or local poverty levels, we focus on less well-established mechanisms to better understand conditions of the AfD's electoral success in urban neighborhoods: residential segregation between immigrants and natives, a local history of immigration, and, following the plea of Sipma and Lubbers (2020), how immigration and poverty interact at the neighborhood level.

Recent political events in Germany reflect a general European trend: since 2010, radical right-wing parties have been elected to federal parliaments in almost all European countries (Volkens et al., 2018). Their mobilization success coincided with the strong influx of immigrants to Europe starting in late 2013. Between 2014 and 2017, Germany alone took in more than 1.2 million refugees and asylum seekers (immigrants from here on), which at the time represented the largest wave of immigration in German history since the immediate aftermath of the end of World War II (BAMF, 2019). (Germany later took in more than one million immigrants fleeing the war in Ukraine). Two federal elections took place in Germany during this period—September 2013 and September 2017—providing a unique opportunity to examine in detail the extent to which an unprecedented influx of immigrants led to an unprecedented political event in postwar Germany.

Urban contexts and voting for radical right-wing parties

The connection between local characteristics and the success of radical right-wing parties is a comparatively well-researched area. A substantial number of studies conclude that positive, sustained social contact between natives and immigrants reduces natives' resentment toward immigration (for a review see Pettigrew & Tropp, 2008). Similarly, continued exposure to immigrants helps to challenge prejudiced views—*observing* immigrants as part of one's daily routines rather than socially interacting and communicating with them (Weber, 2015). These two fairly similar mechanisms explain why the share of immigrants is negatively associated with support for the radical right when measured in smaller geographic units (for a meta-analysis, see Kaufmann & Goodwin, 2018).

However, when aggregated to larger geographic units, the relationship generally becomes positive (Kaufmann & Goodwin, 2018). Unlike the presence of immigrants in neighborhoods, immigration is not directly experienced by residents at the city, regional, or national level. Rather, residents are exposed to various accounts of immigration numbers at these geographic levels disseminated by political actors, the media, etc. Therefore, immigration remains an abstract number outside the immediate environment of residents. Immigration then is “perceived” or “imagined” and susceptible to misperception and manipulation (Pettigrew et al., 2010; Rydgren & Ruth, 2013; Schlueter & Scheepers, 2010). Tentative evidence suggests that sudden increases in immigration levels at larger geographical scales may provoke threatened responses (Kaufmann & Goodwin, 2018). Changes are usually more noticeable than the status quo and are more likely to attract media attention (Czymara & Dochow, 2018). Sudden, pronounced changes in the volume of immigration could contribute to people feeling overwhelmed by it.

There is less conclusive evidence on the relationship between poverty rates or unemployment levels and the share of votes for radical right-wing parties. At the local level, unemployment is generally associated with higher support for radical right-wing parties in various European countries (David et al., 2018; Strömbäck & Malmberg, 2016; Van Gent et al., 2014). A recent meta-analysis also found a positive relationship between *regional* unemployment and radical right-wing support in Western and Eastern European countries, but not in Northern European countries (Sipma & Lubbers, 2020).

These inconsistencies between countries seem plausible if we look at the broader literature on (economic) grievances (Rydgren, 2007). Indeed, the experience of unemployment explains only a small part of the individual variation in voting for radical right-wing parties (for a meta-analysis, see Stockemer et al., 2018). Status anxiety and relative deprivation, on the other hand, are important factors to explain support for radical right-wing parties and associated political attitudes (e.g., Mutz, 2018; Salomo, 2019; Sides & Citrin, 2007; Stockemer et al., 2018). Unemployment is just one factor contributing to status anxiety and relative deprivation, along with others, such as low household income (Salomo, 2019; Stockemer et al., 2018). Short-term unemployment, however, may not contribute to status anxiety and relative deprivation at all. The correlation between unemployment on the one hand and status anxiety/relative deprivation on the other hand is likely to be weaker overall in Northern European countries, where social spending is considerably higher and should mitigate the worst effects of unemployment. Unemployment may therefore not be a reliable indicator of economic deprivation. Instead, we use poverty rates as an indicator of local economic deprivation that includes the working poorer but excludes short-term unemployment.

Against this background, we expect that a higher share of immigrants in a neighborhood and a lower poverty level are associated with lower support for radical right-wing parties across urban neighborhoods in Germany. Higher citywide shares of immigrants and their sudden increase, on the other hand, should indicate higher support for the AfD.

Given the great importance of social contact between immigrants and locals, it is useful to structure the literature and our further expectations with respect to the German case by asking under which conditions the contact thesis does not hold and instead the local presence of immigrants promotes support for the radical right. We identified three conditions from the broader literature that might undermine the positive effects of contact (and habituation): high local poverty, insufficient prior experience with immigration, and the residential segregation between immigrants and natives. None of these conditions have been studied before in German cities using neighborhood-level data and we will discuss them in detail below.

Presence of immigrants in poorer neighborhoods

The presence of immigrants in poorer neighborhoods may negate the positive effects of increased opportunities for social contact and instead increase anti-immigrant resentment and radical right-wing support: Valentine (2008) suggests that immigration increases the salience of scarce local resources and Strömlad and Malmberg (2016) indicate that perceived competition for jobs and other social resources are more pronounced in poorer neighborhoods.

However, studies examining interactions between local immigration and economic indicators are rare. An analysis of the German city of Munich did not find any significant interaction (Stecker & Debus, 2019). Regional studies also mostly report non-significant interaction effects (Sipma & Lubbers, 2020). We test the effect of immigrant presence in poorer neighborhoods for the first time with a representative sample of German neighborhoods. We assume:

H1: The AfD's share of the vote increased between 2013 and 2017 in neighborhoods where an above-average share of immigrants coincided with an above-average poverty rate.

Prior history of immigration

Previous immigration experiences in a community are critical to how residents respond to new immigrants. Social interaction and communication with people of different cultural backgrounds, religious beliefs, or languages is a learning process (Castro, 2003) that requires sociocultural adjustments on the part of natives. When successful, this acculturation to the cultural change brought about by immigration lays the foundation for a lasting sense of belonging, social trust, and satisfaction within

a changing local community (LaFromboise et al., 1993). When unsuccessful, natives experience “culture shock” or “acculturative stress” instead (Newman, 2013, p. 378).

Acculturative stress depends on the speed of immigration-induced cultural change relative to the extent of communities’ prior experience with immigration. Newman (2013) finds that the potential for acculturative stress is higher when ethnically homogeneous communities in the United States become moderately diverse than when already diverse communities become even more diverse. Similarly, studies from Denmark and the United Kingdom suggest that immigration to communities with longer immigration histories reduces resentment, while residents of communities with low prior immigration respond with more resentment toward increasing diversity (Dustmann et al., 2019; Page, 2011).

