

Personal Networks and Poverty: Preliminary Considerations for Public Policies

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Introduction

Recently, a diverse set of studies have considered the importance of social networks to the sociability of individuals and on their access to a wide variety of tangible and intangible goods. In the debates on poverty, network of relations are frequently cited as key factors in obtaining work, in community and political organization, in religious behaviour and in sociability in general. Despite this, a description and detailed analysis of personal and social networks are absent from the debates, including when these are referred to in a metaphorical way. This absence is particularly important because the networks have increasingly entered debates on public policies—especially through the idea of social capital—both as factors that contribute to their implementation and upon which those policies should act on.³

Seeking in part to fill this lacuna, this article presents preliminary results of an ongoing study on the personal networks of individuals living in a situation of poverty in São Paulo. In the course of this investigation, we looked at 150 personal (individual) networks of people who live in different urban contexts, are at different moments in their life cycles and who have different familial structures and levels of insertion into the world of work, among other characteristics. Through this, we sought to obtain descriptions of the personal networks of those in a situation of poverty, with the most diverse profiles possible. This article presents the results of research on 89 networks, in three distinct urban locations—tenements located in the central area of the city, a segregated shantytown (Vila Nova Esperança, in Taboão da Serra) and a shantytown that is integrated in urban terms (Vila Nova Jaguare, in São Paulo). As will be seen, the selection of these three different urban contexts sought to test the impact of the socio-spatial dimension on the structure and organization of personal networks of low-income individuals.

Knowledge of how the networks of poor individuals are structured represents an important step in understanding people's life trajectories, their everyday lives and their survival strategies and serves to improve our understanding of the social processes that contribute to the reproduction of poverty in a broader sense. The results of the study suggest, for example, that these networks are more heterogeneous than is normally considered. The adoption of a relational perspective suggests, in this way, understanding poverty as a more complex and dynamic phenomenon, going beyond the results of approaches focused on income and on individual attributes which lead to thinking of poverty in relatively homogeneous terms. In this sense, understanding the sociability patterns and the effects of social networks in the people's lives becomes a pressing question for the formulation, implementation and evaluation of the results of policies, especially those aimed at reducing poverty.

The research has several additional objectives. First, the investigation intends to describe and analyze the principal characteristics of personal networks of sociability for the first time in

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³ See PRI, 2005a and 2005b, Cechi, Molina and Sabatini, s.d., Perri 6, s.d., Levitas et al. 2007, Jha, Rao and Woolcock, 2007 Rao and Woolcock, 2001. International organizations such as the World Bank and the Economic Commission for Latin America and the Caribbean (ECLAC) are sources for studies which use the concept of social capital (and the social networks while one of its dimensions) as a tool for understanding poverty and improving the effectiveness of policies designed for combating it. (Atria, Siles (orgs.), 2003; Arriagada (ed.), 2005; www1.worldbank.org/prem/poverty/scapital/index.htm).

Brazil⁴ highlighting aspects such as their size, cohesion, degree of diversity, among others. Further, the research also intends to investigate the principal determinants of these networks, especially their relationship with social segregation in urban spaces and specific forms of sociability such as frequenting religious services and associations. It is worth noting that segregation is understood here as the isolation of social groups in space and the existence of a certain internal homogeneity in each region. Contrary to the greater part of the literature on the subject, which takes into account only the segregation of individual attributes in the urban space (race, ethnicity, socio-economic level, etc), this investigation tests the importance of networks in overcoming the condition of spatial isolation of individuals.

The article is divided into an introduction and four parts. In the next section, we carry out a brief review of the literature on personal networks, looking at the principal dimensions and hypotheses on the structuring of personal networks and its relationship to segregation and sociability. In this same section, we analyze the relationship established by the recent literature between the social networks, social capital and public policies, especially those related to combating poverty. In the second section, we present the study's methodology and describe the areas in which fieldwork was conducted. In the third part of the paper, we present the principal characteristics of networks analyzed and discuss their principal determining factor. The fourth section develops a classification of networks according to their characteristics, suggesting existing types and their variability across the areas studied, illustrated with profiles of typical individuals. At the end of the article, we summarize the evidence presented.

1. Networks, sociability, and public policy

Recently, social networks have become more and more evident in public policy debates. The inclusion of networks is apparently associated with a shift in policies to combat poverty created during the last few decades. Until the 1980's the policies were thought of in a social assistance context and centered principally on those individuals whose personal characteristics did not allow them to access the market in a full and meaning way. Poverty was thought of in this case as a residual state and combating it, linked to guaranteeing the survival of individuals who could not provide for themselves through that market. Since the end of the 1980's, those categories began to change. This happened in part as a result of criticism of social policies of the military regime carried out by various authors (Draibe, 1989a and b), but it also represents the effect of an important dislocation in international literature. In the most important international debates, various social or collective dimensions were increasingly approached in the field of sociology (Wilson, 1987) as well as in economics, which highlighted elements such as the *neighbourhood effects*, *role model effects* and *peer group effects* (Brooks-Gunn and Duncan, 1997)

In the literature, social networks have appeared in studies that incorporate the concept of social capital and its potential for the design, implementation and evaluation of public policies. In the social sciences, the concept of social capital is systematized in the works of sociologists Pierre Bourdieu and James Coleman, but it is in the 1990's that it is given its best divulgation in the studies of Robert Putnam (Portes, 1998). If at first, despite different perspectives, the idea of social capital assumed a more instrumental and structural bias to treat the benefits obtained through the participation in groups and social circles (Bordieu) or, in clearer terms, from the resources found in the structure of relations of individuals and organizations (Coleman), in the second, it refers to socio-cultural content as norms, confidence and systems of participation of cities, regions and even nations. On the other hand, social capital has appeared in definitions that take the networks as its principal component, networks of social relations, which are the source of resources and social support for individuals, groups and communities (Burt, 1992; Lin, 2001). Within the multiple meanings attributed to the concept, and the certain scepticism around the possibility of its operationalization, the potential of its use as an instrument, which would facilitate reaching the objectives of governmental initiatives, has been increasingly highlighted.

In this sense, relational elements have been considered in policies in two distinct forms. First, as an aspect which can help assist in improved implementation, as the patterns of relations

⁴ A previous study carried out in Recife dealt only with ego-centered networks (FONTES AND EICHNER, 2004). Personal networks are not restricted only to the immediate contacts of individuals (ego-centered or egonets) but also take into account relations established from these contacts in a wider ambit. This will be explained more fully in this paper.

between individuals, organizations and associations can help to render forms of implementation more effective, reaching the demand of policies more easily, as in the case of the incorporation of non-governmental organizations in the policy of combating AIDS (Trotter, 1999). It can also helping to customize them including in accordance with cultural aspects, such as contracting people in their own community in programs of health and education (Lotta, 2006). On the other hand, in the vast and recent international literature which draws on the concept of social capital, the networks have been cited as one of the factors which the actions of programs to combat poverty should directly impact (PRI, 2005a and 2005b, Cechi, Molina and Sabatini, s.d., Perri 6, s.d., Levitas et al. 2007, Jha, Rao and Woolcock, 2007). Examples include studies by Atria and Siles (2003) and Arriagada (2005) on the Opportunities program (Mexico) and Chile Solidario (Chile). In the case of Brazil, the incorporation of networks into programs to combat poverty with the objective of impacting positively on them, are still incipient⁵. Given the centrality of social networks, we need to better understand what they are and how they function in order to understand how they can become an instrument for policy action. Contributing to the understanding of this question is the objective of this research.

