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# Ethnic Boundaries in Core Discussion Networks: A Multilevel Social Network Study of Turks and Moroccans in the Netherlands

Frank van Tubergen

*This study examines ethnic segregation of core discussion networks in the Netherlands. The analysis is based on Netherlands Longitudinal Lifecourse Study, a large-scale survey of the Dutch population aged 15–45 that contains an oversample of first- and second-generation immigrants from Turkey and Morocco, the two largest non-western immigrant groups in Holland. Results show that among Turks and Moroccans, more than 75% of the confidants are co-ethnic multilevel logistic models of these ego networks which suggest that ethnic closure in core discussion networks of Turks and Moroccans is stronger among women, foreign-born immigrants, those who live in immigrant concentration areas and those who are culturally more dissimilar to the Dutch to (i.e., who speak Dutch less well, who more strongly participate in Muslim practices and who identify stronger with their ethnic group). Results further suggest that the socio-economic gradient in ethnic boundaries is due to both cultural and economic homophily.*

*Keywords:* Personal Networks; Homophily; Social Networks; Interethnic Ties; Multilevel Analysis

## Introduction

Ethnic boundaries in personal relations are frequently studied in the social science literature. Ethnic cleavages in social relations are seen as a potential source of prejudice (Pettigrew and Tropp 2006) and ethnic inequality (Kanas, Van Tubergen, and Van der Lippe 2011). The prevalence and causes of ethnic boundaries have been studied in various contexts, and it has been found that in various domains social

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Frank van Tubergen is Professor of Sociology at Utrecht University, Utrecht, The Netherlands and Distinguished Adjunct Professor at King Abdulaziz University, Jeddah, Saudi Arabia. Correspondence to: Department of Sociology, Utrecht University, Padualaan 14, 3584 CH Utrecht, The Netherlands. E-mail: [f.vantubergen@uu.nl](mailto:f.vantubergen@uu.nl)

networks tend to be strongly segregated by ethnicity (McPherson, Smith-Lovin, and Cook 2001; DiPrete et al. 2011). Strong levels of ethnic segregation have been documented in studies on friendship choices in school (Baerveldt et al. 2007; Moody 2001; Mouw and Entwisle 2006; Vermeij, Van Duijn, and Baerveldt 2009), in research on interethnic dating (Clark-Ibáñez and Felmlee 2004), in the literature on ethnic endogamy and intermarriage (Kalmijn 1998), in support networks (De Miguel Luken and Tranmer 2010) and in studies on social contacts in the neighbourhood and leisure time (Martinovic 2013; Martinovic, Van Tubergen, and Maas 2009; Schaeffer 2013).

I extend the literature on ethnic boundaries in personal relationships by studying ethnic boundaries in core discussion networks. Although the study of such personal networks is well-established in the social network literature (e.g., Fischer 2009; Marsden 1987; McPherson, Smith-Lovin, and Brashears 2006, 2009; Kalmijn 2002; Van Duijn, Van Busschbach, and Snijders 1999), it has been largely omitted in migration research. I study ethnic cleavages in the stronger bonds that people have by considering the national origin of the individuals with whom people discuss 'important personal matters'. How many of such intimate ties of immigrants are co-ethnic as opposed to interethnic? The first contribution to the literature is to answer this descriptive question. I thereby supplement the study of interethnic ties in other research areas, which have their disadvantages. For example, the ethnic segregation of friendship choices in school does not capture the outside-school networks of adolescents, and many adolescents do have such outside-school friends (Witkow and Fuligni 2010). Research on interethnic dating and marriage is based on the ethnicity of only a single tie. Studying core discussion networks provides an opportunity to assess ethnic boundaries of the stronger ties that people have. The core discussion network is not restricted to a certain social setting, such as the school, or to a single person, such as the spouse.

The second contribution of this study is to increase our understanding of the individual differences in the degree of 'ethnic closure'. Some immigrants have more mixed social networks than others. The correlates of individual variation in ethnic closure have been studied in research on dating, intermarriage and adolescent friendship choices (Kalmijn 1998; Mouw and Entwisle 2006). Well-known correlates are education, immigrant generation, and immigrant group size. I study these and other correlates with regard to the core discussion network. Because such intimate ties differ in nature from other social ties, such as friendships of adolescents in school, it is an open question whether similar or different conditions play a role. For example, do the conditions that lead to more ethnic mixing in the school class, such as a belonging to a numerically smaller group, equally promote interethnic ties in core discussion networks? Or are such strong ties not affected by meeting opportunities?