These studies suggest that a minimum local share of immigrants is necessary to gain the experience that serves as the foundation for successful adaptation to further immigration-related changes. In communities that do not meet this minimum threshold, sudden and unprecedented influxes of immigrants can be overwhelming. In this case, residents may feel displaced in their own communities, become more distrustful, dissatisfied, and (consequently) resentful of newly arriving immigrants—which benefits radical right-wing parties. In such communities, the resulting resentment seems to be proportional to the speed of cultural change, i.e., to the growth of the local immigrant population within a given period of time (Dustmann et al., 2019; Newman, 2013; Page, 2011). We contribute to the literature on acculturation contexts by examining them for the first time at the neighborhood level in Germany. We hypothesize:

H2: Neighborhoods with relatively low immigrant shares in 2014 and stronger immigration growth from 2014 to 2017 have higher vote shares for the AfD in 2017. Since the available literature does not provide sufficient insights about the minimum share of immigrants required to accumulate sufficient prior experience, we will empirically examine different possible thresholds.

Residential segregation between natives and immigrants

While there is growing evidence that residential segregation between natives and immigrants is linked to immigrant resentment and native support for the radical right (e.g., Kaufmann & Harris, 2014; Rydgren & Ruth, 2013), there is more than one possible explanation for this relationship. (1) As immigrants are more likely to live in low-income neighborhoods, natives—especially those from high-income neighborhoods—are more likely to encounter immigrants in low-income environments. Experimental findings suggest that such a so-called situational framing reinforces negative stereotyping of immigrants, especially when they form ethnic minorities in their host country (Havekes et al., 2013).

(2) Residential segregation can contribute to status threat among natives through so-called halo effects. These effects occur when middle- or high-income neighborhoods with relatively low immigrant populations are adjacent to low-income neighborhoods with high shares of immigrants. In these cases, residents of the higher-income neighborhoods may fear negative consequences of greater diversity in schools or the depreciation of real estate prices (Martig & Bernauer, 2018; Rydgren & Ruth, 2013). (3) Segregation promotes separation between experienced and imagined immigration (Rydgren & Ruth, 2013; Van Wijk et al., 2020). Positive contact and habituation are experience-based. They involve interacting and communicating with as well as observing immigrants as part of daily routines. Residents who do not have the opportunity to have these experiences in their neighborhoods, but who live near neighborhoods with a high percentage of immigrants, may still be aware of and concerned about immigration, but without the tolerance-promoting effect of contact/habituation to counteract these concerns. This is another aspect of halo effects.

Besides economic factors connected to the socioeconomic status of immigrants, residential segregation between immigrants is partly driven by housing discrimination (Dill & Jirjahn, 2014), especially in competitive housing markets (Adam et al., 2021). Segregation in European

cities is generally not comparable to levels observed in the United States (Massey et al., 2009). However, segregation in German cities has reached levels that hinder integration efforts (Farwick, 2009). In the wake of increased immigration since 2014, segregation in German cities has continued to increase as housing for new immigrants has been provided mainly in low-income neighborhoods with higher vacancy rates (Helbig & Jähnen, 2018, 2019). We predict:

H3: The AfD's vote share increased between 2013 and 2017 in cities with higher average levels of residential segregation between immigrants and natives.

Data and methods

Analytical strategy

We examine how contextual characteristics at both the neighborhood and city level influenced the growth of the AfD's vote share between the 2013 and 2017 federal elections in Germany. For the reasons discussed above, we operationalize contextual characteristics either as annual averages between the two national elections or as changes between 2014 and 2017.

Data and weighting

Most of the data were provided by *Innerstaedtische Raumbeobachtung*, a cooperative project conducted by a departmental research institution under the direction of the federal Ministry of the Interior, Building and Home Affairs. Currently, 53 of 77 independent German cities with at least 80,000 inhabitants are participating in the project. These 53 cities are home to 21.5 million people, or 85% of the German urban population. Cities that do not participate either do not have the required data or are not able to prepare it according to the requirements (Göddecke-Stellmann et al., 2022).

The data contain information on the socioeconomic and demographic composition of residents in the smallest administrative units of German cities (often *Ortsteile* in German or *neighborhoods* henceforth). We merge these data with official election results from the 2013 and 2017 federal elections, which we requested from the statistical office of each city in 2019. Due to limited local administrative capacities, not all of the 53 cities contacted by us provided neighborhood-level election data, which is especially true for smaller cities. Therefore, our final sample includes 33 of the 53 contacted cities—25 West German cities, seven East German cities, and Berlin. We code East and West Berlin separately because of the vastly different history of immigration within both parts of the historically divided city. Technically, that leaves 34 cases at the city level. The populations of these cities range from 82,632 to 2,244,990, and the median is 590,194. Table A1 in the Appendix provides a comparison between all larger cities in Germany and the cities in our sample in terms of population size, poverty rate, share of immigrants, and vote share for the AfD. The comparison shows that, as expected, our sample is slightly skewed toward larger cities, but all in all is representative of German cities.

The 34 cities are divided into 1,905 neighborhoods (an average of 56 neighborhoods per city and a range of 8 to 349). The median neighborhood in our sample has 5,311 inhabitants—small enough to qualify as *neighborhood* within Germany's densely populated cities. Comparable studies on Germany rely on data aggregated over larger geographical units (Falkner & Kahrs, 2018; Petermann, 2014; Salomo, 2019; Schlueter & Scheepers, 2010; Weber, 2015) or are restricted to individual cities (Farwick, 2009; Grau & Heitmeyer, 2013). All results of our analyses are weighted according to the population size of the neighborhoods.

