Social networks, poverty and neighborhoods in two Brazilian cities

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Abstract

The article builds upon previous research findings about the role of social networks in the reproduction of poverty, taking into consideration the access of poor individuals to goods and services obtained through market or social support and exchange. The previous research studied the personal networks of 209 poor individuals and 30 middle-class individuals in seven locations in São Paulo. This paper includes the results of 153 personal networks of individuals in poverty who live in five different locations in the City of Salvador, Bahia. The article comparatively discusses the characteristics of poor people's personal networks in São Paulo and Salvador. In general, the results confirm previous findings regarding the diversity and the importance of networks in living conditions. On the other hand, the article explores differences between the cities to discuss dimensions of migration, race, housing conditions, and tenure situations that could not be stressed in the previous research.

Key-words: poverty; personal networks; segregation; São Paulo; Salvador

Introduction

This article discusses the characteristics of personal networks of individuals in poverty in twelve neighborhoods in the cities of São Paulo, São Paulo, and Salvador, Bahia, submitted to different degrees of segregation. Previous results of this same research project studied the joint effects of social networks and urban segregation in the reproduction of poverty, considering the access of poor individuals to markets, goods and services obtained through social support and exchange (Marques, forthcoming). The previous research studied the personal networks of 209 individuals in poverty and 30 middle-class individuals in seven locations in São Paulo. This

paper adds another 153 personal networks of individuals in poverty who live in five different locations in the city of Salvador, analyzing comparatively the patterns between cities and social groups.

São Paulo and Salvador are both very large and important metropolises, although the first holds national prominence, while the second is the most important center of the Northeastern region. The comparison is especially interesting since the cities are very different when urban structure, labor markets, daily sociability and social structure are taken into consideration. In each city the fieldwork was carried out in poor neighborhoods with very different urban and segregation profiles. In general, the results presented here confirm previous findings regarding the diversity and the importance of networks in living conditions, but they also explore the differences between the cities to discuss dimensions of migration, race, housing conditions, and tenure situations that could not be stressed in the previous research. Besides this general characterization of poor people's personal networks in the two cities, we sought to classify the diversity of their personal networks developing two kinds of typology, one based on the structure of their personal networks and the other one based on the main patterns of sociability.

The article is divided in four sections, not considering this introduction and the conclusion. The next section reviews the literature, establishing the main points of departure of the analysis. The second section presents the research design and sketches briefly the results of the previous phase. The third section presents and discusses comparatively the characteristics of personal networks of the individuals in São Paulo and Salvador. The fourth section explores the variability of networks and of sociability, constructing two typologies, whose results are associated with the social attributes of the individuals in poverty.

1. Social networks, urban segregation and poverty

In Latin America the role of segregation has been at the center of urban studies discussions since the 1970s, although originally associated with the debates about urban peripheries (Bonduki and Rolnik 1982) and the nature of Latin American peripheral capitalism (Kowarick 1979). Several changes in the Brazilian debate have followed, but the importance of urban segregation continues to be explored recently to interpret social vulnerability (Kowarick 2009; Telles and Cabannes 2006) and

social inequalities (Lago 2000), as well as to explain several social processes associated with the reproduction of poverty (Marques and Torres 2005).

The association between urban segregation and poverty has also been considered by the international literature as one of the most important elements in the reproduction of the so-called new urban poverty, since at least Wilson's (1987) seminal work. Since then, several studies in Europe (Mingione 1996, and more recently Mustered, Murie and Kesteloot 2006), in the United States (Briggs 2005, and Wacquant 2007), and in Latin America (Auyero 1999), have discussed its importance for material well-being as well as for social and political integration.

In all those analyses, segregation was considered to be important because it enhances social isolation, hampering the circulation of material and immaterial elements among social groups. However, as highlighted by authors from different traditions such as Nan Lin, Loic Wacquant, Xavier Briggs, and Talja Blokland, the isolation effect of segregation may be counterbalanced by social ties that bridge the gap, leading to the need of integrating social networks into segregation studies. And for its greater part, the interaction of networks with segregation and poverty involves the incorporation of informal elements recently highlighted by the literature on urban poverty (Mingione 1994, Roy 2005, and Pamuk 2000).

Social network analysis tends to be quite a recent issue in social sciences, but relational ontology has been at the heart of social sciences since the classics (Emirbayer 1997). More recently, however, the development of social network analysis methods has allowed the production of precise studies of the effects of social-ties patterns over a broad variety of processes (Freeman 2004). Although some interesting analyses have been published using networks metaphorically (Fawax 2007, and Gonzalez de la Rocha 2001), the full potential of relational ontology comes with its methodological use. In the discussion of living conditions and poverty, in particular, the international literature has increasingly emphasized their role in the access to opportunities (Briggs 2005a, 2005b, and 2003), in the presence or absence of the sense of belonging (Blokland and Savage 2008), as well as in the production of welfare, and in the mediation of the access of individuals and groups to other two sources of welfare – markets and the state (Mustered, Murie and Kesteloot 2006).

After studying poverty in São Paulo and other Brazilian cities for some years in a more socio-demographic way (CEM 2004, Marques and Torres 2005), a

research was designed to test the joint effects of networks and segregation over poverty conditions. Since the following sections are based upon hypotheses driven from that research, and since they compare results from Salvador with the previous results from São Paulo, it is important to summarize them briefly. We researched relational structures (the networks), their use (sociability profiles), and mobilization (in everyday life situations).

The first research suggested that, on average, the networks of individuals in poverty tend to be smaller, less diverse in terms of sociability and more local than middle-class networks. Regardless of those average characteristics, networks tended to vary substantially among the poor, as well as among the middle class. To explore this variability, a typology based on both network characteristics and sociability profiles was developed (Marques 2010). Those types were highly associated with certain social situations in quantitative models aimed at explanation of classical elements in the study of poverty, such as employment, stable employment, social vulnerability, and income, even in the face of traditional variables associated with education and household size (Marques 2009a and forthcoming). The worse social situations were associated with very homophilic sociability patterns, as well as with highly local networks[1]. The best social situations were associated with middle-size networks having less local networks and sociability concentrated in organizational spheres (work, church, associations). Therefore, low homophily and low localism tended to be directly associated with better social situations, but network size did not have direct influence (although mid-sized networks tended to be better if combined with less homophilic sociability patterns). It is impossible to determine a strict causality here, and social networks/sociability and individual attributes are constructed by biunivocal causality through the individuals' life trajectories, impacted by individual decisions, events (migration, marriage, divorce, child birth, etc), as well as the effects of the other individuals' networks and decisions.

The importance of homophily and localism was confirmed by results from other research focused on ego centered networks of social support in Rio de Janeiro and São Paulo. Based on data from a survey carried out in the two cities with

[1] Homophily is the characteristic of networks that describes the existence of relationships among individuals with similar attributes. For example, the relationship between two women is homophilic regarding gender, as well as a relationship between two poor individuals is homophilic regarding social group. For a detailed analysis of the elements associated with this important relational issue see McPherson et al (2001).

representative samples from both poor and non-poor social groups, that research showed that although each of these groups has very different levels of homophily and localism (and obviously income), the better social situations inside each group are associated with less local and less homophilic networks (Marques and Bichir 2010).

