## ORIGINAL ARTICLE

# The networked character of migration and transnationalism

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## Abstract

Acknowledgement of the prominent role of social networks in migration studies marked a significant departure from earlier studies, suggesting that social networks determine migration decisions, trajectories, and outcomes. While social network analytical tools have not always been used in empirical investigations of migratory phenomena, studies on migration that use relational approaches also show an inherent network thinking. In this paper, we review the state of the art of the literature on migration and social networks, highlighting the advances made by empirical research using network thinking, particularly in different stages of migration and for operationalizing transnational phenomena related to migration. Based on this review, we detect the role of networks in different stages of migration, and we reflect on the remaining challenges for future research regarding the role of social networks within migration scholarship.

**KEYWORDS**

migration and mobility, network analysis, relational approaches, social networks, transnationalism

## INTRODUCTION

Migration is networked. Individuals are embedded in plural social networks that influence the ways in which they mobilize resources, adjust to new circumstances, envisage their identities, and spend their lives. Social networks are particularly important during international migration when decisions about trajectories are taken and when ties, belongings, and attachments are (re)imagined and (re)negotiated. Migration, in turn, also affects networks. This is not only the case

for migrants, but also for those who stay behind, whose lifeworlds also involve transnational dimensions through their connections with migrants. At an aggregate level, migration even alters the linkages between nation-states and their institutions.

Although network thinking (the idea that individuals are interdependent rather than making decisions in a vacuum) has been inherent in migration studies ever since the concept of "chain migration" was proposed (MacDonald & Mac-Donald, 1964), networks have often been used in a metaphorical sense (Bilecen et al., 2018; Krissman, 2005, Vertovec, 2009), that is, as a vocabulary for describing social situations, taking for granted that they matter rather than by analyzing the structure of relationships and interactions and their consequences. When networks are studied explicitly, migration researchers have not always used a social network analytical perspective as in other disciplines, adopting specifically developed quantitative and qualitative methods for data collection and analysis for relational data. Rather, much research on migration focuses either on individuals or dyadic relationships in the context of networks (Krissman, 2005; Mitchell, 1969). Consequently, the literature on the networked character of migration is scattered. This makes it difficult to understand what is currently known about the role of networks in migration.

This paper provides a review of empirical studies on the networked character of migration with the aim to evaluate the state of the art and to discuss future pathways for research. To accomplish this task, we first identify how networks have been approached in migration research, distinguishing between social network analysis and relational approaches stemming among others from cultural sociology. Subsequently, we review what these two approaches have jointly taught us regarding the networked character of migration, following three broad phases of migration: The pre-migration phase (including decision-making and preparing for migration), the migration phase (including border-crossings and transit), and the post-migration phase (e.g., adjustment to the new society), the latter of which is understood as a long-term phase. We organize the literature around these three phases because research has traditionally focused on a single one, given the logistic difficulty of following migrants (see for an exception the Mexican Migration Project, e.g., Massey, 1987). We then review studies on migrant transnationalism, which allows for a more flexible modelling of these phases and focuses more on the connections with the countries of origin. On the basis of our review, we argue that network and relational approaches should be better integrated to unearth the full potential of the social networks and migration nexus. In conclusion, we describe avenues for future research.

## NETWORKS IN MIGRATION STUDIES: SOCIAL NETWORK ANALYSIS AND RELATIONAL SOCIOLOGY

Researchers into the networked character of migration consider that individuals do not act in a vacuum, but rather their actions are interdependent with those of others via the *social relationships* that bind them. These social relationships are regarded as conduits for flows of material and non-material resources. They form social networks that are connected with the social behaviours of the actors. Agency can modify the social structure, and vice versa, the embeddedness in social networks can offer actors ideas or opportunities or can limit their possibilities.

In migration research, networks of relationships are investigated mainly from two angles: a social network analytic perspective and a relational approach. The interdisciplinary research into social networks has its origins in psychology, where sociometry was invented (Moreno, 1934), and in the Manchester school of anthropology, which systematized the study of social networks (e.g., Barnes, 1954; Bott, 1957; cf. Scott, 1996). Social network analysis (often abbreviated as SNA) conceptualizes inter-individual relationships as embedded within a larger set of ties (or network) and has a specific interest in how these relationships are structured and what implications this has for individual action. As Wellman and Berkowitz (1988) explained,

> Social structures can be represented as *networks* – as sets of *nodes* (or social system members) and sets of ties depicting their interconnections [...] It immediately directs analysts to look at linked social relations and frees them from thinking of social systems as collections of individuals, two-person dyads, bounded groups, or simple categories (Wellman & Berkowitz, 1988, p. 4; original emphasis).

