

Personal Networks and Ethnic Identifications: The Case of Migrants in Spain¹

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Abstract

In this paper, we investigated whether personal networks influenced ethnic self-identifications of migrants in Spain. During the years 2004-2006, we collected data about personal networks of migrants in Spain ($N = 294$) through a questionnaire and a structured interview. Those networks were classified in five network profiles on the basis of both variables about structure (e.g., density, betweenness, and number of cohesive subgroups) and composition (e.g., country of origin, and percentage of family members). Profiles were related to the different ways in which migrants identified themselves. Personal networks in which network members, mostly family and mostly people from the country of origin, formed one dense cluster were associated with ethnic exclusive self-identifications, whereas more heterogeneous personal networks tended to exhibit more plural definitions of belonging. The paper showed that both individual and network characteristics contribute to an understanding of ethnic self-identification.

Key words: ethnicity, migration, personal network analysis, social networks.

Introduction

This article explores whether there is a relationship between personal networks and ethnic self-identifications of migrants in Spain. This relationship is interesting because it represents a link between social interactions and individual cognitions and this can contribute to our understanding of processes that are framing ethnic identification in our society. The case of migrants is again interesting because they experience a fast process of change both in their social relationships and in the new

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cultural experiences in the host country, and therefore we can assess, in a reasonable period of time, the main trends of those broad processes.

The terms *identity* and *ethnic identity* have a strong political dimension and these words are used for the political actors in their contest for power. Following Brubaker and Cooper (2000), we prefer the term *ethnic identification* instead of *ethnic identity*. Identification clearly suggests that we are talking about a classification process, not about a primordial essence. Also, this term allows us to differentiate between auto- or self-identifications, and identifications by others. In both cases, the set of labels is institutionally ordered but the particular choice and the reasons for using specific labels in specific contexts are in part dependent on individual characteristics, relationships between people and the networks in which they are embedded (see de Federico de la Rúa, 2003).

Following the presentation of this special issue about networks and identifications (de Federico de la Rúa, 2007), our research falls under the theoretical framework of structural interactionism (Degenne & Forsé, 1994; Bourdieu, 1987), as far as we conceptualize personal networks as the result of both macro structural forces (e.g., history, institutions, social structure, economy) and micro individual processes (e.g., personal characteristics). Personal networks are positioned between these two levels, representing a meso-level influence in explaining ethnic identification. That is, the negotiation between the labels imposed by the dominant institutions in society and the practical situations of everyday life takes place within personal networks (selecting preferred network members, inventing new inclusive identities, adapting identifications to different contexts and so on).

Two theories are commonly used to explain identities, namely Social Identity Theory (SIT; Tajfel & Turner, 1979, 1986) and Identity Theory (IT; Stryker & Serpe, 1982). Both theories state that people have a repertoire of identities (both personal and social) and that the identity that becomes salient varies according to the social environment. The theories differ in their conceptualization of the social environment: SIT alludes to categories as social environments, and IT to social networks as environments. McFarland and Pals (2005), who combined these theories in an empirical study about the identities of adolescents with crowds in school, argued that several network properties guide actors' perceptions of identity salience: density, homogeneity, competing memberships, and prominence. First, they expected that there is a larger

conformity in networks that are dense (i.e., tightly connected) and homogeneous. Second, they hypothesized that actors who are members of multiple groups have less stable identities. Last, they hypothesized that actors who are more central in social networks exert a greater control over identities. Results of their study among adolescents showed that these social network characteristics indeed affected identity changes.

Several studies showed that the types of networks in which individuals are embedded are also related to ethnic or (trans-)national identities. De Federico de la Rúa (2003) showed that Erasmus⁵ students who have high proportions of cross-national friendships are more likely to self-identify as Europeans. Also, she showed that friends from other countries with whom solidarity is strong are less likely to be considered as “foreigners” by Erasmus students. Aguilar (2005) showed that the network members of individuals in Bosnia-Herzegovina use labels for self-identification that are related to the centrality in that person’s personal network. That is, network members who are more central in a multiethnic network self-identified more often at the national level instead of ethnically. The relation between centrality and identification was also found by García Faroldi (2005), who showed that more central actors in a political discussion network identify more strongly with Europe (instead of nationally).