The difference between these research conclusions reminds us to pay attention to another important analytical standpoint of this research. The results reported here concern personal networks instead of ego centered networks and whole-community networks. Community networks may be spatially or thematically constituted, and are the relational environments that surround individuals within a given context, occurrence or process, such as through social mobilization, within political communities, in the interaction between business organizations or in the familial or economic relationships amongst patriarchal families, to mention just a few examples in which networks are represented in very different ways. What is different about this study is that it considers sociability as the topic or theme upon which the questions have to be based without limiting them to the egocentric networks of individuals (or egonets), which take into consideration only information of an individual's primary contacts and the bonds between some of them. Unlike the greater part of the international literature, we consider that an important portion of the sociability that influences poverty and life conditions occurs at greater distances from the ego than his or her direct contacts. Hence, we decided to analyze personal networks instead of egonets.

2. The research

The study encompassed two fieldwork phases, one in 2006/2007 in the metropolitan region of São Paulo, and the other one in 2009 in the City of Salvador. In São Paulo, network interviews were conducted with 209 individuals in seven locales chosen intentionally taking previous studies of urban poverty into consideration to cover the variability of segregation and housing situations in the city. The fieldwork included downtown slum tenements, favelas on the urban fringe of the metropolis, in very high-income and in middle-class neighborhoods, in an industrial district, as well as a large-scale housing project on the metropolitan fringe and a fairly peripheral irregular settlement. In Salvador, fieldwork was conducted in five locales based on the same criteria, including downtown slum tenements, favelas in two

consolidated and in two peripheral regions of the city; the fieldwork researched 153personal networks. To create parameters in order to compare the networks, we also developed 30 middle-class networks in São Paulo.

In each of those places, the interviewees were chosen and approached in public spaces and at the entrances of individuals' houses on both weekdays and weekends. The interviews departed from a semi-open questionnaire and a name generator, generating both relational information about the personal networks and attributes about their components. In each field, basic social attributes such as gender, age, and employment status were used to control the sample and avoid bias. Although we did not follow random sample statistical techniques, the comparison of the interviewees' characteristics and those of the population studied does not suggest the presence of bias[2].

The interviews were ego centered (inquiring about a person's own network), and used a semi-open questionnaire and a name generator. The questionnaire covered basic socioeconomic attributes and also the individuals' family configuration and migratory and occupational trajectories. After that, a two-step name generator was used. The interviewee was first asked to list up to five persons in each of his/her 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 relational questionnaire. He was then asked to list up to three names for each of the names in the seed, which were associated in his/her mind with the one cited in view of their sociability. He/she could present a new name, repeat names, include his/her own name or say none. Those persons were included in the rows of each cited name, but the new names were also included in the first column, at the end of the list. With the 'seed' names finalized, the interview went on with the names recently added. The procedure was repeated up to four times (including the seed), but none of the poor individuals reached this limit, suggesting that the frontier of the network

[2] Individuals in poverty have very little schooling and low family income, including low-skilled workers such as domestic employees, gardeners, civil construction workers, salesmen, telemarketing operators, and more traditional industrial workers, but also students, housewives, and retired persons. Their families tend to have several children and a younger average age than the metropolitan population. Middle class was defined in a broad sense, mixing income and professional criteria, and included liberal professionals, civil servants, persons involved in intellectual activities, and commercial establishment owners. The middle-class networks were used only as a parameter and were not fully analyzed.

had been reached. After that, the interviewee was asked to classify the persons according to two attributes: place of residence (local/non-local) and sphere of sociability in which the tie occurred.[3]

For each of the cities, after processing the relational data and constructing the networks, we returned to the field to perform qualitative interviews with selected individuals, combining types of networks and personal characteristics. These new interviews involved 17 individuals in São Paulo and 21 in Salvador, and explored network transformations, but mainly network mobilization to solve daily problems through social help, such as in migration, getting jobs, child and elderly care, emotional support, etc. Network mobilization in São Paulo was explored in details by Marques (2009b and forthcoming).

3. Networks and Sociability in São Paulo and Salvador

We conducted interviews with 209 poor individuals in São Paulo and 153 in Salvador, totaling 362 individuals in poverty, plus 30 middle-class individuals in São Paulo. All the following information concerns the individuals in poverty, except when indicated.

The interviewees were made up of 56% women and 44% men, with ages ranging from 12 to 94 years (with an average of 37 years). The households had an average size of 3.9 persons, a figure that did not vary between cities. Our sample included 43% and 34% of people living in segregated places in São Paulo and Salvador, respectively.

Education tended to be very low, although better in Salvador – on average 64% had completed 8th grade schooling at the most, with a slightly better profile in Salvador, a city that also presented a higher presence of high school education (37% against 28% in São Paulo). This was also evident in the average years of schooling, 7 in Salvador and 6 in São Paulo. These relative positions were inverted concerning income: 19% in São Paulo and 22% in Salvador had per capita family income inferior to ¼ of a minimum wage. In fact, the average of per capita family income in São Paulo was 0.82 minimum wages, while in Salvador the average was 0.77. This basically expressed the differences between the two labor markets, and while 54% in

[3] In the case of São Paulo, people were also asked about the context of sociability in which the tie was created, but since this information did not produce interesting results, it was discarded for the fieldwork conducted in Salvador.

São Paulo were employed, only 38% in Salvador had this condition. On the other hand, informal workers and unemployed in Salvador reached 45% against only 32% in São Paulo.

Association practices tended to be low in both cities (12%), while higher in Salvador – 16%. But since we had access to some locales departing from persons connected to community associations, the findings concerning associative life might be biased. In accordance with several recent studies on the topic, the most important collective participation was related to religious practices, and 47% of the interviewees from the two cities reported going to a place of worship at least once every 15 days, a figure that reached 54% in Salvador. In both cities, about 20% of the persons stated themselves as Neopentecostal Protestants, while 63% affirmed being Catholics in São Paulo and 45% in Salvador. This last city also had a 5% following of Candomblé (an Afro-Brazilian religion), and 22% considered having no religion, against 12% in São Paulo (Candomblé followers were absent in the São Paulo sample).

Migrants were substantially more present in São Paulo (70%), while in Salvador they were only 34%. In both cities the majority of the migrants tended to be long-term residents, and 72% in São Paulo and 89% in Salvador arrived at the cities more than 10 years ago. The stability of the neighborhoods is also high in both cities, although higher in Salvador, where 89% of the persons had lived in their neighborhoods for more than 10 years, while in São Paulo only 54% of the interviewees were in this condition. The higher localism of Salvador is also present in the labor market, since 44% of the interviewees worked inside the community, while only 38% in São Paulo worked locally. Finally, skin color was much more prominent in Salvador, where 74% were considered to be black.

The average networks of the two cities had similar but not equal characteristics. The average networks in São Paulo had more nodes – 52.5 against 40.7 in Salvador –, but less ties, 53.4 against 74.7 in Salvador. Localism was larger in Salvador – 63.5% of the individuals in the networks lived in the same place as the interviewee, against 55% in São Paulo. Several other network measures suggest more intense relational activities in Salvador on the average[4]. Only for the sake of

[4] Network density in Salvador was 0.14 against 0.10 of São Paulo, average normalized degree was 12.1 against 8.3 in São Paulo and the average clustering coefficient was 0.52 against 0.46 in São Paulo.

comparison it is worth noting that the middle-class networks researched in São Paulo had an average size of 93 nodes and 183 ties, and localism was smaller than 20%.