One important dimension to point out in this respect relates to the nature of the personal and community networks analysed. Even though these two types of networks are in constant interaction in concrete social situations surrounding poverty, their study points to distinct elements and dynamics. We consider that though varying dynamics are associated with community networks (especially those which are thematically delimited), the research on the social reproduction of urban poverty should also consider the connections that individuals are able to construct in the context of their personal networks. The objective is to understand how the different social links interrelate, for example, with survival strategies and the improvement of the conditions of life and in what way the personal networks are able to integrate individuals under the effects of the processes of spatial segregation.

Considering that we analyze personal networks of individuals in a situation of poverty, we necessarily begin by mapping of the existing contributions in the literature on the subject. The rest of this section seeks to present the principal references of the debate as well as those which have regard to the literature analyzing personal networks and patterns of sociability and those which investigate the principal determining factors responsible for the structural standards of personal networks.

We can begin with the idea that networks of relations refer to the sociability present in a given social context. This dimension was highlighted for the first time in the classic works of Simmel (1972). For the author, groups in society should be understood through their patterns of interaction, one of the principal defining traits of modern sociability based in a large quantity of secondary links which are rather heterogeneous in content, weak in intensity, and no longer necessarily territorial. These patterns are especially present in life in the modern metropolis, which allows individuals a significant freedom of circulation and social choice, contrary to patterns characteristic of the rural world with its small communities.

Wellman (2001) revisits the idea of the social (not necessarily spatial) demarcation of ties in his study of contemporary communities, pointing out that relations go beyond physical borders. Even though he agrees with Simmel that this is a trait of modern societies, the author highlights that new methods of communication and transport intensify the process, helping to overcome the physical barriers of neighbourhoods and communities. For Wellman, the recent decline of spatial confinement erroneously led certain researchers to argue the end of community in general and from this argument they derived effects on solidarity, democracy or even society as a whole. He argues instead that, communities have not disappeared recently, but have been transformed, taking social interaction from door-to-door to place-to-place. This phenomenon has intensified as a function of the surge of new technologies like the internet and the cellular. In this way, contemporary communities are not limited to neighbourhoods and most people obtain information, help and a sense of belonging in other locations within cities (Wellman, 2001)

The work of Blockland (2003) goes even further, suggesting that perhaps one's own identity between the community and neighbourhood has never, in fact, existed. For the author, the physical continuity between individuals and groups only go so far in understanding the relations that are

⁵ See for example: <http://www.acaofamilia.prefeitura.sp.gov.br/portalfamilia/Default.aspx?idPagina=1655>

established between them. Beyond the existence or non-existence of neighbourhoods, what marks the community are identities constructed from social ties. From there, he suggests analysis of “individual communities” in Blockland’s (2003) sense, or rather, studying the sociability and social integration of individuals through their personal ties, especially those with similar content that lead to the formation of a community in a cultural and social sense, and not only a geographic one.

However, the works of various other authors suggest to us that, at least in the context of urban poverty, geography still is a key element in sociability. The question is relatively complex, though the relation between networks and space should be analyzed from two distinct angles: the first, a spatial characteristic of networks (space as one of the attributes of networks in its relation with place) and second, the possible effect of space on networks. This first element is localism, understood as the high relative presence of individuals in the same location in a given network. The second dimension refers to urban segregation understood as spatial isolation of social groups, approached here on the scale of macro-segregation, or rather, in the city as a whole, involving the dimension of distance in these localities in relation to the center. Though the first dimension is the object of various studies, the second is rarely approached and at times, is confused with the first. As we see in the next sections, our preliminary results suggest that though the networks tend to be local (in the first sense), the second effect (that of segregation, properly stated) is practically non-existent. It is anticipated that personal networks vary in their general characteristics—size, cohesion, variety of sociability—according to the degree of segregation to which they are subject. It is found, however, that the networks vary widely, but not in terms of segregation. Finalizing the research with a higher number of cases and diversification in terms of urban contexts will allow a deepening of these preliminary results.

Studies such as those by Briggs (2001), Espinoza (1999), Pavez (2006) and Fontes and Eichner (2004) have brought relations back into prominence. They produce, in this way, the effects of homophilia in personal networks, that is, the property with which individuals frequently tend to construct and maintain contacts with individuals with similar social characteristics or attributes (McPherson et al. 2001)—in this case, individuals with the same socio-economic status and domicile. This is an important dimension for understanding the reproduction of urban poverty, as when we consider the access to tangible and non-tangible resources, these interactions can become, in the words of Briggs (2001, 2005), true social resources that help the individuals “get-by” in times of scarcity by using the networks intensely in their survival strategies.

The work of Fontes and Eichner (2004) highlight localism in ego-centered networks of a low-income community in Recife. Most of the relations are with persons of their own community, largely neighbors and families. There is also a higher homophily of sex, age and level of schooling. Dujisin and Jariego (2005) lead in the same direction highlighting that space can at the same time facilitate and limit the formation and maintenance of personal relations. However, the authors point out that there are factors that diminish the impact of space, as each relation can open doors to other relations in other contexts—in the sense of social and territorial bridges. In this case, heterogeneity of networks in terms of the presence of ties with dissimilar persons is considered by the literature as essential for overcoming situations of poverty (“getting ahead”), above all when they act as “bridges” as indicated by Briggs (2003, 2005), specially when associated with “weak ties” in the labour market (Granovetter, 1973)

Dominguez (2004) evaluates the relevance of personal networks in the construction of trajectories of social mobility, in a study on the social networks of low-income immigrant women who live in neighbourhoods with a high concentration of social housing. The results suggest the importance of socially heterogeneous networks that include bridges for individuals found in other locations of the social structure, not only for enhancing opportunities, but also for access to cultural repertoires and information. Ferrand (2002) indicates the importance of duality in local systems of relations—the presence of internal and external relations to the locality—which can operate as territorial bridges.

In the work of Espinoza (1999) who weighs the arguments of Wellman, geography still defines limits for social interactions, especially in the context of poverty where interaction is principally door-to-door, either as a characteristic of sociability or for the absence of resources which allow other forms of “place to place” contact. This line of interpretation is also defended by Ferrand (2002), who affirms that the study of typical compositions of microstructures of relations in the interior of communities teaches us about the meso-structures that connect the communities to

their social contexts more broadly. Distinct communities will have specific patterns of linkages with broader urban and social contexts, creating a relation between segregation and social networks which can only be analyzed in concrete cases.

Another set of questions relate to the social conditions of personal networks. In the studies on personal networks, distinct dimensions are analyzed as determinants of the characteristics of networks. Many of these elements take on an important role in our results, the reasons for which will be discussed below.

The first study to highlight is that of Blockland (2003) about a working-class neighbourhood in Holland, cited previously. The author uses Ulf Hannerz' classification of networks (specialized, integrated, encapsulated and isolated) to highlight the different types of personal networks present. For her, though these types are constructed on individual trajectories, which she calls "social experience", elements such as the occurrence of life events (migration, loss of employment, and sociability encounters, among others), the life cycle and attributes such as gender also influence.

In relation to the life cycle, Bidart and Lavenu (2005) analyzed the impact of passing from youth to adult life on the networks, considering events such as finishing school life, beginning to work, migrating, marrying, etc., in France. The authors assert that the networks of low-income individuals decrease earlier due to the earlier occurrence of reductive elements of networks in the life cycle.

On the other hand, Grossetti (2004) evaluated the association between origination contexts of relations which constitute personal networks and the life cycle, finding a clear predominance of familial ties in childhood, an explosion of ties originating "via network" (through other persons) and through study in adolescence and later, a relative rise in the importance of the work context, especially for individuals with higher levels of schooling. For this author, life cycles also influence the size of the networks, though this varies according to the social position of the individuals. This study revealed that the importance of originating contexts of ties (familial, school, work, networks) varies socially: relations of sociability or those that originate "via network" decrease with education while they tend to increase the educational, work and associational ties.

