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ARTICLES

Social Networks, Segregation and Poverty in São Paulo

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Abstract

The associations between segregation and urban poverty have been intensely scrutinized by the sociology and urban studies literatures. More recently, several studies have emphasized the importance of social networks for living conditions. Yet relatively few studies have tested the precise effects of social networks, and fewer still have focused on the joint effects of residential segregation and social networks on living conditions. This article explores the associations between networks, segregation and some of the most important dimensions of access to goods and services obtained in markets: escaping from social precariousness and obtaining monetary income. It is based on a study of the personal networks of 209 individuals living in situations of poverty in seven locales in the metropolitan area of São Paulo. Using network analysis and multivariate techniques, I show that relational settings strongly influence the access individuals have to markets, leading some individuals into worse living conditions and poverty. At the same time, although segregation plays an important role in poverty, its effects tend to be mediated by the networks in which individuals are embedded. Networks in this sense may enhance or mitigate the effects of isolation produced by space.

Sociology and urban studies have increasingly emphasized the importance of both residential segregation and social networks, understood as middle-range structures that mediate the access of individuals to opportunities, urban sociability and living conditions in general. Since the Chicago School of urban sociology, the effects of spatial concentrations of poverty have been present in the debates, and since Wilson's seminal work (1987), if not earlier, they have also been associated with the presence of social connections among and between social groups. The role of social networks has been studied in relation to a wide variety of issues more recently. In spite of this, empirical study of the joint effects of residential segregation and social networks is not common. Additionally, in the large majority of urban studies debates, networks are considered simply as a metaphor for social relations. As a consequence, the possible associations between the mechanisms embedded in those middle-range structures have remained insufficiently analyzed, especially in urban contexts of the Global South characterized by high rates and enduring legacies of poverty. This article explores those joint effects in detail, studying the associations between poverty situations and the networks of poor individuals in São Paulo subjected to various degrees of residential segregation. My central goal is to test whether, and to what extent, social networks help poor individuals cope with their poverty and, in particular, reduce the social isolation caused by the urban

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segregation of their places of residence; and, if they do, to ascertain what the conditions are under which this effect takes place.

The article takes as its starting point a recent piece of research, broader in scope, analyzing social networks and the sociability of individuals in situations of poverty in São Paulo (Marques, 2010). I interviewed 209 individuals living in poverty in seven locales in the metropolitan area of São Paulo that previous studies have indicated as representing different types of urban poverty and segregation. Thirty members of the middle class were also studied to provide a variability control for the phenomenon. As we will see, the personal networks of poor individuals tend to be smaller, more local and less rich in terms of sociability than middle-class ones, although they also vary substantially within each social group. The results show that the different networks and sociability profiles found among individuals in poverty help to explain their social situations, as well as the ways some of them reduce the negative effects of social isolation potentially produced by urban segregation.

It is worth mentioning that social networks influence these processes, but are also impacted on by them, leading to biunivocal causality. In fact, in ontological terms, both social attributes (the characteristics individuals have) and networks (the relational patterns in which they are embedded) are concomitantly intertwined throughout the life trajectories of the individuals embedded in social settings, leading to 'pockets' of relational and social conditions. The separation of social networks and social living conditions is, therefore, purely analytic.

Although this article starts out from a multidimensional understanding of poverty, it captures the degrees of poverty in operational terms through the most important dimensions of access to goods and services obtained in markets: escaping from social precariousness and obtaining monetary income.[1] Income is the single element most commonly associated with poverty within poverty debates, whilst precariousness establishes a synthetic measure of socially negative conditions, with the most precarious being amongst the poorest. Networks are the relational settings that surround and embed individuals in broader social settings that go beyond the direct connections that each person has. In this article, they are captured by both their structure — personal networks considered as exemplifying different types of tie — and their content — the sociability profiles of individuals.

The article is divided into four sections besides this introduction. In the first I discuss the literature and conceptually construct the object analyzed. The second section describes the research design and the analytical tools developed. In the third section I present the results, explore the variability of networks and investigate associations of networks and poverty conditions using multivariate methods. Finally, I summarize the main findings of the study.

Poverty, segregation and networks

The association between segregation and poverty is well known and has been studied intensely. My aim is not to review the relevant literature, but to situate its main contributions in order to give guidance to the reader on the findings presented in the article.

The theme has been central to sociology since the discussions of poverty and ethnic spatial concentration by the Chicago School of urban sociology in the 1920s, if not earlier. More recently, the negative effect of the spatial concentration of poverty returned to the center of analysis with studies such as those of Wilson (1987) and Massey and Denton (1993). The return of the issue is explained by the resurgence of social and

1 Poverty situations obviously also involve access to goods and services obtained outside markets, but this is analyzed elsewhere (Marques, 2010; 2011).

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political concerns with urban poverty since the 1970s in a significant part of the developed world — what became known as 'new urban poverty'.[2]

In Latin America, the study of poverty started in the 1970s and was strongly marked by structural and systemic approaches. That tradition derived living conditions and poverty from the specific nature of our (peripheral) capitalism or the dynamics of our labor markets, the latter being especially marked by unemployment and informality (Ward, 2004; Kowarick, 2005). Since the 1990s different approaches have emerged, parallel to the discussion of the 'new poverty'. But, differently from abroad, the debate has been polarized by two different (and contradictory) developments. On one side, the local field has been dominated by studies focused on individual attributes and economic processes, with social dynamics understood solely as a set of environmental constraints over individuals, in tune with the international literature's understanding of so-called neighborhood effects (Sampson and Morenoff, 1997). At the same time, and more important for the purposes of this article, a sociological tradition has emerged focusing on the multidimensionality of poverty and relating it to survival strategies, political participation, violence, residential segregation, the state and sociability (Auyero, 1999; Gonzalez de la Rocha, 2001; Marques and Torres, 2005; Roberts, 2005; Kowarick, 2009). Taking this debate as the starting point, poverty is defined here as a set of social deprivations that go beyond lack of monetary income and include the absence of several other dimensions that are identified with well-being. In this sense, although income is obviously essential since it mediates access to markets, several other kinds of social exchange are also central for the specification of social situations.

Regardless of these general effects of segregation, the differences among countries, cities and neighborhoods have been explained on the basis of the role played by such elements as the state (Marques and Torres, 2005; Roberts, 2005; Musterd *et al*., 2006;Wacquant, 2008), broad societal institutions (Wu, 2004), urban violence (Wacquant, 2008) and the family (Wilson, 1987; Gonzalez de la Rocha, 2001). In the majority of the cases, however, territorial stigma is present (Auyero, 1999; Wacquant, 2008), although, as Lamont and Small (2008) have shown, the cultural frames associated with poverty tend to be much more complex than the classical accounts allow. Informality also seems to be widely important, not just in cities in Costa Rica (Smith, 2003), Egypt (Harris and Wahba, 2002), Trinidad (Pamuk, 2000), Brazil (Marques and Torres, 2005; Telles, 2007; Kowarick, 2009), Turkey (Keyder, 2005) and Lebanon (Fawaz, 2008), but also in the Global North (Mingione, 1994; Musterd *et al*., 2006).

At least since Wilson (1987), a broad assumption in a significant proportion of poverty debates has been that segregated individuals tend to have worse social conditions because they have fewer connections with other social groups and less access to services and opportunities, causing them negative socio-economic consequences. Although the mechanisms involved are general, the effects of social isolation are obviously socially specific. In the case of the rich, they are associated with resource monopoly, especially in the self-segregated gated communities, now an international phenomenon (Marcuse, 1997; Caldeira, 2001).

In the case of poor individuals, by contrast, residential segregation leads to inequality of access to equipment, goods and services (Pinçon-Charlot *et al*., 1986) and reduces access to information, cultural repertoires and opportunities in general (Mingione, 1994; Briggs, 2005). In the US, certainly the most studied case, the elements associated with that isolation are subjects of debate, with some authors highlighting the role of race (Massey and Denton, 1993), while others stress economic segregation (Wilson, 1987; Jargowsky, 1997). In European countries, whilst socio-economic status was the most general element mediating segregation and poverty (Pinçon-Charlot *et al*., 1986), the importance of emigrational origin has grown in recent decades (Mingione, 1996; Jariego,

2 The list of references is long, but includes as central the articles published by Mingione (1996), some of them published previously in the *International Journal of Urban and Regional Research*, Vol. 17.3, 1993.