The variability of sociability tended to be slightly larger in São Paulo: 3.8 average spheres of sociability against 3.5 in Salvador, both substantially smaller than the 5.5 spheres among middle-class individuals in São Paulo. The profiles of sociability, however, showed remarkable similarity between the cities, with the family answering for 40.6% and the neighborhood as the second most important sphere, with 31.6% of the ties. Following them, work corresponded to 8.0%, friendship to 5.9%, church to 4.6%, and studies to 3.3%. The individual variations around these averages, however, are high in both cities, suggesting the existence of a substantial heterogeneity in sociability, which led us to explore the data constructing typologies. As we will see in the next section, the similarities between the cities become even more eloquent considering the network and sociability types. Among middle-class individuals in São Paulo, 35% of the ties were associated with the family sphere, followed by work (26%), friendship (14%), and studies (10%). Neighborhood and church reached only 5% and 1%, respectively.

In short, the networks of poor individuals tend to be smaller, less varied in terms of sociability, and more local than those of middle-class individuals. However, they showed similar characteristics in São Paulo and in Salvador, except for the higher localism in Salvador, slightly larger networks with more varied sociability in São Paulo, and higher relational activity in Salvador. These differences might be caused by the smaller offer of ties for new connections in Salvador due to higher localism, leading to networks that are at the same time smaller and more intensely connected.

But what is the relation between social attributes and the characteristics of networks and of sociability? To begin exploring this issue, we develop the following univariate analysis. Since almost all the elements are correlated (and the processes that produce them are superposed), these results should not be understood as determining associations, but as explorations of the processes and dimensions involved. All the reported relationships are statistically representative at 99% of significance.

There are no strong differences between the networks of men and women, although small differences in sociability appeared, with men's networks more centered on work and leisure, while the presence of the church sphere tends to be

greater for women. These patterns are consistent with the sociability typology, as it will be seen.

The different effect of the life cycle on the networks is very clear[5]. As age advances, networks tend to have less varied sociability but more redundant ego centered networks (measured by Burt's efficient size). In terms of sociability, the family becomes more important and studies and friends relatively less present. But this dynamics is not linear in all ages; it is more concentrated for the two poles of the life cycle. For youngsters (with less than 21 years of age), for example, networks tend to have more nodes and ties and more efficient ego-centered networks, but larger localism and higher proportions of studies and less work than the rest of the population. The elderly have networks with opposite characteristics – smaller in nodes and ties, less varied in sociability, lower presence of studies and friends, and higher relative family presence in sociability.

Another very important variation in the networks is associated to social groups, in this case characterized by income and schooling. This is very interesting since the sample includes only individuals in poverty, and consequently income and schooling tend to vary relatively little. Thus, network characteristics tend to vary according to social groups even among the poor. The tendencies are similar, with the variability of sociability, as well relational activity (clusterization, efficiency of the egonet, betweenness) increasing as income and schooling increase. The size of the networks tends to increase with years of schooling, and localism decreases as income increases. Finally, as schooling and income increase, the relative presence of the family and the neighborhood spheres decrease, and the friendship and work spheres increase.

These tendencies are confirmed when extreme poverty conditions are considered. Very poor individuals (with per capita average family income inferior to ½ minimum wage) tend to have networks with less varied sociability (lower number of spheres), less clusterization, and larger diameters (for the same average size, which means less connectivity), a sociability that is more based on neighborhood and less on work, as well as larger localism. The poorest among the poor (with per capita average family income inferior to ¼ minimum wages) have less clustered networks with larger diameters and, their sociability includes more neighbors.

[5] It is interesting to add that this effect is also very clear on the egocentered social support networks. See Marques and Bichir (2010).

4. Types of Networks and Sociability

As presented in the last section, the networks in both cities showed a great diversity of patterns and significant variability in terms of size, sociability spheres, and localism, among other dimensions. The univariate analysis suggested the existence of associations between network characteristics and social attributes. But since several of these elements are correlated, it is difficult to come to conclusions about the elements that influence networks. Therefore, a decision was made to explore their variability by means of a certain typology, following the strategy developed by Marques (forthcoming).

In order to classify these networks, two complementary cluster analyses were conducted. Firstly, they were classified by taking into consideration several network measures currently used by the network analysis literature. Secondly, networks were classified according to their sociability profiles, considering the relative distribution of nodes in different spheres of sociability: family, neighbors, friends, work, religiosity, leisure, and civil association. While the first typology aims at exploring the main structural characteristics of the networks, the second one provides information on how they are differently mobilized in everyday life.

This section presents first the types of networks and then the types of sociability. In the last part, the two typologies are combined in order to explore the different relational settings, illustrating them with actual cases from São Paulo and Salvador.

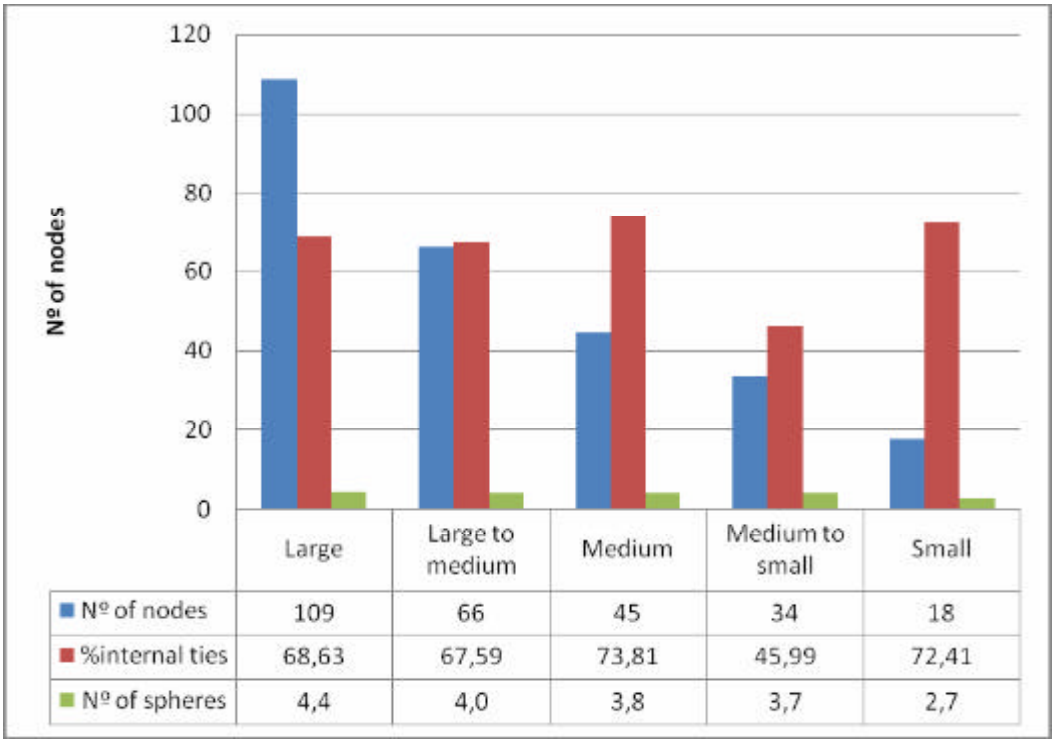
4.1. Types of Networks

With the purpose of analyzing and classifying the heterogeneity of personal networks in the two cities, 362 networks[6] were submitted to a cluster analysis based on several measures of social network analysis: number of nodes, number of ties, diameter, average degree, centralization, clustering coefficient, E-I index, n-clans, betweenness, information, structural holes, number of contexts, and number of spheres.[7] The automatic solution of this analysis generated six groups, which were reclassified into five main types of networks, varying especially in terms of size – number of nodes and ties. The average number of spheres decreases slightly from

[6] We have 209 cases with complete relational information in São Paulo and 152 in Salvador.
[7] All these measures were subjected to a cluster analysis in the software SPSS 13.0, using the K-means algorithm. For details about the measure, see Wasserman and Faust (1994).

large to small networks. Localism presents a similar level in the two first types, around 68%, as well in the third and fifth types, although slightly higher – 73%. The fourth type of networks, medium to small, presents much smaller localism and has only 46% of internal ties. Graph 1, below, shows these main characteristics, while the complete description of the groups is presented in Annex 1.