Moore (1990) used data of the Social General Survey of 1985 to explore the difference between personal networks of men and women. The results suggest that, in the case of the United States, women's networks are in general more strongly based on relatives (persons in the family) and those of men, in work colleagues.

Following the same line of work as Fontes and Eichner (2004), and emphasizing the dimension of social support, is the work of Campbell and Lee (1992) and Espinoza (1999). The first two maintain that individuals at a lower socio-economic level return to neighbourhoods, as this constitutes a source of emotional and practical support, the intensity of these ties being very important. Espinoza (1999) in his study on access and individual networks of a low-income community in Santiago (Chile), shows that the force of ties is the most salient characteristic of neighbourhood ties, influencing the probability of establishing relations, including through marriage. As Campbell and Lee (1992) point out, people do not choose between infinite possibilities, as there are social and economic constraints that limit the alternatives available.

Another relevant dimension for understanding the sociability of individuals in situations of poverty is highlighted by Campbell and Lee (1992), with respect to the cost to different socio-economic groups of maintaining ties. This is due to the fact maintaining active relationships involve communication and transport costs as well as other expenditures. As such, these costs tend to be relatively higher for individuals with a lower-income. In this sense, though communication and participation in sociability events (for example, leisure activities) may be frequent in the lives of low-income individuals, this type of interaction tends to occur between individuals who live in close proximity to one another and present similar characteristics (e.g. neighbours and families), as the cost of maintaining these ties is, in this way, minimized. So then, characteristics of individuals' networks do not appear to be solely related to the production of contacts or networks in their trajectories, but also to the maintenance of contacts.

Finally, Ferrand (2002) analyses how non-local networks transform them with greater or lesser social integration, representing the migratory process as a process of adaptations to a new cultural, social and relational environment. In this process, the author highlights the difficulty for individuals to maintain the ties in their networks of origin, and heterogeneity in the composition and

structure of networks of immigrants with distinct origins. In general, however, time appears to have a tendency towards relaxing these characteristics, prompting the enlargement of the network as well as a greater presence of fellow countrymen.

2. Some conceptual definitions and research procedures

This section presents some elements of a conceptual definition and explains the procedures used in the research. It is important to stress in the first instance that we do not understand “personal networks” to be synonymous with “ego-centered networks”. The major part of studies that work with individual networks approach centered networks through a given ego, including only individuals located one step from him and the existing ties between them. This type of network can be analyzed using survey data which perhaps explains its greater dissemination. We consider that an important part of the sociability of individuals occurs in wider circles than these. For this reason, we do not limit the scope of the network being researched⁶. Personal networks include relations and individuals listed for a given self/ego as participants in their spheres of sociability. As such, they are greater and more wide-reaching/wide ranging than ego-centered networks because they include individuals who may be distant from the ego by more than two steps. As we will see, by proceeding in this way, we have access to networks of very varied size which can include more than 110 individuals and diameters greater than 10 steps.

The networks form themselves through the “entrance” of persons, which happens in contexts of acquisition of ties such as family, neighbors and the church, among others or even contacts, which lead to contacts (network). Those networks of personal relations are organized in different spheres of sociability. We understand by “sphere of sociability” a region of sociability generally organized by some process of specialization (functional, practical, cultural or of ideas, among others). The sphere is the product of specialization of social activities in the wider sense, including circles of interest (friends’ circles) and specific institutions (like family). In other words, the sphere includes a certain group of individuals and organizations, the relations they establish among themselves (of various types in constant transformation) as well as jointly determined identities, groups of signs and discursive pattern in the sense of Mische and White (1998) and White (1995). As such, the spheres resemble the *network domains* of those authors, though they seek to describe contexts which are more specific, structured and long-lasting. Perhaps it is possible to say that the life spheres, as they are defined here, include more stable versions of Mische’s *netdoms*. The spheres may in some cases be superposed by the existence of individuals who participate in more than one context of sociability at the same time. We call these individuals “multiplexos” and they are able to mediate between the different contexts in which they act.

Our network analysis departs from the primary empirical material generated from the interview with a semi-open questionnaire. This refers to the general characteristics of the interviewee, their familial composition, associative ties and occupational trajectory, which function initially as attributes that assist in the understanding of the pattern of relations. We also used a tool for collecting relational data, including a generator of names and attributes of the individuals in the networks. Using social network analysis techniques, we reproduce each network individually. In the research group, approximately 30 networks were constructed for each urban context chosen, including a shantytown with a low level of segregation, a very segregated shantytown, tenements in the city center, a shantytown contained within an elite area and a housing group in the periphery, totalling 150 networks. To construct general control parameters, we took approximately 30 individual middle-class networks. The present article presents information related to 89 interviews situated in the first three urban poor contexts, varying principally from the point of view of spatial segregation: an integrated (or non-segregated) shantytown, Vila Nova Jaguaré, situated in the neighborhood of Jaguaré, in the eastern zone of the city; an isolated shantytown—Vila Nova Esperança, on the limits of the municipality of Taboão da Serra and São Paulo, in the south eastern region of Metropolitan Area of São Paulo; and tenements located in the Pari and Luz areas, in the central region of the city of São Paulo.

The relational information was generated from interviews in two phases carried out on the same individual whose network we intended to look at. In the first part, to compose the seed of the

⁶ In truth, there is an operational limit of four rounds of questions in the snowball method, but the majority of network interviews were “closed”—that is, new ties did not appear—before this limit was reached.

interview with the name generator, the interviewees were urged to provide a group of names for each sphere of sociability set out during the interview as relevant: familial, neighbour, friendship, associative, leisure, study and professional/work. These names were included in a list that was presented to the interviewees. They were then asked to indicate up to three names associated with each name on the list, with repetition of names and the indication of an interviewee's name, freely allowed. The names that appeared in the interview which did not make up a part of the initial seed were included and submitted to a new round of interviews with the same person. This proceeding was repeated three times. In this way, we obtained information relating only to the presence or absence of ties inside a given personal network, and not the force or intensity of those relationships. Next, we asked the interviewees to classify the ties generated as above according to three attributes: context of entry into the personal network, whether the individual is outside or inside of the area studied and the sphere of sociability to which he belongs. In every case, the attributes could have been altered in the context of that interviewee, considering its high specificity in relation to the trajectories and the specific networks.

All the material collected was organized into a database which included information on the general characteristics of the interviewee and data relating to his personal network including the number of ties, diversity of spheres, among other characteristics. From this data bank, basic statistics of social network analysis were generated using Ucinet software. The analyses presented in the next sections are based on this information.

Description of Research Fields

This section briefly presents the principal characteristics of each of the urban contexts chosen for a collection of personal networks.

With close to 12,000 inhabitants, the Vila Nova Jaguaré shantytown is one of the largest and oldest in the municipality of São Paulo. Situated in the neighborhood of Jaguaré, neighboring the municipality of Osasco and the areas of Butantã and Pinheiros, the shantytown presents a high socio-economic heterogeneity, a characteristic present in various contexts of urban poverty, especially in shantytowns⁷. Besides presenting various local risks, the shantytown's surroundings are predominantly middle-class, and it is not far distant from the richest area of the city—the expanded center. These characteristics confer a relatively favourable position within the city from the point of view of spatial segregation. The shantytown grew in an area of 150,000m² (approx. 93 square miles) donated to the city for the establishment of a leisure area during the industrialization of the area in the mid-1940's. The vacant land began to be invaded in the 1950's, and until the mid 1980's, the shantytown grew due to the growth of industrial work in the region. However, with the crisis at the start of the 1990's, the area became more dense and in general, poorer.