The present paper aimed to investigate whether there is a relation between the personal networks of migrants and their ethnic identifications. In contrast to the studies mentioned above, the present study focuses on personal networks rather than networks that were either sociocentric (see next section) or focused on a single type of relation (such as friendship). Nevertheless, our expectations are in line with the expectations mentioned by McFarland and Pals regarding network properties. We hypothesized that migrants who have personal networks that are dense, consisting of strong ties, and containing a high concentration of network members coming from or living in the country of origin tend to identify more often ethnic-exclusively. On the other hand, we expected that migrants with loosely connected, more diverse personal networks, consisting for example of multiple subgroups, identify more often ethnic-plurally, transnationally, or generically (i.e., non-ethnically), as these types of networks allow more freedom in identity formation. Also, a novel aspect related to the focus on personal

⁵ Erasmus is a European exchange program for university students.

networks is the inclusion of kinship relations. We hypothesized that networks that contain a high proportion of kin are related to identifications that are closer to a person's roots (i.e., ethnic-exclusively), while networks with lower proportions of kin are related to identifications that are plural / transnational or generic. After studying the relations between separate network characteristics and identifications, we combined the network characteristics into a single distinction of five network profiles, and related these as well to identifications. We did so because separate characteristics are interrelated, and erroneous conclusions may be drawn when this interrelatedness is not considered.

Our second aim was to investigate whether an analysis that uses personal network properties as predictors for ethnic identification contributes to our understanding of ethnic identity generated by studies using a micro or individual perspective. Ethnic identities have been regarded as an indicator of immigrant acculturation (e.g., Walters, Phythian, & Anisef, 2007), and therefore, they were studied from the point of view of assimilation theories. Assimilation Theory (e.g., Alba & Nee, 1997, for a reformulation of the classical theory) and Segmented Assimilation Theory (Portes & Zhou, 1993) generated a number of individual-level predictors of immigrant acculturation and adaptation. It was shown, for example, that the years of residence in the host country affect the ethnic identities of migrants, such that migrants gradually identify more cosmopolitically, plurally, or transnationally. Education also affects ethnic identity, and cultural and gender variations were observed as well in ethnic identity (see for example Jensen, Cohen, Toribio, De Jong, & Rodríguez, 2006). Further, it follows from the Segmented Assimilation Theory that outcomes of downward assimilation (e.g., unemployment, experiences of racism) lead to a reactive identity. And last, we expected that transnational remittances maintain a strong bond with the country of origin. We found a relationship between personal networks and ethnic identities even when we controlled for these individual-level predictors.

The macro level was not studied in this paper, as it was more or less the same for all respondents. Respondents were selected in the two largest cities of Catalunya, one of the nineteen autonomous communities of Spain, in which 9% of the inhabitants are foreigners. Of course, the macro-level has differential effects on respondents due to individual-level variations. For example, the language of the host country happens to be the mother tongue of Argentineans as well, whereas Moroccans first need to master the Spanish language in order to be able to interact in Spanish. On the other hand,

Moroccans form more than one fourth of the immigrants in Catalunya, while Argentineans will find considerably less fellow Argentineans in this region.

In the next section, we briefly present the concepts and methods for studying personal networks. In the section “Methodology”, we present the data collected in Spain about migrants from different origins and introduce the measures used in this study. Then, we show the results of our analyses regarding the relationship between types of personal networks and identifications. Last, we discuss the implications of our findings for future research.

Personal networks and social networks

There are two traditions in the study of social networks: sociocentric or “complete” networks and egocentric or “personal” networks (McCarty, 2002). Sociocentric networks focus on a set of individuals or nodes and their links among them (Wasserman and Faust 1994). This approach allows us to take into account the pattern of direct and indirect links in a group with fixed boundaries. Normally the study of sociocentric networks implies selecting an institutional setting for defining the group, for instance a school class, the network of stakeholders, or the email file in an organization. On the other hand, an egocentric or personal network is defined as the network of people surrounding a focal individual or ‘ego’ (who are also called ‘alters’) and their mutual relationships (Wellman et al., 1999, 2001). In this tradition, the type of relationship or institutional link between them is free (neighbors, friends, co-workers, kin, et cetera). Until recently, the number of alters about whom information was collected in personal network analysis was small, and information about the mutual relationships among alters was typically collected only for a small subset of alters. In part this is due to the respondent burden related to reporting $n(n-1)/2$ evaluations (e.g., for 50 alters, we need to ask respondents to report 1,225 ties), and in part because most studies were interested in strong ties (Fischer, 1982; Schweizer, Schnegg, & Berzborn, 1998; Wellman, Yuk-lin Wong, Tindall, & Nazer, 1997). The questions that were used to elicit names of network members, or “name generators”, were typically to think of five people respondents talk to about important matters, or three people they talk to about health-care decisions, among others. In our study, we asked respondents to nominate 45 alters using a very flexible name generator in order to collect active contacts for all types of relationships