Graph 1. Size, Localism and Spheres of Sociability According to Type of Network



Source: Author's elaboration based on empirical data collected.

The following table presents the distribution of network types by city. As can be seen in the first rows, the distribution in each city is quite similar, although São Paulo presents a slightly higher concentration of small networks, while Salvador presents a slightly higher concentration of larger networks. The table also indicates that midsized networks tend to be more common, although the distribution is skewed in the direction of the smaller networks.

Table 1. Types of Networks, According to Cities

	Types of Networks					
	Large	Large to medium	Medium	Medium to small	Small	Total
São Paulo	8.6%	18.7%	27.7%	30.2%	14.8%	100.0%
Salvador	10.5%	19.7%	30.9%	22.3%	16.4%	100.0%
Total	9.4%	19.1%	29.1%	26.9%	15.5%	100.0%
# of cases	34	69	105	97	56	361

Source: Authors' elaboration based on empirical data collected.

As follows, the main aspects of each type of network as briefly presented.

a. Large Networks – 34 Cases

This is the least frequent type of network. Large networks are more common among men, non-migrants, and single individuals, in addition to those who live in segregated areas. Individuals with this type of network tend to present higher levels of education, which is consistent with the higher concentration of students and youngsters. Employees with formal job registration are overrepresented in this type of network, as well as individuals who work outside the neighborhood where they live and people who participate in some kind of civil association. Levels of precariousness are slightly above the average in this group, especially due to familiar precariousness and income precariousness – individuals classified in this type of network have, on the average, lower per capita family income.[8] This is consistent with the higher levels of access to the main CCT federal welfare program, Bolsa Família, among people with this kind of network.

b. Large to Medium Networks – 69 Cases

[8] There is income precariousness when the average per capita family income is inferior or equal to ¼ minimum wage; there is family precariousness in situations in which a single adult with small children composes the family nucleus; there is housing precariousness when people live in a small shanty house (shack) or in the case of tenements, in a room without bathroom; there is labor precariousness if wages are earned informally, from odd jobs or employment without registration.

In this type of network women are strongly overrepresented, as well as non migrants and those who are single. People with higher levels of education – secondary level – tend to have this kind of network more frequently, but the average income is slightly below the average in this group. Civil servants, non-formal workers and the unemployed show this type of network more frequently. Familiar and housing precariousness are more common among people with large to medium networks.

c. Medium Networks – 105 Cases

This is the most common type of network, representing almost one third of all personal networks. People with this kind of network have demographic characteristics – sex, age, schooling, income and migratory status – similar to the overall average. Married people, housewives, small business owners, and people who work in the same place where they live are all overrepresented in this group. Family, work and income precariousness are more common among individuals with medium networks.

d. Medium to Small Networks – 97 Cases

The medium to small networks are the second most frequent type of network, classifying 27% of all personal networks. As with the previous type, individuals with medium to small networks have, on the average, demographic characteristics close to the overall average, especially considering age (37 years old), schooling (6.4 years of study). But, considering income, individuals within this group show the highest one, one minimum wage per capita. This type of network is more frequent among older migrants – more than 10 years in the new place – married individuals, those who work in family businesses, formally employed workers – including those in domestic services –, and precarious self-employed workers, working mainly outside the community where they live. Individuals classified in this type of network present low levels of precariousness, except for housing precariousness.

e. Small Networks – 56 Cases

This is the second least frequent type of network, representing 15% of all personal networks. Individuals classified in this group show the higher average age, 41 years of age, and schooling and income are below the average score. Men, migrants, and married people tend to have this type of network more frequently.

Small business owners, retired and unemployed people are also overrepresented in this group, which concentrates people who work where they live. Family, work, and income precariousness are more common within this group.

4.2. Types of sociability

Besides classifying personal networks according to their structural characteristics, they have been classified according to the most frequent types of sociability, i.e., the prevalence of the spheres family, neighborhood, friendship, church, work, and others has been examined in the everyday life of poor people in São Paulo and Salvador. A cluster analysis of the sociability profiles has revealed six main types of sociability, depending on whether they were centered on the family, on the neighborhood, on friends, on the church, on the work or on associations. We can consider the three first types – family, neighborhood and friends – as more primary and potentially homophilic, while the others – church, work, and association – tend to be less homophilic and more based on ties constructed inside organizational settings.

Before presenting each group in detail, it is important to point out that the presence of the family is high in all groups as well as neighborhood ties organizing everyday life sociability. For almost all the poor people in São Paulo and Salvador, therefore, family and neighborhood are generally the most prevalent spheres of sociability[9]. However, there has been an attempt to differentiate individuals who, besides these more primary spheres, had important portions of their sociability organized in other spheres, hence the relevance of the six types of sociability presented below. Table 2, below, presents the distribution of each sphere of sociability across the types of sociability, highlighting concentrations above the average.

[9] This is actually also the case for the family among middle-class people. See Marques (forthcoming).

Table 2. Types of Sociability, According to Spheres of Sociability (%).

Spheres	Types of Sociability						
	Family	Neighborhood	Friendship	Church	Work	Association	Total
Family	64.07	28.75	37.41	33.34	31.37	34.47	40.57
Neighborhood	20.68	57.08	23.96	25.32	26.41	24.80	31.61
Friendship			26.22	1.84	1.65		5.89
Work				6.16	29.05		8.05
Leisure							1.88
Church				25.02			4.56
Association						19.01	1.40
Studies							3.34
Other							1.21
Nr of cases	93	86	57	48	55	22	361

Source: Author's elaboration based on empirical data collected.
Note: Percentages below 6% have been omitted. Cells highlighted in dark grey have percentages above the average; cells highlighted in light grey have important concentrations of a specific kind of sociability, although below the average.

The distribution of the types of sociability in the two cities (Table 3) shows again a relatively equal distribution. However, friendship-centered networks are more frequent in Salvador, while family, church, work and association-centered networks are more common in São Paulo.

Table 3. Types of Sociability, According to City

City	Types of Sociability						
	Family	Neighborhood	Friendship	Church	Work	Association	Total
São Paulo	56.99	58.14	54.39	60.42	58.18	63.64	57.89
Salvador	43.01	41.86	45.61	39.58	41.82	36.36	42.11
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Author's elaboration based on empirical data collected.

The social situations typically associated with each kind of sociability are described below.

a. Sociability Centered on the Family – 93 Cases

As pointed out before, this is the most common type of sociability: 25% of all personal networks considered in the analysis were classified in this type. Actually, there are only 4 poor individuals without any tie in the family sphere; all the others have at least one tie considered as a family tie. The distribution of this type of sociability is quite even across the cities; it is similar to the average.

The networks of family-centered individuals tend to be smaller than others, considering number of spheres, nodes, and ties. Individuals with family-centered networks have age, schooling and income below the overall average. Women, migrants, married people, and illiterate people, are overrepresented in this type, as are housewives, retired, and unemployed people. Catholics and people with no civil participation are more common among those with family-centered networks. Individuals with this pattern of sociability are less exposed to all kinds of precariousness, but have more access than the average to CCT welfare transfers.

b. Sociability Centered on the Neighborhood – 86 Cases

This is the second most frequent type of sociability, classifying 24% of all poor personal networks; only 23 poor individuals – out of 361 considered – do not have any tie in the neighborhood. There is no difference between São Paulo and Salvador considering the distribution of this type of sociability.