The principal regionalization of the shantytown was derived from the crystallization of these processes: in the higher part which has Praça Onze as its center, and in the surrounding areas, older and better situated housing conditions are found—in a more urbanized space thanks to the action of the inhabitants and of the state—with reasonable access to infrastructure and urban services (water, sewage, lighting, garbage collection and paved streets) and varied types of commerce. The more recent and poorest residents are concentrated in the lower areas, mostly near the margins of the (non-operational) train tracks and on the hill. There, the residents live in more precarious housing situations, threatened by the risk of floods and landslides. This division, however, is not absolute, in that though the outskirts of Praça Onze has narrow openings occupied by rather precarious dwellings (in some cases, even made of precarious material), it is possible, on the other hand to find houses in the lower part made of masonry with garages. The shantytown was the focus of some housing projects during the Celso Pitta administration (1997-2000) and ending with Marta Suplicy (2001-2004) with the construction of 260 housing units for the Cingapura project. Further, during the second administration (Suplicy), the shantytown was included in an urbanization program, which began a process of rejuvenation of some families in areas of risk. The community organization is not particularly active and the action of the Congregation of Santa Cruz, linked to the Colégio Santa Cruz (a private high school for the high classes, located nearby) is highlighted in the community plan of action. The church relies on important leadership in the area since the 1970's, which acts in the shantytown and is behind three crèches and a professional training center that offers courses in cutting and sewing and information technology.

⁷ See Saraiva and Marques (2005).

The second area studied is the Vila Nova Esperança shantytown located on the border between the cities of Taboão da Serra and São Paulo, in the middle of an area of Atlantic Forest. Access is from kilometre 23 of the Raposo Tavares highway, passing through a lower middle-class neighbourhood and a 4km (approximately 2.5 mile) dirt road between tracts of farmland used for rural activities. Around 400 families live in the shantytown, most of whom came to the area within the last ten years or, since the occupation began. Vila Nova Esperança presents a situation of internal heterogeneity and its surroundings are characterized by the presence of lower middle-class neighbourhoods such as Jd. João XXIII, with scarce work opportunities. The area finds itself in an institutional vacuum as a result of its location on the border of two municipalities. The urban infrastructure is rather precarious: there is no public lighting and access via illegal connections does not meet local demand, as there are constant blackouts. The streets are unpaved and the population have a significant public transport problem, given the isolation of the area from access routes to other neighbourhoods which leads adults and children to walk daily on a dirt road without lights.

The result of these characteristics is relative isolation and spatial segregation that worsens the situation of precariousness and vulnerability of its inhabitants. The residents' association of Vila Nova Esperança have negotiated improvements with the city administration of Taboão and it is possible that the shantytown will be considered for an urbanization project. A part of the area was decreed an Ecological Reserve by the city administration, in order to counter the expansion of the shantytown and to foster improvements in the area. The main area of expansion occupied by the poorest is situated next to this area.

Finally, the interviews conducted in tenements in the central areas of the city of São Paulo address a third type of living condition marked by a combination of accessibility and high precariousness in housing but which offers greater possibilities for socioeconomic integration and access to urban services. Despite a lack of homogeneity between the tenements even in the best situations, they are treated as a precarious living conditions due to the following: common use of equipment or resources (bathroom, reservoir/vat or kitchen) for various families, over-occupation, various functions exercised in the same space (bedroom, living room and kitchen), precarious plumbing and electric installations, an absence of privacy and high turnover of occupants. For some the situation is worse still, especially for the inhabitants of the basements for whom the humidity and the total lack of ventilation and insulation have made this situation dramatically precarious.

The neighbourhoods of Pari and Luz are among the locations in the Center which has the highest concentration of tenements, next after the areas of Bom Retiro and Bela Vista. The tenement population is largely of migrant origin but the tenements do not represent a transitional situation at the moment of arrival in the city, though migration between tenements is very frequent (Kowarick, 2005). The option between a tenement and staying in living conditions marked by a large measure on precariousness is based on the high value that these persons give to their relative advantage in location, as living in the city center implies a reduction in transportation and time expenditures, greater opportunities for work including at night, access to public resources and services and greater options for recreation. Still, they pay dearly for these advantages: since housing legislation make the majority of tenements illegal, the residents, accustomed to verbal contracts from sublessors, pay extortionate rents, on average higher than those in the formal market. Living in tenements also implies a specific type of sociability, because the precarious and transitory nature of the residential space and the lack of privacy often results in conflicts with neighbours.

3. Basic characteristics of the networks

In general, the choice of interviewees in each of the fields, attempts to include the variability observed in terms of sex, age familial structure, insertion into the labour market, etc. In each field, we begin the interviews with individuals who were contacted in the past for previous research or who were approached directly on the streets. We then proceeded with snowball techniques, bearing in mind profiles desirable for maintaining variability in social situations without employing formal techniques of sampling.

The result was a sample made up of a majority of women- 57% against 43% men—the majority were married or with partners—60.7% of this group, rising to 70% in Jaguaré and falling to 55.2% in tenements. The age of the interviewees range from 12 to 72, with an average age of around 36 years, though the interviewees in the tenements presented with a lower average age—32 years against 38 years in Jaguaré and 37 in Taboão. As would be expected, the average schooling levels of the sample were rather low—5.4 years of study, which varies little in the three locations—from 4.7 in the tenements to 6.5 years in Jaguaré. Familial income per capita were equally low and varied even less—R\$255.60 in Jaguaré to R\$228.70 in Taboão (values from September 2006).

From the point of view of the labour market, the predominant group were generally unregistered workers (22.5%)—especially in the tenements (31.0%)— and those who had no links to the labour market (housewives, students and the retired), with 23.6%. Next were the independent workers, 21.3% and formally registered workers, with 16.9%. The unemployed totalled 6.7%, though there were far fewer unemployed in Taboão (3.3%). The high proportion of independent workers indicates unemployment hidden by small sporadic jobs with low pay and no protection. The majority of those employed obtained work through network contacts (73.5%) with a much higher proportion in the city center (93.9%). A large majority of people work in the same area (61.8%). Only in the case of Taboão—the most spatially segregated—are people who work outside the area predominant (56.7%). The average family income per capita is higher in the case of the registered workers (R\$401.50) followed by the owners of small businesses (R\$277.90)

With relation to race, 53.9% of the interviewees were non-black, but in the central area there were a higher concentration of blacks—55.2%. In Jaguaré, there was a higher concentration of non-blacks—66.7%

In terms of religion, the majority of interviewees were self-declared Catholics (63.6%), though the Catholics were most strongly predominant in Jaguaré (86.7%). The Evangelicals did not make up a majority in any of the fields, varying between 13.3% in Jaguaré to 35.7% in the city center. The frequency of attendance at religious services, however, varied substantially. Participation in civil associations is low (7.9%), varying between 3.3% in Jaguaré and 13.8% in the city center.

Beyond the general characteristics of those interviewed, we now analyze the characteristics of their personal networks. The networks raised have on average 54 nodes—individuals in the networks—varying between 15 and 119 persons and 205 ties⁸ (varying from 42 to 578). The average diameter⁹ is 6.6 (varying between 3 and 12). The average density¹⁰ of the networks is 0.083 and the average degree¹¹ is 3.7 (varying between 1.9 and 5.7). On average, the networks have 3.9 spheres of sociability (varying between 2 and 7) and 4.4 initial contexts of entry into the nodes (varying between 2 and 7). This information suggests the existence of great variability in the personal networks. Considering also that these are influenced by diverse individual characteristics, possibly suffering the impact of factors such as sex, the age of the individual, his spheres of sociability and the degree of residential segregation. Following, we test the importance of these dimensions.

