

The Effect of Residential Concentration on Voter Turnout among Ethnic Minorities

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Utilizing a large and unique dataset composed of government records, we study the widely contested effect of co-ethnic residential concentrations on voter turnout. Non-Western immigrants are moderately affected by the concentration of co-ethnic voters in their neighborhoods. As the local concentration of same-ethnicity voters increases, so does the individual's propensity to turn out for the election. In general, the concentration of non-Western immigrants in the neighborhood has only a very limited impact on an immigrant's propensity to vote. Finally, we investigate the possible mobilizing effect of local candidates and, in particular, local co-ethnic candidates on voter turnout. We find that the presence of candidates in general and co-ethnic candidates running for office in a neighborhood has a moderate positive mobilization effect. However, taking this factor into account, the effect of residential concentrations was not eliminated.

INTRODUCTION

Due to immigration and demographical change among ethnic groups, Western societies are becoming increasingly more ethnically diverse. It is

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well known that on average, ethnic minorities in most European countries turn out to vote at substantially lower levels than the ethnic majority and that there is large variation within and across ethnic groups (Togeby 1999; Barreto 2005; van Londen, Phalet, and Hagendoorn 2007; Fieldhouse and Cutts 2008a). One of the most debated aspects of immigrants' varying electoral participation in academic literature as well as in public debate is the effect of residential concentration. On one hand, residential concentrations of minorities may redirect the political focus in the community toward their countries of origin, for example, by following the political news in their country of origin rather than in their current country of residence. This aspect of concentration could depress their electoral participation. On the other hand, a high concentration of ethnic groups could increase voter turnout by increasing the local information flow about politics and by providing a critical mass for candidates to run on an ethnic platform (Cho, Gimpel, and Dyck 2006, 158).

Research in the field has provided conflicting empirical evidence. Studies from the United States have found a mostly negative relationship between the residential concentration of ethnic minorities and groups' turnout (e.g., Cho 1999; Cho, Gimpel, and Dyck 2006). Studies from the United Kingdom have largely found the opposite results for religious groups. Muslim and Hindu immigrants seem to have a higher propensity of registering and voting when living among peers (Fieldhouse and Cutts 2008a,b).

In this study, we utilized a dataset of government records from Denmark to provide insight into the ongoing debate on the effect of residential concentration on minority turnout. In addition to offering another venue for addressing the effect of residential concentration, the Danish government registers allow us to identify the precise country of origin (the sample contains 151 countries) of the individuals, whereas previous studies have relied on name recognition procedures and thus primarily focused on a few ethnicities that can be identified by their names. The government register variables also allow for more detailed and reliable control variables than is usually possible and for examining the possible effects at different levels of aggregation. It is also worth noting that whereas the electoral systems in the United States and United Kingdom are based on first-past-the-post with simple plurality and single-member constituencies, the Danish system is a party-list, proportional system with

multimember districts ensuring the proportionality between electorate and elected representatives. The difference in electoral system could have implications for the results because the threshold for representation is lower for geographically dispersed groups in proportional systems compared to first-past-the-post systems.

Finally, we are able to identify candidates running for office in the files of individual voters, thereby allowing us to uncover the possible effect of local (neighborhood-level), co-ethnic candidates on turnout. In addition to this factor being interesting in its own right, it may also mediate the possible effects of residential concentrations because a high concentration may provide a critical mass for co-ethnic individuals to run for office, which in turn could mobilize the ethnic group in question (Togeby 1999). Thus, the inclusion of local co-ethnic candidates in our models may inform us about the mechanisms through which residential concentration works. Furthermore, the geographical identification of candidates allows us more generally to identify the effect of having a candidate in the neighborhood (local collective mobilization), which is normally difficult to study due to data limitations.

The remainder of the article is structured as follows: In the next section, we provide a short introduction to the context of this study, Danish municipal elections, which is followed by a discussion of theory and our hypotheses, which are derived from the existing literature (e.g., Cho, Gimpel, and Dyck 2006; Fieldhouse and Cutts 2008b). Next, we discuss the empirical strategy and employed measures. The analysis is conducted and divided into two parts. First, we look at the overall effect of residential concentration on turnout. Second, we consider the possible effect of local co-ethnic candidates. In the final section, we discuss the results with regard to existing literature.

DANISH MUNICIPAL ELECTIONS

Our data are based on the actual turnout from voter files merged with government-issued, individual-level sociodemographical information from 44 local elections held simultaneously across Denmark on November 17, 2009.¹ All 98 municipalities were offered the chance to participate in the study, and 44 accepted. There are a total of 2.3 million voters, of which

¹See Elklit et al. (2000, 2005) for pioneering studies in a Danish context using similar approaches.

146,358 were registered as first- or second-generation immigrants.² Because the study is based on voter files, no self-selection is involved at the individual level because we do not have to rely on individual compliance.³

Municipalities play an important role in the Danish welfare state and are responsible for most services (e.g., childcare, elementary schools, care for seniors, and libraries). Approximately 27 percent of the entire GDP, or more than half of public expenditure, is spent at the municipal level. Turnout for the elections in 2009 was approximately 66 percent, compared to a 70 percent average over the last 35 years (Elklit et al. 2000; Bhatti and Hansen 2012a). Voting is non-compulsory for all Danish elections, and the electoral system is proportional. The municipalities have multiparty systems dominated by the major national parties. Voters can either cast list votes or personal votes, which simultaneously count as list votes, and increase the potential for collective mobilization by local ethnic candidates. This potential is further increased by the fact that 70 percent of all lists in 2009 were open lists which allowed immigrant candidates far from the top of the party list a real chance of election if they could attract a relatively modest amount of personal votes (Togeby 1999). Just a few votes can make a substantial difference. For instance, in the municipality of Aarhus in 2009, the two last elected candidates for the Social Democrats both received 366 votes and the next two candidates received, respectively, 340 and 335 votes. Thus, if the candidate who received 340 votes received only 27 more votes, he would have been elected, and the last mandate would have been decided by lot between the two candidates who received 366 votes. The closeness of the race in Aarhus is far from unique. From a mobilization perspective, this shows how

²In the remaining analysis, we will, for simplicity, include only those with valid information on ethnicity and local geography (144,030 of the 146,358 immigrants and about 2.303 million voters in total) in our descriptive statistics.