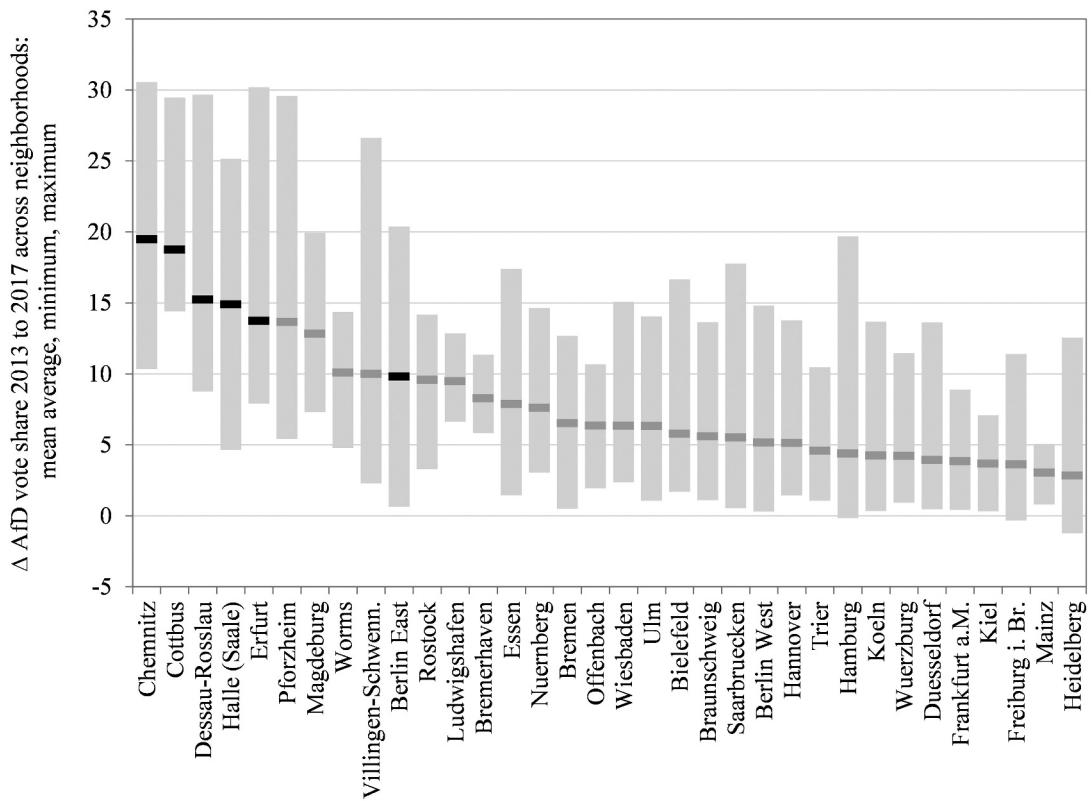


Figure 1. Growth of AfD vote share between 2013 and 2017: average, minimum, and maximum growth in each city's neighborhoods.

Measurements

Our dependent variable is the share of valid votes cast for the AfD in the 2017 federal election. Support for the AfD increased almost universally across the neighborhoods in our sample between 2013 and 2017, but the magnitude of the increase varies considerably both within and across cities (see Figure 1). An overview and descriptive statistics of all variables can be found in Table 1.

Statistical model

Since neighborhoods are nested within cities, we apply a random-intercept-fixed-slope multilevel model:

$$Y_{ij2017} = \gamma_{00} + \gamma_{p0} Y_{ij2013} + \gamma_{p0} X_{p0j} + \gamma_{0q} Z_{qj} + \gamma_{p0} (XX)_{p0j} + e_{ij} + u_{0j}$$

Where Y_{ij2013} and Y_{ij2017} are the AfD vote share of neighborhood i in city j in 2013 and 2017, respectively, γ_{00} is the grand across-city intercept. $1 \dots P$ are predictors X at the neighborhood level, with each of their slopes γ_{p0} fixed across cities. XX denote interactions between two predictors at the neighborhood-level with their slopes γ_{p0} fixed across cities. $1 \dots Q$ are predictors Z at the city level and γ_{0q} their slopes. e_{ij} are residual errors at the neighborhood level and u_{0j} residual errors at city level. We estimate our models using the MIXED routine of Stata 17; independent variables are free to covary.

Table 1. Variables at the neighborhood and city level.

		Neighborhood level				City Level				
		Min	Max	Median	Mean	Min	Max	Median	Mean	Standard Deviation
Poverty rates	Proportion of recipients of unemployment benefits who have been unemployed for more than one year and of recipients of social benefits for low-income workers. Excludes residents who are "comfortable" between jobs. Averaged over the years 2014 to 2017. ^a	0	51.9	9.04	10.97	8.08				
Immigrant population	Proportion of non-citizen residents, including refugees and asylum seekers, excluding stationary forces, diplomatic and consular representation. Averaged over the years 2014 to 2017. ^a	0	74.94	12.97	14.66	9.85				
Growth of immigrant pop.	Share of immigrant population in 2017 minus share of immigrant population in 2014.	-31.65	58.16	1.97	2.23	5.69				
AfD votes 2013	Percentage of valid votes cast for the AfD during the 2013 and 2017 German federal parliamentary election.	0	11.70	4.60	4.68	1.40				
AfD votes 2017		1.81	37.35	10.92	12.19	6.20				
Poverty rates	Mean average of poverty rates across neighborhoods.	1.50	23.34	12.59	12.44	3.50				
Immigrant population	Mean average of immigrant population across neighborhoods.	4.44	36.62	16.55	16.02	5.77				
Growth of immigrant pop.	Mean average of growth of immigrant population across neighborhoods.	1.43	4.40	2.53	2.50	.76				
Residential segregation of immigrants	Approximated via index of dissimilarity (Massey & Denton, 1988) defined as: $d = \frac{1}{2} \sum_{i=1}^N \frac{ a_i - b_i }{ A }$ Where a_i is the population of natives in a neighborhood i , A the city-wide native population, b_i the immigrant population in a neighborhood i , B the city-wide immigrant population. Index d assumes values between 0 and 100 and indicates the proportion of inhabitants that must relocate within a city to achieve an equal spatial distribution of natives and immigrants. Averaged over the years 2014 to 2017. ^a	10.63	38.50	24.95	25.14	5.27				
AfD votes 2013	Mean average of AfD votes in 2013 and 2017 across neighborhoods.	3.37	8.16	4.76	4.65	.90				
AfD votes 2017		6.88	26.11	9.93	11.81	4.36				
East German city	Denotes the eight East German cities including East Berlin.									

Notes. ^aIndeed, we expect that high poverty/immigrant shares/segregation in one year will be partially offset by lower poverty/immigrant shares/segregation in the next year from the residents' perspective. However, these characteristics do not vary considerably between successive years.

Limitations

Probably the biggest limitation of our study is that it relies on aggregated election data instead of individual-level data, which prohibits any causal inference regarding the link between neighborhood characteristics and political attitudes or voting behavior. Contextual studies can provide much-needed insights into underlying mechanisms, but these need to be further tested at the individual level. The problems with acquiring adequate individual-level data are twofold. First, surveying a selection of German cities with representative samples at the neighborhood level would be a major undertaking requiring vast resources. Second and more importantly, survey data are notorious for underestimating electoral support for radical right parties due to social desirability bias (e.g., Werts et al., 2013).