Considering the average proportions of persons in various spheres of networks, the neighborhood appears to be the most important sphere with 35.3%, followed by family with 34.0%. Next is the work sphere (8.0%), with the other spheres containing a far lower percentage of people. In general, the importance of the neighborhood and family spheres can be considered an indicator of a certain endogamy in networks, which in this case means social isolation. That is, these results highlight the local character of these networks and appear to confirm the findings of other studies which deal with the subject of personal networks in poverty contexts (Briggs, 2001; Espinoza, 1999 and Fontes and Eichner, 2004)

In terms of the acquisition contexts of ties and entry of persons into networks, are contacts which lead to contacts (networks, with 28.9%) stand out, followed by neighborhood (26.1%) and by

⁸ These are the actual relations between the nodes, or between persons in the network. In the sociograms they are the lines that link nodes.

⁹ The largest among the smallest distances between nodes.

¹⁰ Indicates the relations that exist against the total number of relations possible.

¹¹ Corresponds to the number of nodes directly related to a given ego.

family (24.5%) with the rest of the contexts appearing to be in very inferior places. These results are similar to those obtained by Fontes and Eichner (2004) which highlight the importance of neighbors and family in the acquisition of new ties in the case of Recife.

An insignificant part of the networks, 7.4% concerned contacts with compatriots. This result appears to follow the same direction as the arguments of Ferrand (2002) since, despite the large number of migrants in our sample, the proportion of persons of the location of origin who still remain in personal networks is relatively low, perhaps because a majority of these are found more than ten years ago in São Paulo, which probably leads to establishing new relations in the city.

Considering the internal/external duality indicated by Ferrand (2002), it is notable that the personal networks collected have on average 58.2% of persons internal to the area, though the presence of these vary widely among the interviewees—between 8.9% and 100%. This localism also is present in terms of diversion: the majority of the interviewees who did leisure activities did them in their own area (61.4%). This information suggests that a significant proportion of networks is principally local (in the first sense of relations between networks and space as described in the previous section) and socially homogenous, confirming the hypotheses raised in the last section and contradicting Wellman's descriptions.

One of the principal dimensions that separate the networks is the sex of the interviewee. Homophily¹² of gender (individuals that associate with persons of the same sex) is very high in networks (62.3%) and there are no marked differences between the three areas researched. Women tend to have larger networks (with more nodes and ties), which are more dense and centralized around them.¹³ The diversity of spheres and contexts is similar for women and men. With relation to the spheres of sociability, women tend to have more ties in the spheres of neighbourhood, friendships and the church, than men. Women also have more individuals entering into the network through other existing contacts, as well as more individuals external to the area. In contrast, men have more individuals in the spheres of family and leisure (especially when frequency of attendance at bars and soccer games is considered). In terms of the context of the tie initiation, the networks of men have more family and leisure including many more compatriots. These characteristics suggest that women maintain more intense sociability than men.

Another dimension that appears to structure the information relates to the field of religion. Concerning frequency of attendance places of worship, 35.6% affirm that they attend at least once every fortnight. This frequency is greater among the Evangelicals—62.5%— against only 29.1% of Catholics. It is worth highlighting, however, that this same information indicates that 37.5% of the Evangelicals go with lesser frequency or simply do not go to places of worship. The networks of self-declared Catholics possess a greater quantity of ties. All of the other relational parameters—density, clustering, centralization, diameter—are very close. From the point of view of sociability, Evangelicals have more individuals in church and association spheres, as well as more people external to the area in their networks. The networks of Evangelicals tend to acquire new contacts more intensely through the family. In contrast, Catholics have more individuals in the spheres of family and leisure and tend to acquire ties more intensely through the family. Their networks also tend to be much more local than those of self-declared Evangelicals.

Beyond describing the general characteristics of personal networks, we seek to construct indicators which can point to the determinants of these observed patterns. In order to analyze the incidence of social precarity and its possible relationship to the networks, we constructed indicators from information on individuals' situations. It is important to consider that, according to the population group which is the object of this study, the levels of precarity considered are rather low and they try to differentiate who is in the worse situation considering their context of poverty.

In the first place, to highlight the presence of fragility in family arrangements, we create an indicator of familial precarity for situations in which the family nucleus is composed by a single adult with small children. From this sample, 11.2% of the interviewees show familial precarity,

¹² Homophily is the tendency of individuals to associate and bond with similar others. The presence of homophily has been discovered in a vast array of network studies. Within their extensive review paper, McPherson, Smith-Lovin and Cook (2001) cite over one hundred studies that have observed homophily in some form or another. These include age, gender, class, organizational role, and so forth.

¹³ A very centralized network indicates ease of contacts and the prominence of many actors in the network. On the individual level, this signifies exactly that a given actor has more contacts than others, and is therefore prominent.

which affects women more strongly (all the cases were of women) and is absent in the population researched in Jaguaré.

In housing terms, we define precarity the situation of living in a small wooden house (shack) or in the case of tenements, in a room without a bathroom. This type of precarity is present in 36.0% of the sample and is evidently more common in the city center according to the definition of the indicator (66% of the interviewees are in this condition)—again, women are more subject to this type of precarity.

The most common condition of precarity is related to participation in the labor market. We have established the following as conditions of precarity: living from the wages earned informally, from odd-jobs or employment as an unregistered worker.¹⁴ This condition occurred in 67,1% of those with links to the labor market but it is more prevalent in the city center (82.6%). Further, when the average family income per capita was less than or equal to the average minimum wage (R\$175) we consider that the individuals are precarious from the point of view of income. Almost half of the interviewees (46,1%) presented precarity of income. In Jaguaré this proportion was 50% and again, women were more subject to this form of precarity.

Finally, when the individuals presented with two or more of the four of the above conditions of precarity, it is considered that their social situation is a precarious in general. This condition occurred in 48.3% of the sample, reaching 58.6% in the city center. The relation between the presence of social precarity and the size of networks was confirmed by tests of averages, which suggested that the individuals in a precarious situation have networks with a lower quantity of nodes than individuals without general precarity (69 against 56 nodes, a significant difference of 95% reliability)

It should be noted that many of these results will be completed as the number of cases is increased in future fields and their analyses further developed.

4. Typology of networks

In order to consider all of these dimensions in a combined way and identify the types of networks existing, a cluster analysis was carried out from the characteristics of the personal networks considered. Technically, group analysis was used submitting chosen variables of networks using Spss software for K-means. For the creation of network typologies the following variables were used: number of nodes in the network; number of ties in the network, average degree of the network, clustering co-efficient; centralization index of the individual network; total number of spheres, total number of contexts, proportion of persons external to the area; proportion of compatriots, gender homophily (%)—with men if the ego was a man and with women, if the ego was a woman. Attribute variables were not included in the construction of groups, but these were used in the analysis to characterize them socially.

After various tests, the best solution was found with the four groupings¹⁵ presented below. For each of the groups, we present the network and the trajectory of an individual belonging to the group that s/he typically characterizes—or rather, who presents these characteristic closest to the group average.

Network type 1- Social Isolation, high precarity and extreme poverty

This group includes 16 cases and is characterized by very small networks (only 27 nodes, the lowest average of all the groups), high centralization around the ego and low numbers of spheres of sociability. They present the lowest number of spheres of sociability and of contexts of initiation of ties but a high presence of fellow countrymen in the networks.

The average interviewee age tended to be a bit higher than average and the level of schooling, slightly lower. The average per capita family income is the least observed in the groups. In terms of links with the form labor market, there are many independent workers— including many itinerant salespeople—and the level of unemployment is higher than average. The individuals in

¹⁴ These are workers involved in informal employment relations. They do not have access to labor rights such as unemployment insurance, vacations or any kind of tenure.