Individuals with neighborhood-centered sociability show average, age, schooling and income below the average age – better levels of education and worse income when compared with family-centered individuals. Their networks show average number of spheres and are bigger than the average considering numbers of nodes and ties, and present the highest level of localism, as expected. Several demographic characteristics – sex, migratory status – are similar to the average. Single men, precarious self-employed workers, unemployed people, and people who work inside their communities are over-represented in this type of sociability. The same is true for beneficiaries of CCT programs and those who never attend worship or civil associations. Neighborhood-centered individuals are more exposed to housing, income, and job precariousness, and this type of sociability is more frequent in segregated areas.

c. Sociability Centered on Friendship – 57 Cases

Individuals with friendship-centered sociability represent 16% of all personal networks of poor people. This type of sociability is slightly more frequent in Salvador than in São Paulo.

Individuals with this pattern of sociability are the youngest ones, and present better level of schooling and income than the average. Their networks are a little bigger than the average, taking into consideration the number of spheres, nodes, and ties. Women, non migrants and those who are single are overrepresented in this type of sociability, as well as students, housewives, public employees, and those who work in the same neighborhood where they live. Individuals with this pattern of sociability are less exposed to all kinds of precariousness and tend to live in non-segregated neighborhoods.

d. Sociability Centered on the Church – 48 Cases

Sociability centered on any kind of religious congregation represents 13% of all cases. It is important to highlight that, in Brazil, it is quite common to profess some religion, even though individuals hardly ever – or never – attend any kind of worship. In this sense, this type of sociability selects people who, besides professing a religion, have a more active involvement in religious activities and have ties with people who have the same religion and/or attend the same worship. This type of sociability is more frequent in São Paulo than in Salvador.

Individuals with this pattern of sociability have age, schooling and income levels similar to the average, but their networks are bigger than the average when taking into consideration the number of spheres, nodes, and ties. Women, old migrants, and married people present this type of sociability more frequently. This pattern of sociability is also present in excess among housewives, retired people, people with formal jobs, and those who work outside their neighborhood. As expected, evangelicals who attend worship on a weekly basis are much more common in this type of sociability, as well as people who participate in other civil associations. Family precariousness is above the average, but all other types of precariousness are below the average. This pattern of sociability is more present in segregated areas.

e. Sociability Centered on Work – 55 Cases

As described in previous sections, most of the poor people in our sample work – regardless of the level of protection of the job – or are looking for jobs. But a small portion of all of them – 15% – actually have ties with people whom they work with. The distribution of this pattern of sociability is similar to the average in both cities.

As expected, people with work-centered sociability show better levels of income (the highest one) and schooling, besides average age. Their networks present the lowest level of localism – few internal ties –, a number of spheres higher than the average, and a number of nodes and ties similar to the average. Men, non-migrants, and married people are overrepresented in this type of sociability. The same is true for small business owners, those who work in family businesses, formally employed workers, public employees, workers without legal protection, and those who work outside their neighborhoods. Catholics who do not attend worship and those who have no participation in civil associations are also overrepresented in this group. Individuals with this pattern of sociability are almost not exposed to any kind of precariousness.

f. Sociability Centered on Associations – 22 Cases

This is the least frequent type of sociability, representing only 6% of all personal networks of poor people. We have seen in previous sections that the percentage of poor people who actually participate in any kind of civil association, neighborhood association, political parties or any other, is low. Now we know that having ties inside this kind of association is even rarer. This type of sociability is much more frequent in São Paulo than in Salvador.

Individuals with this pattern of sociability have average age and schooling above the average, but income below the average. The number of spheres and nodes are above the average, but the number of ties is below the average. Men, single people, those who work inside their neighborhood, workers without formal registration, precarious self-employed workers, and unemployed individuals are overrepresented in this type of sociability. As expected, those who attend any kind of civil association are highly overrepresented in this group, but the same is not true when taking into consideration attendance of religious services. Individuals with this pattern of sociability are more exposed to all kinds of precariousness.

4.3. Main Relational Situations

The combination of the two typologies provides interesting information for the analysis of the networks of poor individuals in the two cities. Although theoretically there were 30 possible combinations (5x6), only some combinations appeared frequently. We decided to highlight four combinations, which ended up in the classification of 92.5% of all personal networks:

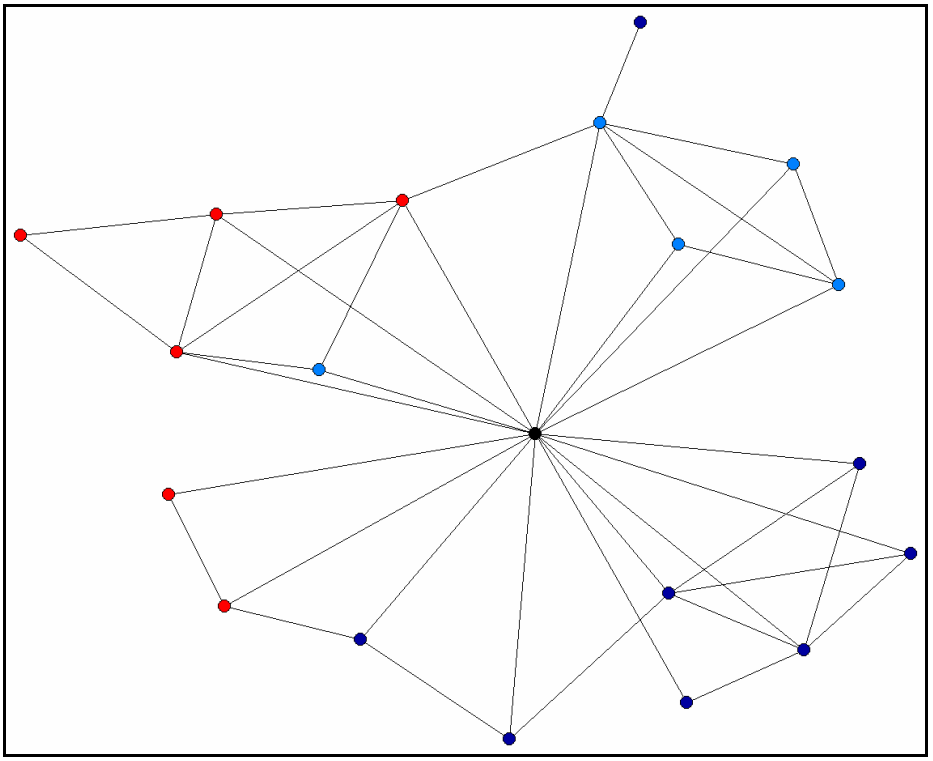
a) Primary sociability within small networks
b) Primary sociability within medium networks
c) Primary sociability within large networks
d) Institutional sociability within medium networks

It is important to state that there was no significant number of cases of institutional sociability – focused on church, work or association – within small or large networks. While the first three types – primary sociability with small, medium or large networks – tend to be associated with worse socioeconomic conditions, the last one, institutional mid-size networks, tends to be associated with better social conditions and attributes. Examples from São Paulo and Salvador that illustrate each of these relational situations are presented below.

a) Primary Sociability within Small Networks – 101 Cases

Case Number 76, from Taboão, São Paulo, illustrates this relational situation. She is a 21year-old, non migrant young lady, married with someone who was her neighbor, who has finished the mandatory education (secondary, high school level) and now is a housewife, having a per capita family income of only ¼ of the minimum wage. Her network has 19 nodes, 21 ties and 3 spheres of sociability: family, neighborhood and friendship.