Another limitation of our study is the lack of information on naturalized immigrants, as their voting behavior is likely to be very different from that of natives when it comes to supporting the AfD. As of 2022, the federal institute responsible for harmonizing this data documents eight different methods of how cities in Germany collect data on naturalized citizens. Some cities have not provided information on their method, and some do not collect data on naturalized immigrants in the first place (Göddecke-Stellmann et al., 2022). Harmonizing this data is an ongoing *administrative* task.

Our research design addresses this problem. Cities and neighborhoods with a high share of naturalized immigrants in 2017 most likely hosted a larger share of naturalized immigrants before 2017 as well. The extent to which their presence and especially voting behavior influenced the AfD's vote share in the 2017 election should be adequately controlled by including the AfD vote share in the 2013 election. On the contrary, the unprecedented influx of refugees and asylum seekers (by definition non-citizens) from 2015 onward followed different migration patterns, as these new immigrants were distributed across cities according to administrative criteria (Schaub et al., 2021). Importantly, non-citizens are not allowed to vote in federal elections. It is also highly unlikely that these new immigrants were naturalized (i.e., gained citizenship and voting rights) until 2017 because naturalization in Germany takes 6–8 years (or 3 years in very specific circumstances; Federal Government of Germany, 2023). Accordingly, the first surge in the annual number of naturalizations after the influx of immigrants that began in 2015 was notable not before the year 2021 (Federal Statistical Office of Germany, 2022). Immigrants that resettled to Germany in 2015 and later were not allowed to vote in the federal election of 2017. We further were unable to include data on the ethnic composition of immigrants in our analysis, because only a very few cities gather this information in the first place.

Another limitation concerns the lack of information on the average educational attainment of residents. At the *regional* level in Germany, the average level of education does not indicate higher anti-immigrant nor nationalist attitudes among the population but helps identify regions with higher authoritarian and social-Darwinist views. These attitudes, in turn, are not dependent on local socio-economic factors (Salomo, 2019). While authoritarian and social-Darwinist attitudes are likely to influence the decision to vote for a radical right-wing party, anti-immigrant and nationalist views are the main motivations for citizens in Germany to vote for the AfD (Lengfeld & Dilger, 2018).

Results and discussion

We present our main results in [Table 2](#) and [Figure 2](#). We find that a higher share of immigrants in the neighborhood is associated with lower electoral support for the radical right (Model 2 in [Table 2](#)), likely due to increased social contact with immigrants (e.g., Petermann, 2014). We still suspect that some residents oppose immigration even in neighborhoods with a high proportion of immigrants (Whittemore & BenDor, 2019), but on average, greater proximity appears to increase tolerance.

In contrast, larger immigrant populations at the city level and a greater influx of immigrants to cities are associated with higher support for the AfD (e.g., Kaufmann & Goodwin, 2018; Pettigrew & Tropp, 2008; Weber, 2015). Of two residents living in similarly diverse neighborhoods, the one living in a city with a larger and faster-growing immigrant population is more likely to vote for the AfD.

Table 2. Predictors of AfD vote share in 2017.

	Model 1		Model 2		Model 3 (Immigrants ≤ 5%)	
<i>Neighborhood level</i>	Coef.	SE	Coef.	SE	Coef.	SE
AfD votes in 2013 (% of valid votes)	2.204***	.243	2.199***	.238	1.957***	.050
Average poverty rate 2014–2017 (%)	.324***	.016	.322***	.016	.238***	.050
Average immigrant population 2014–2017 (%)	−.150***	.014	−.157***	.017	−1.323***	.323
Growth immigrant population 2014–2017	−.019	.013	−.018	.014	.581**	.196
Average immigrant population 2014–2017 (%) # average poverty rate 2014–2017 (%)	/		.002	.001	.010	.009
Constant	10.981***	.404	10.895***	.394	.449	2.395
<i>N_{neighborhoods}</i>	1905		1905		398	
<i>City level</i>	Coef.	SE	Coef.	SE	Coef.	SE
AfD votes in 2013 (% of valid votes)	.238	.315	.230	.312	−.091	.533
Average poverty rate 2014–2017 (%)	−.030	.005	−.033	.005	−.068	.051
Average immigrant population 2014–2017 (%)	.097*	.043	.104*	.045	.119	.087
Growth immigrant population 2014–2017	1.317***	.337	1.338***	.340	.878	.555
Average segregation immigrants 2014–2017	.160**	.053	.156**	.052	.125	.093
East German city	4.072***	.962	4.250***	.958	4.611***	1.207
Constant (random-effect)	1.563	.378	1.580	.384	2.214	.846
<i>N_{cities}</i>	34		34		30	

Notes. * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests), random-intercept-fixed-slope multilevel linear regression model, predictors are mean-centered. We replicated Model 1 and Model 2 without the *AfD votes in 2013* at the neighborhood and city level: as a result, all other effects gain statistical strength. This is in line with expectations if we assume that similar factors shaped voting behavior both in 2013 and 2017 (these regression models are available from the authors).

Higher poverty rates indicate higher radical right-wing support among voters, confirming previous research (e.g., Van Gent et al., 2014). Statistically, poverty rates are the strongest of all predictors tested (based on standardized regression coefficients, not shown).

Consistent with the literature, we find that the AfD is generally more successful in East German cities (e.g., Bergmann et al., 2017). There are several explanations for the greater success of this party in East Germany. East German residents regardless of whether they live in urban or rural areas are more often exposed to inadequate local infrastructure, institutions, and public services, which affects their voting behavior (Diermeier, 2020). Moreover, the AfD has focused its efforts on East Germany in the 2017 election campaign (Richter & Bösch, 2017). From a historical perspective, older East Germans in particular were exposed to a less liberal political climate during their primary and secondary socialization (Inglehart & Norris, 2017), which may have made them more susceptible to authoritarian parties (Best et al., 2014).

Presence of immigrants in poorer neighborhoods

Contrary to hypothesis H1, increased poverty rates among native residents do not alter the link between local immigrant shares and votes for the AfD. In addition to the model presented in Table 2, we tested whether the local poverty rate must be above a certain threshold before an interaction effect materializes (Hjerm, 2009; Strömlad & Malmberg, 2016), but did not find any significant threshold effect. (These explorative regression models are available from the authors upon request.) We conclude that in German cities, the effects of neighborhood economic deprivation and immigration levels are independent. Stecker and Debus (2019) reach similar conclusions in their analysis of Munich, the third largest Germany city.

