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Beyond ethnic solidarity: the diversity and specialisation of social ties in a stigmatised migrant minority

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ABSTRACT

Whether presented as ethnic 'solidarity' or 'segregation', the idea that migrants' social world is dominated by tightly-knit, homogeneous, and supportive networks of kin and co-ethnics is common in scholarly and public discourse around migration, particularly for minorities with a history of marginalisation, segregation, and stigmatisation. We test this idea using results from the first survey of personal networks in one of the most stigmatised immigrant minorities in the Western world: Roma migrants in Europe. Analysing data on 119 Romanian Roma migrants in France and their 3,570 social ties, we identify typical structures of personal communities, describe the distribution and association of different dimensions of social support, and estimate multilevel models to identify determinants of support in this population. We find that, even in contexts of strong marginalisation and stigmatisation, the hypotheses of ethnic solidarity, sociodemographic homophily, and network closure are inadequate to explain the way migrants obtain social support. Instead, Romanian Roma in France appear much closer to the model of 'networked individualism' and similar to middle classes in Western ethnic majorities, as they strategically maintain diverse and far-flung networks, choose forms of elective belonging in local contexts, and mobilise different social ties for different, specialised types of support.

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Whether described in the optimistic language of 'ethnic solidarity' or in the negative tones of 'ethnic segregation', the idea that tightly-knit and homogeneous social networks of kinship and co-ethnic ties are predominant in immigrant communities is commonplace in both scholarship and public perceptions around migration. This idea is particularly strong for minorities with a history of marginalisation and stigmatisation, which are often accused by some of self-segregating and refusing to 'integrate', and praised by others for building ethnic solidarity as a means of resistance. In this article, we ask whether the whole notions of ethnic solidarity and segregation truly fit the reality of one of the most marginalised and stigmatised immigrant minorities in the Western world: Roma migrants in Europe.

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We focus on migrants from one of the major origin countries to one of the main Western destinations of Roma people (Leggio and Matras 2017): the Romanian Roma in France. With a long, deep-rooted history of marginalisation, social exclusion, racialisation, and persecution, the Roma have been described as Europe's 'perennial outsiders', consistently viewed and treated as collectively inferior throughout European history (Powell and Lever 2017). Starting from the 1990s, the post-communist economic restructuring and growing anti-Roma hostility in Eastern European countries of origin have led to increased emigration of Roma to Western Europe and France in particular (Ringold, Orenstein, and Wilkens 2005). In these new destinations, however, Roma immigration has been met with securitisation, spatial segregation, racial/ethnic stereotyping, and social exclusion (Baar, Ivasiuc, and Kreide 2019; Ringold, Orenstein, and Wilkens 2005). In 2011, the growing prejudice, discrimination, and social exclusion faced by Roma people in European countries led the European Commission to propose a ten-year 'EU Framework for National Roma Integration Strategies' to promote the 'social integration of Roma in mainstream society' (European Commission 2011, 8).

This article considers a central component of social integration, namely the way in which migrants develop and maintain social ties after migration – within and beyond the 'host' society – and the quantity and quality of support they receive from them. Our assumption, in line with a long tradition of research on social support in migrant and non-migrant populations (Boyd 1989; Wellman and Wortley 1990; Berry 1997; Thoits 2011), is that larger and more diverse (e.g. ethnically) support networks both signal and promote successful incorporation of migrants in destination societies, being associated with better outcomes in a range of areas from socioeconomic mobility to health and psychological wellbeing. Analysing extensive and highly granular data about Romanian Roma social networks in France, we identify the main individual, relational, and contextual factors that facilitate the exchange of social support in this population. In particular, we test whether patterns of social support among Romanian Roma in France are closer to the ideal type of ethnic solidarity and homophily, or rather to the model of network specialisation and 'networked individualism' that has been observed in mainstream, non-migrant populations. This study is the first to examine detailed survey data about social ties and personal networks (McCarty et al. 2019; Perry, Borgatti, and Pescosolido 2018) among Roma migrants in Western Europe, a hard-to-reach population in which survey-based research has historically been rare and difficult (European Union Agency for Fundamental Rights & UNDP 2012; Ioannoni et al. 2020).

1. Roma migration, personal networks, and social support

Roma migration to Western Europe has been the subject of growing attention in recent years among policymakers and social researchers alike (Vermeersch 2017; Ioannoni et al. 2020). A major 'push factor' of this migration flow has been identified in the multiple and compounding types of social exclusion and vulnerability experienced by the Roma in post-communist Romania and other Eastern European countries of origin (European Union Agency for Fundamental Rights 2018). Roma people in Romania, in particular, often see migration to the West as the only means to meaningfully improve their quality of life (Vlase and Voicu 2014; Legros and Lièvre 2019). This is not an unfounded perception: Romanian Roma migrant returnees are more than twice as likely to have

improved their economic situation compared to non-movers (Fleck and Rughiniş 2008), and in a recent survey of Romanian Roma shantytown dwellers in France, virtually all respondents (97%) reported that their life ‘was better’ after migration (European Roma Rights Centre 2014). Nevertheless, Western Europe is also a hostile context of reception, where irregularization, securitisation, and racial/ethnic stigmatisation of Roma migrants have become widespread (Baar 2019; European Union Agency for Fundamental Rights 2018). In France, the Roma have been collectively stigmatised as poor, shantytown dwellers, antisocial, and unable to ‘integrate;’ and have increasingly experienced residential segregation, limitations to freedom of movement, threats of deportation, and barriers to employment and related benefits (Nacu 2011; Mayer et al. 2020).

Particularly in such difficult immigration contexts, informal networks of family, friends and acquaintances are an essential source of social support for migrants. Social support, especially in its relationship with social integration, health and wellbeing, has been the subject of a long tradition of research in the social and health-related sciences, studying how and why assistance in different dimensions (e.g. material, informational, emotional) is exchanged within *personal communities* (House, Umberson, and Landis 1988; Wellman and Wortley 1990; Thoits 2011). Often operationalised with personal or egocentric network data, a personal community is defined as the broad web of social ties that a focal individual (the *ego*) maintains with family members, friends, neighbours, workmates, and other acquaintances (the *alters*) (Wellman and Gulia 1999; Chua, Madej, and Wellman 2011).

Migration scholars have long called attention to the many ways in which personal networks and social support affect the course of migrants’ incorporation in destination societies (Portes and Bach 1985; Massey and Espana 1987; Boyd 1989): ‘personal networks provide money to finance moves, [...] food, shelter, job information and contacts, information on health care and social services, recreation and emotional support’ (Boyd 1989, 651) at different stages of the migration process. Support from co-ethnic networks, in particular, has been described as a form of social capital that facilitates economic action by promoting reciprocity, solidarity and trust in migrant communities (Portes 1998; Portes and Sensenbrenner 1993). Co-ethnic social ties, however, may also hinder incorporation, for example by creating excessive expectations and requests for assistance from in-group members, or pressures to conform to norms that constrain migrants’ personal freedom or socioeconomic advancement (Portes 1998). Migrant networks, within and beyond the co-ethnic community, are diverse and dynamic, evolve with length of residency (Portes and Bach 1985; Hagan 1998) and vary with receiving context conditions such as labour market characteristics (Menjívar 1997). Such variations, including in the extent to which migrants maintain ties with native-born, ethnic-majority contacts, are associated with different paths and outcomes of incorporation and social mobility (Hagan 1998).

Research on social support and migrant incorporation has been especially prolific in Europe in recent years, highlighting the diversity, spatial dispersion, dynamism and manifold impacts of migrant support networks in European receiving contexts. This body of work indicates that personal network characteristics influence a number of incorporation-related outcomes, including ethnic self-identification (Lubbers, Molina, and McCarty 2007), acculturation (Vacca et al. 2018), and psychological well-being (Martínez García, García Ramírez, and Maya Jariego 2002). Some research stresses the

variability of migrants' social networks and their support functions in European countries. Interviewing Polish migrants in the UK, for example, Ryan et al. (2008) found that strong, co-ethnic ties are crucial for basic support needs during the early immigration phases (e.g. help searching jobs and housing), but risk to lock migrants into disadvantaged 'ethnic niches' over time. On the other hand, non-ethnic ties play a key role for subsequent socioeconomic mobility, but migrants may be more or less able to establish them depending on individual characteristics such as ethnicity, migration experience and linguistic skills. Similarly, in a study of different migrant communities in Spain, Cachia and Maya Jariego (2018) show that migrants' type of occupation, length of stay and geographical mobility are associated with different configurations of support networks and levels of connectedness with native-born people. A similar degree of diversity in sources and configurations of social support was found among Moroccan and Ecuadorian migrants in Spain by Bolibar, Marti, and Verd (2015).

Much research on social support and migration in Europe has focused on the geographical distribution of social ties between local and transnational spaces. The maintenance of spatially dispersed networks with distant, cross-national contacts is a central feature of contemporary migrant transnationalism (Levitt and Glick Schiller 2004; Lubbers, Verdery, and Molina 2018). Transnational ties are often numerous, long-lasting and highly central in migrants' personal communities (Cachia and Maya Jariego 2018; Lubbers, Verdery, and Molina 2018; Vacca et al. 2018). The number and nature of transnational ties are associated with migrants' ethnic identities, sense of belonging and remigration decisions (Bolibar, Marti, and Verd 2015; Hosnedlová 2017; Solano et al. 2020), and vary in connection with length of stay in the destination country or life events such as the birth of children (Bolibar, Marti, and Verd 2015; Hosnedlová 2017; Lubbers et al. 2010). Transnational ties are also an important source of social support, although they are constrained in the type of assistance they can provide. They are more likely to provide emotional or financial aid (Bilecen and Cardona 2018; Herz 2015; Kornienko et al. 2018) but cannot be mobilised for emergency help, regular childcare (Bojarczuk and Mühlau 2018) or social companionship (Cachia and Maya Jariego 2018; Herz 2015). We include the local or transnational nature of social ties as one of the main variables in our analysis of Romanian Roma's support networks.