(see Methodology). We chose a fixed-choice design of 45 alters, based on our previous experience with larger lists of 60 or more which implied an enormous burden upon the informant. Research in this area (McCarty, Killworth, 2007) shows that structural measures are stable between 30 and 60 alters, but compositional measures (measures about the alters attributes, as for instance the percentage of women in the personal network or the number of close friends) become more accurate as the number of alters grows, so 45 is a convenient number, large enough for representing the different institutional settings in which informants are embedded (and of course both strong and weak ties), and a rather manageable burden for respondents. Also, the fixed number facilitates comparison across cases. Other strategies for enacting reliable data about personal networks have been proposed recently (Marin & Hampton, 2007).

The personal network, measured in this way, is a good proxy for both macro- and micro-level influences acting simultaneously upon identifications. The composition and structure of a personal network reflect the day-to-day situation of the focal person. For instance, it was found that Cubans in Miami had hardly any personal relationships with relatives or friends in Cuba (Portes, 1984), while Puerto Ricans in New York maintained an important proportion of relationships with the country of origin. Furthermore, in Spain, the personal networks of people born in Equatorial Guinea we interviewed (not studied here) did not include relationships with people in Equatorial Guinea. The explanation is that in the late Sixties, with the independence of the former colony, Guineans living in Spain were told to choose nationality, and most of them preferred to remain in Spain as Spaniards. In this case, a compositional variable, the proportion of alters living in the country of origin, is telling us about a macro-phenomenon, such as the Cold War, colonial history, and so on. As another example, personal networks appeared to be smaller and consisting of strong ties in communist societies, and larger and consisting of weak ties in democratic societies (Völker, 1997). At the same time, individual agency and decisions also affect the composition and the structure of personal networks. For instance, the proportion of alters who live in the country of origin is also influenced by, among others, an individual's years of residence, the employment situation of the individual in the host country, and the extent to which the individual masters the language of the host country.

Methodology

Data

The data for this article were collected during the years 2004-2006 for the project funded by the NSF⁶ *Development of a Social Network Measure of Acculturation and its Application to Immigrant Populations in South Florida and Northeastern Spain*. For the Spanish part of the project, 294 immigrants in Barcelona and Girona were selected from four migrant groups using snowball sampling: Senegambians ($N = 78$), Moroccans ($N = 70$), Argentineans ($N = 81$), and Dominicans ($N = 65$). Results are shown for the subset of respondents who did not have missing data on any of the variables ($N = 271$, 92%). Forty-four percent is female, the average age is 31.1 ($SD = 10.1$), and the average years of residence 5.1 ($SD = 5.0$).

In 2005 and 2006, computer-assisted personal interviews were held with the use of the software EgoNet, a program designed specifically for the collection, analysis, and visualization of personal network data. The survey had four modules: (1) questions about the respondents, (2) the question used to generate the names of network alters (or name generator). This was formulated as follows: “Please, give us the names of 45 persons you know and who know you by sight or by name, with whom you have had some contact in the past two years, either face-to-face, by phone, mail or e-mail, and whom you could still contact them if you had to”. The fixed-choice design was chosen in order to ensure that respondents not only nominated strong contacts, but also weaker contacts; (3) questions about each of those alters (e.g., gender and age), and (4) a question about the existence of relations among alters (as perceived by the respondent). At the end of the four modules, the program gives a visualization of the personal networks and allows to change visual variables and perform social network analysis procedures (e.g., to calculate centrality measures, to perform a cluster analysis, and so on). The visualization is used for conducting a qualitative interview with the respondent about his or her personal network. The qualitative information allows us to contextualize the measures and record the cognitive world of the informant about his or her life. The aid of interactive visualizations allows us to obtain new information

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because they trigger cognitive responses that are difficult to obtain by other means (McCarty, Molina, Aguilar, & Rota, 2007).

With this methodology it is possible to obtain compositional, structural and qualitative information about each personal network. *Compositional* information refers to the aggregation of attributes of the network members as we mentioned above. Along with the sex, age, education or income-level of a respondent, the researcher may have the average age of their alters, the proportion of their network that is family, or the proportion of their network from whom people say they can borrow money, for instance. With *structural* information, we refer to aggregated measures about the relatedness among network members, typically number of components, clusters or centrality measures (density, betweenness, et cetera). The *qualitative* information allows us to contextualize those measures and record the cognitive world of the informant about her life. The aid of interactive visualizations allows us to obtain new information because they trigger cognitive responses difficult to obtain by other means (McCarty, Molina et al., 2007).