To answer these and other explanatory questions, I follow De Miguel Luken and Tranmer (2010) and use a multilevel social network framework in which I study the association between characteristics of ego, alter, the dyad and the region of living with having an immigrant confidant vis-à-vis a (native) majority confidant. De Miguel

Luken and Tranmer (2010) researched 'personal support' networks of 364 immigrants in Spain. I focus on core discussion networks in the Netherlands and study Turkish and Moroccan immigrants, the two largest non-western groups in Holland. I include both foreign-born persons (i.e., the so-called 'first generation') as well as their children ('second-generation').

The multilevel social network approach pursued here sheds new light on traditional research on ethnic boundaries. Specifically, in quite some studies, characteristics of alter other than ethnicity or national origin are ignored. This is important, as the choice for a tie with an immigrant versus a majority member might be driven by other characteristics of alter than ethnicity, such as socio-economic status. In the Netherlands, it has been found that higher educated and more economically resourceful Turks and Moroccans have more ties to Dutch majority members (Martinovic 2013). This could be due to sociocultural homophily: more resourceful immigrants are more 'acculturated', and therefore more similar to Dutch majority members. But it could also be the result of socio-economic homophily. Turkish and Moroccan immigrants in the Netherlands are lower educated and less skilled, and possibly, ethnic boundaries in personal networks are a by-product of socio-economic homophily. De Miguel Luken and Tranmer (2010) were unable to consider alters' education, but in this study I explicitly take into account alters' education and employment.

## Theory and Hypotheses

### *Theoretical Mechanisms*

The literature on ethnic boundaries in personal relationships distinguishes three general mechanisms (Kalmijn 1998; McPherson, Smith-Lovin, and Cook 2001). First, people prefer to interact with others who are similar to themselves. It is argued that people feel more attracted to others who are culturally similar (e.g., lifestyle, religion, norms and values) and who are similar in terms of socio-economic resources (e.g., education, occupation and income). This is the *homophily* principle, the tendency to feel attracted to people who are similar (McPherson, Smith-Lovin, and Cook 2001). Second, choices are constrained by meeting *opportunities* (Blau, Blum, and Schwartz 1982). The available pool of people with whom one can interact is often constrained by the settings in which people participate, such as the neighbourhood, workplace, or school, and these settings are more than often unequally composed in terms of ethnicity and other relevant characteristics. Third, ties between two people are sometimes promoted or hindered by *third parties*, who can interfere with the choices that are made (Kalmijn 1998). Examples of such parties are parents, relatives, or members of the ethnic community. I use these three general mechanisms (i.e., homophily, meeting opportunities and the role of third parties) to develop testable hypotheses on the role of characteristics of ego, alter, the dyad and the region of living.

*Ego Attributes*

To begin, I expect that ego's socio-economic resources (i.e., education, employment and occupational status) play a role in shaping ethnic group boundaries in the Netherlands. Turkish and Moroccan immigrants are generally lower educated than the Dutch; they have higher unemployment rates and predominantly lower-status jobs (Gijsberts, Huijnk, and Dagevos 2011). This socio-economic inequality can lead to ethnic closure, for two reasons. One is based on socio-economic homophily: people have a preference to interact with others who are more or less similar in their resources. Given the consolidation between national origin and socio-economic resources, this principle should lead to ethnic closure. Another reason, based on cultural homophily, is that people prefer to befriend others who are culturally similar, e.g. in terms of language, religion and ethnic identity. I assume that Turkish and Moroccan immigrants with more socio-economic resources are more acculturated and therefore more culturally similar to Dutch majority members. Indeed, there is evidence to suggest that non-western immigrants who are higher educated, employed and occupy higher-status jobs speak the Dutch language better (Van Tubergen and Kalmijn 2009) are less religious (Van Tubergen 2007), and less strongly identify with the ethnic group as opposed to the host country (De Vroome, Verkuyten, and Martinovic forthcoming). Based on both arguments, I hypothesise that *the higher the ego's socioeconomic resources, the higher the chance of having core discussion partners of Dutch origin* (H1).