The crucial role of support networks for migration and migrant incorporation has also emerged, specifically, in recent studies on Roma people. Prevalently based on qualitative and ethnographic work (see the review by Ioannoni et al. 2020), this line of research has yielded essential insights on Roma migrant communities, although it has rarely employed methods of social network analysis – a frequent omission in migration studies (Bilecen, Gamper, and Lubbers 2017). Pantea's (2013) ethnography, for example, describes social support networks as the 'migration infrastructure' (3) of Romanian Roma moving to Western Europe, highlighting different combinations of bonding and bridging social capital in Roma communities. Sordé et al. (2014) offer an ethnographic account of solidarity networks among Roma immigrant women in Spain, illustrating their role in facilitating resistance to social exclusion and access to education, employment, and social participation. Legros and Lièvre (2019) examine the different ways in which Romanian Roma in France mobilise resources in their networks to cope with securitisation.

Analysing networks of co-presence in French shantytowns, Cousin, Bianchi, and Vitale (2020) suggest that the relationships formed by Roma people after migration are more important than autochthonies and regions of origin in shaping their behaviours and attitudes towards integration.

1.1. The homophily hypothesis

A recurrent hypothesis in studies of migration and social networks is that *homophily* is the main principle organising the formation of ties and the exchange of social support among migrants. Homophily – the principle that people who are similar on some socio-demographic trait are more likely to interact and establish relationships – has been widely documented in the general population on multiple dimensions, including ethnicity, religion, and gender (McPherson, Smith-Lovin, and Cook 2001). Applied to questions of migration and social support, the homophily hypothesis suggests that migrants obtain support mostly from homogenous networks of people who are similar to them on some sociodemographic characteristic.

Kinship and ethnic homophily, in particular, implies that migrants obtain most social support from family members and co-ethnics. Family and other co-ethnic networks are known to play an essential role in facilitating migration and initial settlement in destination countries (see Boyd 1989; Massey et al. 1993 for reviews). ‘Bounded solidarity’ and ‘network closure’ between members of the same ethnic community have been depicted as a powerful source of social capital that arises when co-ethnic migrants face marginalisation and barriers to upward mobility, leading to a sense of shared identity and common fate (Portes and Sensenbrenner 1993). Ethnic homophily has also been studied as functional to ‘opportunity hoarding’ – the in-group confinement of valuable resources – in migrant networks (Tilly 2005). The social capital originating from co-ethnic (and, in general, sociodemographically similar) ties has been called *bonding*, in contrast with the *bridging* social capital derived from far-flung connections with people outside one’s ethnic or sociodemographic group (Putnam 2007; Ryan et al. 2008). In terms of network structure, bonding social capital is associated with closure or cohesion (Coleman 1988), while bridging social capital tends to correspond with sparsely connected networks rich in structural holes (Burt 2001).

Recent research has found high levels of ethnic homophily in migrants’ personal networks in Europe, and has underscored the important role of family members in providing certain types of support such as financial aid and child or elderly care (e.g. Dahinden 2005; van Tubergen 2015; Bilecen and Cardona 2018). Romani studies too have often emphasised kinship and ethnic homophily, solidarity and closure in Roma communities. Romanian Roma migration has been described as a family-based project (Sordé Martí et al. 2012), which occurs through kinship and co-ethnic networks characterised by high cohesion and segregation (Pantea 2013). Researchers have claimed that kinship is an important principle in the social and spatial organisation of Roma shantytowns (Vlase and Voicu 2014), and that the Roma develop a strong sense of family attachment and ethnic solidarity as a reaction to racialisation, ghettoisation, and social exclusion (Sordé et al. 2014; Powell and Lever 2017).

Religion, gender, and geography are other potential dimensions of homophily in Roma social networks. *Shared religion* is presented as an important factor of socialisation

and support exchange in certain literature about Roma migration (Prieto-Flores and Sordé-Martí 2011; Vlase and Voicu 2014). Roma communities are sometimes described as patriarchal and characterised by strong gender-based roles and segregation (Pantea 2013; Sordé et al. 2014; Vlase and Voicu 2014), which may discourage inter-gender interactions and produce *gender homophily* in support exchanges. Finally, *spatial proximity* is known to heavily shape the formation of social ties (McPherson, Smith-Lovin, and Cook 2001; Small and Adler 2019) and influence the exchange of at least certain types of support in the general population (Wellman and Wortley 1990; Mok and Wellman 2007). Migrants too, both Roma (Sordé et al. 2014; Legros and Lièvre 2019) and of other ethnicities (Dahinden 2005; Ryan et al. 2008), rely on local neighbourhoods and cities of residence as a source of spatially close relationships and support.

1.2. The networked individualism hypothesis

The homophily hypothesis posits that social support derives mostly from homogeneous networks of ties in the same family, ethnic group, religion, locality, or gender. An alternative hypothesis, originating in studies of personal communities in non-migrant populations, is that the organisation of social support in contemporary societies is best described as ‘networked individualism’ (Rainie and Wellman 2012). The argument here is that contemporary personal communities tend to be sparsely connected, diverse, and far-flung networks that span distant social contexts, linking various, specialised resources and skills. These are contrasted with preindustrial or traditional communities, which consisted of tightly-knit, homogeneous, and local networks based on bounded, overlapping social groups such as the family, work unit, and village. While social ties in traditional communities were mostly strong, homophilous, and multiplex (i.e. existing in multiple social contexts or settings simultaneously, such as a relative who is also a co-worker), contemporary communities are rich in weak, heterophilous, and simplex ties (i.e. only maintained in one social context). At the centre of these communities, ‘networked individuals’ are autonomous agents able to recognise, navigate and maneuver various relational resources, obtaining different types of support from alters with different sociodemographic characteristics and skills (Wellman and Wortley 1990; Wellman and Gulia 1999). Vacca (2020) showed that the theoretical distinction between traditional communities and networked individualism aligns well with empirical typologies of personal network structures found in real-world data, which typically identify a spectrum from highly cohesive, tightly-knit and closed networks (corresponding to the traditional community type), to sparse, fragmented or ‘multi-factional’ structures (corresponding to networked individualism).

Considering some recent evidence, the networked individualism hypothesis may be closer than the homophily model to the reality of support exchanges among Roma migrants. In their ethnography in French cities, for example, Legros and Lièvre (2019) portray Roma residents in terms that are strikingly close to the networked individualism literature. They stress the agency and autonomy of these migrants, showing their ability to adapt behaviours and discourses to different situations, to ‘play on several tables at the same time’, and to ‘maintain their room for maneuver within integration structures’ (82–83; see also Clavé-Mercier and Angell 2018). Similar to networked individuals, Roma migrants are described as strategic actors with strong ‘relationship skills’ (77), who are

acutely aware of the diverse resources existing in their networks and know when and how to leverage them. These networks are a mixture of local and transnational relationships, family-based, co-ethnic, and out-group ties with French associates or other ethnicities, which migrants mobilise at different times for different needs. In a similar vein, other research has found that kin and co-ethnic solidarity may be limited in transnational migrant networks (Dahinden 2005), that migrants' personal communities are often a diverse and dynamic mixture of bonding and bridging social capital (Ryan et al. 2008; Vacca et al. 2018), and that migrants often rely on both co-ethnic and non-ethnic contacts, but for different types of support (de Miguel Luken and Tranmer 2010).

2. Research questions and contribution of this study

This article asks three related questions:

- i What types of relationships are the main sources of social support for Romanian Roma migrants in France?
- ii Is support in different domains (e.g. financial, professional, housing-related) provided to these migrants by the same social ties (*multiplex*, overlapping support) or by different ties (*simplex*, specialised support)?
- iii Are Romanian Roma support networks best described by the homophily hypothesis or by the networked individualism model?

We concentrate here on five potential dimensions of homophily: kinship, ethnicity, religion, geography, and gender. This article proposes the first attempt to obtain generalisable results from survey data about personal networks in a population of Roma migrants in Western Europe. A crucial advantage of these data lies in the 'unbounded' nature of personal networks, which are not limited by design to one particular social context or type of relationship, such as school, dating, or marriage (Perry et al. 2020). Instead, personal network data offer a comprehensive view of a migrant's entire social world, cutting across multiple groups and foci of interaction (van Tubergen 2015; Vacca et al. 2018). Two other important characteristics of our data are the large size of the personal networks they describe (thirty alters for each respondent) and their ability to show the full structure of alter-alter ties in each ego-network (i.e. the distribution of connectivity among a respondent's social contacts). These features – which result from the design of our survey and are relatively uncommon in egocentric network data (McCarty et al. 2019) – allow us to examine not just the provision of support in different domains, but also the variation in types of personal community structure in a way that would be impossible with less detailed information.