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2003). In Latin America, the association of residential segregation by socio-economic status with poverty and inequality of access is constitutive of the urbanization of the larger metropolises (Marques and Torres, 2005; Kowarick, 2009; Perlman, 2010).

But if the argument is well established and widely known, precisely how the social isolation described by Wilson (1987) overlays and interconnects segregation and networks, and what the specific conditions are under which this occurs, remain to be better understood. And since connections (with other social groups, markets, services and opportunities) are at the center of the problem, the study of networks may define these elements more precisely. Existing studies contribute to this task by considering networks both as a metaphor for relations and as a research method, although the precise understanding of the combined effect of networks and segregation on poverty still needs to be improved. This article specifically aims to contribute to this issue.

The metaphorical use of networks is considerably more common and includes studies such as Andreotti's (2006), which compared the roles played by the networks of different socially excluded individuals in coping with situations of poverty in Italy. Along the same lines, Dominguez (2004) developed an ethnographic study about social support among low-income immigrant women in Boston, showing the importance of gender relations within family arrangements. Blokland (2003), on the other hand, carried out detailed qualitative research in a Rotterdam district to investigate how types of relations explain the distinctions between spatial contiguity (neighborhood) and sense of community. In a similar vein, Small (2004) investigated a Latin neighborhood in Boston, exploring how poverty conditions were faced on a daily basis and how social organization was produced by both the structural elements discussed classically in the literature and the personal trajectories and motivations of its inhabitants.[3] These studies contributed to a better understanding of the role of social relations and of their association with segregation, but by developing qualitative and metaphorical uses of relational patterns, they did not specify precisely in what ways networks interact with segregation.

A different debate in the literature focuses on social support provision through the methodological study of networks, although it does not consider space and does not necessarily study poverty. The greater part of this debate is based on survey data and, therefore, starts from information relating only to interviewees' direct contacts and the ties among themselves.[4] The characteristics of personal networks were the theme of Fischer and Shavit (1995), who compared networks of California inhabitants in the 1970s with individuals who lived in Israel in the 1980s. Grosseti (2007) replicated the same methodology and compared the previous results with French networks. These international comparisons suggested that networks differ much more in terms of social class than according to city or national/cultural setting. The same kind of finding was also noted by Bastani (2007) who researched middle-class personal networks in Tehran, Lonkila (2010), who compared personal networks in Finland and Russia, and Lee *et al*. (2005), who studied the same subject in continental China and Hong Kong. As we will see, although not perfectly comparable due to methodological differences, the São Paulo networks confirm this tendency, suggesting that social class is at least the most important starting point for organizing the variability in personal networks.

An associated debate deals with social integration, a topic more closely connected with poverty. Campbell and Lee (1992) explored the effects of different personal

3 The qualitative part of this research also investigated the mobilization of contacts in everyday sociability, exploring how different combinations of types of tie and trust explain the provision of different kinds of social assistance (Marques, 2011).

4 This corresponds to the so-called egonets. As we will see in the next section, this article considers contacts and ties located at greater distance from the 'ego', studying whole personal networks. The ego is the person about whom the questions concerning the network are made. So, both whole personal networks and egonets are about the ego's connections, although egonets are parts of personal networks, involving only persons connected directly to the ego. In this research, the egos are the interviewees, but this is not a necessary condition.

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networks in the US on social integration. Jariego (2002; 2003) studied the integration of international immigrants in Spain, analyzing the presence of kinship ties, other migrants and connections with the country of origin. The importance of geography on the social integration of segregated communities was explored by Ferrand (2002) comparing the role of localism in urban French networks. His results are of special interest for this article, since they point out the importance of geographical social bridges in defined communities. The association between networks and segregation in the explanation of poverty, however, was not faced systematically by these authors.

A different group of studies explored personal network creation and transformation — such as Grosseti's (2005) study, which investigated the origins of the ties in individual networks based on survey research conducted in Toulouse. Bidart and Lavenu (2005) explored the temporal dynamic of personal networks in Normandy. Small (2009) also studied network creation, showing how organizational characteristics influence the types of networks created within them, with significant consequences for social support provision. The São Paulo findings confirm that networks created within organizations tend to be associated with lower social homophily, which has strong consequences for living conditions and poverty.

Concerning specifically the study of poverty and using the networks as metaphors of relations, it is also important to mention the Urbex project,[5] whose main findings were published in Musterd *et al*. (2006). Starting out from the idea that social integration is provided not only by market relations but also by redistribution (implemented by the state) and by solidarity (provided by community/family/sociability), a substantial group of researchers investigated poverty conditions in cities in six European countries. Due to the metaphorical use of networks, however, their results did not specify precisely how the combinations of other sources of welfare interact with networks to produce or mitigate poverty.

For some authors these elements might be captured generally by the idea of social capital. The concept has been overused, sometimes rather imprecisely, and very often confusing analytical and normative goals (Blokland and Savage, 2008), in part due to increasing public interest in the idea. However, considering the associations between urban poverty and segregation, the most promising conceptualization of social capital connects it with social networks (Briggs, 2005). An earlier work by Briggs (2003) investigates the bridge-producing ties between socially different individuals. The author emphasizes the existence of a dense fabric of ties between similar individuals as an important source of social cohesion, but distinguishes these 'bonding ties' from those that produce bridges between people with distinct characteristics, dubbed 'bridging ties'. Using information on social networks in diverse US locations, the author explores the conditioning factors of 'racial bridging ties', showing that interracial ties vary between social groups as a function of associative practices and sociability. Residential segregation tends to reduce bridges (Briggs, 2005). Blokland and Savage (2008), on the other hand, explore critically the relational patterns present in cities of the Global North, and show how these networks have helped to enlarge social distances and increase resource monopoly, instead of redistributing resources as some public debates have desired.

The understanding of networks throughout this article is compatible with this idea of social capital, although I prefer not to rely on the concept. Networks are supra-individual patterns of connections formed by several types of tie, undergoing constant change, and come about for several different reasons (and sometimes for no reason at all). They include material, immaterial, formal, informal, real, imagined (sometimes also imaginary) relationships, regardless of the intentions or knowledge of the persons embedded within them (Emirbayer, 1997; Tilly, 2005). In some situations, networks might become assets, as part of the social capital literature suggests (Moser, 1998), but they are much more than this (Blokland and Savage, 2008). They are part of the individuals' lives,

5 See http://ec.europa.eu/research/social-sciences/pdf/finalreport/soe2ct983072-final-report.pdf (accessed 17 January 2012).

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produced in all social interactions, created and transformed by daily sociability and activities throughout their life trajectories. Consequently, both social conditions and networks are produced concomitantly and the causality between them is bi-univocal. To make the point clearer, therefore, I prefer to connect poverty and residential segregation directly to the element under study — the networks of poor individuals.

Summarizing, this article starts from the assumption that the social networks constructed by the sociability of individuals influence their capacity to access the material and immaterial goods and services that are important to their living conditions. They may also help to bridge the territorial isolation present in segregation patterns. It has already been established that urban segregation reduces individuals' access to opportunities, helping to reproduce poverty conditions. It is also relatively established that networks help to integrate individuals and, therefore, promote better social situations. But we do not know yet if social networks help to bridge the social isolation caused by urban segregation and, if they do, in what conditions these effects happen. The following sections investigate these questions.

Research design

This study looked at the personal networks of 209 individuals in situations of poverty and 30 members of the middle-class, who were used as a basis for comparison. To explore the effects of spatial segregation on personal networks I chose seven locales, all quite distinct from each other as regards segregation, and considered previous studies on the spatial distribution of poverty and of social groups in São Paulo (Marques and Torres, 2005). Approximately 30 personal networks were collected in each locale, leaving aside the middle-class control group. Their dwelling places were not restricted by these specifications (although, in fact, the middle-class individuals were concentrated in the expanded center of the metropolis). Their networks, however, fanned out over a wide territory and included virtually no neighbors, similar to the pattern that Wellman (2001) dubbed 'personal communities'. This pattern is very distinct from that found amongst individuals in poverty, as we will see.