³There were no missing districts in 39 municipalities. In Rudersdal, one district was missing. In Copenhagen, one table (voters are assigned randomly to tables) within one district was missing. In Aarhus, six districts were missing. In all cases, the municipalities had lost the ballots. Esbjerg participated only with those districts with a digital voting list. In one municipality, Odense, the electronic registration in district four broke down for a couple of hours on election day. This resulted in 1,160 voters being erroneously coded as non-voters. In all five municipalities, no self-selection was involved, and the missing districts/tables/votes will therefore not pose an issue for the analysis (Bhatti and Hansen 2010; Bhatti 2012).

the Danish election system encourages candidates to mobilize every vote they can because even a small number of votes can be decisive.

In each of the municipalities, the entire electoral register was computerized and then merged with extensive lists of individual-level sociodemographical information from Statistics Denmark,⁴ including geographical information about the locations of households in municipalities, electoral districts, 1 sq. km., and 100 sq. m. fields (all nested). Thus, all the variables are based on government record data and are not subject to social desirability bias (e.g., indicating you voted even if you did not) or other common causes of survey misreporting (e.g., self-selection into the sample) (Bernstein, Chadha, and Montjoy 2001; Cassel 2003; Karp and Brockington 2005). Most importantly for the present purpose, ethnic identification does not rely on name identification procedures, as in, for example, Cho, Gimpel, and Dyck (2006) and Fieldhouse and Cutts (2007, 2008b), but rather on the actual ethnicity (country of origin) recorded when the immigrant entered the country. This should add to the precision of the estimates. In addition, our data contain more than 150 ethnicities, whereas most previous studies have focused on only a few. The drawback of the dataset is that it is cross-sectional (like most other datasets used in the existing literature), and even with better-than-usual controls, our models may be vulnerable to unobserved unit heterogeneity.

The ethnic minorities in focus here include the eligible first and second generations of immigrants of non-Western⁵ ancestry (from now on referred to as “immigrants” for simplicity). First-generation immigrants are those who immigrated themselves, and their children were second-generation immigrants. Specifically, we apply the working statistical definition from Statistics Denmark where first-generation immigrants are born outside Denmark and neither parent is both born in Denmark and has Danish citizenship. Second-generation immigrants are defined as being born in Denmark, and neither of their parents is both born in Denmark and

⁴Statistics Denmark is an official census bureau funded by the government and has the responsibility of compiling statistics from various Danish authorities on all levels.

⁵We define Western countries as EU27, the Nordic countries, Western European countries, North American countries, New Zealand, and Australia. Non-Western countries are defined as all other countries. See Table A1 of the appendix for an overview of the frequency of the most common countries of origin in the sample. There are 151 countries of origin in the sample (143,359 individuals). Additionally, there are five groups of individuals who could be identified by only their continent of origin and one group who was only identified as non-Western (671 individuals).

has Danish citizenship. The rest of the population is classified as ethnic Danes (Statistic Denmark 2013, 12). Immigrants are eligible to vote and run for office in local elections after three years of permanent residence in Denmark, regardless of their citizenship (for national elections, only Danish citizens can vote). Political candidates running in the election can be identified in the dataset. Thus, it is possible to place candidates geographically (e.g., in the 100 sq. m. or 1 sq. km. fields) as well as identify their ethnicity (country of origin). The sample contains all 4,286 candidates running for election in the 44 municipalities, of which 137 were immigrants.

THEORY – TWO COMPETING EXPLANATIONS

In recent decades, increased attention has been given to the possibility that social factors in general can influence various political outcomes (Huckfeldt and Sprague 1987; Mutz 2002; Cho, Gimpel, and Dyck 2006; Bhatti and Hansen 2012a; Fieldhouse and Cutts 2012; Enos 2014). However, the idea that the racial (or ethnic) context could affect electoral turnout or public opinion is far from new. For instance, in his seminal study, Key (1949) examined the effect of racial composition on turnout and found that majority turnout was positively affected by the share of African Americans in their area (county) due to a racial threat.

The literature on residential concentrations of ethnic or religious minorities has been dominated by theories and empirical findings that run in opposing directions. The first group of hypotheses suggests that as the residential concentration of co-ethnics in a neighborhood increases, the turnout of the individual immigrant drops. Part of the reason is not the residential concentration per se; neighborhoods with a high residential concentration of ethnic minorities also have a high geographical concentration of lower educated and unemployed people and those receiving various forms of social benefits (Fieldhouse and Cutts 2008b, 533). However, even when we control for these factors, residential concentration may have a negative effect per se. The information flow in an area with a high concentration of an ethnic minority may be focused toward the native country/countries rather than the country in which the ethnic minorities live (Cho, Gimpel, and Dyck 2006).

Related to the information flow, general participation norms may be negatively affected in areas with a high percentage of immigrants because

individuals are less exposed to the norm of voting as a civic duty (Huckfeldt 1986; Cho 1999; Cho, Gimpel, and Dyck 2006; Cho, Gimpel, and Wu 2006). Furthermore, it has been argued that a high concentration of ethnic minorities leads to a general withdrawal from society, which would also discourage voters from turning out at elections (Massey and Denton 1989, 1993).

H1: A high residential concentration of co-ethnics results in a lower turnout among non-Western immigrants.

The second group of hypotheses, which run directly counter to the first, suggests that as the residential concentration of co-ethnics increases, so does the turnout. The reason is possibly that higher co-ethnic residential concentrations increase social connectedness, social cohesion, and the strength of community networks, leading to a higher level of group consciousness, which again enhances political mobilization (Laurence and Heath 2008). A stronger ethnic network and specific ethnic opinion leaders might also encourage turnout and facilitate ethnic political organizations (Schlichting, Tuckel, and Maisel 1998; Fieldhouse and Cutts 2007, 2008b). Furthermore, as the concentration of a given ethnicity reaches a critical mass, it may encourage individuals of that origin to run for office because their chances of being elected increase with their electoral base, which again encourages voting because voters have ethnic candidates with whom they can identify (Togeby 1999).

H2: A high residential concentration of co-ethnics increases voter turnout among non-Western immigrants.

It should be noted that H1 and H2 concern co-ethnics and not immigrants in general because non-Western immigrants constitute a highly heterogeneous group. This implies that we, for instance following H2, would expect a Turk living in a Turkish-dominated area to have a high propensity to turn out, whereas a Somali living in the same area would not be positively affected by the possibly strong Turkish network. It is, of course, likely that the concentration of immigrants in general could have an independent effect – for instance, by decreasing exposure to participation norms (a negative effect) or by inducing group conflict (a positive effect) (Fieldhouse and Cutts 2008b; Spence and McClerking 2010). Consequently, this factor is included as a control in all models.