3. Data, variables, and methods

3.1. Data: the REPIN survey

We use data from the REPIN study, a survey on personal networks, migration and social mobility among Romanian Roma migrants in France.¹ The study combined rigorous quantitative data collection with a heavy ethnographic component that allowed

researchers to recruit a highly diverse sample of respondents in a particularly hard-to-reach population, develop a detailed questionnaire tailored to the Romanian Roma in France, and collect extensive information about sensitive issues that are typically difficult to cover in migration surveys. Conducted in 2015, the survey collected information about 119 respondents and the 3,570 social ties they nominated. These were Romanian Roma migrants recruited and interviewed in different French cities by a team of ethnographers who had known and established a relationship with each of them over multiple years of field research.² The respondents were selected among research participants who had been encountered in previous ethnographic studies conducted by the team, and who met the following criteria:

- i Were between 18 and 70 years of age.
- ii Had resided in France for at least 6 months.
- iii Had lived at some point (or currently lived) in a French shantytown.

All respondents reported a significant improvement in their material life conditions after migration (e.g. income increase, higher food security, better housing or new property in Romania), consistently with recent survey findings suggesting that almost all Romanian Roma migrants who live in French shantytowns have experienced an improvement of material life conditions with migration (European Roma Rights Centre 2014).

In the personal network component of the survey, respondents listed and described in detail their ties with 3,570 social contacts in total. A single question (name generator) was used to elicit a list of alters from each respondent: ‘Please list 30 personal contacts, members of your family, friends or acquaintances with whom you have interacted in the past two years and on whom you can rely’. This is a version of the ‘total personal network’ name generator (McCarty et al. 2019) that focuses on potentially supportive ties. A fixed set of questions (name interpreters) was then asked about each alter and the relationship between the ego and that alter, including questions about sociodemographics, type of relationship, and social support. Finally, a set of questions (edge interpreters) asked the respondent whether each alter knew each other, in order to obtain information about the distribution of ties among each respondent’s social contacts (i.e. the structure of each personal network). As is the norm in personal network surveys, the alters were never directly interviewed: all characteristics of alters and social ties were reported by the respondent (ego) who nominated them.

3.1.1. Sampling aims and constraints

The ethnography-based selection of participants in the REPIN study was not a traditional, probability-based sampling procedure, and its result is not a random sample of Romanian Roma migrants in France with known representativeness of the underlying population. However, this sampling method offered a feasible solution dictated by specific aims and constraints of the research.

First, the project aimed to specifically study the population of Romanian Roma in France who, at least at some point in their migration trajectory, had transited through a shantytown (recruitment criterion [iii] above). While precise estimates are not available, this is thought to be the majority of the Romanian Roma population in France

(Legros and Vitale 2011; Olivera and Poueyto 2018). It is also a population that has been particularly exposed to stigmatisation, segregation and marginalisation from local mainstream communities (Nacu 2011; Bessone et al. 2014), potentially resulting in even stronger homophily, bounded solidarity, and closure in social networks. Yet, complicating sampling and recruitment, the study was interested in capturing trajectories of migrants both inside and outside shantytowns, including those who had experienced upward social mobility and had left the camps.³

Second, the study aims required long, in-depth and at times sensitive interviews, which were only feasible in a context of acquaintance, rapport and mutual trust between interviewers and respondents, created by previous ethnographic work. Interviews were conducted in Romanian and French, lasted four hours on average (over multiple sessions), and asked a combination of standard survey questions, detailed questions about social ties, migration history, and economic conditions, and open-ended questions. Typical of personal network surveys, the questionnaire elicited specific and potentially sensitive information about the respondent's relationship with each of thirty named social contacts. It also asked information about topics – such as legal status, ethnic identity, housing situation, and wealth – which are particularly sensitive in a migrant minority that common stereotypes associate with nomadism, shantytowns, and property crimes.

Third, in the absence of sampling frames and official statistics, ethnographic knowledge of local Roma communities was the only means to obtain a diverse sample stratified by crucial sociodemographic characteristics like employment, education, and housing condition. The result is a very diverse pool of respondents (see Table 1), including Roma migrants with different sociodemographic profiles (e.g. gender, age, education, religion), migration histories, and levels of socioeconomic incorporation (e.g. French language proficiency, legal status, employment, housing condition).

Finally, standard probability-based sampling is notoriously challenging, if not impossible, in Roma migrant populations. This is the case because of multiple, compounding issues (European Union Agency for Fundamental Rights & UNDP 2012, 29): the lack of official sampling frames and statistics about Roma migrants, which is particularly serious in France where population studies have been historically limited in their ability to collect racial/ethnic information (Simon 2008); the ambiguities of the Roma ethnic classification, which is difficult to reliably capture in survey questionnaires with no ethnographic component; and the stigma surrounding this population, which discourages Roma migrants from disclosing their ethnicity, migration status, and other personal information (Rughiniş 2010).

3.2. Measures and variables

3.2.1. Social support

Our dependent variables derive from five binary (Yes/No) name interpreters about social support, asked to the respondent about each alter:

- i Has this person ever offered or loaned you money? (*Financial support.*)
- ii Has this person ever helped you to complete administrative paperwork, or to deal with the judicial system, or as intermediary to deal with health care providers? (*Legal/administrative support.*)

Table 1. Sociodemographic and incorporation characteristics in the whole sample (Total) and among migrants in each personal community type.

	Total N (%)	Closed community N (%)	Dense core- periphery N (%)	Sparse core- periphery N (%)	Bi- factual N (%)	Sparse multi- factual N (%)
<i>Gender</i>						
Male	78 (66)	15 (68)	19 (83)	17 (63)	19 (56)	8 (62)
Female	41 (34)	7 (32)	4 (17)	10 (37)	15 (44)	5 (38)
<i>Marital status</i>						
Married	107 (90)	21 (95)	21 (91)	26 (96)	28 (82)	11 (85)
Not married	12 (10)	1 (5)	2 (9)	1 (4)	6 (18)	2 (15)
<i>Religion</i>						
Orthodox	68 (57)	16 (73)	11 (48)	16 (59)	18 (53)	7 (54)
Pentecostal	29 (24)	1 (5)	8 (35)	8 (30)	8 (24)	4 (31)
Other	22 (18)	5 (23)	4 (17)	3 (11)	8 (24)	2 (15)
<i>Education</i>						
No education	11 (9)	3 (14)	3 (13)	3 (11)	2 (6)	0 (0)
Primary school	25 (21)	8 (36)	4 (17)	8 (30)	3 (9)	2 (15)
Middle school	50 (42)	6 (27)	12 (52)	13 (48)	15 (44)	4 (31)
High school	25 (21)	5 (23)	3 (13)	2 (7)	10 (29)	5 (38)
More than HS	8 (7)	0 (0)	1 (4)	1 (4)	4 (12)	2 (15)
<i>Employment*</i>						
No or occasional	42 (35)	11 (50)	8 (35)	10 (37)	11 (32)	2 (15)
Regularly employed	51 (43)	6 (27)	9 (39)	7 (26)	19 (56)	10 (77)
Self- or informally employed	26 (22)	5 (23)	6 (26)	10 (37)	4 (12)	1 (8)
<i>Housing type</i>						
Regular apt/house	37 (31)	2 (9)	8 (35)	8 (30)	13 (38)	6 (46)
Public housing	41 (34)	8 (36)	8 (35)	9 (33)	11 (32)	5 (38)
Squat, shack, plot	41 (34)	12 (55)	7 (30)	10 (37)	10 (29)	2 (15)
<i>Legal status</i>						
No documents	19 (16)	7 (32)	4 (17)	2 (7)	5 (15)	1 (8)
Carte de séjour†	35 (29)	9 (41)	7 (30)	10 (37)	5 (15)	4 (31)
Citizenship	65 (55)	6 (27)	12 (52)	15 (56)	24 (71)	8 (62)
<i>French proficiency</i>						
Good	71 (60)	10 (48)	12 (52)	15 (56)	26 (76)	8 (62)
Sufficient	26 (22)	6 (29)	8 (35)	6 (22)	4 (12)	2 (15)
Poor	21 (18)	5 (24)	3 (13)	6 (22)	4 (12)	3 (23)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Age*	35.1 (9.6)	35 (9.1)	37.5 (8.6)	37.9 (11)	30.4 (8.1)	37.2 (9.6)
Years since migration*	9 (4.7)	9.6 (3.2)	10.8 (4.2)	9.7 (4.9)	7.1 (3.9)	8.4 (7.2)
N (row %)	119 (100)	22 (18)	23 (19)	27 (23)	34 (29)	13 (11)

* p -value < 0.05 in test of association between variable and community types (chi-squared test for categorical variables, anova test for continuous variables). Percentages are column proportions (except in last table row). † “Carte de séjour” is a temporary permit for legal residence with work authorisation.

- iii Has this person ever helped you to find housing? (*Housing support.*)
- iv Has this person ever helped you with problems related to your job or business, or to find resources (such as means of transportation) needed to develop your business or expand your clientele? (*Professional support.*)
- v Has this person ever helped you to take care of your children, or elderly parents or grandparents, or other family members with health problems? (*Family support.*)

The survey team’s previous ethnographic work was essential to identify these five dimensions (henceforth also called support types or domains) as central aspects of social support in this population (Legros and Lièvre 2019). In addition to examining these five variables separately, we also combine them to construct a measure of

support *multiplexity*: the count of different support types provided by a tie (ranging from 0 to 5). Some of the following analyses consider multiplexity in its categorical version, with three categories indicating if the tie provides *No support* in any dimension, *Simplex* support (one dimension only), or *Multiplex* support (two or more dimensions simultaneously).

