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Noah E. Friedkin and Eugene C. Johnsen
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1

Group Dynamics: Structural Social Psychology

In this chapter, we present an overview of the group dynamics tradition that is our substantive focus, and we present our case for the advancement of this tradition via analysis of the attitude change process that unfolds in interpersonal influence networks. The idea that motivates this book is that some of the important lines of work on attitude change in small groups developed by psychologists (e.g., their work on social comparison, minority–majority factions, group polarization and choice shifts, and group decision schemes on attitudes) may be advanced if a social network perspective is brought to bear on them. In addition, we show how certain lines of current work in sociological social psychology may be advanced with our approach. Sociologists are more likely to pursue these advances than psychologists, given the current emphasis in psychology on social cognition. However, as we emphasize, the influence network and process specified by our theory are a social cognition structure and process. Thus, we seek to move the two orientations into closer theoretical proximity and to build a theoretical interface that speaks to both psychological and sociological social psychologists. By attending to the classic foundations of modern social psychology, to the theoretical perspectives, hypotheses, and findings that constituted the group dynamics tradition, we hope to advance current work on small group social structures and social processes. We revisit the classical past, pursuing an agenda of formal unification, in order to reshape perspectives and trigger new research.

1.1 The Field of Group Dynamics

The field of group dynamics is currently in an odd state. It consists of two disconnected subgroups of researchers, corresponding to the two disciplines – sociology and psychology – that have contributed to it.

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It contains lines of inquiry that were developed by psychologists, and then abandoned by them during the cognitive revolution in psychology, and lines of work that never managed to interest sociologists, although they deal with key features of social groups. Recently, social identity and self-categorization theorists in psychology have sought to revisit and advance many of the lines of work on group dynamics. Their approach is based on the social cognition paradigm that has come to dominate psychological social psychology, and this paradigm is very different from the theoretical foundations on which the field of group dynamics was built. At the same time, sociologists who have advanced work on social networks, a construct that was theoretically central in the classical work on group dynamics, have not systematically applied these advances to the further development of these lines of work. Although attitudes are a core construct in social psychology, the development of a formal theory of attitude change in influence networks has not been vigorously pursued in sociology. We briefly review this strange state of affairs. We argue that a sociological approach, which attends to the influence networks that are formed within groups, may provide a useful platform for better theoretical integration of sociological and psychological work on group dynamics and advancement of particular lines of work in this field.

1.1.1 A Brief History of the Field

In the formative period of the field of group dynamics, psychologists were concerned with the origins and effects of interpersonal networks (Cartwright and Zander 1968; Festinger, Schachter, and Back 1950; Newcomb 1961). During the 1950s, psychologists pursued a research program on social communication and influence that focused on the bases of power and influence in groups (including determinants of pressures toward uniformity in groups, pressures to communicate with and influence others in a group, and persons' susceptibility to interpersonal influences), the structural conditions of groups (including group size, composition, cohesion, patterns of interpersonal communication and influence, and internal differentiation), and the effects of these group conditions on individual and collective outcomes. In 1958, the Society for the Psychological Study of Social Issues (a division of the American Psychological Association) gave its Kurt Lewin Memorial Award to the *group* of investigators associated with the Research Center for Group Dynamics at the University of Michigan, who developed this program of research (Cartwright 1958).

The field of group dynamics continued to grow during the 1960s (Cartwright and Zander 1968; Shaw 1961). Shaw (1961), reviewing the rapid growth of group dynamics during the preceding decade, wrote, "The future looks bright!" Steiner (1964) concurred with this assessment;

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however, he noted that the field was fragmented into theoretically isolated areas. Although empirical work was abundant, the absence of integrative theoretical advances also was noted by Gerard and Miller (1967). Several key investigators began to shift their attention away from small group processes toward intra-individual processes, in particular, to the development of the theory of cognitive dissonance (Festinger 1957, 1964) and attribution theory (Kelley 1967).

