Enhancing library services: utilizing bibliographic databases for social network analysis

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Data and Tools

Enhancing Library Services: Utilizing Bibliographic Databases for Social Network Analysis

Michele R. Tennant, AHIP, Assistant Director, Biomedical and Health Information Services, and Bioinformatician Librarian, Health Science Center Libraries and UF Genetics Institute, University of Florida, Gainesville, FL; Cathy C. Sarli, AHIP, Scholarly Communications Specialist; Kristi L. Holmes, Bioinformatician; Bernard Becker Medical Library; School of Medicine, Washington University, St. Louis, MO

Social network analysis (SNA) can be a powerful method of visualizing the efforts of a group. Forty faculty from the University of Florida’s Genetics Institute were selected for SNA, based on their academic standing (20 assistant and associate professors and 20 full professors). A literature search was carried out in Scopus for each group of faculty (both junior and more experienced faculty). The bibliographic data from the literature search was downloaded and subsequently used to create a network to compare collaborations, evidenced by coauthorship on papers. The social network analysis was carried out using the Network Workbench Tool (NWB) from the CyberInfrastructure for Network Science Center.

**Assistant & Associate Professors**

University of Florida Genetics Institute

n = 20, January 2009 - April 2011

**Full Professors**

University of Florida Genetics Institute

n = 20, January 2009 - April 2011

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Social network analysis has emerged as an important method for understanding research efforts and can play a role in helping to shape an institution’s strategic direction and evaluating research programs. This project aims to utilize traditional bibliographic resources in developing value-added services such as social network analysis for an institution, department, or specialized research center.

**Data and Tools**

The NWB tool supports the large-scale analysis of scholarly data including publication, citation and joint investigator relationships. It provides access to more than 110 algorithms relevant for the study of social networks, and can be used to quickly test and refine analysis workflows and visualizations in support of effective research networking.

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Networks can describe many different types of relationships and interactions. Networks are often used in the sciences to describe everything from disease transmission to brain networks, cell signalling events and dependencies, and gene cascades. More and more everyday social relationships are described in terms of networks, including relationships on social networking sites such as Facebook and LinkedIn and on the microblogging platform, Twitter. The relatively recent emphasis in academic circles to focus upon researcher networking platforms and features to promote discovery and collaboration has also highlighted co-author and co-investigator networks in platforms.

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Social network analysis has even made its way to a fun party game: Six Degrees of Kevin Bacon with Edward Asner and Kevin Bacon himself has a Bacon number of 0.

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The role of the library

Libraries and librarians bring a wealth of knowledge and expertise that can be applied in these types of analyses.

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Expert searchers

Expertise with disambiguation

Knowledge of databases

Expertise in database selection

Knowledge of publication types

Understanding of ontologies

Understanding of controlled vocabularies

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