3.2.2. Sociodemographic information about egos and alters

The survey asked information about sociodemographic characteristics of the respondents and their alters. For the respondent, the variables considered in our analyses are Age, Gender, Marital status, Religion, Education, Years since migration to France, Employment, Housing type, Legal status, and French language proficiency. Table 1 presents response categories and descriptive statistics for these ego-level variables. For the alters, we consider the following sociodemographic characteristics: Gender, Age bracket, Nationality/ethnicity (Romanian Roma, Romanian gadjo, French gadjo, Other), Religion (Orthodox, Pentecostal, Other). *Gadjo* (plural *gaže*) is the Romani term for ‘non-Roma’. Table S1 in the Supplementary Materials reports descriptive statistics for the most important alter-level variables.

3.2.3. Homophily of social ties

Homophily measures, observed for each tie between an ego and an alter, are the central explanatory variables in our analyses. To capture *kinship*, respondents were asked what type of relationship they had with each nominated alter. This is coded as a binary variable that classifies an alter as family member if the answer is ‘Close family (children, siblings, parents)’ or ‘Other family (including in-laws)’. For *ethnic* homophily, we consider a tie as co-ethnic if the alter is Romanian Roma. *Religious* homophily is measured by a binary indicator of whether ego and alter are of the same religion (Catholic, Orthodox, Evangelic, Pentecostal, or Adventist) or not. We capture *geographic* similarity or proximity with a categorical measure indicating if the alter lives in the Same city as the ego, in Another location in France, or Outside France (in Romania or a third country). Finally, we measure *gender* homophily with a binary variable that flags ties in which ego and alter are of the same gender (both male or both female).

3.3. Methods of analysis

We start by identifying typical structures of Romanian Roma personal communities. We use a recently proposed method (Vacca 2020) which first detects cohesive subgroups of nodes (alters) in each personal network via a subgroup detection algorithm, then applies k-medoid cluster analysis to classify networks into different structural types based on the number of cohesive subgroups of alters, number of disconnected alters, and value of modularity (a measure of ‘goodness-of-fit’ of the subgroup partition). The resulting typology reveals typical or recurrent configurations of personal communities in the data, locating each type along a spectrum from highly cohesive and tightly-knit communities with high levels of network closure, to sparse, fragmented or ‘multi-factional’ communities in which the ego bridges structurally disconnected alters and separate social circles.

We then turn to the question of specialisation and multiplexity in social support, and analyse the overlap or association between provision of support in different domains.

Low overlap between support domains signals a pattern of *specialisation* of supportive ties, in which different social contacts provide different types of support, and characterises personal communities that are closer to the networked individualism model. Conversely, *high* overlap between support domains reveals a pattern of support *multiplexity*, in which the same social ties tend to provide support in multiple domains, and is typical of personal communities that are better described by the homophily hypothesis. We use the Jaccard index (Salton and McGill 1983, 203), a common and easily interpretable measure of overlap between binary variables (in our case, the five support indicators). Ranging from 0 (no overlap) to 1 (complete overlap), this index quantifies the extent to which two sets (in our case, the sets of ties that provide two types of support, e.g. financial and professional) intersect: it equals the number of common elements in the two sets (e.g. the number of ties that provide *both* financial and professional support) as a proportion of the total number of elements in the two sets (e.g. the number of ties that provide *either* financial or professional support). To evaluate significant departures from overlap occurring by chance, we compare values of the Jaccard index observed in our data with values that would be expected under conditions of independence between support domains (i.e. no significant tendency to multiplexity) (Chung et al. 2019).

In the final part of the analysis, we use multilevel logistic models to identify individual, relational, and contextual factors associated with the provision of support in each dimension, and with the provision of simplex or multiplex support. Multilevel logistic regression is a common method in studies of personal networks and social support (Vacca 2018; Vacca, Stacciarini, and Tranmer 2019; McCarty et al. 2019) because ego-centric network data are multilevel: their most granular units of observation – the alters or ties (the ‘level 1’ in multilevel terminology) – are clustered within higher-level groups – the egos or personal networks (‘level 2’). Multilevel models account for this clustering, the resulting dependence between ties nominated by the same ego, and the existence of two levels of variation in the data (ties and respondents). We apply multilevel *binary* logistic regression to model the probability that a tie provides support in each of the five dimensions separately; and multilevel *multinomial* logistic regression to model the probability that a tie provides Simplex or Multiplex support (as opposed to the reference category of No support).

The same set of explanatory variables is included in all models, with five central variables representing characteristics of social ties or alters (see sections 3.2.2 and 3.2.3), and corresponding to the five homophily dimensions of interest in this study:

- i Whether the tie is with a family member (kinship homophily).
- ii Nationality/ethnicity of the alter (ethnic homophily).
- iii Whether the alter is of the same religion as the ego (religious homophily).
- iv Where the alter lives (geographic homophily).
- v Whether the alter is of the same gender as the ego (gender homophily).

The models also include the following control variables:

- i Basic sociodemographic characteristics of the alter and the ego, which may be associated with different support patterns according to existing literature (Wellman and Wortley 1990): alter’s gender and age; ego’s gender and age.

- ii Measures of migrant incorporation, as previous research documents differences in configurations of personal networks and social support between migrants at different levels of incorporation in receiving societies (Bilecen and Cardona 2018; Bolibar, Marti, and Verd 2015; de Miguel Luken and Tranmer 2010): ego's years since migration and employment status.
- iii Compositional and structural characteristics of overall personal networks, which may also play a role in the process of social support generation (Wellman and Frank 2001; Vacca 2020): the proportion of family members in the network, the proportion of co-ethnic contacts in the network, and the type of personal community structure.

Finally, two cross-level interactions are added to examine whether support homophily in two central dimensions – kinship and ethnicity – varies at different stages of the migration trajectory: an interaction between ego's years since migration and whether the tie is with a family member; and an interaction between ego's years since migration and alter's ethnicity.

In addition to showing standard odds ratio estimates for the models, we calculate predicted probabilities and Discrete Change at the Mean (DCM) in predicted probabilities to compare predictor effects (Long and Mustillo 2018). DCMs quantify the increase or decrease in predicted probability of support that is associated with a given characteristic (e.g. with a co-ethnic social tie as compared to a tie outside the ethnic group), providing a way of assessing predictor effects that is both easily interpretable and comparable across different models.⁴

4. Results

4.1. Types of personal communities

The average REPIN respondent is male, about 35 years old ($SD = 9.6$), and has lived in France for 9 years ($SD = 4.7$); he is married, Christian Orthodox, and with a middle-school level of education (Table 1; more details on the distributions of continuous variables are in Figure S1). Age and years since migration are remarkably variable in the sample, ranging between 18 and 66 years old and between less than a year and 25 years since migration, respectively. Most respondents report relatively good levels of incorporation according to standard measures, being regularly employed (43%), with full citizenship (55%) and good French language proficiency (66%). However, a substantial portion of respondents show much worse incorporation outcomes, with no or only occasional employment (35%), poor housing conditions in a squat, shack or plot (34%), no legal immigration documents (16%), or poor French language proficiency (18%).

The typical structures of personal communities among research participants are shown in Figure 1 and reflect the same spectrum found in other egocentric network data between highly cohesive and fragmented network configurations (Vacca 2020). The *Closed community* and *Dense core-periphery* types are tightly-knit, strongly cohesive personal networks in which all or most alters know each other, typically seen as a source of bonding or closure social capital. *Sparse core-periphery* networks are less cohesive and include a larger proportion of disconnected alters, with greater potential for weak ties and

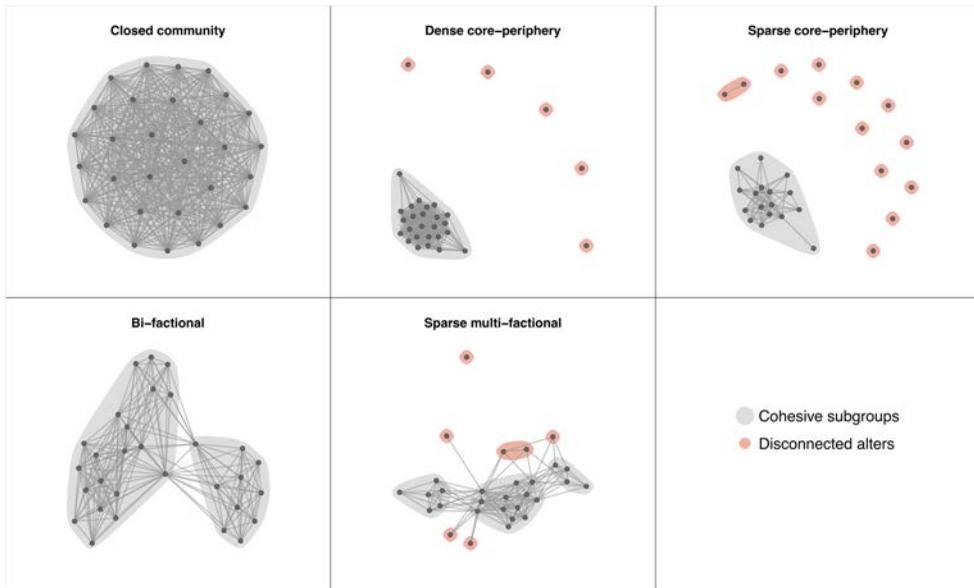


Figure 1. Personal networks representative of the five identified types of personal community. Each point is a social contact (alter) of a respondent (ego). Two alters are connected if they know each other. Ego is not included in the visualisations.

bridging social capital. *Bi-factional* and *Sparse multi-factional* structures are sparser, more fragmented networks in which the ego connects different and separate social circles and is more likely to benefit from the social capital of bridging positions and structural holes.