I directly study the role of immigrants' religion, language and ethnic identity, i.e. their degree of 'acculturation'. One would expect to see that, when taking into account these sociocultural characteristics, the positive relationship between ego's socio-economic resources and interethnic ties (i.e., Hypothesis 1) would diminish.

Religious differences between Turks and Moroccans on one hand and native-born Dutch on the other are a salient feature of contemporary Dutch society. Around 95% of the Turks and Moroccans in the Netherlands are self-identified Muslim, whereas most Dutch are secular or belong to a Christian denomination (Gijsberts, Huijnk, and Dagevos 2011). Because religion is so closely connected to norms, values and attitudes people have, as well as the attitudes people have towards other groups (Carol 2013), I expect that religion will be a barrier towards interethnic relationships. To examine this idea, I consider people's religious practices, and assume that when Turks and Moroccans are more strongly involved in their religious community this will increase the (sociocultural) barriers with the native Dutch. I hypothesise that *the more often Turks and Moroccans attend religious meetings, the lower the odds that they have core discussion partners of Dutch origin* (H2).

I also consider the consequences of the language barriers many immigrants face. Language is an important element of culture, and not being able to communicate well in the host-country language hampers the development of ties to majority members (Martinovic, Van Tubergen, and Maas 2009). Many Turks and Moroccans, particularly those who are foreign-born, have difficulties with the Dutch language (Gijsberts, Huijnk, and Dagevos 2011) and therefore language might be an important

factor behind the ethnic closure of personal ties. I hypothesise that *the more proficient Turks and Moroccans are in speaking the Dutch language, the higher the odds of having Dutch core discussion partners* (H3).

Another core element of culture is ethnic identity. Although ethnicity is often closely connected to language and religion (De Vroome, Verkuyten, and Martinovic forthcoming), the identification with one's ethnic group is also a dimension on its own. Immigrants differ in their identification with their ethnic group, and the degree to which they do affects the preference to maintain ties with co-ethnic group members versus majority members (Martinovic 2013). I hypothesise that *the more strongly Turks and Moroccans identify with their ethnic group, the lower the odds of having Dutch core discussion partners* (H4).

Further elaborating on the role of sociocultural characteristics, I expect to see differences by gender. With respect to the more religiously conservative communities, which are characteristic for the Turkish and Moroccan immigrant groups in the Netherlands (Gijsberts, Huijnk, and Dagevos 2011), scholars have argued that there is stronger social control of women to establish ties within the own ethnic-religious community instead of with native-born Dutch (Kalmijn 1998). Friendships or marriages that cross ethnic-religious boundaries can be discouraged by third parties, most notably by parents, relatives and other members of the ethnic community (Kalmijn 1998). I hypothesise that *among Turks and Moroccans, males have higher odds of having Dutch core discussion partners than females* (H5).

I also study the influence of immigrant generation. Partly, generation changes concur with changes in language proficiency, religion and ethnic identification, as the second generation is generally more acculturated than the first generation (Gijsberts, Huijnk, and Dagevos 2011). But next to these three core elements of culture, the second generation is more similar to the Dutch majority in terms of gender norms, modern values and various other attitudes (Gijsberts, Huijnk, and Dagevos 2011). Based on the preference mechanism, one would expect to see that this increasing similarity results in more cross-ethnic contacts. Based on these arguments, I hypothesise that *second-generation immigrants have higher odds of having core discussion partners of Dutch origin than first-generation immigrants* (H6).

#### *Alter Attributes*

Within the multilevel social network approach the probability of having a tie with a majority member not only depends on characteristics of ego but also depends on alters' attributes, and the correlation between ethnicity and other characteristics. Given the socio-economic inequalities between Turks and Moroccans on the one hand, and the Dutch on the other, alters' socio-economic status might be a key dimension to study. Based on the economic homophily mechanism, we expect to see that higher educated and more economically resourceful people prefer to interact with each other. Because Dutch majority members are higher educated and more often employed than ethnic minority members, one would expect to see that when

alters possess more resources, they are more likely to be of Dutch origin. I do not formulate a hypothesis on this presumed consolidation between socio-economic resources and ethnicity, as I do not intend to make and test causal claims. The importance of this relationship between alters' socio-economic resources and ethnicity, however, becomes evident when we consider the connection between ego's socio-economic resources and interethnic ties. Specifically, one would expect to see that the positive association between immigrants' socio-economic resources and the odds of having ties with Dutch majority members (i.e., Hypothesis 1) reduces in size once we take into account alters' socio-economic resources. Thus, higher educated and employed Turks and Moroccans tend to prefer interacting with equally resourceful people, and as the Dutch are generally higher educated and employed than co-ethnic Turks and Moroccans, taking this economic homophily into account will partly explain why those more resourceful minorities have more interethnic ties.