The first step in investigating a network is to define its boundaries, that is, the "set of nodes". These can either be defined *sociocentrically* as the set of relationships among the members of a predefined *group* or *egocentrically* as the set of social relationships that a *focal actor* has with others and that these others have among each other. The nodes (or actors or "vertices") can be individuals, organizations (e.g., Ryan & D'Angelo, 2018), or even countries to study the migration flows between countries (Danchev & Porter, 2018; Windzio, 2018). In migration studies, most network research focuses on individuals, and often an egocentric (or *personal network*) perspective is employed to study individual actions and the relationships that influence them, whatever the context in which they were created (e.g., family relationships, work ties). In many cases, the networks are centred upon migrants as the focal actors, but they can also centre upon non-migrants (e.g., in comparative studies).

The second step is to elicit the linkages (or edges or ties) between the actors, which can be of any type depending on the investigation, such as (between individuals) friendship, communication, emotional support, money transfers and other relevant types of relationships, transactions or exchanges that connect people. In personal network research, the definition of these linkages defines who the network members are: A network that gives emotional support may therefore be differently composed than a communication network. Apart from the linkages between the focal individual (ego) and their network members (alters) in personal networks, researchers can also enquire about the relationships among network members. These linkages in personal network analysis, or the relationships among group members in sociocentric network analysis, help us to see the network structure, which is acknowledged to have an important effect on human agency. Examples of relevant structural mechanisms for migration research are reciprocity, homophily, brokerage, network closure, and cohesion. For instance, past research analysed how reciprocity in resource exchanges works in the networks of migrants who live in different nation-states, and thus who are entitled to different rights, rules, and regulations (Bilecen, 2020; Faist & Bilecen, 2015; Kornienko et al., 2018; Mazzucato, 2008). Another strand of research investigated the homophily of ties, that is, the tendency to associate with similar others (McPherson et al., 2001; in migration research mainly in terms of ethnicity), which migrants have to others in the receiving contexts that have implications for their social incorporation (Leszczensky et al., 2016; Smith et al., 2016).

In his widely known "Relational Manifesto", Emirbayer argued that

> The best developed and most widely used approaches to the analysis of social structure are clearly those of social network analysis. This perspective is not primarily a theory or even a set of complicated research techniques, but rather a comprehensive new family of analytical strategies, a paradigm for the study of how resources, goods and even positions flow through particular figurations of social ties (Emirbayer, 1997, p. 298).

Yet, as other scholars started to advocate for investigating the social by shifting the primacy from individuals and their attributes to relationships among individuals (Tilly, 1978; White, 2008), other relational approaches emerged (Emirbayer, 1997; Mische, 2011). In particular, cultural sociology has contributed significantly to the study of relationships in terms of their cultural meaning, discourse, and relational practices, aspects that tend to be mostly ignored by quantitative social network analysts who focus more on the structure of networks and their effects but that can affect whether network effects take place (e.g., Mische, 2011). The relational approach stemming from cultural sociology is particularly suitable for exploring the *meaning structure* of relationships, indicating the expectations about relationships, norms, symbolic and cultural practices within networks (Fuhse, 2009, 2015). In addition, it can highlight the *relational work* (Zelizer, 2012) or *networking practices* (e.g., Schapendonk, 2015) employed by individuals, that is, "the creative effort people make establishing, maintaining, negotiating, transforming, and terminating interpersonal relations" (Zelizer, 2012, p. 149). It also highlights individual decision-making processes within the context of relationships and captures their dynamism in less linear forms. Many of the insights from cultural sociology have seen their way into social network analysis through qualitative social network approaches (Hollstein, 2011) that tend to focus on *dyadic relationships* within the context of larger groups such as families, whether or not they also reveal network *structures*.

In migration research, researchers have used qualitative methods to address the relationships migrants form and maintain as well as to investigate social support migrants exchange with their family members or friends (Bilecen, 2019, 2020; Lubbers et al., 2021; Menjívar, 2000; Ryan, 2011; Ryan et al., 2008). In addition, the meanings attached to certain relationships and networks are also highly relevant for the topic of identity in migration studies (Scranton et al., 2016; Zontini, 2004). The contribution of such studies is their in-depth examination of meanings migrants attach to their relationships as well as to the resources they exchange within their networks but also a greater eye for changes in relationships. After all, flows and exchanges of resources are guided by social norms, expectations, and culture.