The first hypothesis, which suggests that turnout is depressed as the residential concentration of co-ethnics increases, is empirically supported by research on US Asian minorities. Findings suggest that, for example, Chinese and Korean co-ethnic concentrations diminish the participation of non-California Chinese and Korean registered voters substantially (Cho, Gimpel, and Dyck 2006, 162). However, in California, where the concentration is higher, the trend is not as strong, and Japanese immigrants even experience the opposite trend (Cho, Gimpel, and Dyck 2006). A negative relationship has also been found in the Swedish context (Jonsson 1999). Contrary to Cho, Gimpel, and Dyck (2006), Fieldhouse and Cutts (2007, 2008a,b), who investigated a UK context, found that a high concentration of religious minorities increases registration and turnout, which supports the second hypothesis. For instance, Muslim electoral registrations increase with the proportion of Muslims in the electorate. In Denmark, Togeby has found a similar positive effect for Turkish immigrants (Togeby 1999). In conclusion, there are sound theoretical reasons for suggesting that ethnic and religious residential concentrations have both positive and negative effects on turnout and that empirical findings run in opposing directions. Thus, the jury is still out on this important research question.

We also examine the influence of neighborhood-level co-ethnic candidates running in the election on the turnout of individual immigrants. Several studies have suggested that co-ethnic or coracial candidates or elected officials may be able to mobilize particular groups to turn out (Bobo and Gilliam 1990; Spence and McClerking 2010). However, this literature has mainly focused on Black and Latino candidates or office holders in the United States, and the empirical results have been mixed, although with a tendency toward finding that coracial leaders have a positive effect (Barreto, Segura, and Woods 2004; Spence and McClerking 2010; Hayes et al. 2011, 2). It is interesting to test the effect in a context outside the United States, with more ethnicities and at the neighborhood level.

A local co-ethnic candidate may be easier to identify with; therefore, the presence of such a candidate may increase the likelihood of immigrant voters turning out. It may be that voters are encouraged to vote directly by the co-ethnic candidate through social networks. Immigrants may also be more encouraged to vote if a local co-ethnic candidate is present because they use ethnicity as a cue for the candidate's political priorities (Washington 2006) and have a preference for geographical proximity in representation. One might also expect that candidates residing in the

neighborhood, regardless of ethnicity, have a general effect because voters may simply identify more with a local candidate.

H3: The presence of co-ethnic candidates in a neighborhood increases the propensity of turning out.

H4: The presence of candidates in a neighborhood, regardless of ethnicity, increases the propensity of turning out.

The hypothesis that local co-ethnic candidates influence immigrant turnout positively is interesting not only in its own right but also because it may help us unpack the possible positive effect of residential concentration if it is more likely to have a local co-ethnic candidate when living in an ethnically concentrated area. In that case, more co-ethnic candidates may be one of the possible causal avenues for the total effect of residential concentration. Basically, this speaks to dual causal mechanisms of increased turnout that can be reinforcing from election to election. High residential concentration of co-ethnics may lead to reduced costs of voting or a greater group consciousness as the network fuels a sense of social duty and provides resources to explain the process of the election. At the same time, high residential concentration of co-ethnics may lead to more co-ethnic candidates, thereby encouraging co-ethnics to turn out through stronger collective mobilization by political elites (Verba, Nie, and Kim 1978). The second mechanism may be particularly relevant H2, in Denmark due to the use of proportional representation with open lists and small vote margins which encourage local minority mobilization.

Like in H2, one would expect identification with candidates to occur primarily between individuals of the same ethnicity. From this logic, one would not expect the number of immigrant candidates in general to impact the turnout of specific immigrant groups. However, this is essentially an empirical question of why the total number of local immigrant candidates is taken into account in the specification (see also the next section).

MEASURES AND ESTIMATION STRATEGY

The dependent variable in the models is whether an individual votes. Throughout most of Europe, immigrants and ethnic minorities have a lower turnout propensity than the majority population. Denmark is no

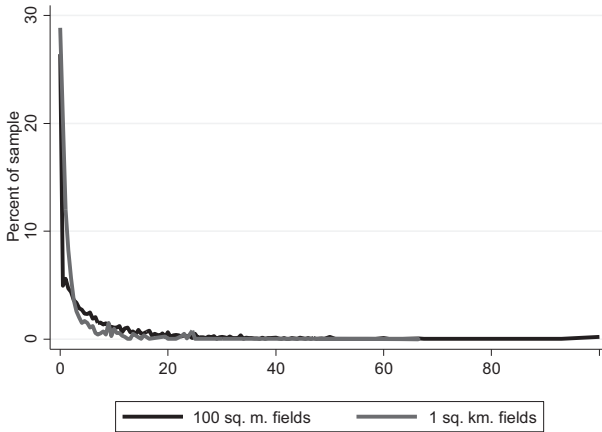
exception. In the 2009 municipal elections, the object of this study, the non-Western immigrant turnout was 37 percent, compared to 68 percent for ethnic Danes. Furthermore, immigrant turnout has sharply declined over the course of the last 12 years – approximately 11 percentage points in the capital of Copenhagen and 17 percentage points in the second largest municipality, Aarhus (Bhatti and Hansen 2010).

To capture H1 and H2, for each individual, we calculate the percentage of other eligible residents in her neighborhood with the same ethnicity. For instance, for a Turk, the variable would denote the percentage of Turks in the neighborhood (apart from the individual herself). Statistics Denmark has divided Denmark into a grid of 100 sq. m. fields and 1 sq. km. fields to facilitate geographic analysis. For each individual, it is possible to identify the field in which she lives and the other individuals living there. The fields are sufficiently small to obtain a very local effect that approximates the notion of neighborhoods instead of relying on large electoral districts. The drawbacks of the fields are that actual neighborhoods may cut across the squared regions and we cannot distinguish between individuals living in the middle or near the border of a field. We run analyses both on the 100 sq. m. and 1 sq. km. fields, thereby varying the level of aggregation on which neighborhoods are defined, which enables us to test the robustness of the results to different definitions of neighborhoods. We control for the share of eligible non-Western immigrants in general to distinguish between the effect of co-ethnicity and living in immigrant communities in general.

