ABSTRACT

A structural analysis of the international immigration system that exists between Brazil and the United States seeking to provide contributions to the understanding of the empirical phenomenon through the role of the intervening mechanisms of the system.

The social network analysis provides elements that operationalize and demonstrate the effects of the structure, the individual agency and the nature of articulation that is established between weak determinism and relative rationality. The structure determines and is determined by the interactions between the actors, being the structure, and at the same time, embarrassing "formal" and the interaction effect (DEGENNE AND FORSE, 1999).

Populations connect themselves through complex and dynamics networks that manifest themselves in various scales, working as probable relational trajectories connecting certain players and provide opportunities and constraints (SOARES, 2002). Networks measurements looking pinpoint, from the relationships and social structures, the regular pattern of relations between the positions occupied by actors and relational flows which determine the structural position of each of the network (WELLMAN, 1999).

The migratory social network is a specific type of network constituted by social representations of the actors in relation to the migration process, the existing social relations and personal networks. The migratory project develops through everyday relationships between various social actors strategically positioned in the social structure. In this sense, the migration act is determined by the combination of social, economic, political, symbolic and affective factors, being necessary to the individual's personal network is connected to the migratory network (FAZITO & SOARES, 2010). The amplitude and diversity of the network permits an actor amplified social capital and, consequently, greater strength in relationships with peers.
The global process of modernization occurred in recent decades has put the population in a digitized universe with infinite possibilities. The existing digital solutions, even though symbolically, shorten distances and reaffirm ties, enabling the structuring of a social network wider and dynamic. The use of resources such as e-mails, cell phones, credit cards, e-commerce, security cameras, virtual social networking sites, and others, are examples of innovations that allow the user to design a standard of living more agile and organized. The records stored by using these features contribute to the formation of a rich database about several aspects of population dynamics. The called ‘Computational Social Science’ seeks conduct interdisciplinary scientific studies in which such data are articulated at the intersection of various fields of knowledge (LAZER, et al., 2009).

The Brazilian economic developments allowed, beyond the reduction of inequalities, the modernization of the communications and technology infrastructure, which in turn, increased the supply of computers and high speed internet. In 2005, 30% of Brazilians were computer users and 24% of internet, rising in 2011 to 58% and 53% respectively, which corresponds to approximately 80 million individuals. Much of Internet users make use of this resource to communicate, being the participation in social networking websites like Facebook, Orkut, Twitter and similar (69%) the most frequent activity (CGI.BR, 2011).

Data from Internet Management Committee in Brazil point out that the massive inclusion of the Brazilian population in websites of social networks occur independently of social class and scholarly level of said user (CGI.BR, 2011). As of now Facebook constitutes more than 60 million Brazilian users, corresponding to 70.37% of internet users and 29.44% of the total observed population in the Brazilian Demographic Census in 2010 (SOCIALBACKERS, 2012).

Populations were never so connected. The Social Networks Analysis (SNA) possess a theoretical and methodological capability of elucidating the interactions between individuals. The networks are characterized by the amplitude and complexity with which they establish in a articulated way in both physical and digital dimensions. Through these networks which social actors exchange opportunities, constraints and share representations. The relational model seeks to verify the existence of some regular partner of relationships between positions occupied by these actors and their defined flows of the network structure. Analyzing the topology of a network contributes to the evidence that the intermediate positions are important for the configuration of a migratory system (FAZITO & SOARES, 2010).

The literature indicates that, for Brazil, the region of Governador Valadares was the main point of Brazilian emigration to the United States. During the 80's the Brazilian economic crisis and social networks existing between the two countries contributed to a boom emigration. However, since
2000 the region has been experiencing increasingly the return of emigrants. The bursting of the U.S. housing bubble and Brazilian economic growth in recent years has contributed to further strengthen this process. Analyze the relations between emigrants, returnees and those who reside in the region of Governador Valadares can contribute to understand to what extent the interactions between these actors strengthened or constrained their actions on a structural level.

The objective of this paper is to analyze the structure of the migratory social network of Governador Valadares, based on interviews with individuals living in the region, as well as compare the results of this survey with the structure captured by overlapping the personal network of Facebook users in the same region.

The first part of this analysis was based on a field research where 60 individuals were interviewed that had some relation to migration, may be familiar, returned migrant or tourist agent. The questionnaire contained basic attributes of the respondents (name, sex, age, education, marital status, race, religion) and issues related to their social network (proximity and involvement with actors with aspects migratory).

The next stage of research will consist in the construction of the migratory network of citizens Valadarenses through Facebook data. The methodological process of data collection is designed as follows: Invitation via personal letter explaining the research objectives; Acceptance and release of profile data and relationship with friends through the application NetVizz, that generates a relational matrix containing information about the links with friends; Overlapping all sent personal networks; Identification and creation of clusters of users that share some migratory experience (migrant family, emigrated, returned or travel agent); Mapping users Hubs and production networking measures; confirmation of data with some users with high centrality through electronic form and interview online. This survey of Facebook users is expected to start in January 2013.

The data collected from the first stage of this research through interviews in the homes of individuals allowed the analysis of the structural properties of the migratory network, indicating an average density of 0.244 and cohesion of 0.315. The average geodesic distance between positions of the system is only 1.4, constituting a relatively well connected and active, ie the ratio between the structural positions assures actors, in practice, the possibility to easily connect stably. This allows actors (migrants, traders and receivers) using several strategies connection simultaneously. The degrees of centrality s were 35% output and 22% inlet, indicating a moderate concentration and low of flows on positions. However, even if the cohesion and density favor the strengthening of certain structural positions or "blocks positions" (in particular the association emigrant/family), there is no system in the corresponding concentration on the positions of intermediation. Consequently, the
system appears to be more diffuse and sparse, with low tendency to agglomerate around the positions, medium transitivity (0.276) and greater heterogeneity in the distribution of force of intermediaries (centrality intermediation only 6%) (FAZITO, 2005).

It is expected that the processing carried out with users of Facebook are similarities in relation to 'real' population analyzed above. Importantly, in some comparative studies of this nature were found similarities in the curves of the data between the digital and the real population surveys, thus underlining the emergence of intellectual production related to the problematic of computational social science (CHANG et al., 2011; ZAGHENI & WEBER, 2012). The main challenges concerning the use of digital data relating to the degree of reliability of the data reported by users, and especially the possible selectivity bias produced by this specific population. One of the viable alternatives to fix the problem of representativeness would be compared with other data sources whose variables correlate and enable the appropriate form and level adjustments, thereby establishing a consistent approach to the actual population.

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