The locales were selected for study after a sampling of the locations of individuals in situations of poverty in São Paulo based on existing literature. Therefore, the research did not select poor individuals directly (on the basis of their income, for example, as is usual when using quota sampling), but chose poverty spaces on account of their characteristics, and then selected a certain number of individuals in each of them. The most central locations include city center slum tenements and two very large *favelas* located fairly close to the expanded center, one contiguous to a very high-income neighborhood and the other bordering a middle and high-income area. The most segregated locations include a *favela* on the peri-urban fringe of the metropolis, a very large housing project on the fringe of municipal São Paulo and a peripheral area of the Southern Zone. A third small *favela* within an industrial district completes the list of study sites. The map in Figure 1 shows their locations.

I start from the assumption that an important part of the sociability that affects poverty and living conditions occurs at greater distances from the ego than its immediate surroundings and may be influenced in important ways by the structure of the networks (Lonkila, 2010). Consequently, I decided to analyze personal networks instead of community networks or egonets.[6] I also considered not only relationships, but also what some authors call interactions — elementary, short-term connections (Degenne, 2009) — since a substantial proportion of daily social exchanges comes from these ties.

The interviews were ego-centered (asking a person about his/her own network) and used a semi-open questionnaire and a name generator. The questionnaire covered basic

6 Or, technically, at just a step from the ego. This decision proved to be correct, since the networks varied in size from 5 to 148 nodes.

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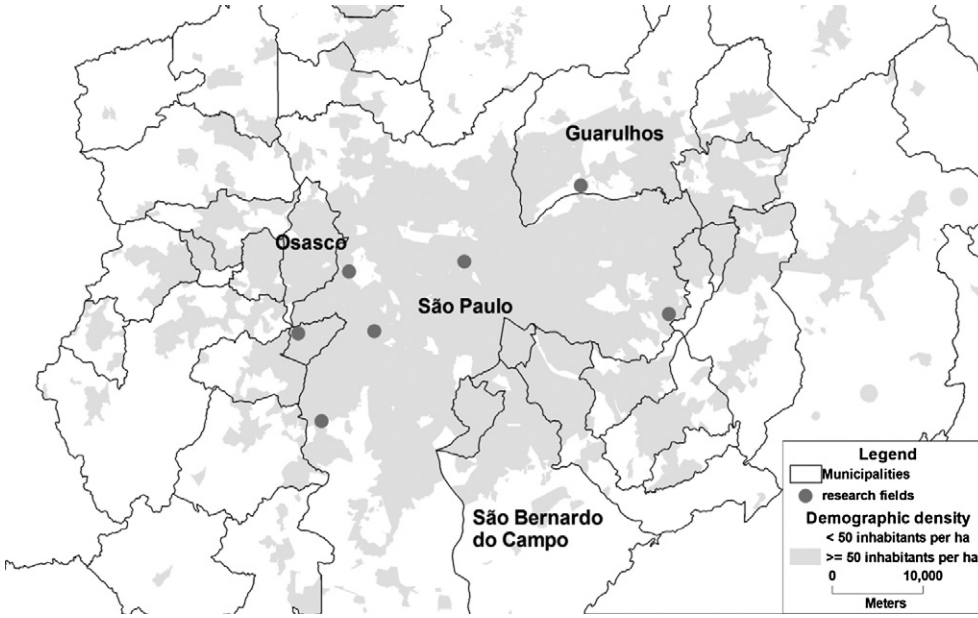

Figure 1 Map of the São Paolo area showing the location of research sites (*source*: produced by the author from GIS databases of the Center for Metropolitan Studies, 2006. Available in GIS format at the Center for Metropolitan Studies website – http://www.centrodametropole.org.br/cd/sc/SC_2000.rar)

socio-economic attributes and also individuals' family configuration and migratory and occupational trajectories. After that I used a two-step name generator. First I asked the interviewee to list up to five persons in each of the spheres of sociability — family, neighbors, friends, work, religion, associations, leisure and others that had appeared during the first part of the interview. These names represented the 'seed' of the network and were included in the first column of the instrument. I then asked the interviewee to list up to three names for each of the names in the seed, who were associated in his/her mind with the one cited, considering their sociability. He/she could present new names, repeat names, include his/her own name or say 'none'. I included those persons in the rows of each cited name, but also noted down the new names in the first column at the end of the list. With the 'seed' names finalized, I continued the interview with the names recently added. The procedure was repeated up to four times (including the seed round), but none of the individuals defined as in poverty reached that limit, suggesting that the frontier of the network had been reached before then. After that, I asked the interviewee to classify the people they had named according to three attributes: place of residence (local/non local), sphere of sociability in which the tie occurs, and the context of origin of the tie.

The chosen interviewees in each field were approached in public spaces or at the entrance to their houses, both on weekdays and at weekends. Throughout the work in each field, the sample was controlled by certain basic social attributes such as gender, age, and migratory and occupational status. This control did not represent a statistical stratification of the sample, but aimed at guaranteeing a reasonable correspondence to the average characteristics of the local population based on census social indicators and confirmed by comparison between the interviewees' characteristics and those of the population studied.

Middle class was defined in a broad sense, mixing income and professional criteria and included the liberal professions, civil servants, knowledge professionals and commercial entrepreneurs. The object of these interviews was simply to set up a benchmark for the analysis of individuals in poverty.

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All this information was subsequently submitted to social network analysis, and resulted in 239 personal networks. I then explored several characteristics of the networks, accessing their principal conditioners and the processes that impacted on their formation and dynamic, the occurrence of homophily[7] and how they differed from middle-class networks. Following on, I returned to the field to develop qualitative interviews with 20 individuals in order to explore network transformation and network mobilization in their daily lives to solve problems and access goods and services obtained outside markets, as well as to establish the mechanisms involved in the networks.

The following section explores the collected information quantitatively to evaluate the networks' consequences for the social situation of individuals in poverty.[8]

Results

The results demonstrated first of all the almost total absence of non-poor persons in poor individuals' networks. This social homophily is perhaps the most important single sociability feature in the perpetuation of poverty and social inequality. Of course, the problem does not originate in the networks, but represents a relational facet of Brazilian social structure.

Continuing to look at general characteristics, we may say that the personal networks of poor individuals tend to be smaller and less varied in terms of sociability than middle-class networks, as can be seen in Table 1. They also tend to have a higher proportion of persons who live in the same residential area, confirming the results obtained by Fontes and Eichner (2004) and Holanda (2000) — although in both these cases only egonets were considered — showing the more local sociability of the poor. At the same time, this suggests that Wellman's (2001) hypothesis about the deterritorialization of communities is social-group-specific and involves only a small part of society, at least in the Global South.

Table 1 Average individual attributes and network characteristics

	In Poverty	Middle Class
Interviewees' attributes		
Average years of schooling	6	14
Average family per capita income	R$ 271	R$ 2,250
Network characteristics		
Nodes	53	94
Ties	107	183
Spheres of sociability	3.8	5.5
Proportion of sociability in the neighborhood	32%	5%
Proportion of sociability in the family	40%	34%
Localism (proportion of sociability with persons who live in the same residential area)	63%	20%

Source: Interviews by the author

7 Homophilic relations are those that exist between persons who share similar attributes. For an in-depth discussion of homophily see McPherson *et al*. (2001).