Pachucki and Breiger (2010) and Crossley (2010) argued that these two ways of "network thinking" (Pachucki & Breiger, 2010, p. 205) complement each other. On the one hand, social network analysis allows researchers to map complex network structures, spot absent ties, detect recurring patterns, and estimate effects, "allow[ing] us to see things that are not visible to the naked eye" (Crossley, 2010, p. 6). Relational approaches from cultural sociology, on the other hand, provide the "'story of the network" (Crossley, 2010, p. 12), its contents, meanings, the individual agency in networks, and temporality.

## THREE PHASES OF MIGRATION

This section reviews how network and relational perspectives have jointly enriched our understanding of individual migration processes following three stages: Before, during, and after migration. As indicated before, these stages have typically been investigated separately in empirical research, most likely because it is difficult to follow migrants and their networks longitudinally over their migratory trajectories.

## Social networks in the pre-migration phase

The role of personal relationships in initiating spatial mobility has been well established (Boyd, 1989; Fawcett, 1989; Massey, 1987; Massey et al., 1993). Social network approaches have shown that, on the one hand, strong, affective relationships in the country of origin can prevent migration because individuals wish to stay together, but they can also encourage it in the case of family members' economic needs (Asad & Garip, 2019; Haug, 2008; Marcu, 2018). Knowing people in a destination country and/or knowing people with migration experience can reduce social, economic, and emotional risks, uncertainties, and costs of migration (e.g., Collyer, 2005). Personal connections are not only thought to affect the decision to migrate but also to influence the (initial) choice of place and the period of settlement by providing information about those destinations and by facilitating adjustment (e.g., Haug, 2008). As early as 1964, MacDonald and MacDonald introduced the concept of *chain migration*, defined as "that movement through which prospective migrants learn of opportunities, are provided with transportation, and have initial accommodation and employment arranged *by means of primary social relationships with previous migrants*" (p. 82, original emphasis).

These expectations were supported in early empirical research that employed a network perspective. For example, in the pioneering Mexican Migration Project that started in 1982, Durand and Massey (2004) designed surveys that asked individuals detailed information about the composition of their households and the migration experiences of every member, but they also asked whether the head of household is connected to other people who had migrated to the United States and details about these relationships. Drawing on these data, Massey and colleagues (1993) and Palloni and colleagues (2001) demonstrated that an individual's probability of migration increases when (s)he has friendship or community ties with someone with migration experience and/or when there is a migrant in his/her household. In a later large-scale multinational household survey (Migration between Africa and Europe; MAFE) with a similar methodology, Liu (2013) found evidence for this network effect after controlling for alternative explanations such as family reunification and household strategies. Paul (2019) showed however that pre-migration networks may differ across nationalities. The results of these studies have further inspired theoretical work. For example, using simulations, Teteryatnikova (2013) showed that even a small increase in personal relationships with individuals in a country of destination can significantly increase the likelihood of migration.

Consequently, while pioneer migrants experience high costs and risks of migration, later waves of migrants have much lower costs, as they can mobilize their network resources in the realm of finding jobs, housing, and getting help with obtaining or filling in official documents (Fussell & Massey, 2004). These mechanisms turn international migration into a self-reinforcing process in the long run (Bailey, 1982; Fussel & Massey, 2004; Herman, 2006; Massey et al., 1993; Morawska, 1989; Palloni et al., 2001; Tilly, 1990, 2007; Waldinger & Fitzgerald, 2004), a phenomenon known as the *cumulative causation of migration* or the *network approach* in migration studies. It has also been argued that a *culture of migration* emerges over time: As the rate of migration increases, it tends to become normalized in the communities of origin through relational mechanisms (Kandel & Massey, 2002).

Nevertheless, not everyone migrates, and the reasons for migration are still on the agenda of researchers (Faist, 2000; Garip, 2016). Research using qualitative approaches has shown that the decision to migrate is not necessarily concerted; it can be the result of negotiations rife with conflicts (Hondagneu-Sotelo, 1994). Research has also shown that network mobilization and uses differ across groups, such as by gender. Hoang (2011) observed that men use larger acquaintanceship networks to inform and support migration, whereas women build on family networks (cf. Riosmena & Liu, 2019), also for social protection. A further insight from relational approaches is that the "network effects" that are confirmed by social network analysis are in part a result of individual agency. Schapendonk (2015) observed how some migrants actively and strategically build their networks to prepare migration, while others do not. Even if carefully prepared, the connections prospective migrants create do not always function as expected, which can further explain the variation in outcomes.

