

The formation, continuation, and dissolution of informal groups

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As eloquently argued by McGrath (1982), simulations are an important tool in the arsenal of methods available to social science researchers. Simulations can be used to capture critical elements of complex social systems and to model longitudinal phenomena that would require years of data collection to investigate empirically. Simulations can also accommodate ranges of values for population parameters, including values not observed in a particular sample, thereby allowing researchers to conduct sensitivity analyses and explore “what if” scenarios. Finally, simulations can be used to evaluate the logical integrity and consistency of theoretical models in the absence of data collection (Sastry, 1997).

These advantages are aptly illustrated by the simulation conducted by McPherson. This simulation examines the effects of competition and homophily (i.e., the tendency of people to affiliate with similar others) on the formation, continuation, and dissolution of informal groups. This simulation is part of a larger research program conducted by McPherson that includes extensive empirical research. Thus, McPherson’s work demonstrates the use of multiple methods to converge on answers to important phenomena (McGrath, 1982).

The following comments on McPherson’s research, and his simulation work in particular, are organized in terms of substantive and methodological issues. As these comments indicate, McPherson’s simulation and its underlying research base suggest several interesting avenues for future research on informal and formal groups. The methods used in the simulation serve as a model for future simulation research and, at the same time, may be extended in several respects.

Substantive Issues

The Meaning of Similarity

A key variable in McPherson’s simulation is homophily, which refers to the principle that interpersonal similarity increases the likelihood of group membership. Similarity is viewed as a

function of distance in Blau space, which captures the positioning of individuals relative to one another on various sociodemographic dimensions. Although similarity is commonly used as a summary concept to compare two individuals, it may obscure important information regarding interpersonal differences and their effects on outcomes. This information may be framed as a series of questions that may be addressed in future simulations such as that conducted by McPherson.

First, of the dimensions in Blau space along which individuals may differ, which are most important to the effects of homophily? As argued by Cronbach and Gleser (1953), “similarity is not a general quality. It is possible to discuss similarity only with respect to specified dimensions [italics in original]” (p. 457). Accordingly, the forces behind a general homophily effect may be clarified by examining the simultaneous effects of dissimilarity regarding specific Blau space dimensions, using a multivariate approach (Edwards, 1993). This approach would not only capture the overall effects of homophily, but would also reveal whether the Blau space dimensions encompassed by homophily produce different effects.

Second, are the effects of dissimilarity symmetric, such that being above another individual on a Blau space dimension has the same effects as being below that individual? Although the concept of homophily apparently assumes symmetric effects, it is likely that differences on some Blau space dimensions may yield asymmetric effects. For example, individuals who desire upward mobility (Harlow, 1973) may be more attracted to groups of higher social rank than to groups of lower social rank.

Third, does absolute position on a Blau space dimension influence the probability of joining a group? For instance, assuming education level is normally distributed, individuals with average education have ample opportunity to interact with others with similar education, because individuals with average education are prevalent in society. For such individuals, similarity on

education level would be an unlikely basis upon which to create an informal group. In contrast, for individuals with higher education levels, education may provide an important impetus for group formation, because affiliation with others with similar education would otherwise not occur.

Similarity Versus Complementarity

The concept of homophily is based on a similarity-attraction principle. Although this principle has received extensive empirical support, individuals may also gravitate to one another not because they are similar, but because they fulfill each other's needs. This phenomenon is manifested in marital relationships, in which dissimilar spouses may fulfill distinct needs of one another (Saint, 1994). Analogously, teams may form not because each member possesses the same skills, but because each contributes different skills that collectively help the group function. The distinction between similarity and complementarity has been examined in the person-environment fit literature (Muchinsky & Monahan, 1987), and this distinction may be useful to research on the development of informal groups.

Extensions to Work Organizations

Although McPherson's research focuses on voluntary informal groups, this research may have important implications for other types of groups, such as formal work organizations. Some possible extensions of McPherson's research to work organizations are suggested below.

Attraction, selection, and attrition. An extensive body of research has examined employee attraction, selection, and attrition (Landy, Shankster, & Kohler, 1994). This research has been guided by two general perspectives on why employees join and remain in organizations. One perspective, which embodies the homophily principle, states that employees and organizations are attracted to one another based on similarity in attributes such as beliefs and values (Schneider, 1987). Following this perspective, attraction, selection, and attrition creates organizations with

members who are homogeneous over time. An alternative perspective suggests that employees join organizations that satisfy their needs, desires, and values, and analogously, organizations select employees for their ability to meet work requirements (Dawis & Lofquist, 1984). According to this perspective, organizations do not gravitate toward homogeneity (i.e., homophily), but instead may become homogeneous or heterogeneous, depending on which configuration best fulfills employee needs and organizational requirements. Following McPherson's work, these two perspectives could be modeled simultaneously to determine how each explains the composition of organizations over time.