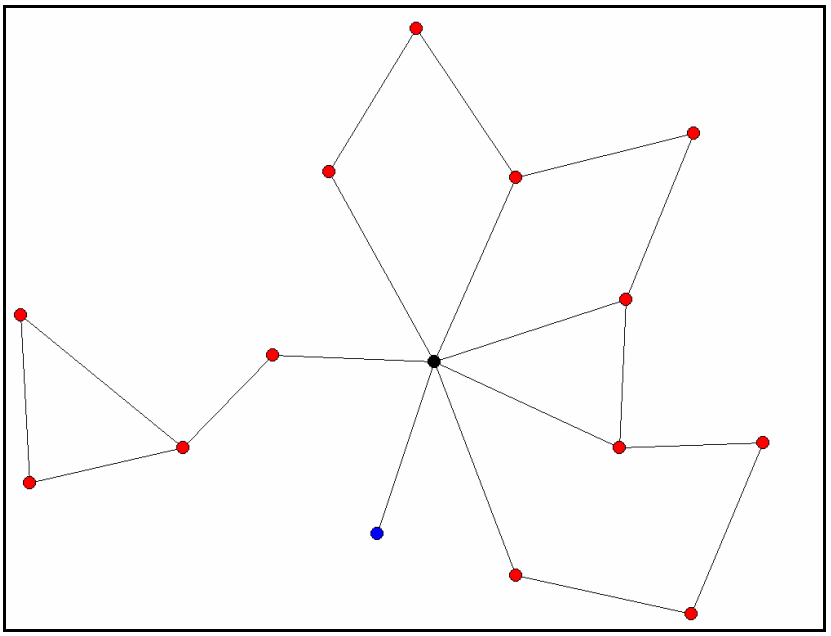
Figure 1. Case 76, São Paulo



Source: Authors' elaboration based on empirical data collected.
Legend: Ego in black, family in red, neighborhood in blue, work in green, church in yellow, studies in grey, leisure in pink, friendship in light blue, association in white and other spheres in orange.

Case Number 379 from the Bairro da Paz in Salvador gives us another illustration. She is 23 years old, a native of Salvador, and has been living in this very segregated neighborhood for all her life. She is married, has 2 sons, and is currently unemployed – she used to work as a domestic worker – earning a per capita family income of only ¼ of the minimum wage. Her network has 14 nodes, 17 ties, and only 2 spheres of sociability: family and neighborhood.

Figure 2. Case 379, Salvador

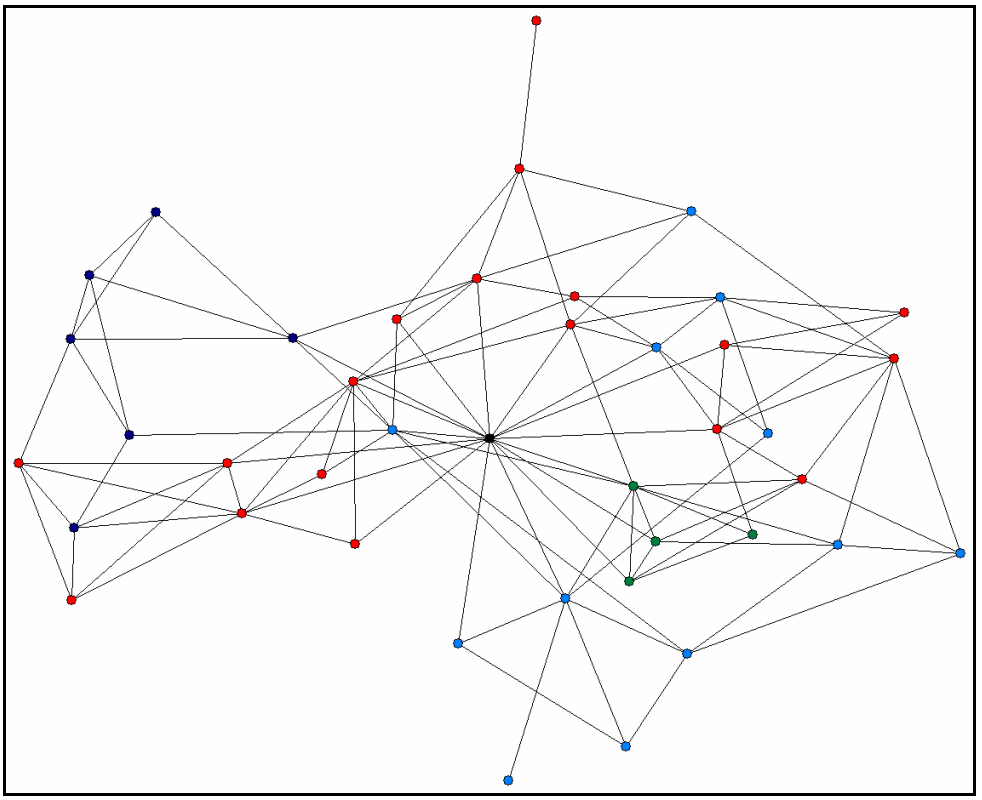


Source: Authors' elaboration based on empirical data collected.
Legend: Ego in black, family in red, neighborhood in blue, work in green, church in yellow, studies in grey, leisure in pink, friendship in light blue, association in white and other spheres in orange.

b) Primary sociability within medium networks – 72 cases

Case Number 121, from Paraisópolis, São Paulo, illustrates this type of network and sociability. He is a 52-year-old man who migrated from Alagoas more than 10 years ago. He has finished only the basic education and is currently formally employed as a gardener for high middle-class houses near the slum where he lives. His network has 40 nodes, 54 ties, and 4 spheres: family, neighborhood, friendship, and work.

Figure 3. Case 121, São Paulo

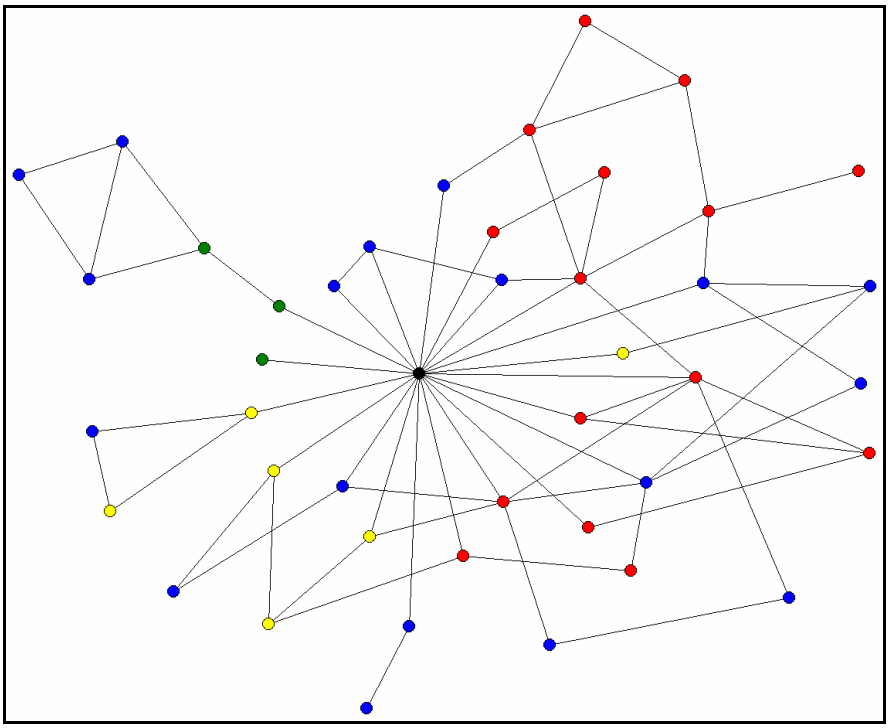


Source: Authors' elaboration based on empirical data collected.