Figure 1 shows the distribution of the main variable of interest, co-ethnic concentrations. Among the immigrants in the sample, the median concentration of their own ethnicity in their neighborhoods is 2.8 percent in the 100 sq. m. fields and 0.8 percent in the 1 sq. km. fields, with substantial variation among the groups. The 75th percentile is 8.6 percent (100 sq. m. fields) and 2.3 percent (1 sq. km. fields). The 95th percentile is 26.3 percent, and only 1 percent live in neighborhoods with a higher concentration than 46.8 percent (100 sq. m. fields) and 22.8 percent (1 sq. km. fields). Thus, residential concentrations are higher when small squares are used to identify neighborhoods.

H3 and H4 are evaluated by including the number of co-ethnic candidates and the total number of candidates in the neighborhood, which is possible because our dataset contains a variable identifying whether each individual is a candidate. We control for the number of immigrant candidates to test whether the possible effect is due to the number of candi-

Figure I. Distribution of Co-ethnic Concentration in 100 sq. m. Fields and 1 sq. km. Fields



$N = 143,905$ (100 sq. m. fields) and $144,027$ (1 sq. km. fields). The figure illustrates the percentage of the sample (immigrants only) located in 0.5 increments of percent of own ethnicity in the neighborhood.

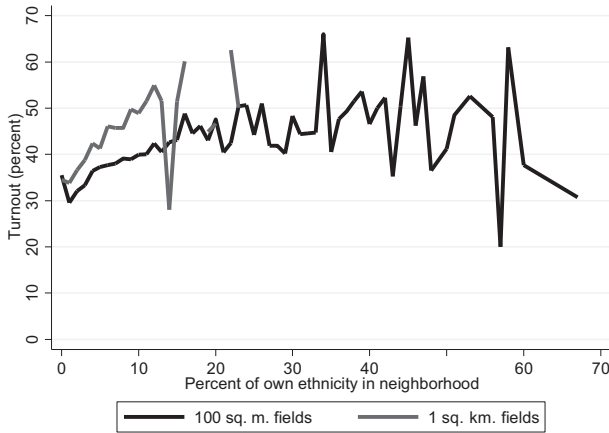
dates in general, the number of immigrant candidates, or the number of co-ethnic candidates. Approximately 0.4 percent (100 sq. m. fields) or 5.9 percent (1 sq. km. fields) of the sample live in neighborhoods where at least one co-ethnic candidate is running, whereas approximately 9.4 percent and 88.2 percent live in a neighborhood where some candidate is running.

We control for a range of neighborhood composition variables – the average age of other eligible individuals, the age squared, the educational level, the income, and the number of eligible inhabitants in the neighborhood (a proxy for population density). In addition to the macro variables, we control for individual-level characteristics in the existing literature that have been found to be associated with turnout (e.g., Wolfinger and Rosenstone 1980; Bhatti and Hansen 2012b,c). We also include municipality and ethnicity fixed effects to take into account unobserved differences between municipalities and the individual ethnic groups relevant to turnout.⁶

Because the dependent variable is binary in nature, we utilize a logistic regression. Standard errors are clustered into 100 sq. m. or 1 sq. km.

⁶It should be noted that by including a municipality fixed effect, we explicitly do not attempt to capture any possible indirect effects of the local residential concentration through the municipal concentration.

Figure II. Bivariate Relationship Between Residential Concentration and Immigrant Turnout



Each observation in Figure II is based on a minimum N of 30.

fields (depending on the level of analysis) to take into account non-independence within these neighborhood-specific clusters.⁷

ANALYSIS

The Overall Effect of Residential Concentration on Immigrant Voting

We start by considering the effect of the residential concentration of co-ethnics on immigrant turnout to test H1 and H2. As Figure II illustrates, there is a positive bivariate association between concentration and turnout regardless of our definition of neighborhoods. Immigrants living in areas dominated by other ethnicities (Danes or other immigrant groups) have an average turnout of approximately 30–35 percent, whereas those living in areas dominated by co-ethnics can have average turnout rates as high as 50 percent.

In Table 1, we test whether the relationship holds in a multivariate analysis. Models 1 and 3 include the concentration of co-ethnics along with neighborhood-level and individual-level controls at the two levels of aggregation (100 sq. m. fields and 1 sq. km. fields). We also add munic-

⁷We also ran (two-level) multilevel logistic models as an alternative strategy for taking into account the clustering. This did not change the conclusions of the analysis.

TABLE 1 (CONTINUED)
IMMIGRANT TURNOUT IN 100 SQ. M. FIELDS AND 1 SQ. KM. FIELDS

	100 sq. m. fields		1 sq. km. fields	
	(1)	(2)	(3)	(4)
	Logistic	AME	Logistic	AME
Ethnicity fixed effects	Yes	-	Yes	-
Municipality fixed effects	Yes	-	Yes	-
Constant	-3.243*** (0.177)	-3.203*** (0.178)	-3.327*** (0.314)	-3.220*** (0.320)
<i>N</i>	130,806	130,806	130,945	130,945
McFadden R ²	0.07	0.07	0.07	0.07
Log likelihood	-80,129	-80,108	-80,191	-80,162
Chi-square	8,611	8,674	14,271	14,198

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Coefficients are the unstandardized logistic coefficients ("Logistic"). AME = average marginal effects in percentage points. Standard errors in parentheses are clustered by 100 sq. m. fields in models 1-2 and by 1 sq. km. fields in models 3-4.

pal and ethnicity fixed effects (i.e., a dummy for each ethnicity and municipality). In models 2 and 4, we include a squared term of concentration to allow for the possibility that the effect of the residential concentration is not monotonic. It could be that the relationship implied in H1 is the case only for a subsection of the sample, whereas H2 is true for another part.