#### *Dyadic Attributes*

I also consider dyadic characteristics. These are attributes specific to the combination of ego and alter. One important attribute could be the type of attachment or relationship. For example, alter could be the spouse of ego, but also a friend, family member, colleague, or someone else, such as neighbour. What type of relationship would be most likely to be interethnic? One answer to this question was given by DiPrete and colleagues (DiPrete et al. 2011). Using the US General Social Survey of 2006, they found high levels of racial segregation in the core networks of Americans—using a related but broader question on 'people that you trust'. Surprisingly, DiPrete et al. (2011) also observed similar levels of racial segregation in 'acquaintanceship' networks. Based on the idea that preferences to establish and maintain ties with similar others are stronger when it comes to more intimate, expressive and long-term relations compared to more superficial, instrumental and short-term relations (Bogardus 1925), these findings are counter-intuitive. In my study, which is about the selected group of core ties only, which have clearly passed a certain threshold of intimacy, I try to come up with another test of this idea as I assume that even among confidants there is heterogeneity in terms of closeness. Ranked in terms of closeness and relationship duration, I assume that spouses 'score higher' than friends, and that friends are more intimate and yield longer relations on average than other kinds of relations, such as with colleagues and neighbours. I therefore hypothesise that *among confidants, the odds are lower that spouses are of Dutch origin than friends, and that friends are less often of Dutch origin than other types of attachments* (H7). Note that most family members are by nature of the same national origin as the respondent, and therefore not included in this hypothesis.

#### *Regional Attributes*

The ethnic composition of the region of living could affect opportunities for inter-ethnic vis-à-vis co-ethnic contacts (Blau, Blum, and Schwartz 1982). If immigrants



live in a highly ethnically concentrated ('non-Dutch') area, they are constrained in their daily opportunities to develop close ties with native-born Dutch people (Martinovic, Van Tubergen, and Maas 2009). First and foremost, in such immigrant areas, immigrants have less opportunity in the neighbourhood to meet and interact with Dutch. In addition, the ethnic composition of the area of living could also overlap with the ethnic composition of other settings in which people participate (e.g. school, workplace and organisations), as these settings can be located in the same area. I hypothesise that *the higher the concentration of immigrants in the area in which Turks and Moroccans live, the lower the odds for Turks and Moroccans to have ties to Dutch confidants* (H8).

### Data and Methods

I make use of the Netherlands Longitudinal Lifecourse Study (NELLS; De Graaf et al. 2010). NELS is a nationally representative, large-scale survey of the Dutch population aged 15–45, with an oversample of first- and second-generation immigrants from Turkey and Morocco. The fieldwork was carried out by Intomart GfK, which is one of the leading companies for market and social survey research in the Netherlands. The questionnaire consisted of two parts: a face-to-face interview and a self-completion questionnaire.

The fieldwork started in December 2008 and finished in May 2010. Although the fieldwork period was longer than usual, supplementary analysis (on a more restricted time range) shows that timing of the survey is unrelated to processes studied here. To maximise response rates, respondents received financial incentives to participate. The overall response of the survey was 52%, which is about average for face-to-face surveys in the Netherlands. Response was highest for the Dutch (56%), lower for the Turks (50%) and lowest for the Moroccans (46%). Possibly, language problems resulted in lower response rates among the immigrant groups. Earlier surveys in the Netherlands also had lower response rates for ethnic minority respondents (Stoop 2005). For the descriptive results (Table 1), I leave out those who fall outside the age range of 15–45. For the multilevel models (Table 2), I leave out those with missing information, those without a core discussion network and also alters who are family members (as they are virtually always from the same national origin as the respondent by definition).