Measures

The following measures were used in this study:

Ethnic self-identification.

To elicit ethnic identifications, we used two open questions in Module 1 of the structured interviews: “Which word or phrase best describes your ethnic identity?” and “Which other word or phrase best describes your ethnic identity?”. We used two identifiers instead of one in agreement with our earlier argument that identification is a dynamic, contextual, and negotiable concept. Respondents entered their labels freely in the computer. In a content analysis, these were categorized as follows: (1) Ethnic-exclusive – if both responses concern identification with the respondents’ own ethnic group (e.g., Dominican, Dominican), $N = 76$; (2) Ethnic-plural or transnational – if the first response refers to an ethnic identification and the second to another ethnic identification or more general identification (e.g., Wolof, African), or if the first response refers to an identification with a larger group that transgresses national boundaries (e.g., Latin-American), $N = 129$; (3) Generic – if the first response refers to a non-ethnic category (e.g., woman, person), $N = 89$.

Meso-level predictors of ethnic identification: network characteristics

Percentage of Spanish. This variable measures the percentage of alters who is originally Spanish.

Percentage of migrants. This variable measure the percentage of migrants in the respondent's networks, that is, the percentage of alters who live in Spain but are not originally Spanish.

Density. This measure gives the density of the perceived alter-alter network, which is the proportion of pairs of alters for whom the respondent indicated that they were very likely to have contact with each other when the respondent was not present.

Betweenness centralization. This measure gives the betweenness centralization of the perceived alter-alter network. The betweenness centralization ranges theoretically from 0 (in a network where everyone is directly connected to everyone else) to 100 (in a star network, where one network member is related to all other network members, and other network members are not related among them). It should be noted that in alter-alter networks, the betweenness centralization is underestimated because all alters are connected with a two-path, via ego, who is excluded from the network, but nevertheless present. However, the betweenness centrality can be regarded as an indication of the structure of the network. Networks with a high betweenness indicate networks in which some individuals play a central role in the social lives of the respondents, as they (like the respondent) have relations with different subgroups.

Number of cohesive subgroups within the network. Within each network, a hierarchical clustering analysis was performed, using the Newman & Girvan algorithm implemented in Egonet, to identify cohesive subgroups. This variable measures the number of subgroups that contain at least two alters.

Homogeneity of cohesive subgroups with respect to country of living. Even when the percentage of alters living in Spain (Spanish and fellow migrants) may be equal for two respondents, we observed that for some respondents, these two worlds are separated in multiple subgroups, and for others, the alters who are living in Spain and those not living in Spain formed one cluster. In order to investigate the average homogeneity of cohesive subgroups, we calculated the homogeneity with respect to the country of living for each subgroup (where 0 indicates complete heterogeneity (i.e., 50% of the members live in Spain and 50% in another country) and 1 indicates complete homogeneity (i.e.,

either all subgroup members live in Spain or none of the subgroup members lives in Spain). Then, the variable was constructed as the weighted average of this set of homogeneities (weighted to subgroup size, so that small subgroups had less impact than large subgroups).

Percentage of family. For each alter, the respondents were asked what type of relation he or she had with this person. Responses could be made in 13 nominal categories, three of which were ‘spouse or partner’, ‘direct family’, and ‘in-laws’. The percentage of alters who belonged to one of these three categories constitutes the variable ‘percentage of family’.

Average closeness. For each alter, respondents were asked how close they felt with this person. Responses could be made in 5 categories: ‘I don’t feel close at all’ (1), ‘I don’t feel very close’ (2), ‘I feel reasonably close’ (3), ‘I feel close’ (4), and ‘I feel very close’ (5). The measure ‘average closeness’ averages the responses over the 45 alters and indicates how close ego feels on average with his or her network members.

Average frequency of contact. For each alter, respondents were asked how often they had contact with this person. Responses could be made in 7 categories: ‘every day’ (recoded category 7), ‘twice a week’ (6), ‘once a week’ (5), ‘twice a month’ (4), ‘once a month’ (3), ‘twice a year’ (2), ‘once a year’ (1). This measure, ‘average frequency of contact’, averages the responses over the 45 alters and indicates the average amount of contact that ego has with his or her alters.