This is an important finding given that poorer neighborhoods not only have higher shares of immigrants, but also experienced larger increases in immigration between 2014 and 2017 (Helbig & Jähnen, 2019). In our sample, the share of immigrants in the 20% of the poorest neighborhoods is twice as high as the share of immigrants in the 20% of the neighborhoods with the lowest poverty levels in the year 2014 (19% compared to 10%). In addition, the share of immigrants in the poorest

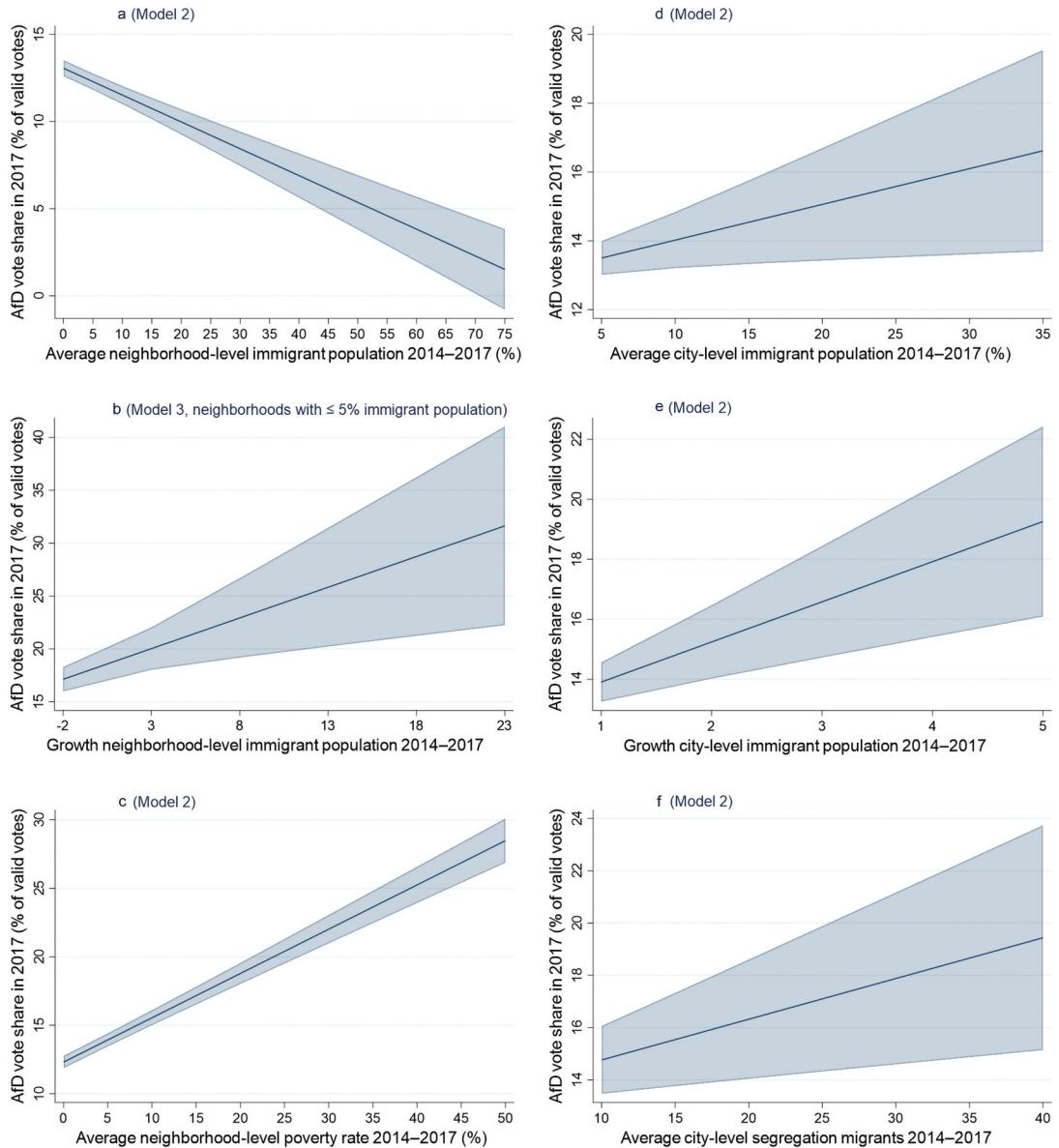


Figure 2. Linear predictive margins of key predictors of AfD vote share 2017.

neighborhoods grew by an average of 5.1 percentage points, compared to only 1.5 percentage points in neighborhoods with the lowest poverty levels.

There are alternative explanations: Hjerm (2009) does not find an interaction between unemployment rates and the local share of visible minorities, but with the general share of immigrants in Swedish municipalities. It is possible that locals do not see themselves competing for jobs and other resources with immigrants from Africa, Asia, or South America. Therefore, our result may reflect that immigrants living in poorer urban neighborhoods in Germany are more likely to belong to visible minority groups (their actual distribution is unknown). Alternatively, exposure to local immigrant presence may need to be measured at the individual level to obtain detectable interaction effects with neighborhood poverty rates (Strömblad & Malmberg, 2016). In this case, our results suggest that such

