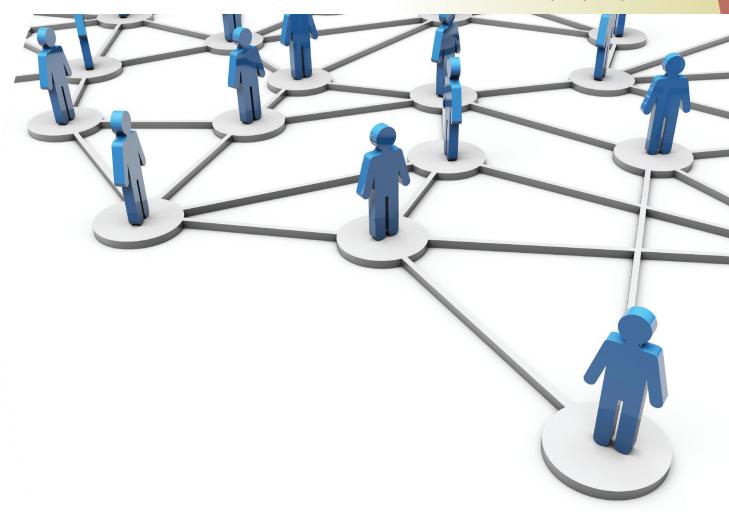# A Reflective Account of Social Network Analysis as a Leadership Tool

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Over the past 2 decades, the size and complexity of organizations have tended to increase.[1] There has been consolidation of hospitals and associated services into larger entities. In some parts of the world, a continuum-of-care approach has been developed in which primary, secondary, and tertiary services work as an integrated system.[2] Alongside these structural changes, the extended hierarchy of positions with direct linear reporting relationships has been replaced by matrix structures and advisory roles.[1] These changes often require nurse leaders to be able to function in a more dynamic environment in which influence rather than direct managerial competencies is seen as an essential requirement of the nurse executive.

These changes are not unique to healthcare systems or nurse leadership roles. Meier and O'Toole[3] made similar observations in their research of over 500 district educational school leaders when examining the US education system, noting that public policies are often developed and implemented via complex networks in which success necessitates collaboration and coordination across a wide range of parties over whom the individual can exercise very little formal control. Furthermore, McGuire and Siva,[4] in their national study of disaster and emergency response systems, examined the effects of leadership behaviors on network effectiveness and highlighted the fact that the literature rarely empirically examines such issues.

Recently, systematic reviews of nursing's use of and focus on network research reached similar conclusions.[5] In nursing, according to Benton et al,[5] although the numbers of networking studies are on the increase, the majority of the work completed to date tends to offer only superficial insights into network dynamics and the associated roles that individuals play in the network. Nursing research tends to describe the structure of existing networks at a single point in time, often uses a small number of measures, and typically uses relatively small convenience samples.

AIMS

This article draws upon a range of articles published by the author over the last 20-plus years. It serves as a reflective account of what can be learned from a series of studies that have used social network analysis techniques to greater or lesser extents. The aim is to identify lessons that can be learned from this work to offer contemporary nursing leaders a set of tools to assist them in shaping and influencing complex environments.

SOCIAL NETWORK ANALYSIS: MUCH MORE THAN DOING LUNCH

My interest in social network analysis began over 2 decades ago. I was asked to write a paper on leadership and became both intrigued and frustrated at the repeated mention of the importance of networking without any theoretical or empirical basis for the statements being made. These statements lauded the importance of networking and offered a range of suggestions on how to network: using conferences, exchanging business cards, and making a point of talking to the people you did not know in meetings. However, much of the work did not offer a means of understanding whether these activities were having any sort of impact. As a result, I turned to the wider scientific literature to see if a more robust understanding of networking could be revealed. The editor of the journal who had requested the paper on leadership was equally intrigued by my interests and asked that I write a second paper on networking.[6] The paper provided a basic introduction to social network theory and its application, while offering the reader an opportunity to gain continuing education credit. Most importantly for me, it provided the basis upon which I have developed an expanded understanding of the subject of how social networks analysis can be applied to a range of issues.

The intention of this article is not to offer a thesis on the topic, but rather to offer insights into how the various techniques can be applied in leadership settings. Multiple texts, such as those by Cross and Parker[7] or Scott,[8] are available to provide detailed theoretic and analytical explanations of the various techniques. The content of these texts will not be repeated here. Instead, a few basic terms are explained so as to provide a foundation for interpreting the rest of this paper.

WHAT IS SOCIAL NETWORK ANALYSIS?

Social network analysis is an analytical technique that examines the relationships between nodes, sometimes referred to as egos, and offers a means of describing the features of the network as a whole, describing certain characteristics and the way these nodes relate to one another.[8] The nodes can represent individuals, groups, organizations, countries, or any tangible object that can relate in some way to others in the network. The links, sometimes referred to as ties, edges, or connections, join nodes together to represent some form of relationship. This relationship can depict the transfer of information or a particular quality of a relationship such as trust.

AGENDA AND RESOURCE IDENTIFICATION OPPORTUNITIES

Social network approaches can be applied to a wide range of sources. In 1999, the first Scottish Parliament to meet in over 300 years formed a series of committees to pursue a wide range of policy issues. Discourse was well documented and soon published so the public could gain insights into the interests and action of their political representatives. The 12 committees met. At the inaugural meeting, members presented their thoughts on themes they believed were most important and needed to be addressed. Because many of these issues had relevance for nursing, it was possible to construct a map of topics comprising common interests shared by at least 2 of the committees.[9] A collaboration of select committee members and targeted issues were brought to the forefront. Topics included poverty and employment, drugs, diet, housing, and domestic violence. Not all of these topics emanated from the Health and Community Care committee. Indeed, the very first piece of legislation passed by the Scottish Parliament, clearly germane to nursing—domestic violence—unfolded with the development taking place in the Justice and Home Affairs committee. Examples like this legislation demonstrate how agendas align to secure opportunities to influence policy.

Using documentary sources can provide a wide range of opportunities if social network theory and the related analytical techniques are applied. Examination of who is publishing and what is being published in a particular field of study can also yield very valuable information.[10] This type of analysis is referred to as scientometrics or bibliometrics, and both methods use social network analysis to identify expert sources on a particular topic or indeed the priority issues being debated in the field of study. These types of analysis can help to identify