Furthermore, the influence of social networks on migration decision-making should not automatically be considered as positive. First, Pohjola (1991) argued that although social networks had positive effects on the decision-making process of where to migrate, they also narrowed down the available options, and thus choices of migrants are constrained by their networks. Following relational thinking, it is suggested that networks contribute to the formation and maintenance of so-called *migration corridors* at the macro-level, where migrants from one village are concentrated in one locale in the countries of immigration (e.g., De Haas, 2007; Parsons et al., 2007). Second, networks can also spread disinformation (Sanchez et al., 2018) that can hurt migrants, either because it prevents them from accessing the help they qualify for, or because it makes them vulnerable to exploitative practices. Third, network-based migration can result in the dependency of persons as well as economies (Boyd, 1989; Fawcett, 1989).[1] In this vein, newly arrived migrants often have language difficulties and lack of understanding of the functioning of the wider host society, so they rely on their established co-ethnic/co-national networks in the countries of immigration when dealing with bureaucracy and practical things such as seeing a doctor or babysitting (e.g., Pohjola, 1991; Sue et al., 2019), which might make the newcomers dependent on the previous migrants. Fourth, Engbersen, Snel and Esteves (2016) showed that the assistance of settled migrants depended on the reception context: Restrictive migration policies, a slack labour market, and anti-immigrant attitudes of the native population reduce the motivation to help and led to gate-keeping, resulting in *reverse cumulative causation*.

## Social networks in the transit or border-crossing phase

A second, smaller strand of research highlights the role social networks play during migration itineraries, for those trajectories that are lengthy and uncertain. Recent ethnographies (e.g., Andersson, 2014; de León, 2015) describe the physical dangers, violence, and exploitations to which migrants are often subjected on South-North itineraries, whether these are from Mexico to the United States or from Sub-Saharan Africa to Europe. The few studies that focus explicitly on the role that relationships or social networks play in this phase argue that personal ties ease the crossing of borders of countries that apply restrictive entrance policies to collectives of migrants. For instance, personal ties provide valuable information about finding a helper or smuggler to cross national borders (e.g., Asad & Garip, 2019; Bilecen, 2012; Garip, 2016). Adopting a personal network approach, Fazito and Soares (2015) showed that specialized actors in the illegal migration industry emerged within the context of social networks and suggested that particularly return migrants with a high brokerage in their personal networks are valuable intermediaries in clandestine

operations of border crossings. Furthermore, using qualitative approaches, Mandić (2017) and Achilli (2018) showed that migrant-smuggler relationships were mostly positive, far from the dominant narrative of public policy: Migrants saw them as allies, guides and informants that could save their lives. Rather than detaining migration, policy actions against smugglers only put migrants at greater risk during their itineraries.

Koser (1997) argued that the social network approach is crucial for understanding the asylum-seeking process. He analysed migrants' ties with friends and family members, community organizations, travel agents, human smugglers, and employers, and showed that asylum seekers often end up filing their asylum claims in countries they had never thought of before, their destinations being determined by smugglers and a weak connection (Koser, 1997). Indeed, chance encounters play a large role in the transit phase (Gladkova & Mazzucato, 2017). Relational research concluded that intentionality is a problematic concept in transit migration (Wissink et al., 2013). Furthermore, particularly during the transit or border-crossing phase, brokerage as a network mechanism facilitating or hindering such movements have been illustrated in manifold contexts (Faist, 2014). Wissink and Mazzucato (2018) explored the change of personal networks and their use in the transit phase. Adopting a personal network perspective in ethnographic fieldwork in Turkey and Greece, the authors observed a series of critical events during the migration process (e.g., death in the family or the increase in smugglers' fees) that influence the formation and disintegration of personal ties, leading to fluctuations both in the networks and in their functions.

## Social networks in the post-migratory phase

The largest body of research into the networked character of migration involves the post-migration phase. Social network analytic scholarship has focused in the first place on describing with whom migrants socialize as an indicator for contested concepts such as "social integration" or "assimilation". To do so, they describe the overall characteristics of the personal network, such as the size and composition of the network in terms of numbers of native-born people, compatriots, and other migrants in the place of residence, people living in the place of origin, and other places. Moreover, research also describes the ties that migrants have with each of the different sets of network members at a relationship level in terms of their roles, strength and duration of the tie and the way in which network members in different places or of different origins are connected or segregated in the personal network (network structure, e.g., Lubbers et al., 2010; Vacca et al., 2018). The main assumption of this line of research has been that the more ties migrants have with the native population in the country of immigration, the more socially integrated they are, while those who have more ties with co-ethnics either in the country of residence or origin used to be identified as less well integrated (Eisenstadt, 1952; Gordon, 1964; Nauck, 1989; but see below). Second, it was assumed and corroborated that time of residence is correlated with the number of relationships formed with natives (e.g., Facchini et al., 2014).