Legend: Ego in black, family in red, neighborhood in blue, work in green, church in yellow, studies in grey, leisure in pink, friendship in light blue, association in white and other spheres in orange.

Another example is given by Case Number 293, from Novos Alagados, Salvador. She is 37 years old, a native from Salvador, and has been living in this segregated neighborhood for all her life. She is single and lives with her sister and three nephews, working at her own house as a manicurist. They are also on the family welfare program known as Bolsa Família, but even so their per capita family income is 0.4 minimum wages. She is evangelical and every single day attends worship in her neighborhood. Her network has nodes, ties, and spheres: family, friendship, work and church.

Figure 4. Case 293, Salvador

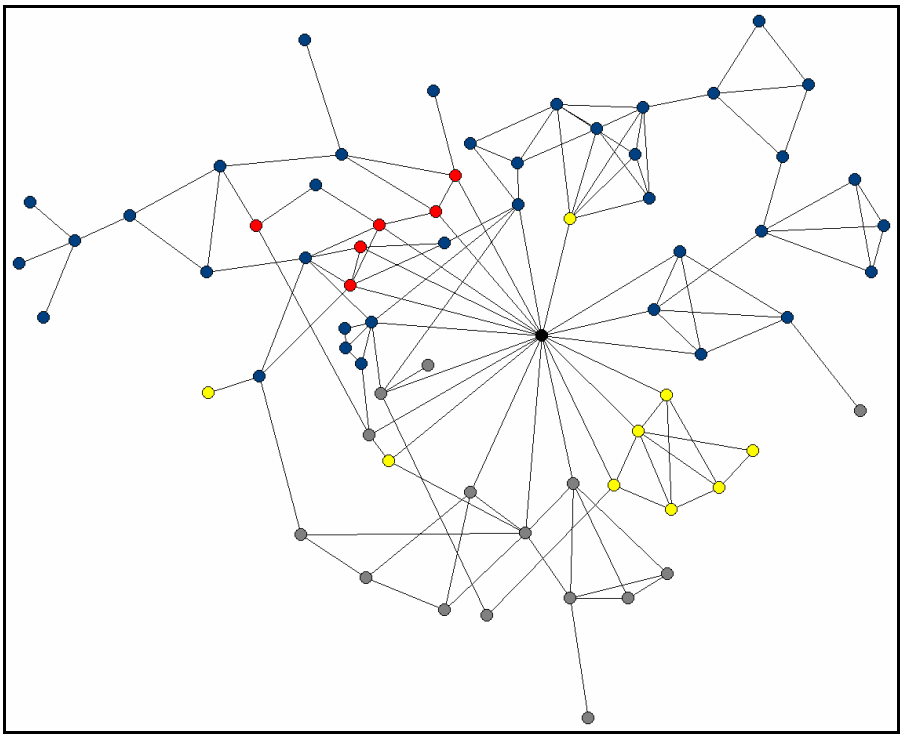


Source: Authors' elaboration based on empirical data collected.
Legend: Ego in black, family in red, neighborhood in blue, work in green, church in yellow, studies in grey, leisure in pink, friendship in light blue, association in white and other spheres in orange.

c) Primary Sociability within Large Networks – 63 Cases

Case Number 75, a 13-year-old girl born in Bahia but who has been living in São Paulo (Vila Nova Esperança) for the last 2 years is an example of this situation in São Paulo. Her parents are still in the Northeast, and she lives with her older sister, helping her to take care of her little baby. She studies in the same neighborhood where she lives and has many friends, several of them from a Catholic association, although she professes no religion. Her personal network shows 68 nodes, 66 ties and 4 spheres: family, neighborhood, study, and church association.

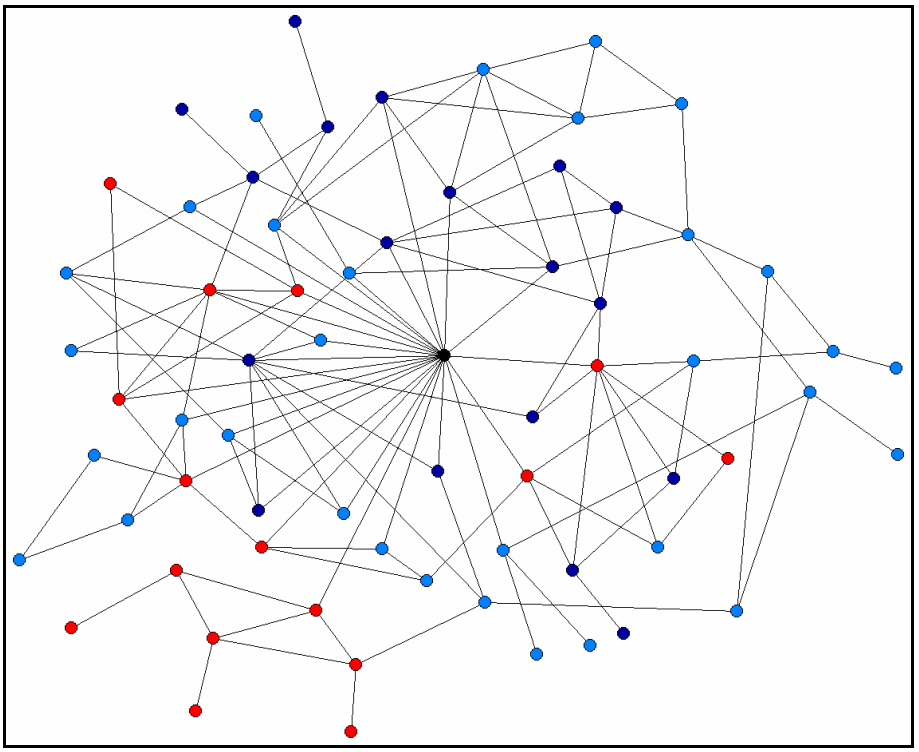
Figure 5. Case 75, São Paulo



Source: Authors' elaboration based on empirical data collected.
Legend: Ego in black, family in red, neighborhood in blue, work in green, church in yellow, studies in grey, leisure in pink, friendship in light blue, association in white and other spheres in orange.

On average, his relational situation is similar to Case Number 326 from Liberdade, Salvador. He is a 51-year-old small businessman born in Ceará, although he has been living in Salvador for many decades. He has little formal education and is the typical self-made-man who came from nowhere and now runs his own business, employing fellow countrymen and making money. He and his wife chose to have only one child in order to give the child all the best and avoid poverty. His network has 67 nodes, 128 ties, and 3 spheres: family, neighborhood, and friendship.