8 The qualitative part of the research and the analysis of the mechanisms are developed elsewhere (Marques, 2010).

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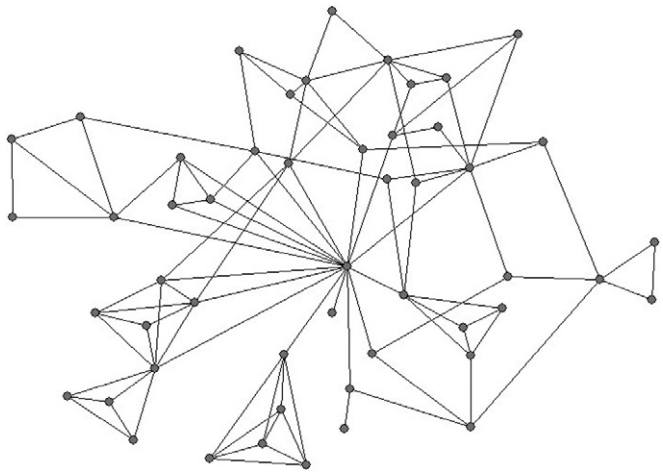

Figure 2 Sociogram of interviewee 164 (poor female) (*source*: interviews by the author)

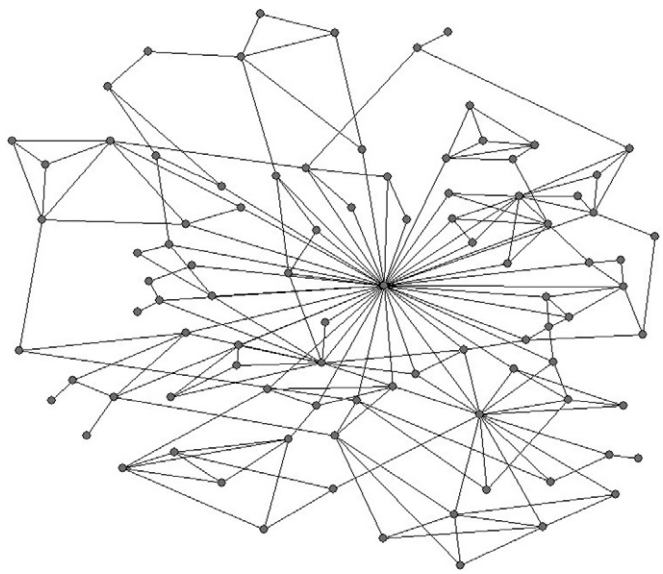

Figure 3 Sociogram of interviewee 93 (middle-class female) (*source*: interviews by the author)

To make the argument more concrete, Figures 2 and 3 present the networks of a poor woman and a middle-class woman respectively, both with average indicators inside their groups. The figures are sociograms — graphic representations of the network — with individuals represented as nodes (small circles) and relations represented as ties (lines). In each sociogram, the ego — the person that we are talking about — is at the center.

Despite the evident difference between the two interviewees, it should be noted that there is considerable variety among the poor: the networks vary from four to 179 nodes and the spheres of sociability range from one to eight. Indeed, constrained by the small size of the sample, it is not easy to find direct relations between attributes and networks, although we may describe some regularities.

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The data show that the poorest amongst the poor have networks with even less variety of sociability, greater localism, and a greater importance of the neighborhood. By and large, these results point to the difficulty that the poor have in confronting the costs of creating and maintaining ties (Grosseti, 2005), which also helps explain the differences between them and the middle class.

Schooling exerts a similar, although independent, effect. Individuals who have received more schooling, even amongst the poorest, tend to have richer sociability and fewer local networks. This reinforces the widely accepted idea that schooling has a significant role in the creation of diverse social bonds. These combined dynamics (given the intimate correlation between income and schooling) probably perpetuate social and relational situations amongst the poorest, in one of those reinforcement mechanisms that characterize 'durable inequalities' (Tilly, 2005).

Also in line with previous studies, stage in the lifecycle evinces important effects on the networks (Blokland, 2003; Bidart and Lavenu, 2005), although in our case the results appeared at the two extremes of the age range. Old age tended to reduce the networks and the variability of their sociability, making them more local and more family-centric. The young, for their part, possessed substantially similar networks (which flies somewhat in the face of the literature). They had, however, a sociability more centered on their studies and on friendship, as well as networks that were more local than the average sample studied. Later analysis of network types suggests that the elderly and the young are both associated with two typical relational situations, with very small and very large networks respectively. However, both possess local sociability and are considerably homophilic.

While a small degree of participation in associative groups did not allow us to draw any conclusions, attendance at places of worship — but not adherence to any specific religious belief — did impact on the networks. People who attend places of worship regularly (i.e. more than fortnightly) tended to have greater diversity of sociability, even when the differences were controlled by income.

Gender did not have significant effects for the networks, although there is non-conclusive evidence that women tend to have slightly larger networks, less associated with the family, work and leisure. The acquisition of nodes via networks, the family and the church is more common amongst women. And when only working men and women were considered, women's networks were revealed to be larger. This difference was maintained when men and women who work outside the community were compared, although the sociability differences disappeared, suggesting that the differences are not linked to sociability in itself but to different social insertions by gender in the public and private spheres and in the labor markets. These results confirm those presented by Moore (1990) using ego-centered networks.

Migratory status did not present organized differences either, not even when recent and much earlier migration were considered separately, although the proportion of migrants in the networks declined over time. This result might be due to the high presence of migrants (70% of the sample), strongly reducing the variability of the phenomenon. But important differences appeared when we delimited a subgroup with many fellow migrants in their networks. These individuals had smaller and less socially varied networks. In these cases the presence of migrants conformed to real transplanted communities (sometimes neighbors from the countryside are now neighbors in a São Paulo *favela*), similar to the processes discussed by Portes (1999) and Jariego (2003).

Finally, confirming the results of previous studies (Holanda, 2000; Ferrand, 2002; Fontes and Eichner, 2004), networks of poor individuals are marked by intense localism, in contrast to middle-class networks. Middle-class individuals construct their networks in much broader geographical spaces, in a pattern close to what Wellman has dubbed deterritorialized personal communities. The social world of poverty, meanwhile, is entirely different and is characterized by an intense localism.

The hypothesis of the direct effect of spatial segregation on the networks was not borne out, however. Segregation (macro-segregation, on the city scale) does not seem to impact directly on the size, activity or structure of the networks. In spite of this,

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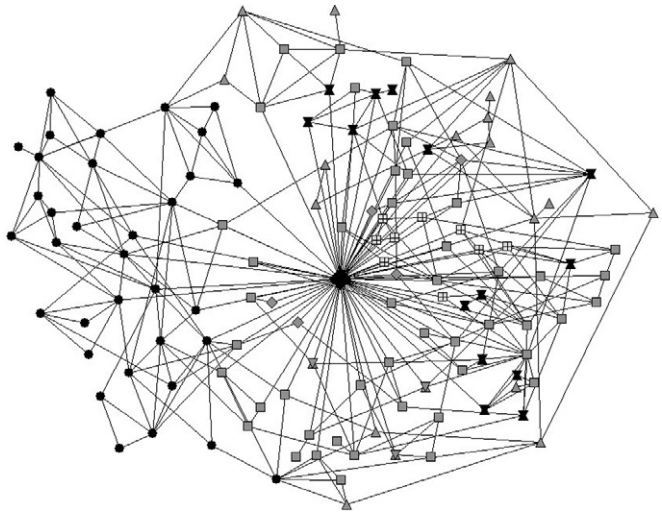

Legend: ◆ Ego ● Family ■ Neighbor ▲ Friend ⊞ Studies ⧗ Leisure ◇ Other

Figure 4 Sociogram of a Type 1 network – average network of the largest type (*source*: interviews by the author)

individuals in the most segregated regions tended to have less localized networks, especially if they lived in small-scale dwellings. This result, however, is the product of an average of both very high and very low localism, suggesting that only some individuals manage to maintain a less local relational profile. For these (but only for them), the networks compensate for their territorial isolation with a more integrated relational pattern, which enlarges the differences among the poor. The analysis of income at the end of this section will reveal further consequences of this finding.

All these pieces of evidence suggest that the networks did vary intensely with social attributes, but not in a direct way, leading to intense heterogeneity within each social group.

Types of networks and sociability

In order to explore that heterogeneity, I continued the analysis by developing a typology of networks. After several tests, I decided to develop two typologies using cluster analysis — one based on the structures and characteristics of the networks, the other on the sociability patterns of the individuals by sociability spheres.

The typology of networks was the product of the cluster analysis of 19 network indicators.[9] The analysis suggested the existence of five types of network, which basically varied in size, in the variety of their sociability and in localism. Although they may be organized by size and variability of sociability (two characteristics that tend to vary together), localism does not go hand in hand with these dimensions. As a result, both the larger and the smaller networks are very local, although the former have a more varied sociability. In contrast, middle-size networks combine mid-size to low localism with quite high variability of sociability. Just for illustration purposes, Figures 4 and 5

9 They included: (1) nodes, (2) ties, (3) diameter, (4) average degree, (5) centralization index, (6) clustering coefficient, (7) E-I local residence, (8) E-I sphere, (9) E-I context, (10) 2-clans/nodes, (11) 3-clans/nodes, (12) between-ness, (13) information, (14) efficient egonet size, (15) egonet density, (16) spheres, (17) contexts, (18) percentage of local residents, (19) gender homophily. Unfortunately, there is no room here for a detailed explanation of them, but see Wasserman and Faust (1994) on technical information about measures and Marques (2010) on these specific measures.