Empirical social network research showed that in the initial arrival phase, migrants rely strongly on the one or few contacts with compatriots they have in their new country of residence (e.g., Bashi, 2007; Bauer et al., 2009). These ties provide newcomers with diverse types of support. However, it is believed to be crucial for the social mobility of immigrants, as well as for the integration of society, that newcomers also establish "expansive networks" that include native-born individuals or immigrants from other groups (Hagan, 1998). Nonetheless, the extent to which this is possible depends on, among other factors, the openness of the native-born population to migrants and the level of racism encountered (Sánchez et al., 2018) as well as on the opportunities that migrants have to meet native-born people (Lubbers et al., 2021).

In general, studies focusing on migrants with longer residence in the destination country found a large variety of network profiles in terms of composition and structure (e.g., Cachia & Maya- Jariego, 2018; Gidengil & Stolle, 2018; Lubbers et al., 2007), showing that there are many ways in which individuals shape their networks after migration. Nevertheless, having ties with native-born persons in the country of residence is not at all incompatible with having ties with individuals in the country of origin (e.g., Snel et al., 2006), which shows that continued contact with the country of origin does not hinder integration in the country of residence.

While this line of research focuses primarily on describing the composition of the networks of immigrants, there is still much to be done in understanding the underlying mechanisms of the formation and maintenance of migrants' personal ties with co-ethnics, natives, and others over time and space (e.g., Eve, 2010), given the relative lack of longitudinal network studies, quantitative or qualitative. For instance, Lubbers and colleagues (2010) studied the personal networks of Argentinean migrants in Spain longitudinally and found that migrants' networks had a high turnover over time but remained relatively stable in composition and structure at the network level, suggesting that there might be more stable characteristics such as personality traits that affect network morphology. Also, they found that larger changes in composition and/or structure were often related to life events such as marriage, childbirth, or divorce, a result that was also found for non-migrant populations (e.g., Bidart, 2006), such that network integration or the lack thereof may be a by-product of such events. These findings, thus, question the extent to which deliberate networking is underlying network dynamics, and thus the assumption that having more ties with natives indicates integration instead of chance.

Apart from describing the personal networks in terms of their size, composition, and structure, researchers have analysed which resources are exchanged through networks and how they facilitate adjustment to the new society. The first line of research that does so focuses on *social support*. In this line, personal networks are assumed to be a major source of help in coping with the challenges of daily life and, in the case of migrants, adjustment to the new country. Personal networks are conceived as a safety net both in terms of emotional resources that facilitate feelings of belonging and in terms of access to material and symbolic resources. Studies in this line focus on exchanges of support through both local and transnational relationships (e.g., Bilecen, 2019; Bilecen & Sienkiewicz, 2015; Herz, 2015; Schweizer et al., 1998). They have shown, among others, that different ties are mobilized for support in different situations (Dahinden, 2005), as is the case for non-migrants (Bilecen, 2020). However, while most family ties are geographically far away, these ties remain for many people the main providers of emotional support (e.g., Bojarczuk & Mühlau, 2018) and sometimes even for support that requires co-presence (and thus network members' mobility). Bilecen (2014) even found that international students seek emotional support the most from their transnational co-ethnic friends located in a third country (neither in the country of origin nor in the country where they receive their education). Other types of support are frequently exchanged with co-ethnics in the place of residence (Bilecen, 2019; Portes et al., 2002; Ryan, 2011; Waldinger, 1995), which shows that compatriots are important for adjustment to the country of residence.

While social support studies generally assume that networks affect perceived stress or health, in migration research, networks are often not explicitly related to these outcomes, and more emphasis is placed on the functioning of social support itself. Furthermore, to avoid an overly optimistic view on social support, qualitative studies with a relational approach have urged to also focus on the lack of support and conflict. In this vein, studies have shown that support is often contingent on the economic conditions of network members. In situations of economic scarcity, compatriots do not have sufficient resources to help each other out despite normative expectations to do so, which can provoke conflicts (Chelpi-den Hamer & Mazzucato, 2010; Gold, 2002; Menjívar, 2000; Ryan et al., 2008). Furthermore, scholars have pointed at the exploitation of relatives (Tilly, 1990) or of undocumented migrants by documented intimate partners, relatives, and friends (Del Real, 2019). In this vein, we note that social network studies have paid relatively little attention to ties that are conflictive, demanding, or otherwise exerting a negative influence as well as non-relations (Hosnedlová, 2017), including ties that can be normatively expected (e.g., relatives) but that are absent. This is probably due to the fact that methods of analysis of negative ties were until recently little advanced although relational and network theories (e.g., balance, homophily, and status theories) have contemplated negative ties. In this aspect, qualitative studies complement social network studies by focusing on power differentials in ties.