### Dependent Variable

The dependent variable *Dutch confidant* is derived from the social network name generator question. The question (translated from Dutch) reads:

Most people discuss important personal matters with other people. Looking back over the past six months, with whom did you discuss important matters? We would like to know their first names and the first letter of their surname. You can give a maximum of five names. These are the most important names. Family members and relatives can be named as well.



Subsequently, respondents were asked for each alter to describe not only his or her national origin but also the role relationship, educational level, employment status and several other characteristics of the confidants. The dependent variable contrasts a confidant with a Dutch origin (1) with confidants with a non-Dutch background (0).

### *Ego Characteristics*

#### National Origin

I classify respondents in terms of their country of birth and that of their parents. I distinguish between Turks and Moroccans. Those who have at least one parent born in Turkey (Morocco) are considered Turks (Moroccans). Note that respondents whose parents were born in the Netherlands, and who were born in the Netherlands themselves are considered as Dutch. The number of respondents with ethnically mixed parents is too small to analyse.

#### Generation

For Turks and Moroccans, I differentiate between first and second generation. Note that the number of third-generation immigrants is very small (Central Bureau of Statistics Netherlands 2012). There are at most 800 third-generation Turks and 300 Moroccan third-generation persons in the Netherlands. Moreover, these persons are still very young, and it is unlikely that they are in the data-set used here (age 15–45).

Socio-economic resources are measured by ego's education, employment and occupational status. *Education*: measures respondent's highest education. Respondents who are still in education are assigned the level of their current education. The Dutch educational system is highly stratified by educational tracks, which differ in duration and difficulty. Education is measured in 12 ordered categories, ranging from (1) 'no education' to the highest level, (12) 'Ph.D.' degree. To keep the model parsimonious, I treat this as an interval variable. *Employment status*: I contrast people who have a job with those who are unemployed or inactive (e.g., student and housewife). *Occupational status*: occupations are ordered in terms of their socio-economic status, using the International Socio-Economic Index (Ganzeboom, De Graaf, and Treiman 1992). Those who are inactive or unemployed are assigned the average of this scale (i.e., 43), which is taken into account because a dummy variable of employment status is included in the model.

#### Language Proficiency

Respondents were asked how well they could speak Dutch. Answer categories were given as a five point scale, and treated as an interval variable.

#### Ethnic Identity

I constructed a variable of ethnic group identification, based on four items. These are: (i) 'I'm proud of my ethnic background', (ii) 'I strongly identify myself with my ethnic group', (iii) 'I feel myself belonging to my ethnic group', and (iv) 'my ethnic

identity is an important part of myself. Answer categories ranged from (1) 'strongly disagree' to (5) 'strongly agree'. I summarised and averaged these items into a single variable ( $\alpha = 0.90$ ).

#### Religious Attendance

It measures how often people attend a religious meeting in church, mosque, etc. The scale runs from (1) never to (7) several times a week, and is treated as an interval variable. I include *gender* and control for *age* of the respondent.

#### *Alter and Dyadic Characteristics*

##### Education

I include an interval measure of education, based on the original variable which asks respondents to classify alters' education on a scale running from (1) did not follow or complete primary education to (8) university degree. *Employment status alter*: I differentiate between currently employed (full-time or part-time) and without work (inactive or unemployed).

##### Relationship Ego-Alter

It measures the role relationship between ego and alter. I distinguish between (i) partner, (ii) friends and (iii) other.

#### *Region Characteristics*

##### Percentage Immigrants

They indicate the percentage of immigrants in the district in which respondent lives. There are 256 such districts ('wijken') in the Netherlands, and assignment to a district was based on the six-digit postcode. Information on ethnic composition of the district comes from Statistics Netherlands.

#### *Methods*

A few studies examined ethnic cleavages in core discussion networks (Marsden 1987), but in these studies aggregate properties of the core discussion network (i.e., ethnic diversity) were analysed. Core discussion networks can be studied more in depth by considering not the aggregate properties of the network, but by analysing these as multilevel social networks that consist of dyadic (i.e., ego-alter) relations (De Miguel Luken and Tranmer 2010; Van Duijn, Van Busschbach, and Snijders 1999; Marsden 1988). Doing so allows one to consider other attributes of alters besides national origin. I estimated multilevel logistic random-intercept models, using the *xtnlogit* command in Stata (Rabe-Hesketh and Skrondal 2012). In these multilevel ego network models, three levels are identified: dyads or alters (level 1), egos (level 2) and districts (level 3). Thus, at the lowest level there are at most five dyads (ego-alter ties),

which are nested within ego (the immigrant), which is nested within the district. I include characteristics at each of these three levels.