Network type. In order to identify network types, we performed a k -means cluster analysis in SPSS based on the nine network characteristics mentioned above. All characteristics were standardized beforehand so that all variables had equal impact on the calculation of the Euclidean distances. The cluster analysis was held on the complete set of Spanish cases, of which fourteen cases were excluded ($N = 280$), either because they had missing data on one of the network variables, or because they were outliers on one of the network variables. Since solutions with too few or too many clusters of personal networks would not be informative, we investigated 3-, 4-, 5-, and 6-cluster solutions. From these, we chose the solution that was best interpretable and reasonably balanced with respect to the number of cases in each cluster. A five-cluster solution was best interpretable. So, we could distinguish five types of personal networks which can be briefly described as (see for details Lubbers, Molina, & McCarty, in preparation): (1) “The scarce network” ($N = 54$): Networks that consist of alters who were mainly (75%)

living in the country of origin (another 8% was Spanish and 17% was migrant), further characterized by a high closeness and a low average frequency of contact; (2) “The dense family network” ($N = 28$): Networks that consist of one dense group of alters (76% of all pairs of alters were related), with a high percentage (54%) of family members; most alters lived in the country of origin, 9% was Spanish and 20% was a fellow migrant; (3) “The multiple subgroups network” ($N = 73$): Networks with a high proportion of fellow migrants (48%) and Spanish (26%), which consisted of multiple smaller cohesive subgroups; (4) “The two worlds connected network” ($N = 75$): Networks of which on average 51% of the alters lived in Spain (i.e., 16% of the alters are Spanish and 35% are fellow migrants) and 49% in the country of origin, and that were further characterized by a high interconnectedness between the two groups; (5) “The embedded network” ($N = 50$), characterized by a high proportion of Spaniards (49%) and fellow migrants (29%) and a high average frequency of contact. Appendix 1 shows the cluster centers of each variable. The five types of networks appeared to differ significantly in average years of residence (see Lubbers, Molina, & McCarty, in preparation), and the order that is give above corresponds with an increasing average of years of residence. That is, respondents with “scarce networks” migrated most recently and respondents with “embedded networks” migrated least recently (see Lubbers, Molina, & McCarty, in preparation).

Micro-level predictors of ethnic identification: individual characteristics.

Characteristics that were used as control variables in the analyses are:

Years of residence. This variable reflects the respondents’ years of residence, running from 0 to 38. As this variable had a skewed distribution, we decided to categorize ‘eleven years and longer’ into one top category ($N = 26$), so this variable has 12 categories.

Country of origin. The four countries of origin were transformed in a set of three dummy variables, Morocco (in which 1 = Moroccan and 0 = not), Argentina (likewise), and Dominican Republic (likewise). Senegambia (Senegal and Gambia) was the base category.

Gender. Gender was coded such that female = 0 and male = 1.

Education. Respondents were asked about the highest level of education they had attained. Responses were made in seven categories: no education (1), primary /

elementary school (2), secondary school (3), college (4), graduate degree (5), koranic school (6), vocational training (7). For the present article, we created two dummy variables, to distinguish secondary or vocational education (the variable ‘secondary education’) and college or graduate degree (the variable ‘tertiary education’) from primary or no education (the base category).

Employment. Respondents were asked whether they were currently employed. A binary variable was constructed from the responses so that 1 = employed (full time, part time, self-employed, or seasonal worker; $N = 201$) and 0 = unemployed or (in two cases) retired ($N = 93$).

Experiences of racism. Respondents were asked whether they had experienced racism in the host country. Responses were made in three categories ‘never’ (1), ‘some’(2), and ‘a lot’(3). The variable was recoded so that some or a lot of experiences of racism is 1 ($N = 144$) and no experiences of racism is 0 ($N = 149$).

Transnational remittances. Respondents were asked how often they sent money to their country of origin. The responses were ‘never’ (1), ‘sometimes’ (2), and ‘a lot’ (3). Two dummy variables were created to distinguish the responses ‘sometimes’ (the variable ‘Remittances: sometimes’) and ‘a lot’ (the variable ‘Remittances: often’) from no remittances (the base category).