Figure 6. Case 326, Salvador

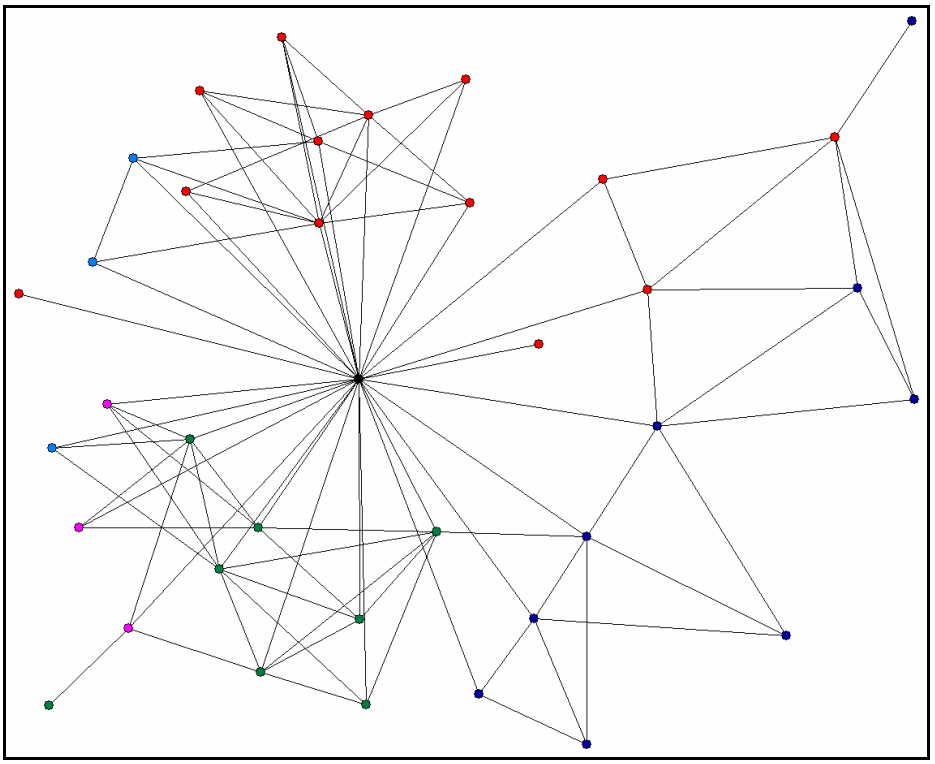


Source: Authors' elaboration based on empirical data collected.
Legend: Ego in black, family in red, neighborhood in blue, work in green, church in yellow, studies in grey, leisure in pink, friendship in light blue, association in white and other spheres in orange.

d) Institutional Sociability within Medium Networks – 98 Cases

Case Number 52, from the central area of São Paulo, illustrates this type of network. A native of the State of Bahia, he is a 19-year-old boy who has been living in the tenements in the central area of São Paulo for less than 5 years. He was formally employed in a parking lot business near his house and he spends all his free time in leisure activities inside the neighborhood. His network has 34 nodes, 39 ties, and 5 spheres of sociability: family, neighborhood, work, leisure, and friendship.

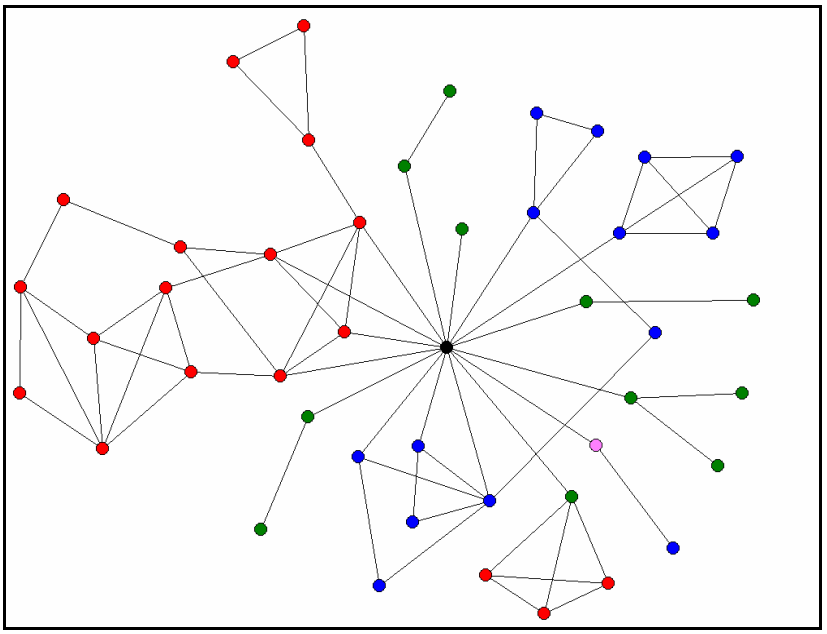
Figure 7. Case 52, São Paulo



Source: Authors' elaboration based on empirical data collected.
Legend: Ego in black, family in red, neighborhood in blue, work in green, church in yellow, studies in grey, leisure in pink, friendship in light blue, association in white and other spheres in orange.

Another illustration comes from Case Number 366, who lives in the historical area of downtown Salvador. He is a 39-year-old man from Salvador itself who lives in a tenement in the downtown area, where he owns a small bar, earning 2.6 per capita minimum wages. His network has 45 nodes, 72 ties, and 4 spheres of sociability: family, neighborhood, work, and leisure.

Figure 8. Case 366, Salvador



Source: Authors' elaboration based on empirical data collected.
Legend: Ego in black, family in red, neighborhood in blue, work in green, church in yellow, studies in grey, leisure in pink, friendship in light blue, association in white and other spheres in orange.

These results tend to confirm the conclusions of our previous study (Marques 2010) based solely on the São Paulo case. The best social conditions tend to be associated with mid-sized networks with less local and less primary sociability patterns. Obviously, this result has to be tested statistically, which will come in the next phase of this research project, but the association between networks/sociability patterns and social attributes suggests that the previous results hold for a different city with very different social and urban conditions.

Some Concluding Remarks

The results confirmed our previous research and suggested that the networks of poor individuals tend to be smaller, less diverse, and more local than those of middle class individuals. Several similarities have also been found between the networks of the two cities, even if differences related to localism did appear. These similarities are remarkable if the large differences between the cities in terms of their social structures, labor markets and poverty is taken into consideration.

Additionally, both networks and sociability tended to vary substantially, although the data showed the presence of consistent and identifiable relational

patterns present in the two cities. These patterns tend to be associated with social attributes, suggesting that networks and sociability are really connected to living conditions and poverty, although in multiple causality chains. The key elements that discriminate situations are apparently localism and homophily, mediating the access to different goods and services, both in markets and through social support. Needless to say that the concentration of the less homophilic networks in the socially better-positioned individuals tends to reinforce social inequalities and reproduce the mechanisms that drive poverty.

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Annex 1 – Average measures by network type

Measures	Types of Networks					
	Large	Large to medium	Medium	Medium to small	Small	Total
Number of nodes	109	66	45	34	18	48
Number of ties	162	89	58	38	20	62
Diameter	7.7	6.9	6.2	5.5	4.1	6.0
Overall Density	0.062	0.089	0.107	0.120	0.213	0.119
Clustering coefficient	0.36	0.49	0.47	0.52	0.53	0.49
Centralization	19.88	27.81	37.56	45.08	58.50	39.30
N2clan	0.7	0.5	0.4	0.3	0.3	0.4
N3clan	0.4	0.3	0.3	0.2	0.2	0.3
Efficient size (structural hole)	20.6	18.8	17.2	14.7	9.9	16.0
Egonet density	5.6	7.2	9.0	9.5	12.6	9.0
Average degree	3.9	5.6	8.2	11.1	19.8	9.9
Ego's information	1.38	1.28	1.40	1.34	1.44	1.37
E-I index for spheres	0.193	0.254	0.255	0.338	0.185	0.260
E-I index for area	-0.376	-0.249	-0.253	-0.074	-0.103	-0.192
% of external ties	31.4	32.4	26.2	54.0	27.6	35.6
Number of spheres	4.4	4.0	3.8	3.7	2.7	3.7
Number of cases	34	69	105	97	56	361