A very heterogeneous distribution of network structures is observed, as the five types are almost evenly represented in the data: about one fifth of the respondents fall in each type (Table 1), except for the more common *Bi-factional* type (about 30% of respondents) and the less frequent *Sparse multi-factional* type (about 10% of the sample). To some extent, different sociodemographic and incorporation profiles characterise egos in different types of personal community. Migrants in networks of the *Closed community* type, for example, are more frequently Orthodox, with lower educational level, poorer housing, worse employment condition, and more precarious legal status. By contrast, participants with *Bi-factional* and *Multi-factional* personal communities tend to be more recent migrants, with higher educational level and better incorporation outcomes (in terms of housing, employment, and French language proficiency).

In the average personal network in the data, slightly less than half of the nominated social ties are with family members, slightly more than half are with co-ethnics, and approximately half of the ties are with alters of the same religion (Table 2, see Figure S1 for more details on the distributions of these homophily measures). Importantly, not all co-ethnic ties are family, and not all family ties are co-ethnic (see Table S1). Furthermore, about 60% of the alters are local (they live in the same city as the respondent) and of the same gender as the ego. Besides these average trends, there are notable differences between types of personal community in terms of homophily.

Table 2. Overall levels of homophily and support in personal networks in the whole sample (Total) and in each personal community type: Mean (SD).

	Total	Closed community	Dense core-periphery	Sparse core-periphery	Bi-factional	Sparse multi-factional
<i>Percentage of ego's social ties that are ...</i>						
Family*	45 (18)	58 (20)	45 (17)	43 (16)	40 (18)	37 (13)
Co-ethnic*	55 (25)	75 (19)	62 (22)	51 (26)	49 (23)	39 (24)
Same religion as ego*	49 (28)	61 (26)	58 (28)	49 (29)	40 (28)	39 (24)
In same city as ego	57 (28)	63 (31)	47 (25)	67 (20)	54 (30)	50 (34)
Same gender as ego	62 (14)	58 (16)	64 (16)	61 (11)	64 (13)	60 (12)
<i>Percentage of ego's social ties that provide ...</i>						
Financial support	26 (18)	29 (14)	27 (18)	26 (22)	24 (17)	28 (23)
Legal/administrative support	24 (14)	25 (15)	25 (16)	29 (14)	19 (12)	23 (15)
Housing support	17 (15)	15 (13)	17 (19)	22 (16)	14 (11)	14 (17)
Professional support	24 (18)	23 (20)	20 (17)	28 (17)	25 (19)	18 (14)
Family support	31 (22)	30 (23)	35 (25)	33 (20)	27 (20)	35 (25)
Any support	65 (24)	67 (26)	62 (29)	74 (21)	59 (21)	62 (26)
Multiplex support	34 (20)	37 (19)	37 (24)	37 (17)	30 (17)	33 (23)
Average support multiplexity of ego's ties	1.2 (0.6)	1.2 (0.5)	1.2 (0.7)	1.4 (0.6)	1.1 (0.5)	1.2 (0.8)
Overall support multiplexity of ego's network	4.7 (0.6)	4.6 (0.8)	4.6 (0.7)	4.9 (0.4)	4.7 (0.6)	4.6 (0.7)
N ties	3,570	660	690	810	1020	390

* *p*-value < 0.05 in anova test of association between variable and community types.

As expected, more tightly-knit and closed communities (the Closed community and, to a lesser extent, Dense core–periphery types) tend to be more homophilous, with higher proportions of social ties in the same family, ethnic group, religion, and city as the ego. At the opposite end, Bi-factional and especially Sparse multi-factional networks are more diverse and heterophilous, comprising on average fewer social ties with family members, co-ethnics, contacts of the same religion, and alters in the same city.

4.2. Distribution and overlap of social support

In the personal network of the average research participant, 65% of social ties provide at least one type of support, yet only about a third of them provide multiplex support in two or more dimensions (Table 2, see Figure S2 for the distributions of these support measures). While most ties are supportive only in a single domain (1.2 domains on average), the network as a whole typically offers support in all dimensions (4.7 domains on average out of five possible). This pattern is a first indicator of support specialisation, with the full network providing support in most or all domains, but each tie typically specialising in just one or two of them. Importantly, Table 2 suggests that both the overall levels of support provided by the network and the patterns of support multiplexity are similar across types of personal community. There are no significant differences, for example, between Closed community networks and Sparse multi-factional networks in terms of the percentage of social ties providing each type of support, any type of support, or multiplex support. Thus, while denser and more tightly-knit communities tend to be more homogenous in sociodemographic traits, they are *not* more supportive overall.

Shifting from aggregated network characteristics to individual social ties, different ‘support profiles’ emerge for ties within and outside the family and the ethnic group,

which tend to provide aid in different dimensions (Table 3). For example, family and co-ethnic ties are much more likely to provide financial support compared to ties outside the family or the ethnic group, with the odds of financial support provision increasing by a factor of 3.1 for family (compared to non-family) and 2.7 for co-ethnic ties (compared to French gadjo ties). Conversely, ties outside the family and the ethnic group (in particular, ties with French gaže) are much more likely to provide legal/administrative support, with the odds of legal/administrative support decreasing by a factor of 0.3 for family (vis-à-vis non-related) and 0.1 for co-ethnic ties (compared to French gaže), respectively. Notably, the percentage of ties that provide *any* type of support is about the same (65%) within and outside the family; but is much higher (80%) among native-born French alters compared to Romanian Roma contacts (61%, odds ratio = 0.4). Similarly, the percentage of ties that provide *multiplex* support is approximately the same within and outside the family (about 35%), but much higher among French (50%) than co-ethnic ties (30%, odds ratio = 0.4). Additional results (not reported in the table) indicate that relationships with native-born, French individuals mostly stem from three types of social context: school or social services (62% of French alters), local neighbourhood in France (17%), and work (17%). Table S1 also shows different sociodemographic and homophily profiles of ties within and outside the family and the ethnic group. Interestingly, French gadjo contacts are much more likely to be female and local, compared to co-ethnic ties; while family ties are more likely than non-related alters to be transnational.

Figure 2 displays the level of overlap between different support dimensions (Jaccard index, JI) among ties in all networks and in each personal community type. As a term of comparison, the grey lines in the figure represent the level of overlap that would be expected by chance under the null hypothesis of independence or no association between different support domains, that is, of no significant tendency to support multiplexity.⁵ In most cases overlap is substantively low and close to, or only slightly higher than, its expected value under independence. Among all ties, for example, the Jaccard index between financial support and housing support is about 0.15: of all the ties that are supportive in one of these two dimensions, only 15% provide multiplex support in *both* dimensions simultaneously. By comparison, the expected value of the index under independence is 0.13, just 2 percentage points lower: in the hypothesis of no

Table 3. Percentage of ties in column that provide support indicated in row.

	All ties	Tie to family member			Nationality/ethnicity of contact		
		Yes	No	OR	Romanian Roma	French gadjo	OR
<i>Tie provides ...</i>							
Financial support	26	39	17	3.1	32	15	2.7
Legal/administrative support	24	12	33	0.3	12	56	0.1
Housing support	17	10	22	0.4	10	38	0.2
Professional support	24	16	30	0.4	19	33	0.5
Family support	32	43	22	2.7	37	30	1.4
Any type of support	65	65	65	1	61	80	0.4
Specialised support	31	31	30	1	31	30	1
Multiplex support	34	34	35	1	30	50	0.4
N ties	3,570	1596	1974		1959	837	

OR = Odds Ratio of providing support indicated in row for first column category (Yes or Romanian Roma) compared to second column category (No or French gadjo).

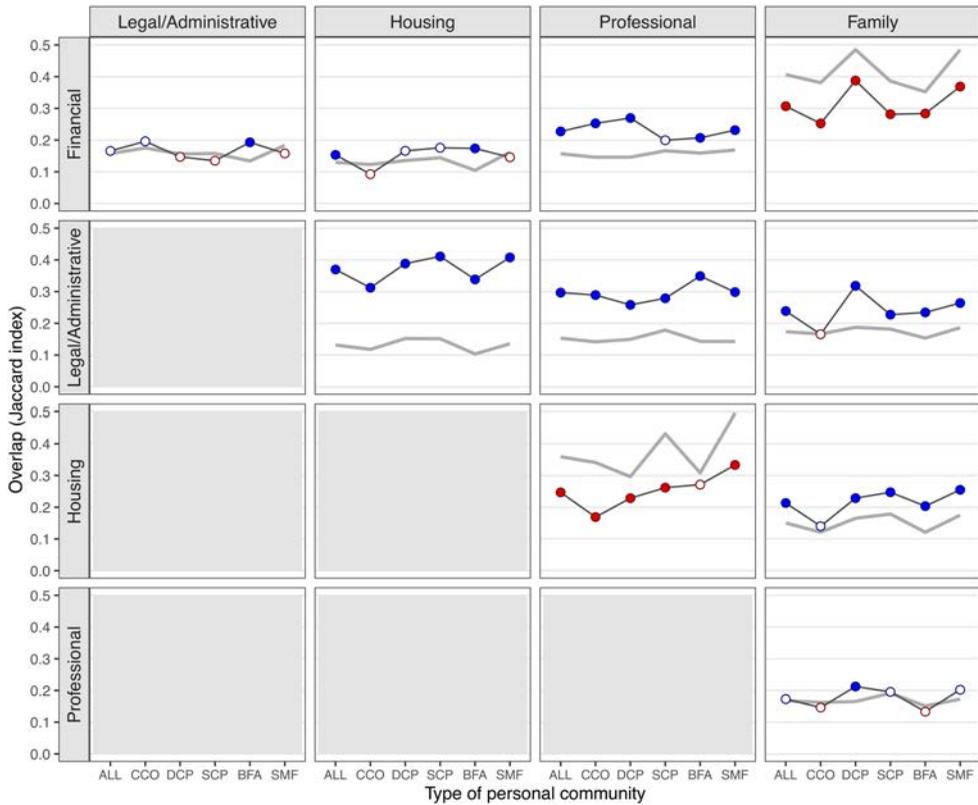


Figure 2. Overlap between each pair of support dimensions among all social ties (ALL) and among social ties in each personal community type (CCO = Closed community, DCP = Dense core-periphery, SCP = Sparse core-periphery, BFA = Bi-factional, SMF = Sparse multi-factional). Grey line: Expected overlap values (EV) in the hypothesis of independence between support dimensions. Circles: Observed overlap values (OV). Blue circle: OV > EV (significant difference). Red circle: OV < EV (significant difference). White circle: OV not significantly different from EV (5% significance level).

