

An Exploratory Application of Social Network Analysis in Focus Group Discussions

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Introduction

Consumer communication is a dynamic process; however, previous studies have seldom focused on how group structure forms and how it influences communication outcomes. In (Rumble et al., 2019) previous research, participants' trust in science decreased after participating in focus groups. These findings cause one to pause and wonder what happened during the course of the focus group to decrease trust. Additionally, focus group methodology and the possibility of group conformity is often a concern among researchers (Morgan, 1998). As we look toward addressing complex problems, we know that a mixture of qualitative and quantitative methodologies needs to be used, but any chance to strengthen methodology is also warranted. This study seeks to understand how social network analysis (SNA) techniques may be applied to focus group discussions to understand participant influences and assess the presence or absence of group conformity. Processes such as this may become an integral component of researching complex problems (Andenoro, Baker, Stedman, & Pennington Weeks, 2016).

Conceptual Framework

Group structure generated in focus group discussions may influence or change people's opinions on complex issues, like trust in science. Social scientists are often interested in how social relationships impact attitudes and behaviors, but these relationships are often difficult to observe. However, SNA provides us with the tools to explore these relationships (Luke, 2015). Within several network types, affiliation networks could be used to express how the members are affiliated with one another in a subgroup, or if they experience co-participation for certain topics or events (Breiger, 1974). For instance, analysis of student structure within a class may reveal of connections are built between students and how subgroups are formed within the class (Luke, 2015). We could also extend this concept to see how people become connected and form subgroups in a focus group discussion. This process can also allow us to understand how these structures impact final outcomes.

Methodology

The purpose of this study was to understand how the group structure formed within focus group discussions influenced trust in science. Objective 1: Explore the group dynamic in a focus group discussion using SNA. Objective 2: Examine conversation participation and trust in science measures for each participant. This exploratory study used quantitative and qualitative data from a previously conducted focus group discussion (Rumble et al., 2019). The focus group included 9 participants. Two types of data were used in this study: 5-point Likert-type questions about trust in science (National Science Board, 2018) given before and after the focus groups, and the focus group transcripts.

The focus group data were transformed into two-mode data. Two-mode data were used to examine the relationships between participants and their distrust toward the topics. These topics included the discussion of science technologies to combat a bacterial horticultural disease spread by an invasive bug. The first topic included the discussion of a topical spray to kill bacteria, the second topic discussed a transgenic tree resistant to the bacteria, the third topic discussed infecting the trees with a virus that would kill the bacteria, and finally the fourth topic was a comparison of the three treatments where participants were asked to discuss the pros and cons of each. To further explore the participants relationships with each other and the topics of discussion, their trust in science before and after the focus group was described in order to understand possible influences.

Results

In figure 1, we can see the possibility of group dynamic formed within the focus group discussion. The four orange bubbles represent the topics discussed in the focus groups as described in the methods. The lines indicate the connections between participants and the participants to each topic.

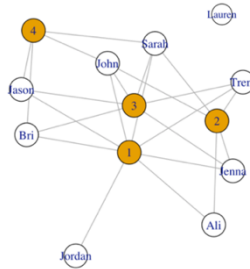


Figure 1. Use two-mode network to simulate group dynamic within focus group.

Table 1 shows each participant's trust in science before and after the focus group as well as the number of comments they provided related to distrust in the discussion of each topic. Two participant's trust in science increased, two stayed the same, and five decreased. Of those who's trust in science decreased, one did not actively provide any comments. Those who increased and stayed the same did all contribute comments of distrust.

Table 1

Description of participants' trust in science and involvement in discussion

Participant	Survey	Focus Group Involvement				Survey	Chang in Trust
	Trust 1	Topic 1	Topic 2	Topic 3	Topic 4	Trust 2	
John	4.29	2	1	1	1	3.57	-0.71
Jordan	5.00	2	0	0	0	5.00	0.00
Jason	4.57	2	0	1	1	5.00	0.43
Ali	4.29	3	2	0	0	4.71	0.43
Trent	4.43	1	1	1	0	3.57	-0.86
Lauren	4.43	0	0	0	0	4.00	-0.43
Jenna	4.86	5	2	1	0	4.29	-0.57
Bri	5.00	3	0	1	1	4.57	-0.43
Sarah	5.00	1	2	2	1	5.00	0.00

Conclusions and Recommendations

The results of this study suggest that SNA can serve as a tool to understand relationships between participants and topics of discussion within a focus group discussion (Breiger, 1974; Luke, 2015). Processes such as this may become an integral component of researching complex problems and understanding group conformity (Andenoro et al., 2016). Although this study was exploratory, it offers insight to the power of SNA and many recommendations for future research. In this specific context, comments of trust should be examined as well as distrust. Additionally, inferential statistics should be employed to understand predictive relationships across a sample of focus group discussions. Researchers should continue to explore applications of SNA in methodological processes.

References

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