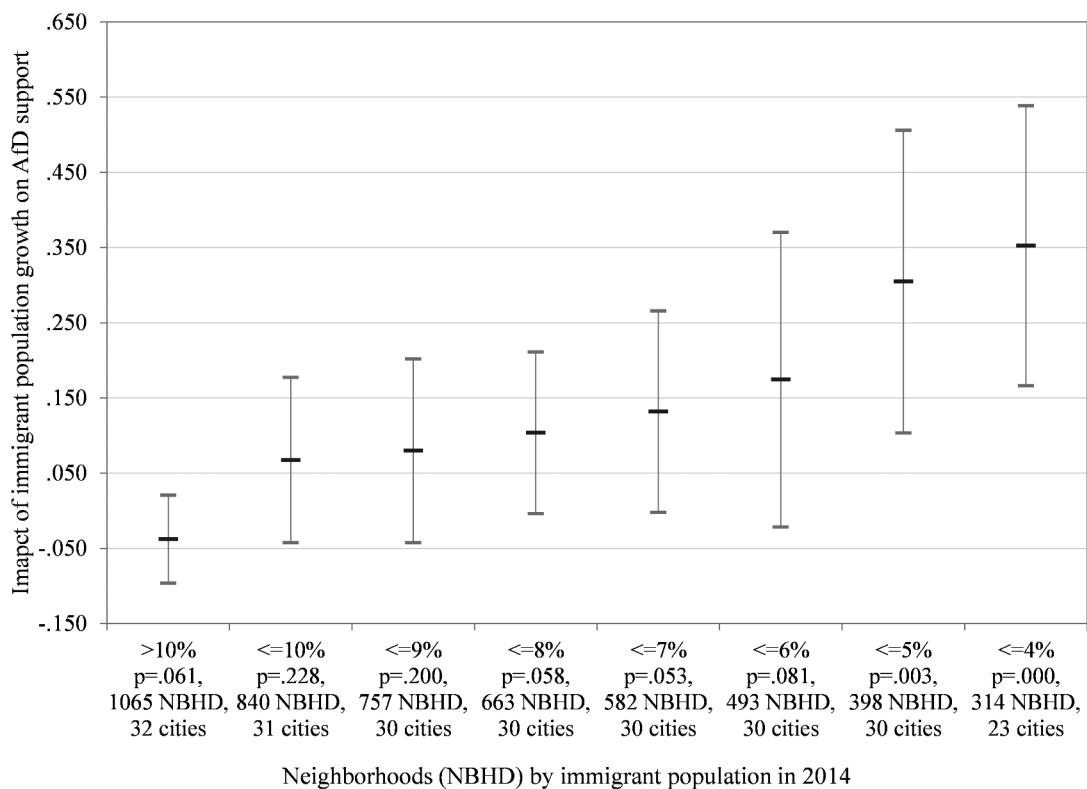


Figure 3. Effect of immigrant population growth between 2014–2017 on AfD vote share in neighborhoods with different proportions of immigrants in 2014.

hidden individual-level effects apply only to a minority of residents in disadvantaged neighborhoods and do not materialize at the aggregate data level.

Prior history of immigration

Responses to local immigrant population growth between 2014 and 2017 varied with the share of immigrants in a neighborhood in 2014. In most neighborhoods, immigrant population growth between 2014 and 2017 did not have any significant effect on support for the AfD in 2017 (Model 2 in [Table 2](#)). However, the effect of immigrant population growth is different for neighborhoods without significant prior experience with immigration: We estimated a series of regression models to test the impact of an increase in local immigrant population given different proportions of immigrants in 2014 (see [Figure 3](#) for a summary of these regression models and [Table A2](#) in the Appendix for the full models). We find that immigrant population growth is associated with stronger support for the AfD in 2017 if the share of immigrants in the total population is equal to or less than 5% in 2014 (Model 3 in [Table 2](#)).

These findings support the assumptions about acculturating contexts inserted in hypotheses H2 (e.g., Newman, 2013): A large influx of immigrants leads to acculturative stress in the absence of significant prior experiences with immigration. Residents' ability to adapt to the local environment changed by immigration is outpaced by the speed of these changes. According to our data, neighborhoods with 5% or fewer immigrants in 2014 are more likely in cities where immigrants reside more segregated from natives. Neighborhoods with 5% or fewer immigrants also have lower poverty rates than other neighborhoods (7.4

versus 11.9% on average from 2014 to 2017). This means that neighborhoods with low poverty rates in highly segregated cities were most likely to suffer from acculturative stress between 2014 and 2017.

Residential segregation between natives and immigrants

Cities where natives and immigrants are more segregated across neighborhoods recorded stronger support for the AfD in 2017, supporting hypothesis H3. Our study adds to the still small body of literature demonstrating the detrimental effects of residential segregation on social tolerance in European cities (e.g., Kaufmann & Harris, 2014; Rydgren & Ruth, 2013). Both halo effects (Martig & Bernauer, 2018) and situational framing (Havekes et al., 2013) are likely to explain this finding to some extent. However, the unequal distribution of immigrants across neighborhoods and their tendency to reside in socioeconomically disadvantaged neighborhoods is an indirect cause for most of the findings presented in this paper: Segregation prevents some residents from having social contact with immigrants and leaves some neighborhoods unprepared to adapt to increased immigration. If these segregation patterns were disrupted—for example, by administratively allocating new immigrants to neighborhoods with low levels of previous immigration—German cities would be better prepared to absorb immigrants in the long run.

Conclusion

After the 2017 federal election, a nationalist radical right-wing party (AfD) entered the German federal parliament for the first time since the end of World War II. In the years before the 2017 election, Germany had experienced one of the largest waves of immigration in its history. We examined how the influx of new immigrants affected the electoral outcomes of the AfD among urban voters in the 2017 Bundestag election. We used unique neighborhood-level data from 34 of Germany's largest cities (coding East and West Berlin separately), divided into 1,905 neighborhoods and covering the years 2014 to 2017.

Of two residents living in similarly diverse neighborhoods, the one living in a city with a larger and faster-growing immigrant population is more likely to vote for the AfD. City-level immigration likely contributes to perceived threat (Hopkins, 2010; Schlueter & Scheepers, 2010) and consequently to the success of the AfD. This finding complements previous research that found a positive relation between regional immigrant shares and vote share for the AfD in Germany (e.g., Bergmann et al., 2017).

Looking at the level of neighborhoods where residents actually experience immigration reveals a more differentiated picture that shows the consequences of residential segregation. Even before 2014, immigrants in German cities tended to live in neighborhoods with higher poverty rates. This trend has been exacerbated by the recent influx of immigrants, as housing for them has been provided mainly in neighborhoods with both higher poverty and vacancy rates (Helbig & Jähnen, 2019).

The native population in neighborhoods with higher poverty rates and larger immigrant populations is pulled in two directions: Local socioeconomic disadvantages make them more inclined to vote for radical right-wing parties, as locally concentrated poverty can have a detrimental effect on local infrastructure, public services or social cohesion (Bécaries et al., 2011; Hastings, 2009) on top of individual hardship. However, the increased presence of immigrants keeps residents from voting for the AfD, likely due to greater opportunities for positive social contact and habituation (e.g., Pettigrew & Tropp, 2011; Weber, 2015). Crucially, we did not find any interaction effects between poverty rates and immigrant shares at the neighborhood level, suggesting that economic hardship does not undermine the positive effects of social contact to immigrants.

We find that socioeconomically advantaged neighborhoods in large German cities tend to be less diverse due to residential segregation, which deprives many of their residents of opportunities to interact with immigrants. On top of that, generally lower levels of immigration to these neighborhoods also makes them particularly vulnerable to acculturative stress (Newman, 2013): Residents of urban

neighborhoods that had only 5% or fewer immigrants in 2014 are considerably more likely to vote for the AfD in 2017 if they experienced increased levels of immigration through 2017.