Downsizings. Because McPherson's work focuses on voluntary membership in groups, it does not address situations in which individuals are forced to leave a group. However, such forced departures are common in work organizations, as manifested by organizational downsizings. Using McPherson's simulation approach, downsizings could be modeled as intermittent shocks, and the effects of these shocks on various outcome variable may be examined. For example, do downsizings increase or decrease the likelihood that individuals will subsequently join an organization, and does this likelihood depend on the characteristics of the displaced individuals in Blau space? Is there a critical mass for the number of displaced individuals, such that when this number is exceeded, the probability of organizational survival is diminished? Do large sporadic downsizings yield the same effects as a series of smaller downsizings? Answers to such questions have theoretical and practical relevance, and the conceptual and methodological approaches used by McPherson may help generate these answers.

Promoting diversity. Through proactive hiring and retention practices, many organizations have attempted to create diverse work forces. These practices intentionally create heterogeneity and therefore operate against the effects of homophily identified by McPherson's research. Thus,

the promotion of diversity and the principle of homophily represent countervailing forces that influence the demographic composition of work organizations. The effects of these forces over time may be modeled through simulations that specify parameters representing various hiring and retention practices and different degrees of homophily. Such simulations may yield answers to important questions, such as which approaches to diversity are most likely to yield a work force with proportional representation of employees in relevant demographic groups, and whether certain approaches may produce unintended shifts in work force composition.

Methodological Issues

This section summarizes some methodological observations regarding McPherson's simulation. From a methodological standpoint, McPherson's work has several important strengths. Many of these strengths are manifestations of the complementary advantages of simulations relative to empirical methods. Other strengths arise from the care with which the simulation was designed and the logic used to interpret its findings. For example, although the homophily bias exhibited weak effects on the outcome variables, McPherson decomposed these effects into substantial relationships of opposite sign. McPherson also judiciously avoided tests of statistical significance, which can be easily manipulated in simulation research by merely increasing the number of cases simulated. Given the strengths of this simulation, the following observations should be viewed as suggested methodological extensions and enhancements.

System Isolation

As noted by McPherson, this simulation restricted its focus to voluntary membership in informal groups. By imposing this restriction, the simulation did not capture the effects of competition for group membership from other groups, such as families and work organizations. This restriction was useful from a pragmatic standpoint, as it kept the simulation manageable in

scope. However, in reality, most adults must constantly juggle the competing demands of multiple roles, such as work, family, and social groups (Burke & Greenglass, 1987). By modeling these competing demands, the external validity of a simulation such as that reported by McPherson may be enhanced. Of course, some simplification of reality is necessary, as each factor added to the design of a simulation increases its complexity exponentially.

Parameter Values

The simulation varied two parameters (i.e., homophily bias, the number of groups to which a person belonged) and held two parameters constant (i.e., the probability that social contact with group members will prompt a person to join a group, the probability that membership in the same group will initiate future social contact). The values of these parameters were based on prior empirical research, which represents an important strength of this simulation. Nonetheless, the fact that only two parameters were varied raises the question of how the results of the simulation would be affected if all four parameters were varied. Admittedly, the complexity of a simulation increases with the number of parameters varied, and the value of the information gained by varying additional parameters must be weighed against the cost of the additional complexity introduced. Perhaps an iterative procedure could be used, in which parameters that are varied but have little effect are subsequently held constant. For example, this simulation found that variation in the homophily bias parameter had little effect on several of the outcomes examined. In future simulations, this parameter may be fixed at some value (e.g., its mean), and other parameters may be allowed to vary. Of course, this approach presumes that only main effects of parameters are of interest (i.e., there are no interactions among variables represented by the parameters), such that researchers can meaningfully examine the effects of variation in one parameter without regard to the values of other parameters.

Conclusion

McPherson's research on the formation, continuation, and dissolution of informal groups has yielded important findings relevant to a variety of fields, and his simulation work represents a careful and informative application of this method. By positioning this method within a program of research that includes theory development and empirical work, McPherson has aptly demonstrated the value of multiple methods to the accumulation of knowledge.

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