A second line of research that focuses on the exchange of resources in migrants' networks is *social capital* studies. Theories of social capital tend to integrate notions of social support, social integration, and cohesion in a broader perspective. An overview of conceptualizations of social capital[2] is beyond the scope of this paper, but in migration studies, Bourdieu (1986), Coleman (1988), and Portes (1998) have been cited extensively. Despite their differences, studies in migration research typically consider social capital to be resources nested in social networks that can be accessed or mobilized through social relationships (see Mouw, 2006, for an extensive review).

This strand of research focuses primarily on the effect of migrant networks on labour market outcomes (e.g., Kanas et al., 2009). Studies have shown that co-ethnic or compatriot networks are in favour of migrants hoarding opportunities by distributing valuable resources among their members while also reminding us that "every inclusion also constitutes an exclusion" (Tilly, 1990, p. 92). In that vein, empirical research demonstrated that having more friends and family ties in the country of residence has positive effects on migrants' employment and earnings (Amuedo-Dorantes & Mundra, 2007; Munshi, 2003).

These quantitative studies estimate the extent to which networks affect the likelihood of work or earnings, whereas qualitative research can give insight into the precise working of co-ethnic networks in finding employment. In her ethnographic network study among West-Indians who migrated to the United States, Bashi (2007) formulated the so-called *hub and spokes model*, distinguishing between the roles of "hubs" (veteran migrants who act as migration experts or brokers) and "spokes" (newcomers) in migrant networks. Veteran migrants regularly sponsor newcomers, but they do so selectively in order to maintain their good reputation in the community. They also use their connections to assist these newcomers in border crossing and to find jobs and housing, which helps them gain socioeconomic stability while being tied to cultural norms.

On the other hand, social networks that are primarily centred on the co-national/co-ethnic community might not be socially mobile, as they are locked within their co-ethnic ties (Portes & Zhou, 1992). In this sense, Portes and Sensenbrenner (1993) argue that while co-ethnic networks make certain advantages available to their members such as privileged access to economic resources, reduced formalities in economic transactions, and altruistic support to their members, they also impose constraints through enforcing community norms and restricting their outside contacts. Other research confirmed that co-ethnic networks impose social control and place excessive claims on their group members (e.g., Evergeti & Zontini, 2006; Portes & Landolt, 2000; Zontini, 2006). Concomitantly, competition and rivalry among migrants and exploitation of fellow migrants due to a lack of resources have been reported (Cranford, 2005; Menjívar, 2000). This perspective pinpoints to the power relations within co-ethnic or co-national groups, and it is crucial in understanding migrants' life chances in a new environment.

The effects of social capital embedded on labour market outcomes also vary by destination context. Based on the MAFE project mentioned earlier, Toma (2016) showed that having ties to prior migrants upon arrival has a positive effect on economic prospects for Senegalese men who migrated to France, where the Senegalese community is socioeconomically diverse. However, a similar network effect was not found for Senegalese men who migrated to Spain or Italy, where the co-ethnic population only had lower-skilled jobs. These results suggest that the functioning of personal networks and their outcomes also depend on the larger legal, economic, and cultural context in which these networks operate. Only a few social network studies in migration compare the personal networks in different contexts of reception in the way that Toma (2016) did. Moreover, social network studies have typically ignored other social forms that play a role in migration dynamics, such as social groups and organizations that may affect the way personal networks operate as well as the ways in which migrants are embedded within wider opportunity structures, focusing exclusively on patterns and contents of interpersonal relationships. Relational approaches are often more holistic in nature and can thus complement network studies.

## TRANSNATIONAL NETWORKS

Contrary to early conceptualizations of migration as a unidirectional process, the concept of transnationalism acknowledges that migration can be temporary, circular, incomplete (i.e., only part of the household migrates) and/or followed by return or onward migration, and therefore scholars have started to approach migration as a multidirectional process (Faist, 2000; Glick Schiller et al., 1992; Levitt, 2001, 2002; Vertovec, 2009). Rather than conceptualizing migratory phenomena within the boundaries of a single nation-state ("methodological nationalism", Wimmer & Glick Schiller, 2002), transnational studies conceive of migrants as persistently embedded in networks of personal, economic, and political relationships scattered across different countries and sometimes continents (Levitt, 2002).

Moreover, migrants' experiences and practices are considered to extend beyond only one scale of location (city, region, nation-state); rather, they are thought to be transnational, taking place within border-crossing networks that might have different implications such as inequality (Faist & Bilecen, 2015). Those "unbounded terrain[s] of interlocking egocentric networks" (Fouron & Glick Schiller, 2001) are considered to make up transnational social fields/spaces (Basch et al., 1994; Faist, 2000).