By the 1970s, interest in the field of group dynamics had begun to wane, and this decline has continued to the present. Helmreich, Bakeman, and Scherwitz (1973) presented a highly critical viewpoint on the state of theory in the field, although not all subsequent reviewers have agreed with their assessment (Davis, Laughlin, and Komorita 1976; Zander 1979). Steiner (1974) commented that the study of group dynamics had declined, but he suggested that a resurgence of the field might be in the offing; subsequently, he concluded that his optimism had not been confirmed (Steiner 1986). McGrath and Kravitz (1982) reiterated the concerns that had surfaced during the 1970s:

> While the increased use of formal models will certainly tip the field more toward a concern with theoretical matters, the field is still a long way from having a proper balance among theory, method, and data. The dominance of atheoretical (even antitheoretical) viewpoints in the group area, virtually since the days of Lewin, still persists. We hoped to find signs of abatement of such views but did not. . . . Without the guiding hand of theory, it seems likely that the field will continue to move from one fashionable topic to the next, with fashions determined more by availability of paradigms than by conceptual import of the issues. (McGrath and Kravitz 1982: 219)

By the 1990s, Levine and Moreland (1990: 620–21) had concluded that the most active lines of research on small groups were no longer to be found in social psychology but in organizational psychology. However, even in organizational psychology, there has been a decline of work in the human relations and group dynamics traditions exemplified by Likert (1967) and Katz and Kahn (1978). During the 1990s, there was more work on intergroup relations, based on social cognition approaches, than on intragroup relations, in which the structural features of groups are acknowledged and dealt with (Mackie and Skelly 1994). In their review of these developments, Levine and Moreland state:

> The fact that more social psychologists are now studying small groups is encouraging, and intergroup relations is clearly an interesting and important area of research. Moreover, social cognition approaches to studying groups and their members have

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> produced some exciting discoveries and brought small group research closer to the current center of social psychology. At the same time, however, it is disturbing to watch research on intragroup relations move out of social psychology into other disciplines, such as organizational psychology (*cf*. Levine & Moreland, 1990). And much of the new research on intergroup relations has a very individualistic flavor. Few attempts are made to study actual social behavior, and many of the groups that are studied are minimal in nature. If such research replaces traditional work on small groups, which is more difficult to perform, then valuable insights into groups may be lost. (Levine and Moreland 1998: 416)

The field of group dynamics within psychology declined during the years of the cognitive revolution and, although the concepts of group membership and group effects have been retained, psychologists now rarely deal with the social network structure of groups, the social processes that unfold in these networks, or the contributions of these network structures and processes to individual and collective outcomes. A notable exception is the work of Latané (1981; 1996). The interests of psychologists have increasingly become concentrated on the study of individual perception and cognitive process.

1.1.2 Recent Activity in Self-Categorization Theory

Recently, British and Australian social psychologists working within the social cognition paradigm have revisited many of the classical lines of work that were developed in the field of group dynamics (Abrams and Hogg 1990b; Hogg and Abrams 1988; Turner 1991; Turner, Hogg, Oakes, Reicher, and Wetherell 1987; Turner and Oakes 1989):

> The small-group dynamics tradition lost popularity, largely to attribution, social cognition, and intergroup relations research, during the 1960s and early 1970s.... However, since the late 1980s there has been a revival of a new and different form of group processes research within social psychology, that articulates with developments in social cognition and the study of intergroup relations and social identity. (Hogg and Tindale 2001: 57)

Self-categorization theory focuses on how persons categorize themselves and others (including the definition of social identities) and how this categorization process serves as a basis for group behavior. According to self-categorization theory, the depersonalization of individuals that is, for example, entailed in the categorization of persons into *in-groups* and

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out-groups, is a fundamental process underlying group phenomena. Once individuals are depersonalized, group phenomena can be understood on the basis of *prototypes*:

> For self-categorization theory, a prototype is a cognitive representation of the defining features of a social category. It is a relatively nebulous or fuzzy set of properties that the individual group member believes defines the category. Prototypes . . . are embodied as a reified image of a "most prototypical" group member – an ideal or representative category member. Prototypes encompass the whole range of interrelated properties that define the group and differentiate it from relevant outgroups, or from people who are not in the group. The prototype is the cognitive representation of the group norm or the group stereotype. (Hogg 1992: 94)