tendency to multiplexity, we expect 13% of all supportive ties in the two domains to overlap by chance. Most observed overlap values are around 20%, indicating that, for every pair of support dimensions, only about one in five supportive ties provides support in both dimensions simultaneously. In most cases, observed overlap values exceed expected values under independence by margins that are either not statistically significant or substantively small (lower than 10 percentage points). In some cases (financial and family support, housing and professional support), observed values are even significantly lower than expected by chance under independence. These low overlap values, consistently with the low degrees of tie multiplexity observed in Table 2, reveal that study participants tend to obtain different types of support from different social contacts, a pattern that does not vary substantially across configurations of personal community. Only two combinations of support dimensions exhibit levels of overlap that are both substantively higher and greater than expected under independence: legal/administrative and professional support (30% overlap on average) and legal/administrative and housing support (37% overlap on average).

4.3. Multilevel models: determinants of social support

Figure 3 summarises the multilevel model results that are most relevant to our research questions, while full results are shown in Tables 4 and 5 (binary models) and Table S2 (multinomial model) as estimated odds ratios. Figure 3 visualises the change in the predicted probability of support at mean values of the predictors (DCMs) when each focal predictor is toggled from the reference category to the category of interest: for example, for Family, the change in predicted probability of support between ties outside the family (the reference category) and ties with family members.⁶ Blue bars indicate a significant positive effect of the predictor on support likelihood (increase in probability) while

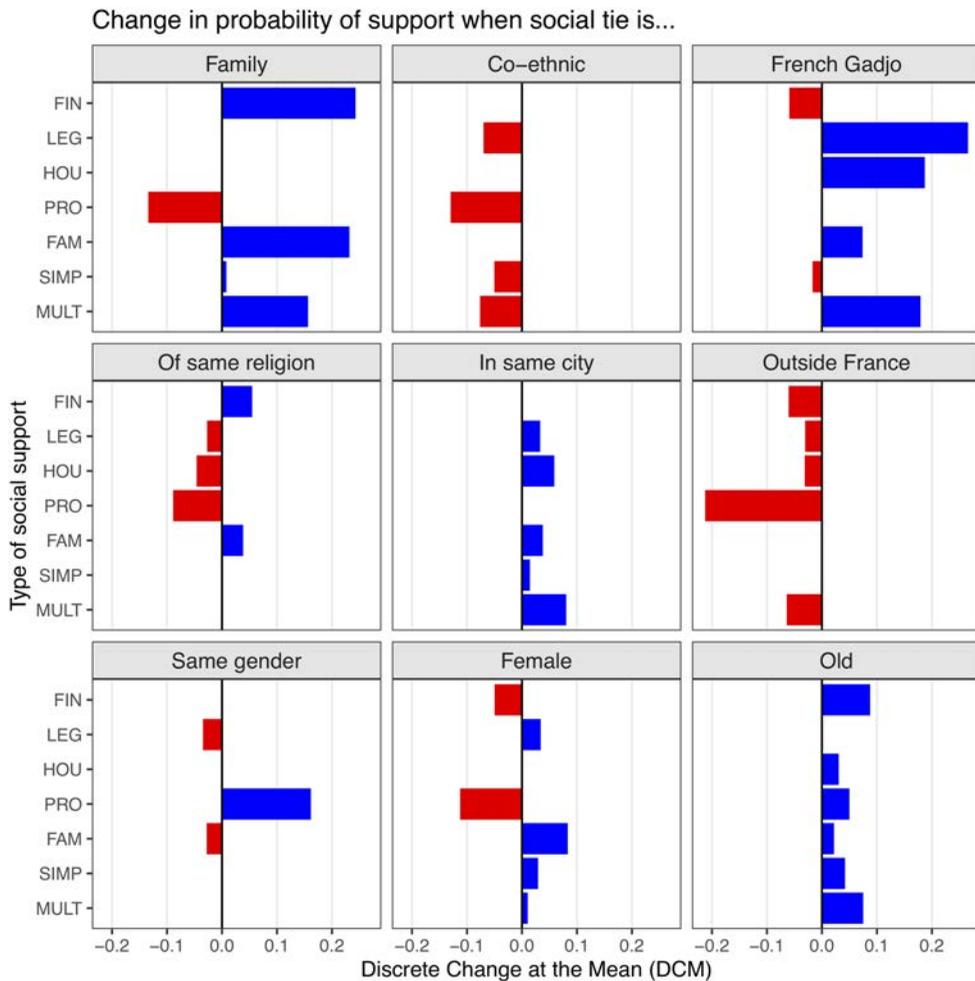


Figure 3. Discrete change in predicted probability (DCM) that a tie provides support when predictor is toggled from reference category to category of interest (for *Old*, from Mean – SD to Mean + SD) based on models in Tables 4–5 and S2 (see model tables for reference categories). DCM (bar) is not shown when corresponding predictor coefficient is not significant at 5% level. All predicted probabilities are calculated with other predictors set at sample mean if continuous, mode if categorical (see Table S3). Type of support: FIN = Financial, LEG = Legal/Administrative, HOU = Housing, PRO = Professional, FAM = Family, SIMP = Simplex, MULT = Multiplex.

Table 4. Exponentiated coefficient estimates (Confidence Intervals).

	Financial	Legal/Adm	Housing
Family tie	3.52 *** (2.73 - 4.54)	0.81 (0.61 - 1.08)	0.95 (0.68 - 1.33)
Alter's nationality/ethnicity (ref: Other)			
Romanian Roma	1.03 (0.67 - 1.58)	0.54 ** (0.35 - 0.82)	1.08 (0.66 - 1.77)
Romanian gadjo	1.21 (0.77 - 1.89)	1.28 (0.82 - 1.99)	0.99 (0.56 - 1.77)
French gadjo	0.58 ** (0.39 - 0.88)	3.8 *** (2.64 - 5.47)	3.39 *** (2.21 - 5.19)
Religious homophily	1.43 ** (1.11 - 1.86)	0.7 ** (0.53 - 0.92)	0.58 *** (0.43 - 0.8)
Alter lives in ... (ref: Other French city)			
Same city as ego	0.98 (0.73 - 1.32)	1.57 ** (1.16 - 2.13)	2.11 *** (1.48 - 2.99)
Romania or third country	0.59 ** (0.42 - 0.83)	0.51 *** (0.34 - 0.75)	0.47 ** (0.29 - 0.75)
Gender homophily	1.11 (0.91 - 1.35)	0.71 *** (0.58 - 0.87)	0.86 (0.68 - 1.08)
Alter is female	0.65 *** (0.54 - 0.79)	1.4 *** (1.15 - 1.71)	1.23 (0.98 - 1.55)
Alter's age	1.2 *** (1.14 - 1.27)	1.01 (0.96 - 1.07)	1.09 * (1.02 - 1.16)
Ego is female	0.74 (0.46 - 1.19)	0.72 (0.51 - 1.02)	0.48 ** (0.31 - 0.76)
Ego's age †	0.94 (0.83 - 1.06)	0.98 (0.89 - 1.07)	1.03 (0.91 - 1.16)
Ego's years since migration †	0.78 (0.52 - 1.17)	0.65 * (0.44 - 0.94)	0.5 ** (0.31 - 0.81)
Ego's employment status (ref: No or occasional employment)			
Regularly employed	0.97 (0.58 - 1.62)	0.71 (0.49 - 1.03)	0.51 ** (0.31 - 0.83)
Self- or informally employed	2.09 * (1.15 - 3.79)	1.02 (0.66 - 1.58)	1.11 (0.63 - 1.96)
Proportion family in personal network ‡	1.12 (0.84 - 1.48)	1.08 (0.88 - 1.32)	1.04 (0.8 - 1.37)
Proportion co-ethnics in personal network ‡	0.79 * (0.64 - 0.98)	1.07 (0.91 - 1.26)	0.88 (0.71 - 1.08)
Personal community type (ref: Closed community)			
Dense core-periphery	0.84 (0.41 - 1.73)	0.91 (0.53 - 1.54)	1.12 (0.56 - 2.25)
Sparse core-periphery	0.76 (0.37 - 1.56)	0.86 (0.51 - 1.45)	1.15 (0.58 - 2.27)
Bi-factional	1.04 (0.51 - 2.13)	0.54 * (0.32 - 0.92)	0.97 (0.49 - 1.95)
Sparse multi-factional	1.14 (0.45 - 2.89)	0.69 (0.35 - 1.37)	0.73 (0.29 - 1.81)
Interactions: Ego's years since migration ...			
× Family tie	1.03 (0.81 - 1.31)	1.22 (0.9 - 1.64)	1.19 (0.82 - 1.73)
× Alter is Romanian Roma	1.52 * (1.05 - 2.2)	1.31 (0.86 - 1.98)	1.23 (0.73 - 2.07)
× Alter is Romanian gadjo	1.31 (0.88 - 1.94)	1.44 (0.94 - 2.21)	2.12 * (1.19 - 3.78)
× Alter is French gadjo	1.27 (0.86 - 1.9)	2.04 *** (1.39 - 2.99)	2.81 *** (1.76 - 4.5)
(Intercept)	0.17 *** (0.08 - 0.37)	0.47 * (0.25 - 0.89)	0.14 *** (0.06 - 0.31)
Variance component			
Between-ego standard deviation	1.05	0.68	0.93
Goodness of fit			
Deviance	3376.88	3045.72	2488.86
AIC	3430.89	3099.73	2542.87
N obs (level 1: ties)	3523	3520	3522
N obs (level 2: egos)	118	118	118