## Descriptive Results

**Table 1** shows how strongly core discussion networks in the Netherlands are ethnically segregated. Around 77% of the confidants in the networks of Turks and Moroccans are of the same national origin. For comparative purposes, I also present the figures for the Dutch, who turn out to have an even higher percentage of same-origin confidants: 96%. The fact that this ethnic closure is even stronger so for the Dutch than for Turks and Moroccans, is presumably the result of unequal group size and meeting opportunities. On a population of about 16.6 million people in 2010, there are about 13 million (79% of total population) Dutch majority members, and ‘only’ 384,000 (2.3%) Turks and 349,000 (2.1%) Moroccans (CBS 2012).

When Turks and Moroccans have core discussion members who are of a different origin, in most cases these members are Dutch (around 17–18%). Very few Turks are mentioned as confidants by Moroccans and vice versa. Note that **Table 1** also shows that the core discussion networks of Moroccans and Turks are smaller than that of the Dutch.

**Table 1.** Ethnic composition of core discussion networks in Holland, by national origin (%).

National origin alters	National origin respondent		
	Turks	Moroccans	Dutch
Turks	77.3	1.2	0.4
Moroccan	1.6	76.8	0.7
Dutch	17.1	17.7	95.6
Other	4.0	4.2	3.3
Total	100	100	100
<i>N</i> alters (average)	2.06	1.87	2.81
<i>N</i> ego (total)	1072	1112	2530

*Note:* NELLS survey, people aged 15–45, weighted figures.

## Multilevel Social Network Models

### *Model Formulation*

I present the results of four different models (**Table 2**). Model 1 includes the variables capturing socio-economic resources (education, employment and occupational resources), together with demographic variables (immigrant generation, immigrant group, gender and age), the role relationship variable and the ethnic concentration variable. Model 2 then adds the acculturation variables to examine whether the coefficients for socio-economic resources shrink in size due to cultural homophily.

Model 3 does the same with respect to alters' socio-economic resources, to see whether the association between ego's socio-economic variables and interethnic ties is partially caused by socio-economic homophily. Model 4 presents the full model.

Because I want to compare coefficients across models, I cannot rely on the interpretation of odds ratios (Mood 2010). I present the outcomes of the multilevel logit regression models by their Average Marginal Effects (AME). The marginal effect

**Table 2.** Three-level logistic regression of having Dutch (versus non-Dutch) confidant in the core discussion network of Turkish and Moroccan immigrants and their children in Holland (presented are average marginal effects).

Attributes	Model 1 dy/dx (SE)	Model 2 dy/dx (SE)	Model 3 dy/dx (SE)	Model 4 dy/dx (SE)
<i>Ego</i>				
Education	0.008* (0.005)	0.002 (0.005)	-0.002 (0.005)	-0.007 (0.005)
Employed (unemployed = 0)	0.045* (0.026)	0.044* (0.026)	0.030 (0.026)	0.030 (0.026)
Occupational status	0.002** (0.001)	0.001 (0.001)	0.002* (0.001)	0.001 (0.001)
Religious attendance		-0.019*** (0.006)		-0.017*** (0.006)
Language proficiency		0.045*** (0.015)		0.041*** (0.015)
Ethnic identification		-0.059*** (0.014)		-0.054*** (0.014)
Male (female = 0)	0.075*** (0.023)	0.098*** (0.024)	0.083*** (0.023)	0.102*** (0.024)
Born in Holland (born abroad = 0)	0.088*** (0.028)	0.060** (0.028)	0.089*** (0.027)	0.063** (0.027)
Moroccan (Turk = 0)	0.026 (0.023)	0.014 (0.022)	0.020 (0.022)	0.009 (0.022)
Age	-0.006*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)	-0.006*** (0.002)
<i>Alter</i>				
Employed (unemployed = 0)			0.100*** (0.024)	0.094*** (0.024)
Education			0.031*** (0.007)	0.027*** (0.007)
<i>Dyad</i>				
Relationship (Partner = 0)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Friend	0.098*** (0.024)	0.092*** (0.024)	0.092*** (0.024)	0.088*** (0.023)
Other	0.329*** (0.030)	0.321*** (0.028)	0.310*** (0.029)	0.304*** (0.028)
<i>District</i>				
% Immigrants	-0.003*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)