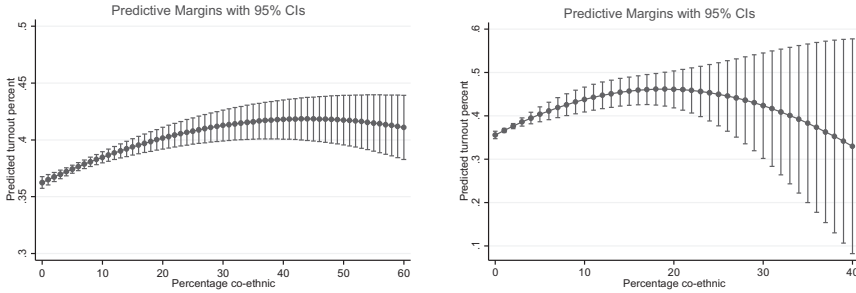
Models 1 and 3 support H2 over H1. The higher the percentage of co-ethnic individuals in a neighborhood, the higher the individual's propensity to vote. This may be because living with individuals of your own ethnicity (and language and culture) creates a stronger social network and provides greater encouragement to vote. The average marginal effect is 0.09 percentage points in model 1 and 0.42 percentage points in model 3. Thus, the effect appears larger when we define neighborhoods as larger units. To illustrate the effects, if the 100 sq. m. definition is used, the fact of a person living in a neighborhood in which 10 percent of the inhabitants are of her ethnicity leads to a 0.96 percentage point greater likelihood of her voting compared to a person living in a neighborhood as the only individual of her ethnicity. By contrast, if the 1 sq. km. definition is used, there is a greater likelihood of 4.6 percentage points.

In model 2, the percentage of co-ethnics squared is significant with a negative sign. However, the significance of this variable is sensitive to specifications, and the top point occurs at a concentration of more than 44 percent, which is close to the 99th percentile of the co-ethnicity variable. In other words, for the vast majority of immigrants, an increased co-ethnic concentration would lead to an increase in turnout. In model 4, the squared term is insignificant but with a p -value close to the 0.05 cutoff ($p = 0.051$). The top point at 19 percent is again close to the 99th percentile (the 99th percentile is lower when looking at the larger fields), but it does suggest that there might be slightly decreasing marginal effects as the co-ethnic concentration increases. Figure III illustrates the multivariate effects from models 2 and 4.

Interestingly, the coefficient for percentage of immigrants has a positive tendency but is significant ($p = 0.015$) in only model 1, which implies that what matters for individual immigrant voting seems to be the co-ethnic concentration and not so much the share of immigrants in general. Even in model 1, the effect of the percentage of immigrants is very moderate.

The controls, many of which are interesting in their own right, are in the expected direction. Ongoing education, completed education, being

Figure III. Predicted Probabilities as a Function of Percentage Co-ethnic and Co-ethnic Squared (the Left Figure Illustrates the Effects in 100 sq. m. Fields, and the Right Illustrates the Effects in 1 sq. km. Fields)



a woman, working, having a high income, being married, having Danish citizenship, and being residentially stable all contribute positively to the propensity of voting (see Bhatti and Hansen 2012a,b). Interestingly, the effect of neighborhood-level education is moderate to strong in magnitude, which is perhaps due to the positive effects of social pressure or due to information flow effects.

We tested whether the conclusions of Table 1 are relevant for first- and second-generation immigrants separately. It has been argued that second-generation immigrants sometimes distance themselves from their parents' values and are therefore less integrated in the local co-ethnic community than first-generation immigrants (e.g., Portes and Zhou 1993, 81). An opposite view is that co-ethnic concentration may matter more for second-generation immigrants because although they might not have as deep roots in the local communities as the first generation, they will tend to associate themselves with ethnic organizations that are more oriented toward their country of residence (Jones-Correa 1998; Ramakrishnan and Espenshade 2001, 878). We find only limited differences between the two groups. The effect of the percentage of immigrants in general is stronger among the first generation (and reaches statistical significance in models 1–3). For the second generation, the effect of co-ethnic concentration is somewhat stronger than for the first generation in the 100 sq. m. fields, whereas the effects are almost identical in the larger fields. We also experimented with models with the 100 sq. m. and 1 sq. km. fields entered simultaneously. We did find positive, significant effects of residential concentration on both levels although the results were more robust at the 1 sq. km. level. This could indicate that the ethnic

composition of the larger fields is slightly more relevant for immigrant participation outcomes than the smaller fields. Finally, we examined the effect of coreligiosity (see also Fieldhouse and Cutts 2008b) based on the majority religion in the country of origin as a substitute for co-ethnicity in Table 1 and found similar results although the curvilinear effects were less clear in model 2 and clearer in model 4 than for co-ethnicity.

The Effect of Local Co-ethnic Candidates

In Table 2, models 5–6 (for 100 sq. m. fields) and 7–8 (for 1 sq. km. fields), we include the number of co-ethnic candidates, the number of immigrant candidates, and the number of candidates in general in the neighborhood in our models. Whether local (ethnic) candidates matter is interesting in its own right because it informs us about the potential of local mobilizing agents and also may act as a causal mechanism for co-ethnic concentrations.

Interestingly, all models indicate that the presence of local candidates influences individual turnout. Thus, local candidates seem to play a role in mobilizing their local constituencies. The presence of a candidate in a neighborhood increases turnout (H4). The average marginal effect of living in a neighborhood with one (or more) candidate is approximately 1.3 percentage points (model 5) or 0.02 percentage points (model 7). Even more interestingly, the effect of a co-ethnic candidate (H3) is much higher, at 13.3 percentage points (model 5) or 5.5 percentage points (model 7). The presence of an immigrant candidate has no added effect unless she is of the same ethnicity as the voter. This mirrors the analysis of co-ethnic concentrations in which ethnic similarity had an effect on immigrant voting, but immigrants in general had little to no effect. The candidate effects appear larger in the smaller definition of neighborhoods (100 sq. m. fields) compared to the larger fields (1 sq. km.), which is because we measure the absolute number of candidates in the fields rather than the share of candidates.

Although important in its own right, the influence of co-ethnic local candidates is also, as previously mentioned, interesting in that it could potentially be a causal mechanism for the effect of co-ethnic residential concentrations. In more concentrated areas, the likelihood of a co-ethnic candidate running is higher, which, in turn, could increase turnout. Table 2 shows that this is only the causal mechanism to a limited extent. The effect of co-ethnic concentrations declines only slightly

TABLE 2
IMMIGRANT TURNOUT IN 100 SQ. M. FIELDS AND 1 SQ. KM. FIELDS WITH NO. OF CANDIDATES ADDED (ONLY MAIN COEFFICIENTS SHOWN)