*** $p < .001$, ** $p < .01$, * $p < .05$. All continuous predictors are centred around the mean. † Scaled to intervals of 5 years. ‡ Scaled to intervals of 0.2.

red bars represent a significant negative effect (decrease in probability), with bar length showing effect size.

Consistently with the descriptive analysis, Figure 3 demonstrates a diversification and specialisation pattern in which different types of social ties are characterised by different support profiles. This pattern is particularly evident in the differences

Table 5. Exponentiated coefficient estimates (Confidence Interval).

	Professional	Family
Family tie	0.55 *** (0.42 - 0.72)	5.22 *** (4.03 - 6.76)
Alter's nationality/ethnicity (ref: Other)		
Romanian Roma	0.59 * (0.4 - 0.89)	1.28 (0.82 - 2.01)
Romanian gadjo	0.79 (0.51 - 1.24)	0.92 (0.56 - 1.52)
French gadjo	0.82 (0.58 - 1.16)	2.35 *** (1.54 - 3.61)
Religious homophily	0.68 ** (0.52 - 0.89)	1.55 ** (1.19 - 2.01)
Alter lives in ... (ref: Other French city)		
Same city as ego	1.2 (0.9 - 1.62)	1.98 *** (1.45 - 2.71)
Romania or third country	0.32 *** (0.22 - 0.47)	1.15 (0.8 - 1.65)
Gender homophily	2.08 *** (1.68 - 2.57)	0.72 *** (0.6 - 0.87)
Alter is female	0.61 *** (0.5 - 0.76)	2.25 *** (1.86 - 2.72)
Alter's age	1.06 * (1 - 1.12)	1.09 ** (1.03 - 1.15)
Ego is female	0.53 * (0.32 - 0.86)	0.65 (0.36 - 1.15)
Ego's age †	0.91 (0.8 - 1.04)	1.07 (0.92 - 1.25)
Ego's years since migration †	0.8 (0.54 - 1.17)	0.71 (0.44 - 1.14)
Ego's employment status (ref: No or occasional employment)		
Regularly employed	1.03 (0.61 - 1.74)	0.95 (0.5 - 1.78)
Self- or informally employed	1.54 (0.84 - 2.84)	1.36 (0.65 - 2.85)
Proportion family in personal network ‡	1.03 (0.77 - 1.37)	0.97 (0.69 - 1.37)
Proportion co-ethnics in personal network ‡	1.04 (0.83 - 1.29)	1.01 (0.78 - 1.31)
Personal community type (ref: Closed community)		
Dense core-periphery	0.58 (0.28 - 1.24)	1.76 (0.72 - 4.3)
Sparse core-periphery	1.13 (0.54 - 2.37)	1.55 (0.64 - 3.74)
Bi-factional	0.87 (0.41 - 1.82)	1.35 (0.56 - 3.26)
Sparse multi-factional	0.61 (0.23 - 1.58)	2 (0.64 - 6.26)
Interactions: Ego's years since migration ...		
× Family tie	1.84 *** (1.39 - 2.45)	1.11 (0.86 - 1.43)
× Alter is Romanian Roma	1.07 (0.74 - 1.55)	1.3 (0.88 - 1.94)
× Alter is Romanian gadjo	0.94 (0.62 - 1.42)	1.64 * (1.05 - 2.56)
× Alter is French gadjo	1.03 (0.72 - 1.47)	1.11 (0.73 - 1.68)
(Intercept)	0.55 (0.25 - 1.2)	0.04 *** (0.01 - 0.09)
Variance component		
Between-ego standard deviation	1.08	1.34
Goodness of fit		
Deviance	3186	3458.84
AIC	3240	3512.84
N obs (level 1: ties)	3522	3523
N obs (level 2: egos)	118	118

*** $p < .001$, ** $p < .01$, * $p < .05$. All continuous predictors are centred around the mean. † Scaled to intervals of 5 years. ‡ Scaled to intervals of 0.2.

between ties with family members and co-ethnics, on the one hand, and ties outside the family and with native-born French, on the other. Compared to non-kin contacts, family members are much more likely to help Romanian Roma migrants with financial problems and family care issues (about +0.25 increase in predicted probability), and significantly less likely to help with professional problems. By contrast, ties with French gaže are substantially more likely to provide assistance with legal/administrative issues (+0.26 probability increase), housing (+0.19) and, to a smaller extent, family care problems (+0.08); but they are significantly less likely to help with money problems. Importantly, and in stark contrast with French contacts, co-ethnic ties outside the family are either as likely or even significantly *less* likely to provide support in any dimension.⁷ Furthermore, both family ties and native-born French ties are much more likely to provide multiplex support, whereas non-kin, co-ethnic ties are less likely than non-kin ties from other ethnicities to provide either simplex or multiplex support.

The results about homophily in terms of religion, geography, and gender confirm the overall tendency to support diversification and specialisation. Ties with alters of the same religion have a similar profile to family ties, with higher likelihood of providing financial aid and family care, but lower likelihood of providing work-related help (as well as, to a lesser degree, legal/administrative and housing assistance). Local contacts are more likely to provide assistance with legal/administrative, housing, and family care problems, as well as multiplex support in general. Geographical distance has a clear negative effect on support provision in all dimensions, with alters outside France being significantly less likely to provide assistance in all domains (except family care) and multiplex support. We find gender homophily only in professional support, and an opposite pattern of gender *heterophily* in legal/administrative and family aid, which are more likely to be provided by contacts of the opposite gender. This evidence of gender diversity and inter-gender relations runs counter to the common idea of rigid gender-based roles and segregation in Roma communities.

Among the network- or ego-level predictors, the type of community structure is *not* significantly associated with the likelihood of support provision in any domain (Tables 4 and 5 and S2), confirming the descriptive result that more tightly-knit and closed personal networks do not generate more support compared to sparser, bridging networks. Interestingly, a significant cross-level interaction between ego's years since migration and alter's French gadjó ethnicity indicates that, compared to more recent migrants, those who have been in France for a longer time are substantially more likely to obtain legal/administrative, housing, and multiplex support from French gadjó (see Figure S3 for a visualisation of these effects).⁸ This suggests a tendency toward social network integration with the local ethnic majority, or at least a higher ability of Roma migrants over time to establish and mobilise relationships with native-born French associates.

5. Discussion

Images of large, tightly-knit and closed networks of family and co-ethnics are commonplace in scholarly and public discourse around Roma migrants in Europe. These images tend to reinforce widespread prejudices of Roma communities as insular, segregated and homogenous groups that are unable or unwilling to 'integrate'. In France, for example, in 2019 over two thirds of the population viewed Roma people as 'a separate group in society', and over a half believed that they 'do not want to integrate' (Mayer et al. 2020, 91ff). Our findings show that notions of ethnic closure, insularity, and homophily do not do justice to the diversity, specialisation, and reach of Romanian Roma networks in France, which are much more extensive and integrated in local and mainstream society than previous research and popular beliefs would suggest. The hypotheses of sociodemographic homophily and ethnic solidarity are inadequate to explain the reality of how support is obtained by Romanian Roma migrants in different domains of social life. In contrast, the networked individualism model offers a more accurate description of personal networks in this population, their compositional and structural variety, and the way they allocate different types of support to different, specialised sources including non-ethnic ties.

The main results from our analyses can be summarised as follows. First, a wide variety of personal community types exist among the Romanian Roma in our study, with some

migrants being embedded in ‘traditional’, tightly-knit structures with high network closure, but many being part of sparse networks rich in structural holes and bridging opportunities. Tightly-knit communities are more ethnically homogeneous and centred around the family, but they do not generate more support overall – in terms of number of supportive ties and domains in which these are available – compared to other network types. Second, a general pattern of social support diversification and specialisation emerges in all personal community types. Descriptive statistics show that, while social ties and overall personal networks are generally supportive, most ties are a source of support only in one domain (1.2 domains on average), with only a third of them offering assistance in two domains or more. Moreover, except in a few cases (pairs of dimensions), overlap between ties providing help in different dimensions is substantively low: for every pair of dimensions, just about one in five supportive ties provides help in both dimensions at the same time. Third, different types of ties are characterised by different ‘support profiles’, which confirms the overall tendency to support diversification and specialisation. Family members, for example, are much more likely to help Romanian Roma migrants with financial problems and family issues, but less likely to assist with professional problems. Conversely, ties with French *gaže* are more likely to provide assistance with legal/administrative and housing issues, but significantly less likely to help with money problems. Co-ethnic ties outside the family are either as likely or less likely to provide support in any dimension (as well as multiplex support), signifying a rejection of the ethnic homophily hypothesis.