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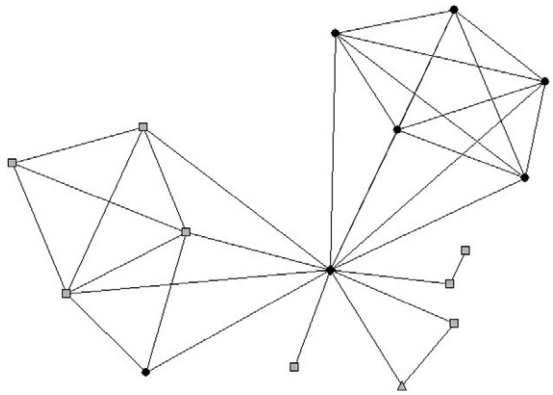

Legend: ◆ Ego ● Family ■ Neighbor ▲ Friend

Figure 5 Sociogram of a Type 5 network – average network of the smallest type (*source*: interviews by the author)

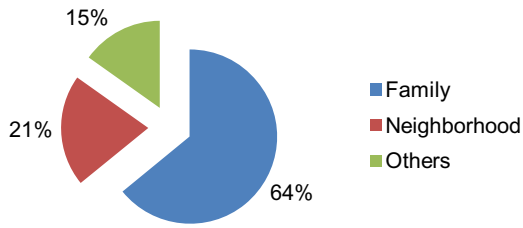

Figure 6 Sociability concentrated on the family – 67 cases (*source*: interviews by the author)

present average networks of the larger and the smaller types. The symbols in the sociograms represent sociability spheres, confirming visually that larger networks have more varied sociability in terms of spheres.

An additional element is associated with the composition of the sociability of the individuals. To explore this dimension, I developed a second analysis also using cluster analysis of the sociability profiles. The sociability profiles were constructed on the basis of the proportion of each network that occurs within each sphere of sociability that emerged from the field work. Cluster analysis resulted in six very different and meaningful groups, with emphasis on: family (31%), neighborhood (34%), friendship (9%), church (8%), work (14%) and associations (3%). To firm up these arguments, Figures 6 and 7 present the distribution of sociability of the types concentrated within the family and work, respectively. As we can see, there are networks that have, on average, the majority of their sociability concentrated in the sphere of the family (64%), while others concentrate a substantial part of their sociability on work (29%). In this sense, although family always maintains at least 25% of the individual's sociability, as suggested by studies about difference cultural contexts (Lee *et al*., 2005; Bastani, 2007; Grosseti, 2007), several other spheres present importance for specific individuals.

Of the six patterns, three were associated with environments where relations were concentrated on primary ties and tended to the more homophilic — family, neighborhood and friends, while the other three were associated with environments where the individuals have more chance of meeting alters with attributes different from their own — church, work and associations. This group of potentially less homophilic sociabilities reaches 25% of the sample.

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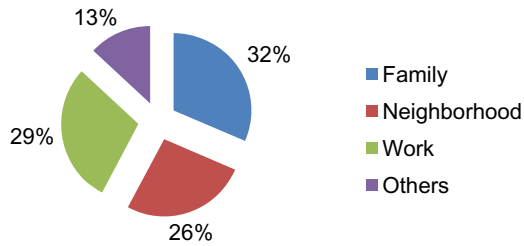

Figure 7 Sociability concentrated on work — 33 cases (*source*: interviews by the author)

The intersection of these two classifications provides us with a good description of the heterogeneities present in the relational pattern of individuals in poverty. There are four main relational situations, which explain 87% of the cases:

- Small networks with local, less varied sociability and homophilic contacts;
- Large networks with local, varied sociability and homophilic contacts;
- Mid-size networks with local, less varied sociability and homophilic contacts;
- Mid-size networks with less local, more varied sociability and fewer homophilic contacts (church, work and associations).

If the arguments presented in the previous sections about the role of social contacts and of geography hold, this last group of networks should tend to be associated with better social attributes, even among the poor. The following sub-sections test this association, investigating social precariousness and income, two of the most commonly used social dimensions to explain poverty.

Social precariousness

This section tests the associations between social attributes, relational elements and social precariousness.[10] Social precariousness was considered as being a situation in which the interviewee evinced at least two of four conditions of precariousness — familial, housing, work-related and income-related.[11] Approximately one third of those interviewed — 31% or 64 of the cases — were found to be in this position. However, the desegregated conditions of precariousness varied considerably, revealing just 12% in familial, 16% in housing-related, 60% in work-related and 29% in income-related situations of precariousness.

Although the situations of precariousness did not present a direct connection with the characteristics and types of networks, sociability did show relevance. First of all, those individuals with sociability centered on the neighborhood were much more likely to be subject to precarious conditions: 46% of persons with this type of sociability evinced precariousness whereas this fell to just 23% for those with other types of sociability. Work-based sociability went against this trend, with only 12% of this group in situations of precariousness as against 34% of the rest. Hence, the more local and primary the sociability, the greater the probability of social precariousness.[12] The analyses also

10 I also tested the associations between attributes, networks and access to the labor market (and to formal jobs). The results are similar and were omitted due to lack of space. In fact 66% of the jobs were obtained through networks.

11 The following conditions were considered precarious: (1) family arrangements with only one adult breadwinner and young children; (2) wooden shacks or rooms without bathrooms; (3) unemployed or underemployed; (4) per capita family income of less than of a quarter of the national minimum salary — R$ 125, at the time, the threshold of the Bolsa Família program, the Brazilian federal CCT program.

12 All the reported analyses have associations significant to 99%.

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indicate that individuals with average-sized networks, and minimal local and primary sociability, tended to be less subject to situations of precariousness than the others: only 11% of those with these types of relational pattern were in precarious situations as opposed to 35% in other relational situations.

To test the joint effect of attributes and networks on social precariousness I decided to use CHAID (Chi-squared Automatic Interaction Detector) techniques. The method consists of a set of subsequent tests between a dependent and several predictive variables. In each test, the model chooses, using Qui-square statistics, the independent variable with greatest explanatory power over the dependent variable. The cases are then separated into subgroups according to the chosen independent variable, and the test is run again. The process is repeated until no statistical significance is found or until the number of cases in one of the subgroups is too small. The result is a tree of associations, in which each level corresponds to a selected independent variable and each cell represents a social situation, described by the variables.

In our case, 17 variables expressing relational elements and socio-economic, migratory and employment attributes were used. Since the precariousness variable was constructed considering income, family structure and position within the occupation, these variables obviously could not be included in the model. This was also the case with segregation, since it is highly correlated to housing precariousness in the case of 'slum' tenements. The method indicated three variables as the best solution (the adjusted model correctly explained 69% of cases). The resulting tree follows.

As we can see, the three variables that best explain social precariousness are (1) a certain type of network and sociability, (2) whether or not the sociability is family-centered and (3) whether or not the individual is a migrant. It is interesting to add that the models included traditional socio-economic variables, such as income, years of schooling and age. As can be seen, precariousness affected 30.6% of cases, but among those individuals with mid-sized networks, low localism and non-homophilic sociability, it fell to 11.4% (right-hand cell of the first level). So, among the poor, those with less homophilic relational patterns have a less precarious situation.

However, the left-hand cell of the first level indicates that amongst those without this relational pattern, precariousness was found in 34.5% of cases. Among these cases, those with family-centered sociability tended to be in less precarious situations — 25.4% (in the right-hand cell of the second level), while for those who had neither of these two sociabilities, the situation of precariousness reached 40.2% (left-hand cell of the second level). Although this is in part generated by the method, since precariousness included a familial dimension, the result nonetheless strongly points towards the role of the family in the reduction of precariousness for individuals with a more homophilic sociability.

This result may appear contradictory, since concentration of sociability within the family was more strongly associated with precariousness in the first level of the tree. Notwithstanding this, among those not having mid-sized networks, or with more homophilic and local sociabilities, those with familial support (second level of the tree) were less prone to fall into precariousness, even if not to the same extent as those evincing the previous relational pattern (25.4% of those in node 4 against 11.4% in node 2). Family ties are indeed associated with the solution of daily problems and with access to goods and services produced outside the markets (Wilson, 1987; Gonzalez de la Rocha, 2001; Marques, 2010).

