Teachers' networks and school processes

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Applying Social Network Analysis to relationships among teachers can open new perspectives for the sociological study of education, allowing us to investigate the effects of interactions between colleagues in an occupational group that is of key importance in the educational processes. Several research has in fact highlighted how certain characteristics of teachers' networks are linked to different aspects of their work: for example, we know that the density of the school relationship network is positively related to the collective effectiveness of the school, that personal network size is positively correlated with job satisfaction and motivation to teaching, and that the exchange of resources between teachers is associated to best students' outcomes.

The objective of the following work is to analyze the teaching network of a school, in order to evaluate possible associations between the position occupied by teachers within the school network and their professional outcomes and characteristics. A first objective is therefore to evaluate whether teachers' satisfaction and self-efficacy towards students are related to their position in the school networks, estimated by means of different measures of centrality: degree centrality, betweenness centrality, effective size and embeddedness, the latter measured by Moody-White cohesive blocks.

In this case study, a school population of approximately 70 teachers, working for the same school institution in the North of Italy, was asked to answer questions relating to their personal characteristics and relationship network. They reported their status characteristics (gender, age, level of education, job seniority…) and a number of outcomes related to their work, as self-efficacy towards students and teaching, satisfaction and motivation (which have been later synthesized through measurement scales). As regards the network questions, they were asked to name the colleagues with whom they have the most frequent contacts, both from a professional point of view, therefore exchanging advice, materials and opinions related to their work, and from a personal point of view, as meeting during breaks or outside of school. In this way three different network of relationships between colleagues were reconstructed (advice network, relational network inside school and relational network outside school). The aim is to estimate network autocorrelation models in order to discover

possible correlation between teachers' measures of centrality in each network and their job self-efficacy and satisfaction.

Following previous results in the literature using Social Network Analysis in organizational contexts, we expect that teachers who occupy the most central positions in the different networks are also the ones with the highest levels of self-efficacy and satisfaction.

This study is positioned among the research that employs Social Network Analysis in the working and organizational contexts, and specifically it is part of a limited number of Italian research related to teacher networks. The use of original data is an additional novel element.