Note: NELS survey, people aged 15–45, unweighted figures. Ties with family members excluded. *N* alter and dyad (level 1) = 1885; *N* ego (level 2) = 1258; *N* districts (level 3) = 160.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$  (two-sided tests).

expresses how  $P(Y = 1)$  changes as the predictor changes (from 0 to 1 in case of categorical variables, and with a unit increase for continuous variables), while keeping the other variables in the model constant. With Marginal Effects at Means (MEM), this change is evaluated at the means of all other variables. Because the mean is only one value of many more that are possible, it is generally preferred in the literature to evaluate the change by using the entire range of values. In economics, AME is well known and often used (Wooldridge 2009) and several researchers have advised sociologists to follow this practice as well, given several attractive features of AME over (log) odds ratio's (Mood 2010).

### *Results*

I start with the findings of Model 1 (Table 2). The multilevel social network models show that second-generation immigrants from Turkish and Moroccan origin in Holland are more likely to have Dutch confidants than those born abroad, even when taking other variables into account. Specifically, on average the probability of having a Dutch confidant (as opposed to a non-Dutch confidant) is around nine percentage points higher for second-generation immigrants according to Model 1. The immigrant generation difference remains statistically significant in Models 2–4, and this is in line with theoretical expectations.

Model 1 shows that gender matters as well. Among Turkish and Moroccan immigrants, men have more ethnically mixed ties in their core network than women. This is again in line with theory. The probability that a core discussion partner is Dutch is about 8–10% higher among men, a substantial difference. Furthermore, there appears to be a statistically significant and negative relationship between the ethnic concentration in the area of residence and the probability to have Dutch as core discussion partners. In addition, Model 1 shows that friends of Turks and Moroccans are more often from Dutch origin than their partner, and other people in their core discussion network (such as neighbours, colleagues) are far more often Dutch than friends are. This is in line with expectations.

Model 1 shows the expected positive relation between the socio-economic resources of Turks and Moroccans and ties to Dutch. Education is associated with a 0.8 percentage points increase in the probability of a Dutch confidant. This means that the difference can lead up to  $(11 \times 0.8 =) 8.8$  percentage point difference between those who have primary education (lowest category, 1) and those who obtained a university degree (highest category, 12). Immigrants who are employed have a 4.5 percentage point higher probability, a statistically significant relation. The coefficient for occupational status is also significant statistically: a unit change in the status of the occupation (scale: 16–88) is associated with an increase of 0.2 percentage point (Model 1). Taken together, these three indicators show a positive connection between socio-economic resources of Turks and Moroccans and the probability to have ties to Dutch.

This positive linkage can be due to both cultural and socio-economic homophily. Model 2 adds the indicators of cultural homophily: religion, language and ethnic

identity. All these three variables are statistically significant and the signs are in the expected directions. The more frequently Turks and Moroccans attend religious meetings, the fewer members of their core network are of Dutch origin. Speaking the Dutch language is associated with higher chances of having Dutch confidants, whereas identification with the ethnic group is negatively related to such mixed ties. The magnitudes of the relationships are substantial, but presumably overestimated. The reason is that causality might go in the opposite direction as well. For example, more frequent ties to Dutch majority members could result in improved language proficiency, being less religious and weakened identification with the ethnic group. Interpretation of the magnitude of the associations need to be done with caution.

Model 3 adds socio-economic characteristics of the alters in the personal network of ego. I find that the alters, who are employed, are also more often the alters who are Dutch. Likewise, I find that those alters who have a higher education tend to be more often from Dutch origin. Does cultural or economic homophily explain the positive link between ego's socio-economic resources and ties to Dutch? When we compare the coefficients from Model 1 with that of Model 2 ('cultural homophily'), we can see that both education and occupational status become statistically insignificant, whereas the coefficient of employment remains the same. This suggests that Turks and Moroccans who are higher educated and who have higher-status jobs tend to have close connections to Dutch more often, partially because they tend to be more similar culturally (religion, language and identity) than their counterparts who are lower educated and who have low-status jobs. Comparing Model 1 with Model 3, however, suggests that also economic homophily plays a role. Specifically, when adding alters' education and employment status, the coefficient of egos' education and employment becomes statistically insignificant. This means that there is also evidence to suggest that more economically resourceful Turks and Moroccans have more (close) ties to Dutch, because they tend to prefer to have ties to higher educated and employed people. As Dutch majority members are more often employed and generally higher educated than ethnic minority members, economic homophily results in more interethnic ties. In Model 4, when I include both cultural and economic homophily, all three variables (education, employment and occupational status) become statistically insignificant. This leads me to tentatively conclude that their positive relationship to ties with Dutch is a result of both cultural and economic homophily.

