

# Does the Structure of the Personal Networks of Patients with Severe Mental Illness Differ from the Common Types Found in the General Population?

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**Introduction.** The social support network (SSN) of an individual is the set of people who interact with the individual and with each other to provide support to the individual. The SSN is a key element of the care for patients with long-term conditions, e.g. patients with severe mental illness (SMI), providing a variety of resources. It is well established that the size and the composition of the SSN influence patients' symptomatology, social functioning, and service utilisation. Recent studies also suggested that the network structure may affect patient's care outcomes, though these studies are inconclusive and considered only a limited number of structural indicators. In this context, the establishment of a typology of SSNs makes it possible to explore diverse structural indicators and their association, among themselves and with patient's outcomes. Recently, Bidart and colleagues established six types of ego-networks with distinctive structural shapes in the general population. Therefore, we sought to investigate the extent to which the SSN of SMI patients were fitting these network types. **Method.** We collected data on the SSNs of 380 SMI patients recruited in psychiatric services. We applied Bidart's typology, which is based on the combination of four structural indicators (betweenness centralisation, modularity, density, and diameter) to the patients' SSNs. Then, we assessed the differences found in our sample compared to Bidart's types. **Results.** Patients' SSN classification only fits partially Bidart's typology. A particular type, named 'regular dense' in Bidart's typology, appeared to be much more heterogeneous. A significant proportion of the networks in this category (81.7%) had a lower density than the median in Bidart's typology (0.38). In addition, these networks were small (11 nodes on average), highly fragmented (69.4%), and had small components with many isolated nodes (5.5 components including 4.3 isolated nodes on average). **Conclusion.** Bidart's typology cannot be applied to the SSNs of SMI patients without adjustments. Results suggest that the misclassification issue is related to the smaller size of networks as size is likely to affect the structural metrics used, and to the high fragmentation, which would induce a low modularity, even in case of low density. Yet, further analysis is needed to determine if the issue can be solved methodologically or if it reflects major differences between the structure of the SSN of SMI patients and of individuals in the general population.