These results reinforce, extend and generalise insights from ethnographic research that stress the agency and strategic behaviour of Romanian Roma migrants in Western Europe. Far from passive victims of push–pull migration factors, institutional discrimination, and securitisation policies, these migrants have been described as entrepreneurial actors who strategically seek new opportunities for socioeconomic advancement and mobilise different resources and social connections in the process (Olivera 2012; Vlase and Voicu 2014; Legros and Lièvre 2019). Consistently, our findings show that they establish diverse and distributed social networks in which disparate ties are selected and leveraged for different needs.

To be sure, there is a degree of homophily and similarity in these networks, particularly in terms of family affiliation, religion, and geography. Like previous research on social support in mainstream and migrant populations (Wellman and Wortley 1990; Bilecen and Cardona 2018; Legros and Lièvre 2019), we observe that kin relationships are a major source of assistance for Romanian Roma migrants in the financial and family care domains. Furthermore, in line with previous social support literature (e.g. Wellman and Wortley 1990; Dahinden 2005; Ryan et al. 2008), spatial proximity is identified as a major facilitator of aid in domains such as housing and family care, while transnational ties are *less* likely to provide assistance in all domains (except for family issues). Yet above all, our analyses highlight the diversity and specialisation of Romanian Roma networks, analogous to recent findings in other migrant populations (Bilecen and Cardona 2018; Vacca et al. 2018). Like among the Polish migrants in the UK interviewed by Ryan et al. (2008), bonding and bridging ties are not mutually exclusive but complementary, both essential to provide Roma migrants with support in distinct domains. At the same time, our finding that kin are a crucial source of certain types of assistance, while co-ethnics outside the family are relatively less likely to provide support, points to the contrast – also documented in other migration

literature – between narrow circles of trustworthy and supportive co-ethnics (mostly family and close friends) and the broader ethnic community which may become a source of competition and rivalry (Ryan et al. 2008) or exploitation and excessive claims on the individual (Portes 2014; Solano et al. 2020).

As discussed in section 3.1, this study has an important limitation: respondents are not a probability sample of all Romanian Roma migrants in France. Therefore, as is common in research on hard-to-reach migrant minorities, individual probabilities of selection in the survey are not known and the sample representativeness cannot be precisely evaluated. In particular, our population of interest was limited to Romanian Roma who currently or in the past had lived in a French shantytown. Furthermore, the sample only included people who reported an improvement in life conditions after leaving Romania. While existing ethnographic and survey research suggests that the vast majority of the Romanian Roma in France have both transited through shantytowns and experienced some form of life improvement with migration, it is possible that the minority who was not captured in our sample might be characterised by systematically different personal communities, leading to bias in certain estimates. For example, if the type of migrants excluded from this study maintain significantly more cohesive personal networks and more multiplex ties, our analyses would underestimate the prevalence of ‘closed community’ network structures and the multiplexity of social support among the Romanian Roma in France; a bias that would be stronger to the extent that the excluded minority is a larger proportion of the population of interest. Nevertheless, such potential biases are unlikely to be so strong as to entirely reverse our general conclusions, that is, the tendency to diversity and specialisation in social support highlighted by multiple measures and analyses in the study. While the exact quantification of this pattern is less precise with non-probability samples, the high prevalence of the pattern we observed is hardly an artifact of the sampling procedure. We are also encouraged by recent statistical literature demonstrating that biases in descriptive inference from non-probability samples tend to be less serious in analyses of smaller, relatively homogeneous and hidden populations like the Romanian Roma in France (Kohler, Kreuter, and Stuart 2019).

6. Conclusions: migrant networks, agency, and ‘social integration’

An increasingly contentious debate has developed in Western Europe about the ‘social integration’ of Roma migrants. While standard metrics of schooling, employment and residential segregation often paint a bleak picture of Roma incorporation in receiving societies, our results offer a more optimistic note. Relationships with the native-born ethnic majority are not only a numerically significant, also a functionally central component of the personal networks in our data, which plays a crucial role in the provision of different types of support and becomes increasingly important over time for Roma migrants. Ties with native-born French originate from school and social services, but also from informal relationships in elective social contexts – more open to migrants’ agency and free choice – such as local neighbourhoods and workplaces. Such integration in non-ethnic and local networks, in addition to co-ethnic and transnational groups, suggests that forms of elective belonging in local spaces and communities (Savage, Bagnall, and Longhurst 2004) may be more powerful than the ascribed belonging of

kinship and ethnicity among Roma migrants, similar to what has been observed in European mobile middle classes (Barwick and Le Galès 2020). It also reflects Roma migrants' tendency, documented in previous literature, to strategically cultivate local, ethnic-majority ties that can offer support in areas in which co-ethnics are less helpful (Clavé-Mercier and Angell 2018; Legros and Lièvre 2019; Cousin, Bianchi, and Vitale 2020); and, more broadly, to practice *romani butji*, the distinctive Roma 'work' or 'trade' based on inventiveness, adaptability, and supportive relationships with the gaze (Olivera 2012).

Finally, our findings carry wider implications for the way migration scholars think about agency and social networks in migrant communities. Previous studies in mainstream populations have suggested that support networks may be smaller and more homophilous in the presence of higher economic insecurity and bureaucratic regulation (Wellman and Wortley 1990; Verdery and Campbell 2019). Migration scholars have added that ethnic closure and solidarity among migrants are stronger in cases of stronger marginalisation (Portes and Sensenbrenner 1993), poorer cultural capital (Ryan et al. 2008), and lower socioeconomic integration (van Tubergen 2015). Based on these arguments, we would expect high levels of ethnic homophily and closure in the networks of a highly marginalised and stigmatised minority like the Romanian Roma in France. Our results, however, paint a different picture. Rather than passively locked into the tightly-knit communities and ascribed belonging of kinship and ethnicity, migrant minority members may be more similar than expected to the networked individuals of Western ethnic majorities and middle classes: even in the face of powerful structures of disadvantage, they may preserve agency, reflexive processes of elective belonging, and strategic networking abilities to a much greater extent than previously thought.

Notes

1. REPIN is an acronym from the French title of the study: "Les 'Roms migrants': des processus d'exclusion urbaine aux REssources Pour l'INSertion."
2. French cities of recruitment included Bordeaux, Grenoble, Lyon, Montpellier, Montreuil, and Paris. Most respondents were originally from the following Romanian cities or regions: Transylvania/Bihor, Arad, Timis, Alba, Hunedoara, Cluj, Mures (Ineu, Targu Mures, Craiva, Deva, Tinca, Beuis, etc.), Wallachia/Ialomita (Barbulesti), Olténie/Dolj (Craiova).
3. In comparison, the first survey of Roma people in France, conducted in 2011, targeted Roma "gens du voyage" who lived in halting sites in the Paris area and were mostly born in France, rather than migrants (European Union Agency for Fundamental Rights & UNDP 2012). Similarly, the more recent survey described by Cousin, Bianchi, and Vitale (2020) only involved residents of Roma shantytowns in the Paris area, a narrower and more visible population compared to REPIN. Neither survey included questions on personal networks and social support, a major focus in the REPIN study.
4. We use the R packages *igraph* (Csardi and Nepusz 2006) for network analysis, *lme4* (Bates et al. 2015) to estimate the binary logistic models via maximum likelihood, and *brms* (Bürkner 2017) to estimate the multinomial logistic models via Bayesian methods. All code for analyses presented in this article is available from the corresponding author.
5. Chung et al. (2019) recently proposed methods to obtain JI expected values in the null hypothesis of independence between two binary variables, and to test if observed JI values deviate significantly from this expectation. Unfortunately, these methods cannot be directly applied to our data because they assume independent observations (while our

observations are clustered by ego). However, we adopt a simulation approach that is similar to Chung and colleagues' bootstrap method. We first fit a null multilevel logistic model (ego-level random intercept only, no explanatory variable) for each support variable. Each fitted model can be used to obtain random simulations of a support variable that preserve (1) the overall proportion of supportive ties in the data, and (2) the correlation between the support tendency of ties nominated by the same ego (i.e., the clustered nature of the data). For each pair of support domains, we then use model results to produce 5,000 simulations of the two corresponding support variables and calculate the resulting JI, producing a simulated, empirical distribution of 5,000 JI values. These are JI values realised in the null hypothesis of independence between support variables, because each support variable is simulated independently of the other. The JI empirical distribution is used to extract expected values under the null hypothesis and *p*-values for the difference between observed and expected values, as in Chung and colleagues' bootstrap method.

6. Reference categories for each predictor are indicated in Table 4. Table S3 reports the actual predicted probabilities used to calculate all DCMs.
7. Note that these are co-ethnic ties *outside* the family because predicted probabilities and DCMs are calculated for non-kin ties (the modal value of the Family tie variable), toggling the ethnicity attribute.
8. An opposite (but weaker) pattern characterises financial support, with migrants who have been in France for longer being more likely to obtain this type of support from co-ethnics rather than French contacts.

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