One of the most important concepts in the social sciences is the notion that individuals are part of a larger set of related systems. Even the social ecological model emphasizes the importance of the social environment as a pertinent level to predicting determinants of health. One way to approach this set of social systems is through social network analysis (SNA). Social network analysis is the process of understanding structures through networks and graph theory through quantitative approaches.

The concept of social networks has been around since the time of Plato in Socrates, when they analyzed the influences of social classes on people. The year 1932 marks the first-time social network theory was used in an applied setting (Borgatti, 2009). Since the early 2000’s and the creation of social network sites such as Facebook and Twitter have provided a path for large quantities of social network data. However, modern utilization of SNA goes well beyond the of social networking sites. Recent literature has social network methods to analyze terrorist networks, tobacco smoking incidence and even social structures in obesity.

There has been an increase in utilizing SNA as an applied method for research during recent years. Advances in Statistical programming have provided researchers the ability to run studies with a strong social network component. Advanced Bayesian modeling techniques such as Exponential Random Graphing Models (ERGM) and *S*imulation Investigation for Empirical Network Analysis (SIENA) models, two common techniques in the SNA literature, require intensive processing power. Additionally, several research studies have been focused on collecting SN data, understanding its importance in health outcomes.

Despite the popularity increase in SN data collection and modeling techniques, no validation techniques for this data type exists. Fields focused on testing and measurement incorporate a numerous number of methods to ensure validity and reliability exist within the measures they use. Social network data is a measure of relationships and bonds and there is no excuse to ensure the quality. Furthermore data quality measures exist in many other fields. This thesis project proclaims the assumption that social network data needs to be validated via standardized methods.

The validation of network data comes with its challenges. There are a variety of methods for collecting friendships and bonds. Despite these differing methods, the way social network data is processed is quite similar. Social network data may be represented in terms of an edgelist or adjacency table. However, despite the standardized way of representing social network data, there is no standard process in existence to ensure the quality of social network data.

Social science’s dependability on reporting of standardized validity and reliability measures helps to ensure the credentials of the field. Social Network Analysis, an expanding part of the social science field does not follow these same rules. It is naïve to assume that the network data collected by researchers is valid and appropriate for analyses. Even more so, populations of interested may differ in the validity of network data collected. For example, research on adolescent survey self-report is mixed and no analogous studies exist on their ability to self-report social network data. Therefore, because there is no standardized methodology to evaluating social network data, the legitimacy of the field is at risk.

I propose creating a standardized method for validating social network data. My proposal serves as a set of analogous measures to those used in psychometric testing and measurement. Several analogous measures will be tested such as reliability, trustworthiness, and validity levels.

At the end of the project, a series of of “checks” will be created to create an understanding of the validity of social network data. This is an essential step to determine the true effects of the network on health outcomes.

**Explain the WTG study**

If I am able to develop these measures,

Borgatti, S. P., Mehra, A., Brass, D. J., & Labianca, G. (2009). Network analysis in the social sciences. *science*, *323*(5916), 892-895.