Finally, amongst those individuals who had neither the first-level combination, nor familial sociability, migration appears as a discriminatory element. Precariousness was present in almost half of those migrants with homophilic and local, but not familial sociability (48.6% in the left-hand cell of the third level), whilst among those who had this same relational situation, but were not migrants, it was only 22.9% (right-hand cell of the third level).

At first sight, this might suggest the existence of prejudice against migrants. A more detailed analysis, however, suggests that the model is in fact limited to a specific group of individuals of low social integration. The networks of individuals classified in this

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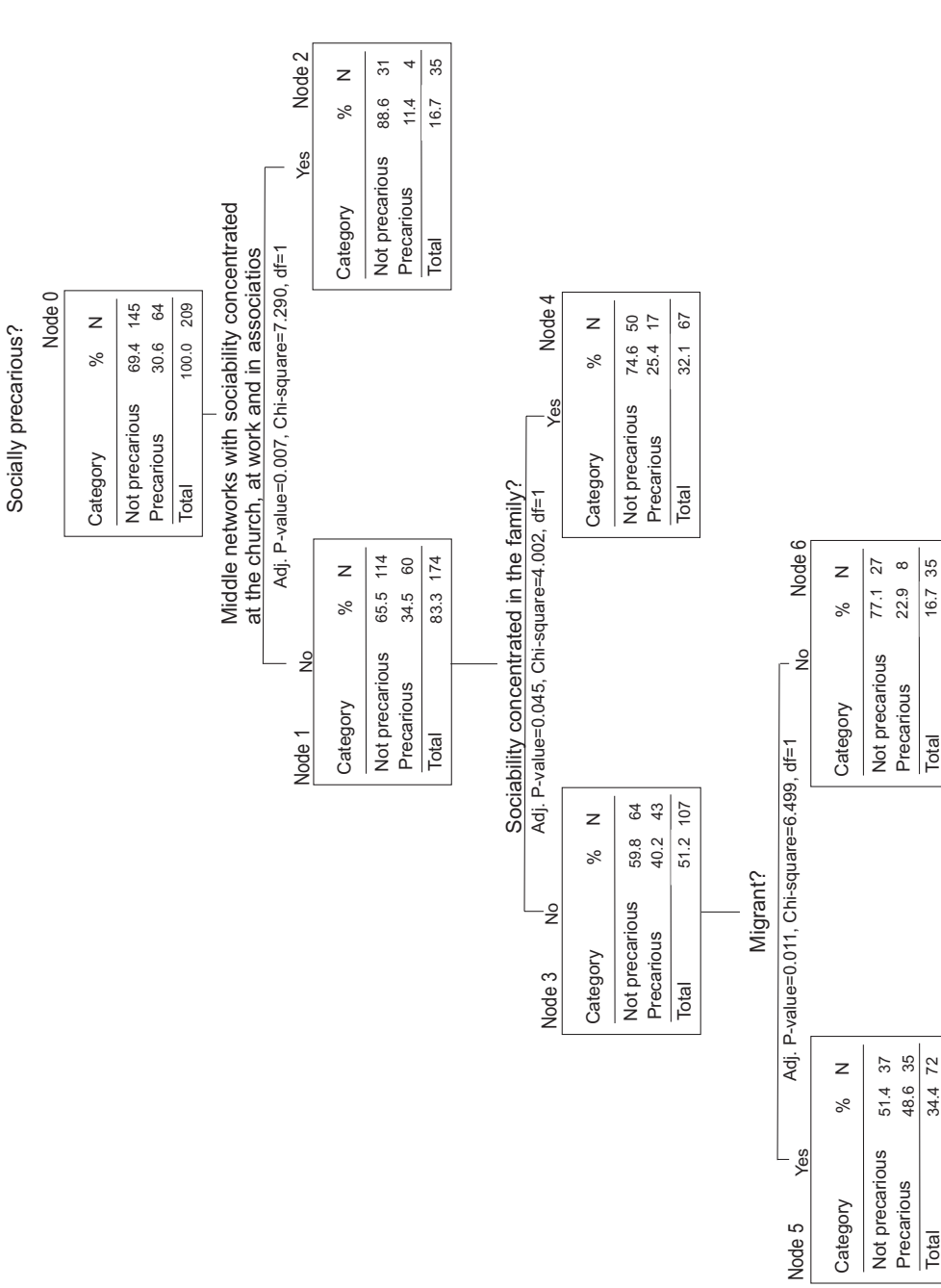

Figure 8 Tree explaining 'social precariousness' (CHAID) (*source*: interviews by the author)

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situation contain large numbers of compatriots, suggesting that migrants with low relational integration in São Paulo are especially likely to find themselves in this condition. The effect cannot simply be attributed to prejudice, however, given that other migrants present a lower presence of compatriots (and are not located in the right-hand cell of the third level). It is worth adding that the situation of individuals who possessed a more homophilic but not familial sociability, and who were not migrants (right-hand cell of the third level), was similar to those with family-centered sociability (right-hand cell of the second level), suggesting that both situations of integration — being a local or having family support — have similar effects on precariousness.

On the whole, therefore, the result indicates that protection against precariousness depends on less homophilic sociability, family support and the social integration of non-migrants. Since the model is hierarchical, however, sociability in the family and migrant integration only attenuate precariousness for those with more homophilic and local sociability.

Income

Finally, I analyze the association between networks, attributes and the income of individuals in poverty.

First, using univariate analysis, only the variability of sociability, measured by the number of spheres, had a direct effect upon income for the set of cases. Type of network was not associated with income either, but certain types of sociability were. Individuals with sociability based on the church, work or associations tended to have substantially higher incomes — R$ 390 per capita as against R$ 225 for those with local and primary sociability. Finally, persons with average networks and the aforementioned type of sociability, had even higher incomes — R$ 430 per capita as against R$ 240 for the other relational situations. By and large, therefore, the more diversified, less primary and less local the sociability, the greater the income tends to be.

As is usual in this type of analysis, the network measures and the various indicators were correlated, so I conducted a series of multivariate analyses using GLM (General Linear Model) models.[13] After performing a series of tests, including socio-economic, sociability and network variables, I ended up with the model given in Table 2.[14] The first five columns present the parameters and the last column shows the effect in Reais of a variation of one unit in each variable at the level of the average per capita family income of R$ 271.

As we can see, two traditional variables entered the model. Schooling exerts a positive influence on earnings and, as one would expect, individuals with higher levels of schooling tend to have higher incomes. Each additional year of study adds, on average, R$ 9.0 to the average family income per capita of those individuals (see last column of table). It is worth remarking that the analysis only included individuals in poverty, and it is likely that a study of a broader range of social groups would have derived stronger effects from schooling.

The number of persons in the household, conversely, impacted negatively on earnings. Basically, the greater the number, the lower the income per head. This effect is not merely numeric, given that the earnings of persons other than the ego are included in total family income, just as the networks give access to more persons than just the ego. But

13 This statistical model permits the analysis of a continuous dependent variable against both categorical and continuous variables and considers the former without subdividing the model.

14 Given the model assumptions, I used as dependent variable the square root of monthly per capita family income, which presented the best fit. Very similar results were obtained with family income, albeit with smaller explanatory capacity. The GLM tests the assumption of equality of the variances of the independent variables. In our case, the significance of the Levene test was 0.195, suggesting the acceptance of the model. Three outliers were excluded from the model, leaving 206 cases in the analysis.

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Table 2 Results of GLM model of family income per capita (square root)

	Effect between Subjects	Estimated Parameters				Effect on Income*
	F	B	Standard Deviation	t	Sig.	R$
Corrected Model	24.68					
Intercept	308.46	20.28	1.25	16.28	0.000	
Years of schooling	10.22	0.27	0.09	3.20	0.002	9.0
Persons in the household	53.03	–1.66	0.23	–7.28	0.000	–51.9
Average networks with varied and less local sociability	4.45	1.92	0.91	2.11	0.036	66.9
Interaction between stable income and # of nodes	13.77	0.04	0.01	3.11	0.002	1.3
Interaction between segregation and # of spheres	7.11	0.44	0.16	2.67	0.008	14.7

*(R$) of 1 unit change in the considered variable, at the level of average income (R$ 271)
Note: N = 206 cases; R^2 of 0.427 and R^2 adjusted of 0.409
Source: Interviews by the author

since the dependent variable has already been divided by family size, the model informs us that the aggregative effects of networks and incomes do not compensate for the dependency effect; and dependence grows at a faster rate than the arrival of other income generators or network aggregators. As can be seen in the last column, each extra individual in the home drains R$ 51.9 per capita from income, a very significant effect.