Results

In order to study bivariate relations among network characteristics and ethnic identification, we used analysis of variance. As Table 1 shows, five of the nine network characteristics differed significantly among the three types of ethnic identification: the percentage of Spanish alters in the network, the number of cohesive subgroups, density, betweenness, and the percentage of family in the networks. Respondents who identified ethnic-exclusively had on average lower percentages of Spanish alters in their networks, slightly lower numbers of cohesive subgroups, their networks were more dense, and they had a lower betweenness than the networks of respondents who identified ethnically plurally / transnationally or generically. The latter two groups differed less in these variables. Furthermore, the percentage of family was slightly lower among respondents who identified plural or transnationally than among ethnic exclusive and generically identifying respondents. The relation among network composition and

structure on the one hand and ethnic identification on the other was also significant multivariately (Wilk's lambda $F = 3.363, p < .001$).

→ please insert Table 1 about here.

Instead of looking at separate network characteristics, it may be more insightful to look at differences among *network profiles*. The separate network characteristics are interrelated (by far the highest correlation appeared among density and the number of cohesive subgroups, which was $r = -.52$), and we may draw erroneous conclusions when we do not consider this interrelatedness. A typology of networks does more justice to this fact. Table 2 shows the cross-tabulation of ethnic identifications and network profiles. As Table 2 shows, the majority (58%) of the respondents with a “dense family network” (in which on average half of the members is family and seventy percent lives in the country of origin, see Measures) had ethnic-exclusive identifications. Ethnic-exclusive identifications appeared much less often among respondents with other types of networks, least of all among respondents with so-called “embedded networks” (8%): networks where half of the alters is Spanish and a quarter of the alters is fellow migrant. Plural or transnational identifications were most prevalent among individuals with “scarce networks” (networks that are mainly based in the country of origin), and embedded networks (that are mainly based in the host country). Generic identifications were most prevalent among individuals with “multiple subgroups networks”, “two-worlds connected networks”, and “embedded networks”. The results suggest that ethnicity is less salient among respondents who have more relations with alters who live in Spain. The relation between type of network and identification is significant ($\chi^2 = 31.5, df = 8, p < .001$).

→ please insert Table 2 about here.

The question is whether including the meso-level (personal networks) contributes to a better understanding of ethnic identification. In other words, does the inclusion of network compositional and structural characteristics contribute to an explanation of ethnic identification solely based on individual-level characteristics? For example, the “dense family networks” are predominantly observed among Senegambian

respondents (see Lubbers, Molina, & McCarty, in preparation). It is likely that the country of origin influences the type of identification, and that the relation among network profile and identification is only a spurious one. To investigate this, we performed a multinomial logistic regression analysis using SPSS, in which we predicted the type of identification from standard, individual-level predictors of ethnic identification (years of residence, country or origin, gender, employment, experiences of racism, and remittances), and the network structure and composition. For these analyses, the middle and largest category of ethnic identification (i.e., plural-ethnic / transnational identification) served as the base category. All variables except binary variables were standardized, so that the sizes of their regression coefficients are comparable.

Table 3 shows the results of these analyses. First, a model was estimated including only individual-level characteristics (see Model 1 in Table 3). It appeared that years of residence had a negative impact on the odds of ethnic exclusive and generic identifications, which implies that the higher the years of residence, the less likely it is that respondents have either ethnically exclusive or generic identifications. Furthermore, Argentineans and Dominicans had significantly lower odds to identify ethnic-exclusively than Senegambians (the base category), and Moroccans had higher odds to identify generically. When we studied the responses of the Moroccans, it appeared that many had engendered identifications. Respondents who went to college or had a graduate degree had lower odds to identify ethnic-exclusively or generically. Furthermore, respondents with experiences of racism identified somewhat more often generically, and those who were sending remittances to their home country had higher odds to identify ethnically exclusive. The effects were controlled for each other. Gender and employment did not contribute to the explanation of ethnic identification. The model had a good fit ($\chi^2 = 123.8$, $df = 22$, $p < .001$). The percentage of correct classifications was 62 (cf., this percentage was 46% when predictors were excluded).

In Model 2 (see Table 3), we added the separate network characteristics. Controlling for individual characteristics and among network characteristics, we found significant effects of network characteristics. More specifically, those who had more Spanish contacts and more contacts with other migrants had higher odds to identify generically, controlled for individual characteristics and the other network characteristics. Furthermore, the respondents who had higher numbers of subgroups in their networks had lower odds to identify ethnic-exclusively. This finding is in line with

the bivariate results for number of subgroups from Table 1, in which we did not control for other characteristics. And last, a higher average frequency of contact and a higher average closeness also decreased the odds to identify ethnic-exclusively. The model had an improved model fit ($\chi^2 = 157.0$, $df = 40$, $p < .001$). The percentage of correct classifications was improved with 5% (a 67% correct rate).