¹⁵ Various tests identified one outlying case with a large number of nodes, which was initially removed in order not to bias the analysis. It was subsequently reintegrated into the group of larger networks.

this group tended to be subject to all the forms of precarity—familial, housing, work, income and social.

It is observed that the distribution of person in the second network according to the different spheres confirms the predominance of the spheres of family, and friendships and in few cases, neighbourhood and church. In terms of initiation of links contexts, again there is a greater predominance of family and few network and work. This is the group that has the lowest proportion of links arising from other people (network) or that is compatible with a situation of social isolation. Leisure activities tended to occur in interior areas and in a solitary manner.

This group, which is more present in the city center (7 cases) but also in Jaguaré (5 cases) and in Taboão (4 cases), can be illustrated by interviewee 58. He is male, 45 years of age, born in São João do Meriti, Rio de Janeiro, but raised in Natal, RM where he went at 2 years of age. He came to São Paulo 20 years ago, living 12 of those in a tenement. He is married, has a teenage son and daughter from his current partner and another son who is 21 years old from another relationship with who he does not have contact. He has 5 brothers and 2 sisters in Natal. He studied until the 4th grade and has been a self-employed painter for 15 years. He worked previously as an assistant to a metalworker in the south zone of the city. He was without work when interviewed. The following sociogram represents his network, with men represented by squares and women by a plus sign.

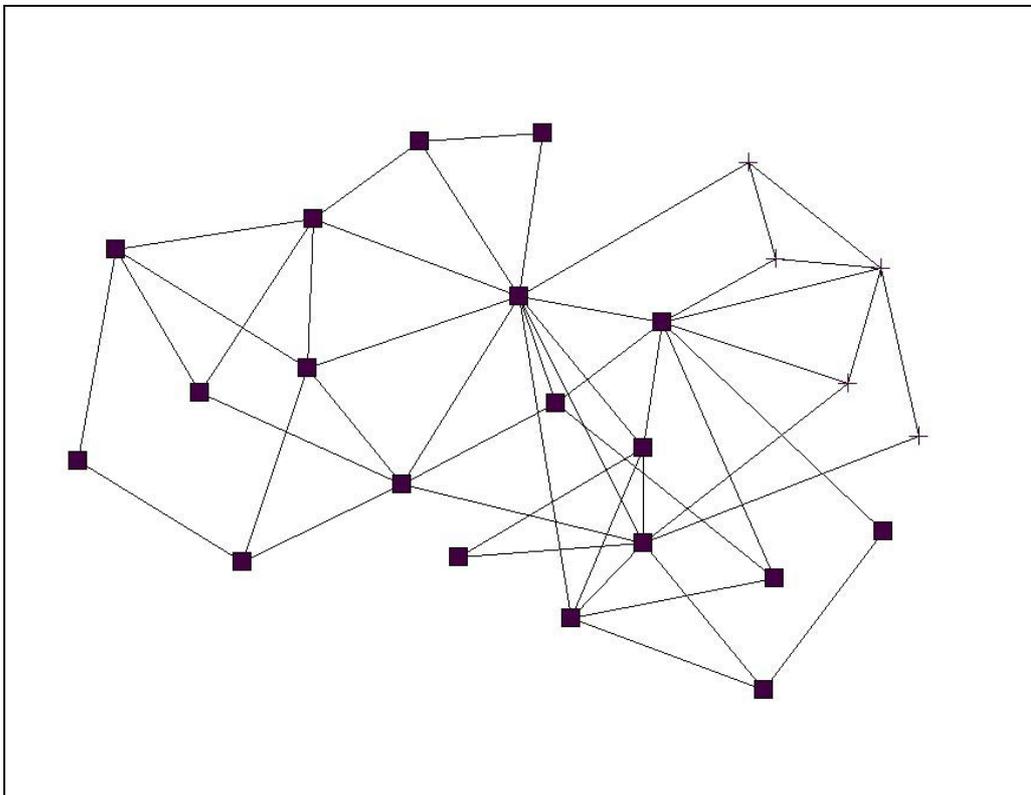


Figure 1. Network of ego 58

His network has 5 women. It includes 24 nodes and 100 ties, clustering of 0.376 and centralization of 32%. The most important spheres are family (54%) and work (29%), and these are also the most relevant contexts for the initiation of ties (with 54% and 33% respectively). The majority of nodes (70%) do not live in tenements.

Network type 2- Large local networks with poverty

This group, which includes 9 cases is characterized by the largest networks in terms of nodes (with an average of 85) and ties (an average of 402 links) and for a higher average degree. They present the largest diameters, the smallest average centralization around the ego and low clustering. They are networks of local type, since they have a lower presence of persons external to the area of the ego. The presence of fellow countrymen is also relatively small in these networks.

Considering the different spheres of sociability, the church and neighbourhood spheres are highlighted in this network type and there is a low presence of persons in the friendship sphere. In terms of the initiation of ties context, the originators of the network are highlighted (a greater presence of people known through all the other types) and work. On the other hand, the low presence of persons arising from the family, church and neighbourhood is confirmed.

This group presents very low income and schooling (being the second worse group with these characteristics), a higher presence of blacks and a high presence of people without religion. In terms of links with the formal labor market, unregistered workers predominate—with the presence of cleaning ladies hired by the day standing out—and access to work through the network of relations. Considering the diverse situations of precarity, this group stands out for the highest level of work precarity of all the groups, and also for low housing and income precarity. They do not present with familial precarity.

This group which is present in the city center (5 cases), Jaguaré (3 cases) and virtually absent in Taboão (1 case) can be illustrated by case 5. Case 5 is a woman of 46 years of age who has lived in São Paulo since she was 18 years old when she migrated from Pernambuco. She has lived in a tenement for 7 years but previously lived outside of the region. She worked 12 years in a single company, a wedding dress store where she was contracted as a registered worker. Before that, she worked 4 years with this same business, after a quick return to her city of origin. She left work due to health problems which began with the death of her husband. Prior to that, the son who lived with her was killed, generating not only a psychological episode but also a financial one. Son and mother survived together: with her pension, the interviewee paid for food while her son's salary covered the rent. Before this situation, the owner of the tenement "contracted" her to clean and care for the tenement, in addition to receive the rents. She has a monthly per capita income of R\$133. She lives with her two granddaughters.