	100 sq. m. fields		1 sq. km. fields	
	(5)	(6)	(7)	(8)
	Logistic	AME	Logistic	AME
Neighborhood-level variables				
Percentage co-ethnic	0.004*** (0.001)	0.08	0.011*** (0.002)	-
Percentage co-ethnic ²	-	-	-0.000*** (0.000)	-
Percentage immigrant	0.001** (0.001)	0.03	0.001* (0.001)	0.02
No. of co-ethnic candidates	0.628*** (0.154)	13.3	0.618*** (0.155)	13.1
No. of immigrant candidates	-0.135 (0.073)	-2.9	-0.137 (0.073)	-2.9
No. of candidates	0.064** (0.023)	1.3	0.065** (0.023)	1.4
Municipal-level and individual-level controls from Table 1	Yes	-	Yes	-
Ethnicity fixed effects	Yes	-	Yes	-
Municipality fixed effects	Yes	-	Yes	-
Constant	-3.232*** (0.177)	-	-3.193*** (0.177)	-
<i>N</i>	130,806	130,806	130,945	130,945
McFadden R ²	0.07	0.07	0.07	0.08
Log likelihood	-80,104	-80,084	-80,148	-80,119
Chi-square	8,624	8,684	14,614	14,438

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Coefficients are the unstandardized logistic coefficients ("Logistic"). AME = average marginal effects in percentage points. Standard errors in parentheses are clustered by 100 sq. m. fields in model 5-6 and by 1 sq. km. fields in models 7-8.

when the number of candidates is included. For instance, in specifications where the co-ethnic concentration squared is excluded (models 5 and 7), the average marginal effect only declines from 0.09 percentage points to 0.08 percentage points and from 0.41 percentage points to 0.31 percentage points compared to the specifications without the candidate variables.

As for Table 1, in additional analyses, we estimated the models separately for first- and second-generation immigrants and found very few substantive differences, although the effect of candidates in general does not reach statistical significance for second-generation immigrants. The similarity between the generations is interesting because it suggests that ethnicity constitutes a strong base of political trust between voters and candidates that fuel immigrant mobilization across generations (Mansbridge 1999, 2003). Specifications where variables from the two field types were entered simultaneously were also experimented with. The effect of co-ethnic candidates was positive and significant at both levels, although the statistical certainty was greater at the 1 sq. km. level. The effect of local candidates in general was significant at only the 100 sq. m. level as in Table 2. There was no evidence of a positive effect of immigrant candidates in general. Finally, we ran models replacing all co-ethnicity variables with coreligiosity. We did not find a statistically significant independent effect of local coreligious candidates although the sign of the coefficient was positive in all cases.

DISCUSSION AND CONCLUSION

The literature on residential concentrations has been dominated by opposing empirical findings. In some settings, a negative relationship between co-ethnic concentration and turnout is found (Jonsson 1999; Cho, Gimpel, and Dyck 2006), whereas in other contexts, the opposite finding appears (Fieldhouse and Cutts 2008b). In this article, we used a rich dataset on local elections in Denmark to provide insights into the debate. The dataset provided us with a more precise definition of ethnicities, a higher number of ethnicities to analyze, and better quality controls than those in the existing literature.

This article supports the claim that the concentration of co-ethnic individuals in a neighborhood is associated with increased – not decreased – individual turnout. Co-ethnic concentration squared was significant in one model, and a positive relationship existed for almost 99 percent of

the sample. We also varied the definition of neighborhoods and found higher effects of co-ethnicity when the 1 sq. km. definition was used. The results are largely consistent with previous findings from the United Kingdom, although we find that the marginal effect declines for high levels of concentration, which contrasts with findings from the United States. The findings have substantial practical implications because the results contradict the popular conception that living in areas dominated by an immigrant's own ethnicity has a necessarily detrimental effect on her democratic integration.

Furthermore, we were able to identify candidates geographically. The existence of co-ethnic candidates in a neighborhood substantially increases individual turnout but decreases the effect of the co-ethnic residential concentration only moderately. In other words, local candidates are important but are not the main causal mechanism behind the effect of residential concentrations. Other often-mentioned theoretical explanations, such as social connectedness, social cohesion, and the strength of community networks, may thus play a larger role. Interestingly, the number of candidates in general in the neighborhood also matters, which emphasizes the importance of local mobilization in general in addition to co-ethnic mobilization. It should be noted that we cannot preclude that part of the effect could be reversed; when the turnout of local co-ethnic individuals is high, candidates are incentivized to run for office.

At large, our findings are similar across first- and second-generation immigrants. In other words, both generations are mobilized by living in an area dominated by high residential concentration of co-ethnics and candidates of the same ethnicity running for office. This is interesting from an integration perspective because it suggests that the second generation born and most often raised in Denmark when becoming eligible to vote maintain a similar focus as their parents, which is partly directed toward co-ethnic groups. The fact that co-ethnic candidates mobilize the second generation indicates that ethnicity constitutes a base of political trust between voters and candidates that fuel immigrant mobilization across generations of immigrants (Mansbridge 1999, 2003).

Our findings suggest that high residential concentration of co-ethnics increases (though only moderately) rather than decreases turnout. The results are interesting from a policy perspective as local authorities often regard residential concentration to be one of the reasons behind the low turnout among immigrants in Denmark. This does not seem to be the case, although there can be many other disadvantages related to

high residential concentration. The results also speak to the literature, which suggests that an election system (such as the Danish one) with proportional representation, open lists, and where just a few personal votes can be decisive is an institutional arrangement that can encourage high turnout among immigrants through collective mobilization (Togeby 1999). It could be interesting in comparative studies to inquire further into the importance of these institutional arrangements on the effect of the collective mobilization by local candidates. In future research, it would also be fruitful to further investigate how immigrants experience the individual and collective mobilization from election to election and unpack how these reinforcing mechanisms travel within co-ethnic environments applying both qualitative and quantitative methodologies.

Although the dataset employed in this analysis contains better-than-usual identifications of ethnicity and more detailed and reliable controls, it is not without its limitations. The most important is the lack of a time variation within individuals (panel data), which renders the results vulnerable to unobserved heterogeneity. Future studies should therefore attempt to study how the propensity of turning out changes as individuals move between neighborhoods with different residential concentrations. Nevertheless, this study supports the claim that co-ethnic residential concentrations are related to a higher rather than lower electoral turnout.