Relational variables entered the model in three ways. In the first place, a dummy variable specifies the presence of an average network with varied, non-local sociability (centered on the church, work or associations), repeating the results given in previous sections.[15] The effect is positive, indicating that income tends to be higher amongst those with these relational patterns, adding, on average, R$ 66.9 to income, which corresponds to more than 7 years of study and to the negative effect of the addition of one extra person to the home. Nevertheless, we have to bear in mind that the type of network and sociability only assumes the values zero and one, whilst the number of years of study varies between zero and twelve and the number of persons in the home from one to nine.

The model also includes an interaction variable between network size and stable income.[16] Stable income is captured by a dummy variable that gains the value one in situations that guarantee a more or less regular earnings flow. This includes work with an employment record card, domestic or not, owning a business, or being retired. Considering the dynamics of the local labor market, I decided to include those without employment cards (domestic or not) as having a stable income if they had been in their current job for more than a year. Those individuals without stable income were the

15 A dummy variable is a dichotomous variable (which gains only values 0 and 1) that is created by the analyst to reproduce in a quantitative analysis the presence of categorical variables such as 'varied and non-local sociability' (as against 'less varied and local sociability') in our case.

16 Interaction variables are variables created to test the joint effect of two conditions, usually through the multiplication of the two variables.

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unemployed and underemployed, as well as those without an employment card but who had recently been employed.[17]

The logic of the interaction is easy to understand. As 'stable income' assumes the value one for those who possess this condition, the interaction term has no effect for those who have unstable income. As can be seen from the last column, for those with a stable income each additional node in the network adds R$ 1.3 to income. As the number of nodes varies substantially, the effect may be considerable and each additional ten nodes corresponds to an additional R$ 13 of income.

The last variable concerns an interaction between segregation and variability of sociability and complements previous evidence. As segregation acquires a zero value in non-segregated locales, the variability of sociability has no effect on non-segregated individuals. In segregated places, however, each extra sphere adds R$ 14.7 to the income of the individuals, an effect similar to an additional two years of schooling. This is a fairly significant impact given that the number of spheres ranges from one to seven.

The interpretation of the evidence is relatively clear and tests an important part of our main argument about the importance of networks for poverty reduction. Segregation isolates individuals territorially, and consequently the best-off individuals amongst the segregated will be those with varied sociability. This indicates that networks can really help in the reduction of the isolation that stems from segregation. However, this result is only achieved by those able to maintain a varied sociability, thereby increasing the heterogeneity of the situations among the poor. On the other hand, varied sociability is neutral with respect to income for non-segregated individuals.

Conclusion

The article confirms that both networks and segregation are associated with poverty situations. The results also show intense network variability, which specifies more precisely the associations between networks, segregation and poverty.

In a first level of comparison, the findings confirmed the social support literature based on the study of egonets, mainly in the Global North (see, for instance, Fischer and Shavit, 1995; Grosseti, 2007, among others). The networks varied greatly, but, on average, the main cleavage in this variation was located in social group, in this case between poor and middle-class individuals. The study of whole personal networks, however, allowed a much more precise specification of these differences, with the poor networks being, on average, smaller, more local, less diverse in terms of sociability, more associated with the individual's neighborhood and based on primary ties and more rarely constructed within organizations.

The presence of high localism, additionally, indicated a first dimension of the importance of space for the sociability of the poor, in accordance with Briggs's findings (2003; 2005). This suggests that Wellman's (2001) argument on the deterritorialization of community is socially specific and country-specific and should be tested empirically in other social situations, especially in the Global South.

The networks of poor individuals, however, showed intense variation among themselves, including networks with structure and characteristics similar to those found among the middle class. In contrast to the work of authors who simply compare social group averages, this article showed that networks of poor individuals tend to be highly heterogeneous and to vary substantially according to size, diversity and sphere concentration of sociability, and localism.

17 Stable earnings were significantly (and positively) correlated with income, but with smaller explanatory power. The consideration of some of those without an employment record card as stable followed a suggestion by Nadya Guimarães.

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Furthermore, this variability was associated with the intensity of poverty faced by individuals, mainly measured here by precariousness and monetary income. These results echo in part the importance of connections described by Wilson (1987) and more recently by Briggs (2003). However, the case of São Paulo indicates that the best social situations are associated with low localism, diversified sociability and with networks constructed within organizational settings. These three elements may be considered as different (and superposed) sources of homophily.

In the case of precariousness, the effect of these elements is apparently mediated by the family and by migration, indicating that networks, sociability and more traditional sources of social integration combine in diverse ways to provide integration (or the lack of it), even amongst the poor.

The results on segregation highlight a second facet of space. The findings show that for segregated individuals income tends to rise with more varied sociability. Therefore, networks really help to bridge the territorial isolation caused by residential segregation. In this sense, if segregation really leads to worse social opportunities, it is also true that for some individuals personal networks may promote integration. This contributes to even higher heterogeneity among the poor considering different spatial and relational situations.

Finally, these results suggest that, since the poorer among the poor tend to have networks with higher localism and homophily, the associations between networks and poverty, in association with segregation, involve circularities that may reinforce inequalities and poverty.

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References

Andreotti, A. (2006) Coping strategies in a wealthy city of Northern Italy. *International Journal of Urban and Regional Research* 30.2, 328–45.

Auyero, J. (1999) 'This is a lot like the Bronx, isn't it?' Lived experiences of marginality in an Argentine slum. *International Journal of Urban and Regional Research* 23.1, 45–69.

Bastani, S. (2007) Family comes first: men's and women's personal networks in Tehran. *Social Networks* 29.3, 357–74.

Bidart, C. and D. Lavenu (2005) Evolution of personal networks and life events. *Social Networks* 27.4, 359–76.

Blokland, T. (2003) *Urban bonds*. Polity, Cambridge.

Blokland, T. and M. Savage (2008) Social capital and networked urbanism. In T. Blokland and M. Savage (eds.), *Networked urbanism: social capital in the city*, Ashgate, Farnham.

Briggs, X. (2003) Bridging networks, social capital and racial segregation in America. Faculty Research Working Paper Series, John F. Kennedy School of Government, Cambridge, MA.

Briggs, X. (2005) Social capital and segregation in the United States. In L. Varady (ed.), *Desegregating the city*, Suny Press, Albany, NY.

Caldeira, T. (2001) *City of walls*. University of California Press, Berkeley, CA.

Campbell, K. and B. Lee (1992) Sources of personal neighbor networks: social integration, need, or time? *Social Forces* 70.4, 1077–100.

Degenne, A. (2009) Tipos de interacciones, formas de confianza y relaciones [Types of interaction, forms of confidence and relations]. *REDES — Revista Hispana para el Análisis de Redes Sociales* 16.3, 63–91.

