

Integrating Social Network Analysis with Structural Equation Modeling: Enhancing Insights in Sociology

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Abstract

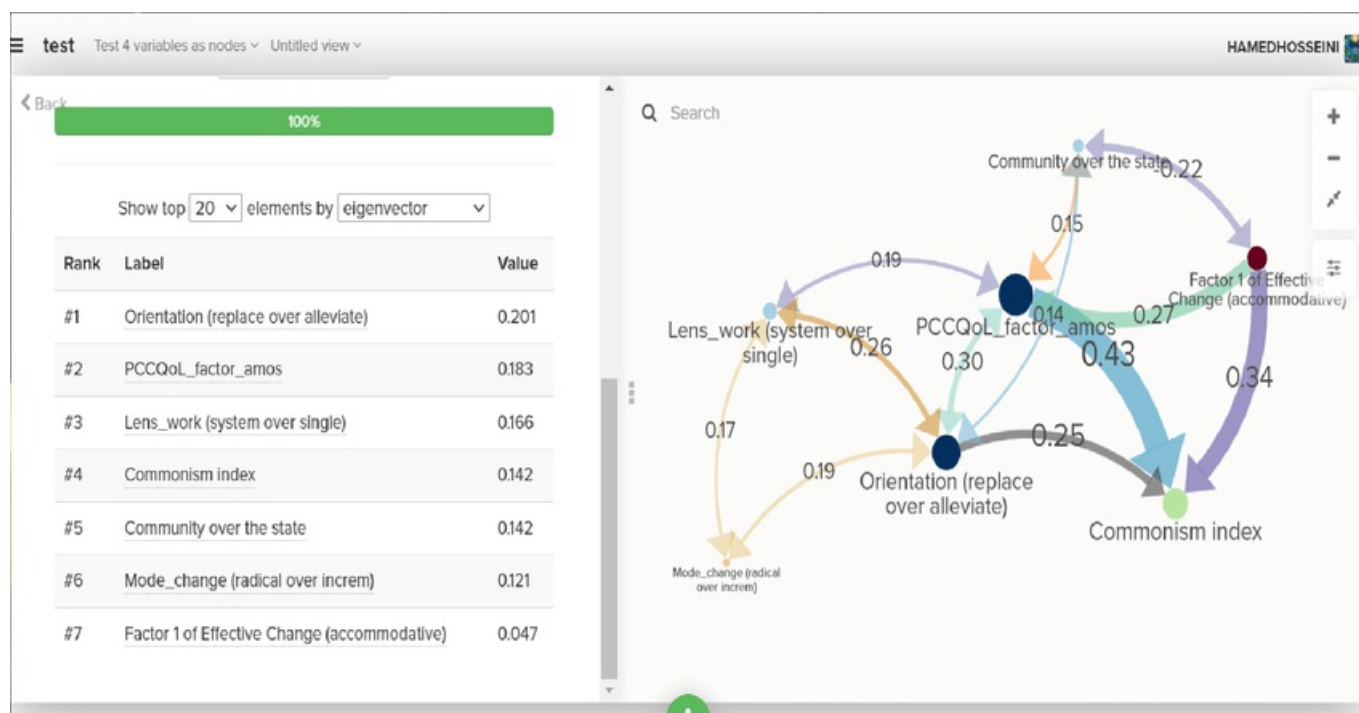
This concise paper discusses the potential benefits of combining Social Network Analysis (SNA) with Structural Equation Modeling (SEM) in sociological research. SEM is a valuable tool for examining mediation and moderation effects in integrated models. However, when variables exhibit mutual relationships, determining the specific roles of mediation and moderation becomes complex. To address this challenge, the paper proposes incorporating SNA into the analysis.

Structural Equation Modeling (SEM) is a valuable tool for identifying mediators and moderators in integrated models. However, when there are mutual relationships between multiple variables, determining the roles of mediation and moderation can become complex.

To address this complexity, I propose integrating Social Network Analysis (SNA) into the analysis. In the simplified model, derived from an SEM analysis and illustrated in the image below, variables are represented as nodes, and beta coefficients are used to adjust connection weights. Variables with high "betweenness" centrality are suggested to have a stronger mediating role, exerting greater control over the flow of causality. On the other hand, variables with higher

"eigenvector" centrality are seen as playing a more genuine moderating role, even if their influence is relatively low. The centrality measures, such as closeness, can indicate the level of integration between these roles.

Rather than treating mediation and moderation as distinct categories, we view them as interrelated continuums. By examining the centrality of each variable and their roles in the model, we can advance our interpretation and speculate on the most effective intervention strategies.



A few words on the practical implications of such an approach

In mainstream macro- and meso-sociology, the concept of intervention is often overlooked, resulting in a lack of interest in these discussions among sociologists. However, as social upheavals intensify and conscientious social sciences regain importance, it is essential to recognize that our role as social scientists extends beyond describing sad realities. In transformative scholarship, research projects hold political significance and aim to empower progressive agents of change. Knowledge about the centrality of factors can be transferred to these agents of collective action, serving the purpose of influencing positive change.