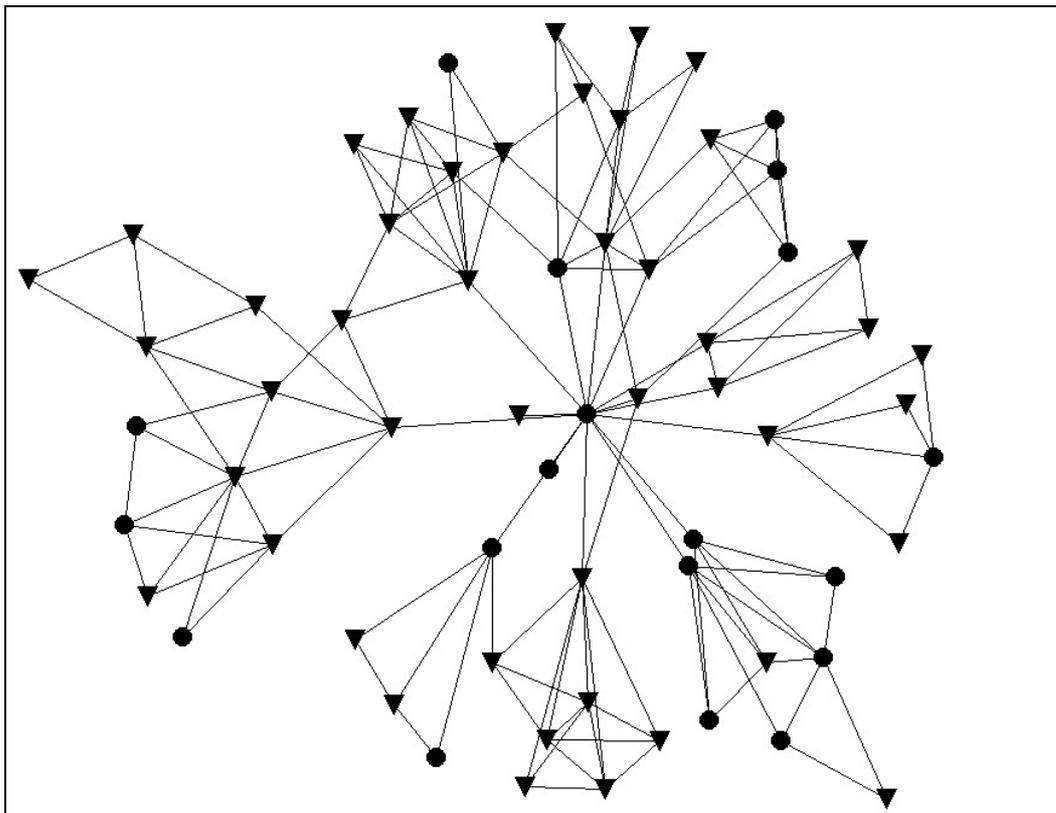


Figure 2. Network of ego 35

Her network includes 82 nodes and 380 ties, clustering of 0.523 and centralization of only 10.59. Almost the entire network includes individuals who were acquired through other ties and 85.37% of the nodes do not belong to the circuit of nearby tenements. The following sociogram

presents her network. The inverted triangles represent persons outside of the tenements and the circles, those who live in tenements.

Network type 3- Average networks, with integration, low precarity and predominantly masculine

This group, which includes 38 cases—the largest group—is characterized by medium (average) sized or small networks (48.2 nodes, on average), with few ties (161 ties on average), centralized around the ego and with average clustering. The networks present an even greater diversity of spheres and contexts, as well as the greatest proportion of persons external to the area and many fellow countrymen. This group is characterized by the presence of men way above average.

In the various spheres of sociability, it is observed that the concentration of persons is average, yet the group concentrated the most persons in the spheres of leisure, study and association. In the case of the context of initiation of ties, the elevated presence of the family, neighbourhood and church contexts stand out and the low presence of context network.

In socio-economic terms, this group presents the best indicators of income and schooling. It presents the lowest average age and the lowest presence of black people in all of the groups. There is also the highest concentration of Evangelicals though the frequency of worship is not very high. Considering the linkage with the formal labor market, this group concentrates the greatest proportion of registered workers, the highest proportion of unemployed and also, an above-average concentration of students. It rarely presents situations of precarity, except for housing precarity.

This group is most present in Jaguaré (16 cases) though some cases also appear in Taboão(12 cases) and in the city center (10 cases). The group can be illustrated by case 22.

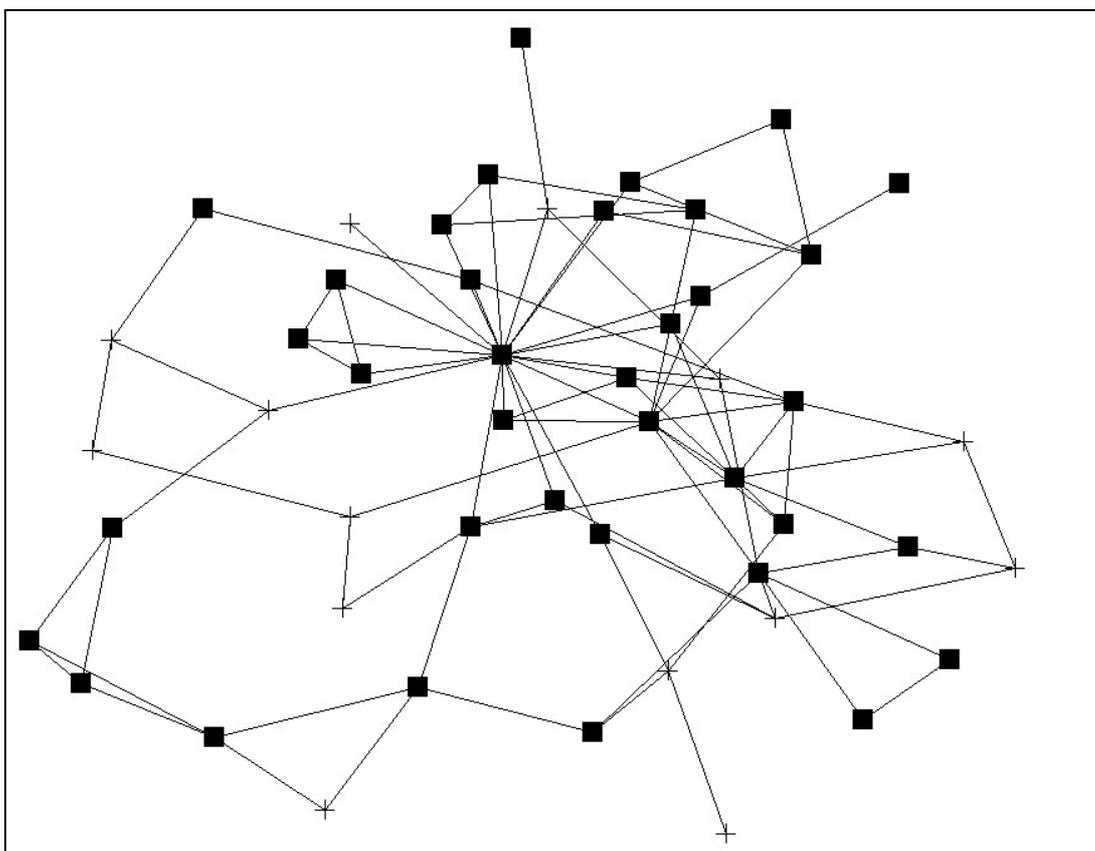


Figure 3. Network of ego 22

The interviewee is 47 years of age, has been married for 22 years and has two sons. He has been in Jaguaré for 30 years where he immigrated from Paraíba following his father, who has been

settled in the neighbourhood since the 1950's. He also has a daughter from his first marriage who lives in Paraíba and who visits every now and then to see the grandchildren. He lives in a home with his wife, their sons and his mother-in-law. The interviewee studied only until the 3rd grade and works in a civil construction firm in Osasco. He is a registered worker. His cousins and friends also work in this firm and it was they who recommended him for the job. He has always worked as a registered bricklayer's assistant with different firms. His wife started working 5 months ago as a seamstress in Vila Olímpia. His daughter works as a cook and his son studies. His first point of contact with the neighbourhood is his father's bar and sometimes he visits a brother in Osasco. The interviewee symbolically organizes his own network according to who is and is not from Paraíba.

His network has 50 nodes, 180 ties, clustering of 0.329 and centralization of 34.86. The individuals are distributed in various spheres, though the family predominates (56%), and also appears as the most important form of his acquisition of ties. The majority of the nodes in the network (76%) live in the same shantytown in Jaguaré and 72% of the nodes are men. The following sociogram presents his network with men represented by squares and women by a plus sign.

Network type 4- Average networks with integration, familial precarity and predominantly female.

