Belief Networks in an Organization

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Purpose

This study is part of a broader collaborative research agenda to develop alternative methods for understanding people's political beliefs. In addition to asking people for their specific opinions and developing statistical models to explain how their beliefs relate, we ask people what they think about the relationships among their specific ideas and model their overall beliefs as networks.

In this study, members of a concrete group were asked their opinions about the group and how these opinions relate to each other. They were also asked to name other members who influence them. Those items generate **belief network** and **social network** data for the organization's members.

The goals include developing and refining methods for social science and generating insights for the group to inform its programs.

Sample

Two leaders of a Rotary Club in the Midwestern United States sent an email to all 132 members asking them to complete two surveys. The PI followed up with reminders. 48 people completed at least one of two surveys, and 32 people (or 24% of the club) answered all questions

Procedures

Each survey collected respondent's names so that datasets could be linked.

The first survey included open-ended questions that requested short written responses about the respondents' priorities and beliefs relevant to the Rotary Club, plus multiple-choice items about the Rotary Club and its context.

Two raters used the open-ended responses to develop 30 statements that captured the most common and distinct ideas.

The second survey asked the respondents to review those 30 statements and indicate their agreement with each on a Likert scale. They were then presented with all pairs of the 30 statements that they had agreed with "strongly" and asked whether each opinion was a reason for the other one. These items yielded belief-network data in which the strongly endorsed opinions are nodes and reasons are edges.

The second survey also included a social network question that asked respondents to name the other Rotarians who influence them most. At the end, it included standard

multiple-choice items about demographics and some items about whether members feel included and heard in the club.

Consent Process

Consent was included as the first question on each of the two Qualtrics surveys. The consent text included a sentence to clarify that de-identified data may be shared: “If data from the survey is shared with other researchers, all personally identifiable information about you and the name of the Club will first be stripped out.”

IRB approval

The study was approved as Tufts IRB STUDY00004182. The Tufts IRB approved sharing de-identified data on a public platform.

Files

Individuals are denoted as person1, person2, etc. These identifiers are consistent across all the files. Individuals are included in the dataset if they completed one or both surveys *or* if they were named as influences by others. Individuals without any survey data are those who were named but did not complete a survey.

- **rotary_merged_dataset_public.xls** contains all the survey data (including the open-ended response) except the two types of network data: the connections among beliefs and individuals who influence each respondent. It also contains some statistics derived from the network data, such as the degree centrality of each belief for each respondent.

- **codebook.doc** identifies the variables and response options for Rotary_merged_dataset_public.xls

- **belief2.csv** lists the beliefs people strongly endorsed (as **ID** and **Label** columns) with a third column (**poll**) showing the percentage of people who had agreed with each belief in the survey.

- **belief.edges** shows the connections between beliefs as reported by respondents. The columns are headed **source** and **target** (denoting a directed edge between beliefs) and **person** (indicating who made each connection).

- **social.csv** is the social network node-list (with an **ID** and **Label** for each individual) plus some social network metrics derived by Gephi software.

- **social.edges2.csv** is the social network edge-list. **Source** and **Target** columns indicate directed edges between individuals and those they influence.