

Network dynamics with a nested node set: Sociability in seven villages in Senegal

Tom A. B. Snijders, Malick Faye, Julien Brailey

We propose two complementary ways to deal with a nesting structure in the node set of a network—such a structure may be called a multilevel network, with a node set consisting of several groups. First, within-group ties are distinguished from between-group ties by considering them as two distinct but interrelated networks. Second, effects of nodal variables are differentiated according to the levels of the nesting structure, to prevent ecological fallacies. This is elaborated in a study of two repeated observations of a sociability network in seven villages in Senegal, analyzed using the Stochastic Actor-oriented Model.