> Categorization, therefore, accentuates perceived similarities between self or fellow group members and the prototype. This is what is meant by depersonalization: self and others are perceived not as unique persons but as embodiments of the prototype. Since prototypes are, by definition, shared among group members, one consequence of the depersonalization process is relative intragroup uniformity of perceptions, attitudes and behavior. In this way the self-categorization process accounts for conformity to group norms. (Hogg 1992: 94)

Hence, in this theory, social influence boils down to group members' convergence on the prototypical position of the group. Members of out-groups have no influence on the members of an in-group.

The categorization process and the construction of prototypes are driven by individuals' efforts to reduce uncertainty and construct coherent or meaningful cognitive structures that "pattern the social world into discrete, well-defined and meaningful social units" (Hogg 1992: 103). Persons define themselves as belonging to a particular social category, ascertain the norms of that social category, and bring their attitudes and behaviors into conformity with those norms. This process is more or less powerful depending on the salience of persons' category membership; for instance, categorization theorists explain that an intergroup context fosters *in-group out-group* distinctions and makes social category assignments and prototypes salient. In self-categorization theory, prototypes are not formed from the process of interpersonal influence but from a *shared perception* of the distribution of group positions on an attitudinal or behavioral dimension:

> Consider a salient social comparative dimension (attitude scale, behavior dimension, etc.) which represents ingroup, including

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> self, and outgroup or non-group members. The relevant ingroup norm is that position on the dimension which simultaneously maximizes intergroup differences and minimizes intragroup differences. The ingroup member occupying this position, the most prototypical group member, is the person who is simultaneously most different to the outgroup and least different to the ingroup. (Hogg 1992: 97)

If there were not a shared perception of the distribution of persons' attitudinal or behavioral positions, then there might not be a shared definition of the group's prototype.

Self-categorization theorists have systematically explored the application of their theory to a variety of group dynamics phenomena, including conformity, polarization, leadership, social influence, deindividuation, and cohesion. They view their approach as a radical departure from classic explanations of group dynamics phenomena that emphasize interpersonal relations involving attraction, communication, and influence.

The structure of interpersonal interaction in a group was a prominent, if not the core, theoretical construct in most of the classic work. In contrast to self-categorization theory, we pursue an integration of group dynamics phenomena on the basis of a refined theory of social influence networks. We share the sense of self-categorization theorists that a better integration of the field is possible and worth pursuing, but we believe that the early structural foundations of the field should not be discarded.

1.1.3 Enlarging the Scope of Structural Social Psychology

The cognitive revolution in psychology has contributed to the decline of group dynamics as a field of study, and few psychologists are now engaged in refining the classical tenet that the *social structure* of groups (in particular, the network of interpersonal influences that is formed among the members of a group) is an important theoretical construct in explanations of individuals' thoughts, feelings, and behaviors. However, the pursuit of a more refined specification of structural effects, which involves an elaborated theoretical understanding of how interpersonal processes unfold in more or less complexly configured social structures, is a goal that has remained relevant in many fields of sociological inquiry. This goal has helped to support the enduring interest of sociologists in social network structure and process.

Sociologists' work on social networks increased during the same period in which psychologists' work on social networks diminished. The formation of social networks and the effects of these networks on persons' attitudes and behaviors have been long-standing concerns of sociologists

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(Coleman, Katz, and Menzel 1966; Davis 1970; Homans 1950; Lundberg and Lawsing 1937). Currently, the social network construct appears in numerous sociological publications. Remarkably few of these publications actually deal with the structure of interpersonal relations in which persons are embedded, i.e., an $n \times n$ matrix realization of a social network. Among the few publications that do grapple directly with the implications of network structure, a small fraction entertain models of an interpersonal influence process that affects network members' attitudes and interpersonal agreements. Most of the network models that do touch on these constructs (attitudes and agreements) are simulation models for which no direct empirical support is provided.