Higher residential segregation between immigrants indicates higher average support for the AfD at the city-level. We attribute this result to situational framing (Havekes et al., 2013) and halo effects (e.g., Rydgren & Ruth, 2013). We plan to continue this research by gathering cartographic data on the relative position of neighborhoods to each other to examine halo effects in greater detail.

In short, residents of neighborhoods with higher poverty level vote for radical right-wing parties because they suffer from economic deprivation, while lack of contact with immigrants best explains support for the radical right in neighborhoods with low poverty rates. The latter can be remedied by measures to reduce segregation between immigrants in residential areas. In any case, shifting the responsibility for integration efforts to socioeconomically disadvantaged neighborhoods is unlikely to yield the most positive outcomes for either immigrants nor natives.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix

Table A1. Contains a list of all independent cities in Germany with 80,000 inhabitants or more, as well as information on population size, share of immigrants (non-citizens), poverty rates, and AfD vote share (of all valid votes). A comparison of descriptive statistics between all cities and the cities that make up our sample (in bold) shows that our sample skews slightly toward larger cities, but otherwise has a good match. Smaller cities were less likely to provide the requested data due to limited administrative resources.

City	2014				2017			
	Population	Migrants (%)	Poverty (%)	AfD votes (%)	Population	Migrants (%)	Poverty (%)	AfD votes (%)
Berlin	3,469,849	14.3	19.9	4.9	3,613,495	17.7	18.0	12.0
Hamburg	1,762,791	13.9	12.5	4.2	1,830,584	16.2	12.4	7.8
Muenchen	1,429,584	24.0	6.3	4.5	1,456,039	25.5	6.2	8.4
Koeln	1,046,680	17.6	13.3	3.5	1,080,394	19.3	13.1	7.2
Frankfurt a.M.	717,624	27.2	12.1	5.1	746,878	29.0	11.6	8.6
Stuttgart	612,441	22.8	7.8	4.3	632,743	24.6	8.2	8.8
Duesseldorf	604,527	17.7	12.9	4.2	617,280	19.7	12.3	7.9
Dortmund	580,511	14.4	18.0	4.1	586,600	17.0	18.5	10.3
Essen	573,784	12.1	19.0	4.1	583,393	15.3	20.2	11.4
Bremen	551,767	13.6	16.7	3.7	568,006	17.5	17.9	9.5
Hannover	550,000	10.7	13.1	3.5	550,000	13.1	13.0	8.3
Leipzig	544,479	6.1	16.2	5.6	581,980	9.0	13.8	18.3
Dresden	536,308	4.7	11.4	6.9	551,072	7.0	10.0	22.5
Nuernberg	501,072	18.6	11.8	4.6	515,201	21.9	10.6	12.0
Duisburg	485,465	16.3	17.9	5.2	498,110	20.2	19.1	13.3
Bochum	361,876	9.5	14.1	3.9	365,529	12.3	15.6	10.5
Wuppertal	345,425	15.2	16.7	4.1	353,590	18.8	17.8	10.8
Bielefeld	329,782	11.9	13.7	3.4	332,552	14.1	14.0	9.0
Bonn	313,958	13.3	11.0	4.3	325,490	16.2	11.8	7.3
Muenster	302,178	8.4	8.3	2.9	313,559	10.3	8.3	4.9
Karlsruhe	300,051	16.0	7.8	5.6	311,919	18.6	6.6	10.4
Mannheim	299,844	21.1	11.8	6.0	307,997	23.3	11.2	12.8
Augsburg	281,111	18.3	7.7	5.3	292,851	21.0	7.2	13.6
Wiesbaden	275,116	16.8	14.2	5.1	278,654	18.9	14.4	11.2
Gelsenkirchen	257,651	15.3	22.6	4.7	260,305	19.1	24.9	17.0
Moenchengladb.	256,853	11.7	18.3	4.2	262,188	15.3	18.5	9.5
Braunschweig	248,502	8.5	10.1	3.6	248,023	9.7	9.1	8.4
Chemnitz	243,521	4.6	14.1	6.0	246,855	7.4	12.6	24.3
Kiel	243,148	8.7	16.4	3.7	247,943	11.3	16.9	6.9
Halle (Saale)	232,470	5.0	19.4	4.1	239,173	9.1	19.2	17.1
Magdeburg	232,306	4.9	17.6	4.3	238,478	8.6	16.7	15.7
Krefeld	222,500	12.4	16.0	3.7	226,699	15.6	16.3	8.3
Freiburg i.Br.	222,203	14.8	8.4	3.7	229,636	17.1	8.1	7.2
Luebeck	214,420	7.6	16.8	4.3	216,318	9.7	16.1	8.9
Oberhausen	209,292	12.0	16.8	4.2	211,422	14.6	17.3	13.1
Mainz	206,991	15.7	9.0	4.3	215,110	17.9	9.4	7.3
Erfurt	206,219	4.1	13.9	6.4	212,988	7.4	12.3	18.5
Rostock	204,167	3.8	16.7	5.5	208,409	5.9	14.2	14.7
Kassel	194,747	13.5	13.8	4.8	200,736	17.5	15.1	9.9
Hagen	186,716	13.9	16.5	4.4	187,730	17.4	18.5	12.8
Saarbruecken	180,000	10.6	15.0	4.5	185,000	13.9	17.1	9.4
Hamm	176,580	11.7	16.3	3.1	179,185	14.6	14.3	11.1
Muelheim a.d.R.	167,108	12.0	14.7	4.6	171,265	15.1	16.5	10.6

(Continued)

Table A1. (Continued).