APPENDIX

TABLE A1
IMMIGRANT GROUPS INCLUDED IN THE STUDY WITH SAMPLE SIZES OF 100 INDIVIDUALS OR MORE

Country	<i>N</i>
Turkey	23,145
Iraq	11,697
Pakistan	9,903
Bosnia and Herzegovina	8,943
Yugoslavia	8,657
Lebanon	8,531
Iran	7,958
Somalia	5,993
Vietnam	5,971
Morocco	4,847
Thailand	3,755
Sri Lanka	3,695

TABLE A1 (CONTINUED)
IMMIGRANT GROUPS INCLUDED IN THE STUDY WITH SAMPLE SIZES OF 100 INDIVIDUALS OR MORE

Country	<i>N</i>
Afghanistan	3,603
China	3,538
Philippines	2,705
India	2,034
Russia	1,830
Macedonia	1,604
Syria	1,231
Ukraine	1,077
Jordan	1,058
Egypt	1,025
Brazil	963
Soviet Union	813
Israel	799
Chile	789
Ghana	773
Kuwait	752
Algeria	700
Uganda	651
Japan	622
Yugoslavia, former rep. of	618
Ethiopia	606
Argentina	555
Tunisia	529
Kenya	446
Croatia	439
South Africa	434
Indonesia	414
Peru	390
Gambia	373
Tanzania	372
Serbia-Montenegro	348
Nigeria	332
Armenia	320
Mexico	305
Colombia	300
Stateless	299
Myanmar	293
Sudan	264
Ivory Coast	226
South Korea	213
Venezuela	212
Cuba	205
Belarus	203
Malaysia	201
Burundi	198
Bangladesh	188
Cameroon	187
Sierra Leone	172
Nepal	169
Congo	160

TABLE A1 (CONTINUED)
IMMIGRANT GROUPS INCLUDED IN THE STUDY WITH SAMPLE SIZES OF 100 INDIVIDUALS OR MORE

Country	<i>N</i>
Singapore	152
Ecuador	152
Eritrea	144
Uruguay	135
Rwanda	135
Zambia	124
Zimbabwe	121
Taiwan	112
Azerbaijan	111
Zaire	107
Albania	103
Yemen	101

The categories follow Statistics Denmark. Countries that have been split appear both as the original country (for persons who immigrated before the split) and as the current countries (for persons who immigrated after the split). The conclusions of the study do not change when aggregating these categories. In addition to the categories above, the analyses include 2,229 individuals belonging to one of the 77 groups with less than 100 individuals. Finally, 671 individuals could be placed at only the continent level or only as non-Western immigrants (six groups). These groups with partial information are included in the analysis, but excluding them does not change the conclusions.

TABLE A2
DESCRIPTIVE STATISTICS FOR THE VARIABLES INCLUDED IN THE ANALYSIS

	Mean	SD	Min	Max	<i>N</i>
Voted	0.368	0.482	0	1	144,030
Neighborhood-level variables (100*100 m fields)					
Percentage co-ethnic	6.624	10.33	0	100	143,905
Percentage immigrant	26.47	22.64	0	100	143,905
No. of co-ethnic candidates	0.004	0.064	0	2	144,030
No. of immigrant candidates	0.017	0.132	0	2	144,030
No. of candidates	0.106	0.350	0	4	144,030
Average age in 1,000 days	9.760	2.621	0.027	28.3	143,905
Proportion with a higher education	0.230	0.151	0	1	130,845
Average income in 100,000 DKK	2.377	1.034	-18.48	199.04	143,860
Number of inhabitants (1000s)	0.107	0.085	0.001	0.737	144,030
Neighborhood-level variables (1 sq. km. fields)					
Percentage co-ethnic	2.276	4.063	0	66.67	144,027
Percentage immigrant	16.09	14.89	0	68.72	144,027
No. of co-ethnic candidates	0.061	0.247	0	2	144,030
No. of immigrant candidates	0.417	0.693	0	3	144,030
No. of candidates	4.673	4.544	0	25	144,030
Average age in 1,000 days	10.22	1.758	0.776	19.07	144,027
Proportion with a higher education	0.273	0.111	0	1	130,984
Average income in 100,000 DKK	2.623	0.506	-1.139	53.79	143,982
Number of inhabitants (1000s)	4.510	4.300	0.001	17.86	144,030
Individual-level variables					
Sex (male)	0.499	0.500	0	1	144,030
Age in 1,000 days	8.201	5.284	0	30.16	144,030

TABLE A2 (CONTINUED)
DESCRIPTIVE STATISTICS FOR THE VARIABLES INCLUDED IN THE ANALYSIS

	Mean	SD	Min	Max	<i>N</i>
Completed education					
High school	0.152	0.359	0	1	130,986
Technical education	0.226	0.418	0	1	130,986
Higher education (4 years or below)	0.146	0.353	0	1	130,986
Higher education (5 years or above)	0.063	0.244	0	1	130,986
Ongoing education					
School	0.002	0.042	0	1	143,512
High school	0.021	0.143	0	1	143,512
Technical education	0.041	0.198	0	1	143,512
Higher education (4 years or below)	0.051	0.220	0	1	143,512
Higher education (5 years or above)	0.017	0.130	0	1	143,512
Income in 100,000 DKK	2.049	1.759	-22.4	261.3	143,985
In work	0.489	0.500	0	1	143,512
Married to a Dane	0.123	0.328	0	1	144,030
Married to another immigrant	0.431	0.495	0	1	144,030
Danish citizenship	0.501	0.500	0	1	144,030
Residential stability (in 1,000 days on address)	2.319	2.433	0	36.22	144,024
Municipal stability (in 1,000 days in municipal)	4.656	3.319	0	36.22	144,024

Municipal and ethnicity dummies are not shown in the table due to space considerations. The register year is 2009 for all variables except for education where register year 2010 (covering the school year 2009–2010) is used. The variable Age in 1,000 days is scaled so 0 = 18 years.

REFERENCES

- Barreto, M. A.
2005. "Latino Immigrants at the Polls: Foreign-born Voter Turnout in the 2002 Election." *Political Research Quarterly* 58 (1):79–86.
- , G. M. Segura, and N. D. Woods
2004. "The Mobilizing Effect of Majority-Minority Districts on Latino Turnout." *American Political Science Review* 98 (1):65–75.
- Bernstein, R., A. Chadha, and R. Montjoy
2001. "Overreporting Voting: Why it Happens and Why it Matters." *Public Opinion Quarterly* 65 (1):22–44.
- Bhatti, Y.
2012. "Distance and Voting: Evidence from Danish Municipalities." *Scandinavian Political Studies* 35 (2):141–58.
- , and K. M. Hansen
2010. *Valgdeltagelsen ved kommunalvalget 17. November 2009. Beskrivende analyser af valgdeltagelsen baseret på registerdata*, Working paper 2010/03. Copenhagen: Department of Political Science, University of Copenhagen.
- , and ———
2012a. "Leaving the Nest and the Social Act of Voting: Turnout among First-Time Voters." *Journal of Elections, Public Opinion and Parties* 22 (4):380–406.