Again, we ran the analysis using the five network profiles instead of the separate network characteristics (see Model 3 in Table 3). Controlling for individual characteristics, the network profile had a significant effect overall. Respondents with a “two worlds connected network” had higher odds to identify ethnic-exclusively and also higher odds to identify generically than respondents with “scarce networks”. Furthermore, respondents with “multiple subgroups networks” have higher odds to identify generically. These results are in line with the uncontrolled results. However, the considerable differences among the “scarce network” on the one hand and the “dense family network” or the “embedded network” on the other hand, shown in Table 2, disappeared when individual characteristics were controlled. The model had a good model fit ($\chi^2 = 138.4$, $df = 30$, $p < .001$). The percentage of correct classifications was slightly lower than that of Model 2 (64%), but this is comprehensible given that the nine variables were replaced by only one variable (translated into a set of four dummy variables).

→ please insert Table 3 about here.

Conclusion: other insights about identifications

Personal networks reflect both macro and micro phenomena affecting cognitive representations such as ethnic identifications. Looking at their composition, structure and trend of change, we are able to understand better the world of cognitions or representations. Social interactions and cognitions are related, as are institutions and feelings, but until recently these levels were studied separately. With the personal networks perspective, it is possible to assess this interaction in a comprehensive way.

The present article provided a cross-sectional approach on the relation between the type of personal networks that migrants form in their host country and their ethnic self-identifications. Our results demonstrated that network structure and network

composition are related to self-identifications. First, it appeared that ethnic exclusive identities were found most often among respondents who had dense networks, low numbers of subgroups, and low proportions of Spanish in their network. This was in line with our expectations. Higher percentages of family were found for respondents who identified either ethnically-exclusive or (contrary to our expectations) generically. The strength of ties and the percentage of migrants were (as separate characteristics) not related to ethnic identities.

After combining the network characteristics into network profiles, results indicated that ethnic-exclusive identifications (e.g., “Moroccan”) appeared most often among respondents with a so-called “Dense family network”, dense networks that contained a high proportion of family members and a high proportion of network members who lived in the country of origin. However, it appeared that this effect disappeared when we controlled for individual-level characteristics (basically, Senegambians had these types of networks and they also identified most often ethnic-exclusively). Second, ethnic-plural (e.g., “Moroccan-Spanish”) or transnational identifications (e.g., “Latino”), occurred most often among respondents who were either least embedded in the Spanish society or most embedded in Spanish society (i.e., who had so-called “scarce networks” or “embedded networks”). Generic identifications (e.g., human, woman) were most often observed among respondents who had any of three types of networks that were relatively integrated in Spain. The latter two relations were largely observed as well when individual-level characteristics (such as years of residence) were controlled. This suggests that ethnicity becomes less salient, and is replaced with generic identities, when relational embeddedness in Spain increases – it is mostly a higher percentage of Spanish and migrants living in Spain that explains this effect.

These findings are consistent with those of Aguilar and Molina (2004) and Tazé and Ferrand (2007), who showed that dense personal networks were strongly associated with convergence in opinions or identities whereas more diverse personal networks lead to more variation. We interpret those results in the following way: People with dense, homogenous networks adopt the dominant categories as a natural expression of their social environment. They are “Dominicans” or “Spaniards”, for instance, and their cognitive experience is totally coherent with this. Conversely, people with more heterogeneous networks are freer to adapt themselves to the different relational contexts

in which they are embedded using more generic categories, inclusive or plural. Of course, they can also use ethnic-exclusive categories for defining themselves, but our point is that in this case it is an individual choice depending on contextual processes. People with more diverse networks have more social capital (Burt, 1992), more diverse cognitive experiences and, of course, more resources to develop their ideological concerns.

A limitation of the study is that it is cross-sectional. Therefore, it is not possible to investigate the evolution of identity according to the time of residence, for instance. We are currently collecting a second wave of interviews with a random selection of the respondents of the first wave. This will allow us to study whether changes in the characteristics of personal networks indeed lead to changes in self-identifications. This may give us more detailed results about the causal direction and the sources of change in self-identification. Furthermore, we intend to compare the results of the present study with the results of the data that were collected among migrants in New York, USA. This comparison may give us valuable insights in macro-level variations in ethnic identification.

