

Statistical methods for studying social networks using aggregated relational data

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Light refreshments provided

Abstract

Survey questions of the form 'How many X's do you know?' allow a convenient and fast collection of aggregated relational data (ARD) from one's social network and have become a common means of learning about populations that are hard to reach or survey directly. McCarty et al. (2001), for example, take X to be individuals who are HIV positive, are homeless, or were recently raped to estimate the size of these traditionally hard-to-count populations. In this talk, we will discuss several recent statistical methodological developments for analyzing ARD to study features of social networks such as extent of social structure such as clustering and assortative mixing. We will also introduce methods to extract demographic information about the hard-to-reach populations using ARD. Design suggestions for future ARD studies will also be proposed

Biographical Note

Tian Zheng is associate professor of Statistics at Columbia University. She obtained her PhD from Columbia in 2002. Her research is to develop novel methods and improve existing methods for exploring and analyzing interesting patterns in complex data from different application domains. Her current projects are in the fields of statistical genetics, bioinformatics and computational biology, feature selection and classification for high dimensional data, and network analysis. Especially, Dr. Zheng have been developing statistical and computational tools for high dimensional data, searching for genetic interactions associated with complex human disorders, quantifying social structure and studying hard-to-reach populations using survey questions, with more than 40 peer-reviewed publications in journals including JASA, AOAS and PNAS. Her work was recognized with the 2008 Outstanding Statistical Application Award from the American Statistical Association, The Mitchell Prize from ISBA and a Google research award. She is on the editorial board of Statistical Analysis and Data Mining and Frontier in Genetics. She was Associate Editor for JASA from 2007 to 2013

¹ The PI Biostatistics Seminar Series is held on Tuesdays at New York State Psychiatric Institute. If you are interested in receiving regular announcements for our seminars in the future, or if you need further information, please contact Jina James (jamesji@nyspi.columbia.edu, (212) 543-5589).