- , and ———
 2012b. "Retiring from Voting: Turnout among Senior Voters." *Journal of Elections, Public Opinion and Parties* 22 (4):479–500.
- , and ———
 2012c. "Public Employees Lining up for the Polls - the Conditional Effect of Living and Working in Same District." *Public Choice* 156 (3–4):611–29.
- Bobo, L., and F. Gilliam
 1990. "Race, Sociopolitical Participation, and Black Empowerment." *American Political Science Review* 84 (2):377–93.
- Cassel, C. A.
 2003. "Overreporting and Election Participation Research." *American Politics Research* 31 (1):81–92.
- Cho, W. K. T.
 1999. "Naturalization, Socialization, Participation: Immigrants and (Non-) Voting." *Journal of Politics* 61 (4):1140–55.
- , J. G. Gimpel, and J. J. Dyck
 2006. "Residential Concentration, Socialization, and Voter Turnout." *Journal of Politics* 68 (1):156–67.
- , ———, and T. Wu
 2006. "Clarifying the Role of SES in Political Participation: Policy Threat and Arab American Mobilization." *Journal of Politics* 68 (4):977–91.
- Elklit, J., B. Møller, P. Svensson and L. Togeby
 2000. *Hvem stemmer? og hvem stemmer ikke? En analyse af valgdeltagelsen i København og Århus ved kommunal-bestyrelsesvalgene i 1997*. Aarhus: Magtudredningen—The Danish Democracy and Power Study.
- , ———, ———, and ———
 2005. *Gensyn med Sofavælgerne. Valgdeltagelse i Danmark*. Århus: Aarhus University Press.
- Enos, R. D.
 2015. "What the Demolition of Public Housing Teaches Us About the Impact of Racial Threat on Political Behavior." *American Journal of Political Science* DOI:10.1111/ajps.12156.
- Fieldhouse, E., and D. Cutts
 2007. *Electoral Participation in Britain's South Asian Communities*. York: Joseph Rowntree Foundation.
- , and ———
 2008a. "Mobilisation or Marginalisation? Neighbourhood Effects on Muslim Electoral Registration in Britain in 2001." *Political Studies* 56 (2):333–54.
- , and ———
 2008b. "Diversity, Density and Turnout: The Effect of Neighbourhood Ethno-religious Composition on Voter Turnout in Britain." *Political Geography* 27 (5):530–48.
- , and ———
 2012. "The Companion Effect: Household and Local Context and the Turnout of Young People." *Journal of Politics* 74 (3):856–69.
- Hayes, M., A.J. Bloeser, M. Frederickson, C. Laforge, and C. Wong
 2011. "Race, Representation, and Political Participation: Conceptualization and Measurement of Empowerment." Presented at the Midwest Political Science Association Annual Meeting, Chicago.
- Huckfeldt, R.
 1986. *Politics in Context: Assimilation and Conflict in Urban Neighborhoods*. New York: Agathon.

- , and J. Sprague
1987. "Networks in Context: The Social Flow of Political Information." *American Political Science Review* 81 (4):1197–216.
- Jones-Correa, M.
1998. *Between Two Nations: The Political Life of Latin American Immigrants in New York City*. Ithaca, NY: Cornell University Press.
- Jonsson, C.
1999. *Valgdeltagandet bland röstberättigade utländska medborgare i tolv valdistrikt i Göteborg*. Unpublished paper.
- Karp, J., and D. Brockington
2005. "Social Desirability and Response Validity: A Comparative Analysis of Overreporting Voter Turnout in Five Countries." *Journal of Politics* 67 (2):825–40.
- Key, V. O.
1949. *Southern Politics in State and Nation*. Knoxville: University of Tennessee Press.
- Laurence, J., and A. Heath
2008. *Predictors of Community Cohesion: Multi-level Modeling of the 2005 Citizenship Survey*. London: Department for Communities and Local Government.
- van Londen, M., K. Phalet, and L. Hagendoorn
2007. "Civic Engagement and Voter Participation among Turkish and Moroccan Minorities in Rotterdam." *Journal of Ethnic and Migration Studies* 33 (8):1201–26.
- Mansbridge, J.
1999. "Should Blacks Represent Blacks and Women Represent Women? A Contingent, 'Yes.'" *Journal of Politics* 61 (3):628–57.
- 2003. "Rethinking Representation." *American Political Science Review* 97 (4):515–28.
- Massey, D., and N. Denton
1989. "Hypersegregation in U.S. Metropolitan Areas: Black and Hispanic Segregation Along Five Dimensions." *Demography* 26 (3):373–91.
- , and ———
1993. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, MA: Harvard University Press.
- Mutz, D. C.
2002. "The Consequences of Cross-Cutting Networks for Political Participation." *American Journal of Political Science* 46 (4):838–55.
- Portes, A., and M. Zhou
1993. "The New Second Generation: Segmented Assimilation and Its Variants." *Annals of the American Academy of Political and Social Science* 530:74–96.
- Ramakrishnan, S. K., and T. J. Espenshade
2001. "Immigrant Incorporation and Political Participation in the United States." *International Migration Review* 35 (3):870–909.
- Schlichting, K., P. Tuckel, and R. Maisel
1998. "Racial Segregation and Voter Turnout in America." *American Politics Quarterly* 26 (2):218–36.
- Spence, L. K., and H. McClerking
2010. "Context, Black Empowerment, and African American Political Participation." *American Politics Research* 38 (5):909–30.

- Statistic Denmark
2013. *Indvandrere i Danmark 2013*. Copenhagen: Statistics Denmark.
- Togeby, L.
1999. "Migrants at the Polls. An Analysis of Immigrant and Refugee Participation in Danish Local Elections." *Journal of Ethnic and Migration Studies* 25 (4):665–84.
- Verba, S., N. H. Nie, and J. Kim
1978. *Participation and Political Equality*. Cambridge: Cambridge University Press.
- Washington, E.
2006. "How Black Candidates Affect Voter Turnout." *The Quarterly Journal of Economics* 121 (3):973–98.
- Wolfinger, R. E., and S. J. Rosenstone
1980. *Who Votes?* New Haven: Yale University Press.