Within those transnational arrangements, a plethora of studies have been conducted particularly on relationships between family members who are living in different nation-states and yet have a sense of familyhood from a relational perspective (Baldassar & Merla, 2014; Bryceson & Vuorela, 2002; Fog Olwig, 2007; Mazzucato et al., 2014). Transnational family research examines the implications of the geographical separation of family ties pinpointing to how they survive over time and space using internet and communication technologies (e.g., Madianou & Miller, 2012) as well as the difficulties they experience in terms of resources, intergenerational conflicts, and intimacy. In that line of research, resource flows in the forms of financial and social remittances (Levitt, 1998, 2001; Mazzucato et al., 2014), care (Nedelcu & Wyss, 2019; Parreñas, 2005), social support (Boccagni, 2015; Herz, 2015), and social protection (Barglowski et al., 2015; Bilecen, 2019; Bilecen & Cardona, 2018) have been investigated, and their two-way nature is stressed (e.g., Bilecen, 2019, 2020; Mazzucato, 2008, Mazzucato et al., 2014). Another line of research is that of the emergence of migrant entrepreneurship in transnational social fields, taking advantage of network structural positions in these fields (e.g., Light & Bonacich, 1991; Portes et al., 2002; Sommer & Gamper, 2018).

These and other studies showed how major relational mechanisms operate within and across several nation-state borders, including reciprocity between persons, groups, and communities, solidarity among co-ethnics, trust and cooperation underpinning such exchanges (e.g., Dahinden, 2009). Nonetheless, one remaining issue within transnational conceptualizations of resource exchanges (be them in dyads or families) is the major emphasis on and qualification of only or mainly transnational ties (sampling on the dependent variable, as argued by Portes, 1995), lacking a more holistic view that includes people who never moved, where network analytical tools can contribute the most. Studying resource exchanges through network tools would yield a more comprehensive picture including manifold ties and do not prioritize some over others.

Only recently has migration scholarship made efforts to illustrate more completely the concept of transnational social fields/spaces with network analytical tools. To do so, scholars have usually adopted a personal network approach (Molina et al., 2015), focusing on migrants' individual positions within larger transnational fields, but some researchers have proposed other methodological designs to more fully respond to the idea of transnational social fields being "interlocking egocentric networks" (cf. Lubbers et al., 2020) that connect people in different countries. For example, Mazzucato (2009) developed a design to study simultaneously matched samples in the Netherlands and Ghana, following small sets of transnational relationships over a period of a year. Among others, she illustrated the theoretical concept of *simultaneity* (Levitt & Glick Schiller, 2007), which refers to the notion that migrants' and non-migrants' realities are intrinsically connected with each other. Events that happened at one place, such as funerals, triggered actions in the other place of the transnational social field; thus, the two realities are strongly connected and sometimes coordinated. Mouw et al. (2014) used a binational link-tracing design to study the transnational social fields between Guanajuato in Mexico and two destination communities in the United States. By interconnecting the egocentric networks of a link-traced sample of individuals, both in destination and in origin, the authors could study flows of communication in the field and their positions within the field. This social network design comes closest to the idea of "interlocking egocentric networks" that Fouron and Glick Schiller (2001) initially introduced.

## QUO VADIS?

Our review of the literature has shown that "network thinking" has been present for decades in migration scholarship even though formal/quantitative social network methods have been incorporated more commonly rather recently. The application of network logic through either social network analysis or relational approaches has led to increased

**TABLE 1** Overview of findings regarding network effects in migration

| Type of network effects | Phases | | | |
|---|---|---|---|---|
| | Pre-migration | Transit | Post-migration | Transnationalism |
| **Positive for individuals (micro-level)** | Encourage migration (*economic needs of strong ties in origin; normative influence*) | Enable migration | Creation of local ties | Maintenance of transnational ties |
| | Detain migration (*affinity with strong ties in origin*) | Determine migration trajectories | Buffer migration-related stress (emotional support) | Care and protection (two-way) |
| | Facilitate migration (*information of prior migrants*) | Help with asylum seeking | Facilitate adjustment (linguistic, residential, labor market outcomes) | Financial remittances (two-way) |
| | Determine (initial) destination (*information of prior migrants*) | | Create conditions for migrant entrepreneurship | Social remittances (two-way) |
| | Determine period of migration (*information of prior migrants*) | | | |
| **Negative for individuals (micro-level)** | Choices of destination are narrowed down | Trust betrayal can risk lives | Economic conditions can fragment network functioning | Inequality in relationships |
| | Networks can spread misinformation | | Status differential in local relationships can breed exploitation | Social pressure from transnational ties |
| | Creation of dependency | | | |
| **At the aggregated (macro) level** | Chain migration | Functioning of the so-called "illegal migration industry" | Integration, social cohesion | Effects of remittances for homeland economy |
| | Migration corridors | | | Migrant entrepreneurship |
| | Cumulative causation | | | |
| | Culture of migration | | | |
| | Reverse cumulative causation | | | |