Finally, I also included two control variables, namely age and national origin. It appears that also after taking other variables into account Moroccans and Turks do not differ in their propensity to establish strong ties with Dutch. Such cross-ethnic ties are significantly more likely among the younger age group, a finding that can be seen in all four models.

## **Conclusions**

Four general conclusions can be drawn from this study.

First, ethnic boundaries in core discussion networks are pervasive in the Netherlands, and strongly exceed levels which can be expected by random mixing. More than 75% of the confidants in the core networks of Turks and Moroccans are of the same national origin, only around 17–18% of their confidants are Dutch. Among Dutch majority members, more than 95% of their core network members are of Dutch origin. This means that people discuss important personal matters almost exclusively with people of their own group. These observations on the ethnic segregation of core discussion networks add to previous research on ethnic cleavages in friendships of adolescents, dating and marriage, and contacts in the neighbourhood and leisure time (Baerveldt et al. 2007; Clark-Ibáñez and Felmler 2004; DiPrete et al. 2011; Kalmijn 1998; Martinovic 2013; McPherson, Smith-Lovin, and Cook 2001; Moody 2001; Mouw and Entwisle 2006; Schaeffer 2013; Vermeij, Van Duijn, and Baerveldt 2009).

Second, despite the low overall level of ethnic mixing, there are individual differences in the degree of ethnic openness of the core discussion network, and this variation can be captured by characteristics of ego, alter, the dyad and the regional context. Elaborating on the study of De Miguel Luken and Tranmer (2010), who conducted a multilevel study of support networks in Spain, I find that the core discussion networks of Turks and Moroccans in the Netherlands are more ethnically mixed among males, those born in Holland (i.e., second generation), those who live in areas with fewer immigrants and those who have more socio-economic resources (i.e., who are higher educated, employed and have high-status jobs). Friends are more often of Dutch origin than the partner, and other people in their core discussion network (such as neighbours, colleagues) are far more often Dutch than friends are. Turks and Moroccans who are more ‘acculturated’ (i.e., who speak better Dutch, are less religious and who identify less strongly with their ethnic group) are more likely to have Dutch confidants. In summary, the multilevel social network approach suggests that characteristics of ego, alter, the dyad and the regional context are associated with having Dutch (as opposed to non-Dutch) confidants.

Third, on a more theoretical level, the importance of these characteristics can be understood by the underlying mechanisms that have to do with cultural and economic homophily, the role of meeting opportunities and the social control imposed by third parties. This more general theoretical framework is fruitfully applied to the various domains of social interaction – ranging from superficial contacts people have to core discussion partners and marriage (Kalmijn 1998; Martinovic, Van Tubergen, and Maas 2009). This study shows that although such more intimate ties differ in nature from other social ties, such as friendships of adolescents in school, similar conditions play a role. Thus, it appears that conditions that have been found to result in more ethnic mixing in the school class, such as a belonging to a numerically smaller group, equally promote interethnic ties in core discussion networks.

Fourth, this study sheds light on a well-documented, but poorly understood relationship: the positive association between immigrants’ socio-economic resources and interethnic ties. I find evidence to suggest that this connection is driven by both cultural and economic homophily. Turkish and Moroccan immigrants and their



offspring who are higher educated, employed and have high-status jobs have more close ties to Dutch because they tend to speak Dutch better, they are less strongly participating in Muslim practices and they identify less with their ethnic group. As a result of being more culturally similar to Dutch, they have more intimate ties to Dutch. At the same time, however, also economic homophily plays a role. The more economically resourceful Turks and Moroccans tend to prefer interacting with other people who are similarly high-educated, employed and have good jobs, and these tend to be more often of Dutch origin.

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