This group, with 26 cases, is characterized by medium to large-sized networks (68 nodes and 271 ties on average) with an elevated degree of nodes and many ties. They stand out still more due to high clustering and high centralization. Furthermore, this group is characterized by networks with a greater presence of women, despite the low gender homophilia. The presence of fellow countrymen is the lowest observed and the presence of persons external to the area is elevated.

In socio-economic terms, the interviewees present with relatively high income and levels of schooling—the second highest income and the highest schooling among the groups analyzed. The average age is high and the presence of blacks is high. In the labor market, unregistered workers and small business owners predominate and many obtain work through the networks.

Within the spheres of sociability, the high presence of neighbourhoods, association and study stand out as well as the low presence of persons from the family sphere. Participation in associations also stands out in this group. In terms of the context of initiation of ties, neighbourhoods and network stand out. There is also some association and leisure and a little participation in family and work.

This group presents familial precarity and some income precarity, but no housing or work precarity.

This group is most present in Taboão (13 cases), but also appears in Jaguaré (6 cases) and in the city center (7 cases) and can be illustrated by case 75. Case 75 is a young person (13 years old), born in the interior of Bahia and has been in São Paulo for 2 years, in Taboão. Her parents continue to live in Bahia (in the city of Salvador). She came to Vila Nova Esperança with a sister to live with another sister. She lives in a brick house in an alley in the most established part of the shantytown. Today she lives with a sister and a nephew who she cares for during the day. The per capita monthly family income is R\$170 (including her sister's salary of R\$350 from her job as a domestic cleaner and R\$60 from the Bolsa Família program). She studies in the nearest city public school and is in the 5th grade. She has many friends in the neighbourhood and also participates in a church youth group. She confirms that she does not have a religion. Her main leisure activities are with neighbors and take place in her own neighbourhood though she adds that she goes shopping sporadically.

Her network has 69 nodes and 264 ties, clustering of 0.486 and centralization of 24.50. The most dominant sphere is that of neighbors (55.1%) though study is also important (21.7%). The contexts accompany the spheres with the most important being neighbourhood (53.5%) and studies (20.3%). A large part of the ties involve persons also from Vila Nova Esperança—69%. The following sociogram presents her network with the women represented by plus-signs and the men by squares.

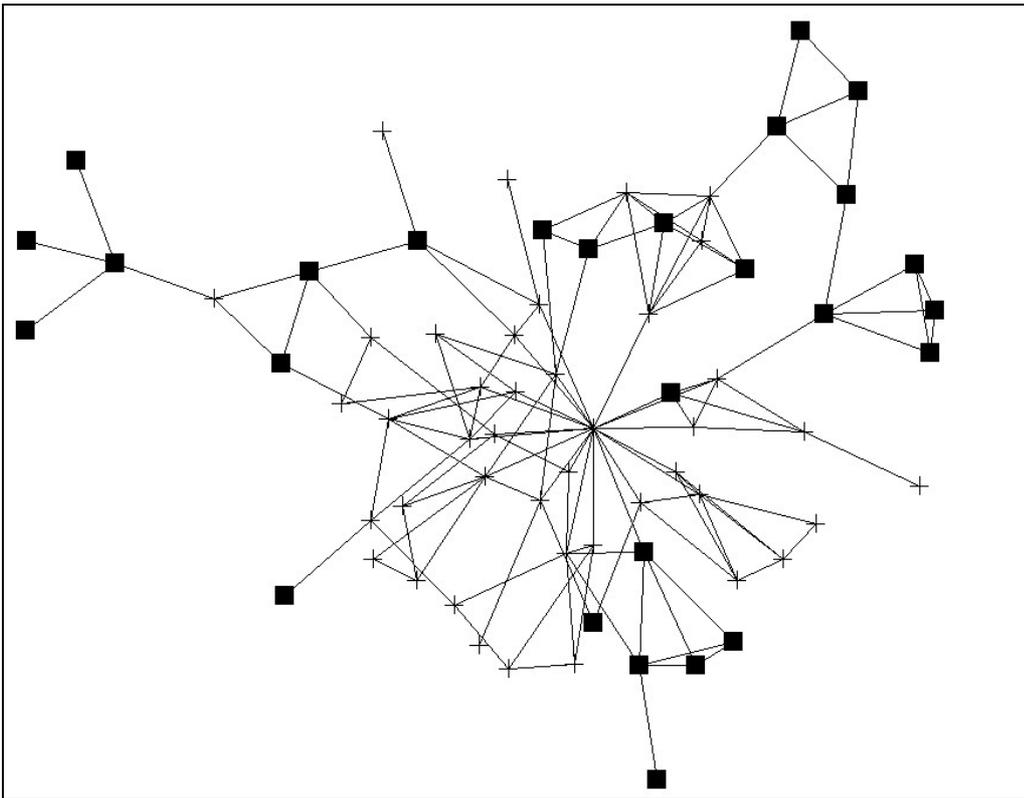


Figure 4. Network of ego 75

5. Summarizing the evidence

In general, the personal networks analyzed here reveal much heterogeneity, as much in terms of size, average number of nodes and ties as in diversity of spheres and contexts of ties. Some elements which appear to influence the networks of the interviewees, such as sex and religion and in some cases, migration condition, can still be observed and these aspects should be probed further in future analyses. These results indicate that, even in contexts of poverty, there is a significant diversity in terms of the forms of structuring personal networks and in terms of patterns of sociability. This diversity permitted the delimitation of four distinct types of personal networks with specific characteristics. The set of networks studied indicate a substantial network inertia, which keeps individuals and relationships in quite different contexts of sociability than the present ones, as in the case of emigrational origin.

One of the common characteristics that majority of the networks share is the localism. Many of the person networks analyzed are contained in the same location where the ego lives, restricted to spheres of sociability that tend to endogamy, such as neighbourhood and family. This localism goes against the hypothesis of Wellman and is in keeping with that observed in other localities in the case of personal networks and the poor (Briggs, 2001; Espinoza, 1999 and Fontes and Eichner, 2004).

On the other hand, the distribution of cases in the three areas of research do not suggest the existence of a strong and direct relationship of segregation across the type of network, as there are different types of networks in locations more or less segregated. Further development of this investigation will permit us to test the validity of these preliminary conclusions and will introduce new dimensions to the analysis.

In general, it can be said from the preliminary research that there is strong localism in the networks analyzed—since the majority of the personal networks are found to be structured heavily around the ties that occur in a specific area—but a strong impact from residential segregation was not observed across personal networks, as the general characteristics observed are present in more or less segregated contexts.

With regard to public policy, though we do not have sufficient knowledge to substantially understand the relationships with the networks, we can move forward on certain elements. The use of networks for helping policies can be an advantageous route as long as it can take advantage of the variability of personal networks, operationally incorporating the different types of networks in existence. From the point of view of urban poverty reproduction, even though the study has not concerned itself with ties dynamics, there are networks (type 1) which are characterized by a high degree of isolation, which suggests an incapacity or a great difficulty for these individuals to mobilize resources, even for survival (social support). Yet, other networks (Types 3 and 4), as much from the diversity of spheres as from the presence of ties with greater distribution, appear to make up for access to different elements, including from the connection with non-local contexts. In this case, heterogeneity in social relations appears to make a difference, which indicates that the inclusion of relational elements in the analysis of poverty demands a disaggregation of this category of different situations.

Notwithstanding the fact that the preliminary results presented here point to the importance of networks in the reproduction of poverty, they also suggest that to influence or produce networks--as public programs to combat poverty would like to do--is a highly uncertain activity and one that depends on various conditions over which state policies have little control at present. The construction of these types of programs appears to depend on interventions that continue over time and are focused on sociability and closely linked to local conditions and dynamics.

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