understanding of migration processes and outcomes, as captured in concepts such as *chain migration, financial and social remittances*, the *culture of migration*, or the *hub and spokes model*. One large question for the literature is, what effects do networks have on migration? As we have shown, networks play different roles in the pre-migration, transit, and post-migration phase and in transnationalism (see Table 1) both for individuals and society. Positive effects on individuals are generated through networked exchanges of information, material, financial, and emotional support. Negative effects are a consequence of channelling misinformation, power differentials, trust betrayal, and social pressure. On an aggregated level, networks shape migration corridors, the social integration of migrants and non-migrants in reception contexts and homeland economies. While network effects have often been tested with quantitative social network analysis, relational approaches using qualitative analysis have further highlighted the mechanisms through which these effects are established, which may be positive or negative. Furthermore, it has also illuminated the role of

relational work or networking practices in the establishment of network effects, showing how decisions are negotiated and suggesting that network effects are sometimes the result of individual agency, of strategic networking.

Despite the much excellent previous work, we have identified various remaining challenges in this review. One such challenge is the longitudinal study of personal networks of migrants to explore how networks affect and are affected by migration over time. Although *relational research* tends to pay attention to the way in which dyadic relationships evolve, how they are negotiated and mobilized, most social network studies have captured migrant networks at a single point in time, providing a snapshot of an ever-changing network. Other remaining challenges are more attention for how sending and receiving contexts, including other social forms such as organizations, shape what networks can do; the need for more comparison of network processes between migrants and non-migrants to understand to what extent the migrant category affects network dynamics (Dahinden, 2016); attention to intersectionality in the functioning of migrants' networks; and a more systematic study of negative, absent, or latent ties. Many of these challenges are not unique for migration research but are wider issues that network researchers grapple with in many substantive areas. For many of these challenges, we conclude that better integration of social network analysis and other relational approaches can be helpful. This may require greater use of mixed methods designs (e.g., Small, 2011), where the composition and the structure of networks are systematically measured, combined with an in-depth exploration of relationship meanings, dynamics, and context (Crossley, 2010; Domínguez & Hollstein, 2014). Nonetheless, mixed methods designs must be carefully planned to make sure that the design captures the best of both worlds and not the worst.

Future migration research will also involve new types of network data, such as the already ubiquitous "big data". Mobile phone call detail records and geo-tagged social media data can help to detect patterns of transnational mobility (e.g., Spyratos et al., 2019) and communication (e.g., Gius, 2019) over time along with changing phone or media networks. While the study of such data is still in its infancy in migration research, these types of data may help researchers to investigate the dynamism in social networks across migration that is otherwise difficult to capture, and can be a particularly interesting source if combined with personal interviewing or online/offline ethnography, to be able to interpret and give meaning to these data (Gius, 2019). At the same time, border control also increasingly relies on data collected by surveillance drones and high-tech information systems that systematically collect identifying information (fingerprints, visa numbers) about people crossing borders. While these latter data can add to our understanding of the digital landscapes that migrants need to traverse (Light et al., 2017), it also implies that migrants on the move strategically connect and disconnect from GPS systems, Wi-Fi, and communication channels, being highly aware of their "data shadows" as a potential source of vulnerability (Light et al., 2017). The need to use digital maps and communication and the simultaneous need to stay off the radar adds another layer of complexity to the networking practices that migrants may engage in, which calls for further research. However, using big data for research also calls for greater reflection on research ethics, particularly with vulnerable populations such as migrants.

## CONFLICT OF INTEREST
The authors declare that there is no conflict of interest.

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## ENDNOTES
[1] Previous work considered the colonial ties, linguistic affinities, global division of labour and institutional frameworks through which nation-states are connected in a core-periphery structure where power is globally organized addressing eco-

nomic dependencies. For Piore (1979), migrants are pulled to the countries of immigration more than they are pushed from countries of emigration because of industrialized economic factors. Moreover, world systems studies argued that due to restructuring in economies, division of labour is nowadays organized globally influencing the flows of people and capital making economies dependent on each other where the core is composed of industrialized nations with capital and receiving manpower from the developing nations (see, e.g., Sassen, 1988; Wallerstein, 1974).

[2] In addition, there are others relying on social capital definitions by Burt (2007), Lin (2002), and Putnam (2001) and operationalize their empirical research (see, e.g., Ryan et al., 2008).

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