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Table 1. Unstandardized means of personal network characteristics per identification ($N = 271$).

	Ethnic- exclusive	Ethnic- plural or transna- tional	Generic	F
Percentage of Spanish	13.2	25.2	26.2	12.3**
Percentage of migrants	29.6	31.9	36.3	2.1
N cohesive subgroups	1.6	2.2	2.1	5.2**
Homogeneity of subgroups	60.9	63.5	56.3	1.7
Density	41.2	28.9	30.6	9.5**
Betweenness centralization	16.2	20.6	18.8	3.2*
Average freq. of contact	4.0	4.3	4.0	1.8
Average closeness	2.1	2.1	2.1	0.9
Percentage of family	36.3	30.4	35.2	3.1*

* $p < .05$; ** $p < .01$.

Table 2. Cross-tabulation of types of personal networks and identification categories, rows in percent ($N = 271$).

Network profile	Identification			Total N
	Ethnic-exclusive	Ethnic-plural or trans-national	Generic	
“Scarce network”	23.5%	60.8%	15.7%	51
“Dense family network”	57.7%	26.9%	15.4%	27
“Multiple subgroups network”	21.1%	45.1%	33.8%	70
“Two worlds connected network”	31.1%	36.5%	32.4%	50
“Embedded network”	8.2%	55.1%	36.7%	49

Table 3. Multinomial logistic regression coefficients ($N = 271$).

Predictors	Model 1		Model 2		Model 3	
	Ethnic- exclu- sive	Gene- ric	Ethnic- exclu- sive	Gene- ric	Ethnic- exclu- sive	Gene- ric
Intercept	-0.21	-1.19	-0.29	-1.23	-0.897	-1.95
<i>Individual predictors:</i>						
Years of residence	-0.56**	-0.60**	-0.41	-0.82**	-0.68**	-0.74**
Country of origin: Moroccan	-1.13	2.54**	-1.47*	2.53**	-1.09	2.49**
Country of origin: Argentinean	-1.61**	0.58	-1.37*	0.58	-1.31*	0.42
Country of origin: Dominican	-1.47**	0.86	-1.93**	1.04	-1.45**	0.94
Gender: Male	-0.36	-0.49	-0.59	-0.53	-0.34	-0.50
Education: Secondary level	-0.11	-0.12	0.06	-0.33	-0.21	-0.24
Education: Tertiary level	-0.94*	-1.00*	-0.71	-1.07*	-0.90	-1.06*
Employment: Employed	0.59	0.12	0.54	0.14	0.43	0.11
Racism: Yes	-0.49	0.71*	-0.41	0.60	-0.48	0.58
Remittances: Sometimes	0.75	-0.39	0.64	-0.30	0.78	-0.34
Remittances: Often	1.37**	-0.54	1.47**	-0.32	1.43**	-0.49
<i>Network characteristics:</i>						
Percentage of Spanish			-0.44	0.49*		
Percentage of migrants			0.06	0.55*		
N cohesive subgroups			-0.83*	0.04		
Homogeneity of subgroups			0.06	-0.39		
Density			0.03	-0.12		
Betweenness centralization			0.01	-0.18		
Average freq. of contact			-0.45*	-0.44		
Average closeness			-0.43*	0.11		
Percentage of family			-0.03	0.16		
<i>Network profiles:</i>						
Dense family networks					1.22	0.33
Multiple subgroups networks					0.92	1.23*
Two worlds connected netw.					1.15*	1.15*
Embedded networks					-0.23	1.12

Note: Base category for ethnic identification is “Ethnically plural or transnational”.

* $p < .05$; ** $p < .01$.

Appendix: Cluster centers for the standardized network properties ($N = 280$)

Network properties	Network profiles (clusters)				
	Scarce	Dense family	Multiple subgroups	Two worlds connected	Embedded
Percentage of Spanish	-0.76	-0.72	0.18	-0.33	1.37
Percentage of migrants	-0.73	-0.59	0.78	0.14	-0.15
N subgroups	0.11	-0.68	0.77	-0.53	-0.35
Homogeneity subgroups	0.68	0.24	0.54	-1.22	0.08
Density	-0.18	2.18	-0.79	0.22	-0.09
Betweenness	0.02	-1.21	0.35	-0.21	0.40
Average freq. of contact	-0.59	-0.25	0.06	-0.18	0.70
Average closeness	0.62	-0.03	-0.69	0.28	-0.11
Percentage of family	-0.04	1.18	-0.61	0.41	-0.29