City	2014				2017			
	Popula-tion	Migrants (%)	Poverty (%)	AfD votes (%)	Popula-tion	Migrants (%)	Poverty (%)	AfD votes (%)
Potsdam	164,042	5.0	10.7	5.2	175,710	8.0	9.7	12.8
Ludwigshafen	163,832	22.2	15.6	6.6	168,497	25.0	15.6	16.3
Leverkusen	161,540	12.9	13.0	3.8	163,577	15.4	13.5	10.3
Oldenburg	160,907	6.7	12.8	3.9	167,081	9.3	13.2	6.7
Osnabrueck	156,897	9.9	13.2	2.8	164,374	12.7	12.9	6.2
Solingen	156,771	13.8	12.2	4.5	158,803	16.2	12.4	9.7
Heidelberg	154,715	18.4	5.4	5.2	160,601	20.6	5.0	7.8
Herne	154,608	13.2	17.5	4.0	156,490	16.3	19.1	13.9
Darmstadt	151,879	16.5	10.7	4.7	158,254	19.3	11.1	8.4
Regensburg	142,292	12.1	6.2	4.2	150,894	15.8	5.7	10.8
Ingolstadt	131,002	15.3	5.3	3.8	135,244	17.6	5.3	15.3
Wuerzburg	124,219	8.7	6.5	4.1	126,635	11.3	6.7	8.0
Wolfsburg	123,027	11.7	7.7	3.8	123,914	14.3	8.6	11.7
Fuerth	121,519	15.7	9.7	4.8	126,526	18.7	9.2	11.9
Offenbach	120,988	32.3	19.7	5.6	126,658	35.0	16.7	12.0
Ulm	120,714	16.7	5.6	3.3	125,596	19.3	5.7	7.9
Heilbronn	119,841	20.9	8.9	5.5	125,113	24.6	8.9	16.4
Pforzheim	119,291	20.9	11.8	5.0	124,289	25.3	12.1	13.2
Bottrop	116,017	8.4	12.5	3.9	117,364	10.7	13.0	12.5
Koblenz	111,434	9.6	10.2	4.6	113,844	12.7	11.4	8.4
Bremerhaven	110,121	12.4	23.9	4.2	113,026	16.9	23.4	12.5
Remscheid	109,009	14.6	13.8	4.2	110,584	17.5	13.8	10.6
Trier	108,472	10.5	7.0	4.2	110,013	13.1	7.8	7.8
Jena	108,207	5.8	9.0	5.2	111,099	8.9	8.4	14.4
Erlangen	106,423	13.8	5.2	4.1	110,998	17.2	5.2	8.0
Villingen-Schw.	104,832	11.7	4.6	3.9	107,778	14.7	4.6	9.6
Cottbus	99,491	4.1	17.1	6.8	101,036	8.1	17.0	24.3
Salzgitter	98,966	10.7	13.6	3.9	104,548	16.9	17.4	16.4
Kaiserslautern	97,382	11.5	13.8	4.5	99,684	15.5	14.4	13.7
Gera	94,492	2.2	16.9	7.8	94,859	5.8	16.8	28.5
Schwerin	92,138	4.2	18.4	5.9	95,797	8.8	17.3	15.6
Flensburg	84,694	7.9	15.9	4.0	88,519	13.3	16.2	7.5
Dessau-Rosslau	83,061	3.0	17.3	5.7	82,111	5.5	15.3	20.1
Worms	81,010	13.1	12.6	6.1	83,081	16.5	12.9	15.0
Sampled cities								
Median	222,203	12.4	13.7	4.3	238,478	16.2	13.0	9.6
Min	81,010	3.0	4.6	3.3	82,111	5.5	4.6	6.9
Max	3,469,849	32.3	23.9	6.8	3,613,495	35.0	23.4	24.3
SD	633,082	6.7	4.6	1.0	700,262	6.6	4.5	4.8
All cities								
Median	194,747	12.4	13.3	4.3	208,409	15.8	13.1	10.8
Min	81,010	2.2	4.6	2.8	82,111	5.5	4.6	4.9
Max	3,469,849	32.3	23.9	7.8	3,613,495	35.0	24.9	28.5
SD	456,690	5.7	4.3	1.0	503,844	5.6	4.5	4.5

Notes. Cities in bold print are part of our sample.



Table A2. Predictors of AfD support in neighborhoods with different proportions of immigrants (%) in 2014 (standardized effects).

	>10%		≤10%		≤9%		≤8%	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
<i>Neighborhood immigrant population 2014 (%)</i>								
AfD votes 2013 (% of valid votes)	.580***	.043	.431***	.069	.433***	.075	.434***	.070
Average poverty rate 2014–2017 (%)	.622***	.029	.336***	.025	.337***	.024	.302***	.021
Average immigrant population 2014–2017 (%)	-.231***	.030	-.283***	.076	-.292***	.091	-.319***	.079
Growth immigrant population 2014–2017 (%)	-.038	.030	.068	.056	.080	.062	.104	.055
Average immigrant population 2014–2017 (%) # average poverty rate 2014–2017 (%)	-.056	.024	.023	.019	.025	.025	.062	.024
Constant	.050	.058	-.072	.047	-.083	.050	-.083**	.058
N _{neighborhoods}	1065	840	757	663				
<i>City level</i>								
AfD votes 2013 (% of valid votes)	.022	.056	.113	.082	.117	.094	.000	.060
Average immigrant population 2014–2017 (%)	.095	.056	.152*	.072	.141	.080	.102	.054
Growth immigrant population 2014–2017 (%)	.178**	.059	.120*	.056	.104	.062	.098	.058
Average segregation immigrants 2014–2017	.122*	.057	.095	.054	.103	.058	.094	.059
East German city	.296**	.099	.253*	.102	.231*	.105	.305***	.082
Constant (random-effect)	.077	.033	.051	.013	.059	.015	.042	.012
N _{cities}	32	31	31	30	30	30	30	23
<i>Neighborhood immigrant population 2014 (%)</i>								
AfD votes 2013 (% of valid votes)	.414***	.076	.390***	.075	.422***	.065	.440***	.046
Average poverty rate 2014–2017 (%)	.309***	.026	.298***	.025	.276***	.023	.260***	.018
Average immigrant population 2014–2017 (%)	-.367***	.096	-.432**	.129	-.558***	.129	-.634***	.103
Growth immigrant population 2014–2017 (%)	.132	.068	.175	.100	.305**	.023	.357***	.095
Average immigrant population 2014–2017 (%) # average poverty rate 2014–2017 (%)	-.057	.029	.037	.025	.034	.028	.050	.019
Constant	-.092	.061	-.093	.069	-.106	.075	-.128	.080
N _{neighborhoods}	582	493	398	314				
<i>City level</i>								
AfD votes 2013 (% of valid votes)	.004	.064	-.006	.075	-.013	.077	.039	.099
Average immigrant population 2014–2017 (%)	.101	.054	.079	.058	.072	.052	.148**	.048
Growth immigrant population 2014–2017 (%)	.104	.057	.092	.065	.108	.068	.103	.068
Average segregation immigrants 2014–2017	.103	.060	.103	.061	.087	.065	.127	.080
East German city	.295***	.081	.298***	.079	.285***	.075	.271***	.092
Constant (random-effect)	.040	.012	.043	.013	.039	.015	.050	.019
N _{cities}	30	30	30	30	30	30	30	23

Notes. * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests); random-intercept-fixed-slope multilevel linear regression model, poverty rates at city level are held at their means. All variables are z-standardized.