We believe that the field of group dynamics will be advanced by a sociological perspective that focuses on how attitudes are formed in influence networks. In the remainder of this chapter, we present our case for this approach. Our method is dialectical. We describe three points of theoretical tension or opposition in social psychology, how these tensions are manifested in social influence network theory, and how social influence theory helps to reconcile and synthesize them. To make our points, we draw on the scalar equation of our *standard model*, upon which most of the analysis in this book is based. Here we present only the bare bones of the model. The reader will have questions about where this mechanism comes from, its theoretical heritage, the assumptions that it involves, and its operationalization. We present a formal exegesis of the model in Chapter 2 and an operationalization of its constructs in Chapter 3. In Appendix A we collect the key equations, construct definitions, and measurement models developed in Chapters 2 and 3.

Our standard model describes a mechanism by which persons weigh and integrate their own attitudes and the attitudes of others on an issue:

$$y_i^{(t+1)} = a_{ii} \sum_{j=1}^{n} w_{ij} y_j^{(t)} + (1 - a_{ii})\, y_i^{(1)}, \tag{1.1}$$

for each $i = 1, 2, \ldots, n$ and $t = 1, 2, \ldots$. The n group members' time t positions on an issue are $y_1^{(t)}, y_2^{(t)}, \ldots, y_n^{(t)}$, and these positions include their initial set of positions $y_1^{(1)}, y_2^{(1)}, \ldots, y_n^{(1)}$. Group members' individual susceptibilities to interpersonal influence are $a_{11}, a_{22}, \ldots, a_{nn}$, where $0 \leq a_{ii} \leq 1$ for all i. The relative interpersonal influence of each group member j on i is $w_{i1}, w_{i2}, \ldots, w_{in}$, where $0 \leq w_{ij} \leq 1$ for all i and j, $\sum_{j=1}^{n} w_{ij} = 1$, and $w_{ii} = 1 - a_{ii}$ for all i. Note that $\sum_{j=1}^{n} a_{ii} w_{ij} + (1 - a_{ii}) = 1$, so that i's attitude at time $t+1$ is formed as a *weighted average* of the attitudes of others and self at time t, and i's initial position.

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Individual differences are allowed in persons' susceptibilities to interpersonal influence and in their profiles of accorded interpersonal influences. If a person i's susceptibility is $a_{ii} = 0$, then i's position on the issue does not change. If $a_{ii} = 1$, then i attaches no weight to his or her initial position, and i's initial position may be modified by the interpersonal influences of one or more other members of the group. The relative weights of others' positions, and the positions that they take on the issue at time t, determine the modification. If $0 < a_{ii} < 1$, then i's initial position on the issue has some weight in any modification of i's position that occurs.

Here, we draw on our standard model to make our points with sufficient formal precision so that the reader may see how a formal synthesis of each of the tensions that we address is afforded by our approach. In this chapter, we seek to motivate theoretical interest in an individual-level social-cognition mechanism that includes endogenous interpersonal influences. The influence network construct that is involved in this mechanism is the social structure of such endogenous interpersonal influences. The potential theoretical advances that may be achieved with an influence network construct are the generic payoffs of a class of models of which our standard model is a specific instance.

1.2 Particularities versus Ideal Types

The first tension is between particular and general features of groups in explanatory models (Nagel 1961: 547–8) and stems from the idea that we must either plunge into a detailed ethnographic analysis of particular groups (i.e., adopt an idiographic approach) or else rise to a higher level of abstraction with a formal model that might be applied to many groups (i.e., adopt a nomothetic approach). We show how the formal apparatus of social network theory allows information about the particularities of a group to be taken into account in explanations of individual and group outcomes and how the theory also may be employed to make more general predictions about the effects of group social structures.

Sociology has long struggled with the question of the relative merits of investigating the particular or general features of groups in an effort to explain and predict individual and group outcomes. Weber recognized that

> As in the case of every generalizing science the abstract character of the concepts of sociology is responsible for the fact that, compared with actual historical reality, they are relatively lacking in fullness of concrete detail. (Weber 1947: 109)

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