Dominguez, S. (2004) Estrategias de movilidad social: el desarrollo de redes para el progreso personal [Strategies for social mobility: the development of networks for personal progress]. *REDES — Revista Hispana para el Análisis de Redes Sociales* 7.1 [WWW

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document]. URL http://revista-redes.rediris.es/html-vol7/vol7_1.htm (accessed 10 January 2012).
Emirbayer, M. (1997) Manifesto for a relational sociology. *American Journal of Sociology* 103.2, 231–317.
Fawaz, M. (2008) An unusual clique of city-makers: social networks in the production of a neighborhood in Beirut (1950–75). *International Journal of Urban and Regional Research* 32.3, 565–85.
Ferrand, A. (2002). Las comunidades locales como estructuras meso [Local communities as meso structures]. *Revista Hispana para el Análisis de Redes Sociales* 3.4 [WWW document]. URL http://revista-redes.rediris.es/pdf-vol3/vol3_4.pdf (accessed 14 January 2012).
Fischer, C. and Y. Shavit (1995) National differences in network density: Israel and the United States. *Social Networks* 17.2, 129–45.
Fontes, B. and K. Eichner (2004) A formação de capital social em uma comunidade de baixa renda [The formation of social capital in a low-income commmunity]. *REDES — Revista Hispana para el Análisis de Redes Sociales* 7.2 [WWW document]. URL http://revista-redes.rediris.es/html-vol7/vol7_2.htm (accessed 14 January 2012).
Gonzalez de la Rocha, M. (2001) From the resources of poverty to the poverty of resources? The erosion of a survival model. *Latin American Perspectives* 28.4, 72–100.
Grosseti, M. (2005) Where do social relations come from? A study of personal networks in the Toulouse area of France. *Social Networks* 27.4, 289–300.
Grosseti, M. (2007) Are French networks different? *Social Networks* 29.3, 391–404.
Harris, R. and M. Wahba (2002) The urban geography of low-income housing: Cairo (1947–96) exemplifies a model. *International Journal of Urban and Regional Research* 26.1, 58–79.
Holanda, F. (2000) Class footprints in the landscape. *Urban Design International* 5.4, 189–98.
Jargowsky, P. (1997) *Poverty and place: ghettos, barrios and the American city*. Russell Sage Foundation, New York.
Jariego, I. (2002) Tipos de redes personales de los inmigrantes y adaptación psicológica [Types of personal network and psychological adaptation of immigrants]. *REDES — Revista Hispana para el Análisis de Redes Sociales* 1.1 [WWW document]. URL http://revista-redes.rediris.es/pdf-vol1/vol1_4.pdf (accessed 17 January 2012).
Jariego, I. (2003) A general typology of the personal networks of immigrants with less than 10 years living in Spain. Paper presented at the XXIII International Sunbelt Social Network Conference, Cancun, Mexico [WWW document]. URL http://personal.us.es/isidromj/php/wp-content/uploads/2008/01/Cancun.pdf (accessed 14 January 2012).
Keyder, C. (2005) Globalization and social exclusion in Istanbul. *International Journal of Urban and Regional Research* 29.1, 124–34.
Kowarick, K. (2005) Social economic and civil vulnerability in the United States, France and Brazil. *International Journal of Urban and Regional Research* 29.2, 268–82.
Kowarick, K. (2009). *Viver em risco* [Living at risk]. Ed 34, São Paulo.
Lamont, M. and M. Small (2008) How culture matters for the understanding of poverty: enriching our understanding. In D. Harris and A. Lin (eds.), *The colors of poverty*, Russell Sage Foundation, New York.
Lee, R., D. Ruan and G. Lai (2005) Social structure and support networks in Beijing and Hong Kong. *Social Networks* 27.3, 249–74.
Lonkila, M. (2010) The importance of work-related social ties in post-soviet Russia: the role of co-workers in the personal networks in St. Petersburg and Helsinki. *Connections* 30.1, 46–56.
Marcuse, P. (1997) The ghetto of exclusion and the fortified enclave. New patterns in the United States. *American Behavioral Scientist* 41.3, 311–26.
Marques, E. (2010) *Redes sociais, segregação e pobreza em São Paulo* [Social networks, segregation and poverty in São Paolo]. Ed Unesp, São Paulo.
Marques, E. (2011) Do social networks matter in gaining access to goods and services obtained from outside markets? *International Sociology* 41.2, 10–27.
Marques, E. and H. Torres (2005) *São Paulo: segregação, pobreza e desigualdades sociais* [São Paulo: segregation, poverty and social inequalities]. Editora Senac, São Paulo.

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Massey, D. and N. Denton (1993) *American apartheid — segregation and the making of the underclass*. Harvard University Press, Cambridge, MA.
McPherson, M., L. Smith-Lovin and J. Cook (2001) Birds of a feather: homophily in social networks. *Annual Review of Sociology* 27.1, 415–44.
Mingione, E. (1994) Life strategies and social economies in the post-Fordist age. *International Journal of Urban and Regional Research* 18.1, 24–45.
Mingione, E. (ed.) (1996) *Urban poverty and the underclass*. Blackwell Publishers, New York.
Moore, G. (1990) Structural determinants of men's and women's personal networks. *American Sociological Review* 55, 726–35. Editora Senac, São Paulo.
Moser, C. (1998) The asset vulnerability framework: reassessing urban poverty reduction strategies. *World Development* 26.1, 1–19.
Musterd, S., A. Murie and C. Kesteloot (eds.) (2006) *Neighborhoods of poverty: urban social exclusion and integration in comparison*. Palgrave, London.
Pamuk, A. (2000) Informal institutional arrangements in credit, land markets and infrastructure delivery in Trinidad. *International Journal of Urban and Regional Research* 24.2, 379–96.
Perlman, J. (2010) *Favela. Four decades of living on the edge in Rio de Janeiro*. Oxford University Press, Oxford.
Pinçon-Charlot, M., E. Preteceille and P. Rendu (1986) *Ségrégation urbaine: classes sociales et équipement collectifs en région parisienne*. Éditions Anthropos, Paris.
Portes, A. (1999) *Migrações internacionais: origens, tipos e modos de incorporação* [International migrations: origins, types and modes of incorporation]. Celta Editora, Oeiras.
Roberts, B. (2005) Globalization and Latin American cities. *International Journal of Urban and Regional Research* 29.1, 110–23.
Sampson, R. and J. Morenoff (1997) Ecological perspectives on the neighborhood context of urban poverty: past and present. In S. Danziger and R. Haverman (eds.), *Understanding poverty*, Russell Sage Foundation, New York.
Small, M. (2004) *Villa Victoria: the transformation of social capital in a Boston barrio*. Chicago University Press, Chicago.
Small, M. (2009) *Unanticipated gains: origins of network inequality in everyday life*. Oxford University Press, Oxford.
Smith, H. (2003) Housing networks in San Jose, Costa Rica. *Habitat International* 27, 83–105.
Telles, V. (2007) Mutations of the urban experience and employment. *Tempo Social* 18.1, 173–95.
Tilly, C. (2005) *Identities, boundaries and social ties*. Paradigm, Boulder, CO.
Wacquant, L. (2008) *Urban outcasts*. Polity, Cambridge.
Ward, P. (ed.) (2004) From the marginality of the 1960s to the 'new poverty' of today. *Latin American Research Review* 39.1, 183–203.
Wasserman, S. and K. Faust (1994) *Social network analysis: methods and applications*. Cambridge University Press, Cambridge.
Wellman, B. (2001) *The persistence and transformation of community: from neighborhood groups to social networks*. Toronto [WWW document]. URL http://www.chass.utoronto.ca/~wellman/publications/lawcomm/lawcomm7.PDF (accessed 10 January 2012).
Wilson, W. (1987) *The truly disadvantaged: the inner city, the underclass and public policy*. University of Chicago Press, Chicago.
Wu, F. (2004) Urban poverty and marginalization under market transition: the case of Chinese cities. *International Journal of Urban and Regional Research* 28.2, 401–23.

Résumé

Les associations entre ségrégation et pauvreté urbaine ont fait l'objet d'études sociologiques et urbaines nombreuses et poussées. Plus récemment, l'incidence des réseaux sociaux sur les conditions de vie a été mise en évidence. Pourtant, peu de travaux ont testé les effets précis de ces réseaux, et moins encore ont été consacrés aux

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effets combinés de la ségrégation résidentielle et des réseaux sociaux sur les conditions de vie. Cet article explore comment se combinent réseaux, ségrégation et certaines des dimensions essentielles de l'accès aux biens et services obtenus sur des marchés (échapper à la précarité sociale et se procurer un revenu monétaire). Il s'appuie sur une étude des réseaux personnels de 209 individus en situation de pauvreté dans sept endroits de la zone métropolitaine de São Paulo. Grâce à une analyse de réseaux et aux méthodes à plusieurs variables, il est montré que les contextes relationnels influencent fortement l'accès des individus aux marchés, provoquant une aggravation des conditions de vie et de la pauvreté chez certains. Parallèlement, même si la ségrégation pèse nettement sur la pauvreté, ses effets ont tendance à être modulés par les réseaux dont les individus font partie. Dans ce sens, les réseaux sont susceptibles de renforcer ou d'atténuer les conséquences de l'isolement d'origine spatiale.

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