SOCIAL COHESION

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Key Words solidarity, cohesiveness, groups, networks

■ **Abstract** Investigators interested in developing a general theory of social cohesion are confronted with a complex body of work that involves various definitions of social cohesion, specialized literatures on particular dimensions of social cohesion (e.g., membership turnover, organizational commitment, categorical identifications, interpersonal attachments, network structures), and lines of inquiry focused on the social cohesion of specific types of groups (e.g., families, schools, military units, and sports teams). This review addresses the problem of integrating the individual and group levels at which social cohesion has been defined. It also develops a perspective on social cohesion as a domain of causally interrelated phenomena concerned with individuals' membership attitudes and behaviors, in which the major dimensions of social cohesion occupy different theoretical positions with respect to one another as antecedent, intervening, or outcome variables.

INTRODUCTION

Social cohesion has been an enduring subject of inquiry and review for both sociologists and psychologists (Albert 1953, Bettenhausen 1991, Carron 1982, Cartwright 1968, Doreian & Fararo 1998, Drescher et al. 1985, Evans & Jarvis 1980, Hogg 1992, Kellerman 1981, Levine & Moreland 1990, Lott & Lott 1965, McPherson & Smith-Lovin 2002, Mudrack 1989, Shaw 1981, Stein 1976). As sometimes happens with a topic that attracts a great deal of attention, the literature on social cohesion has become increasingly confused as the number of investigators who research it has increased. The main source of confusion is a proliferation of definitions of social cohesion that have proved difficult to combine or reconcile. Integrative efforts have organized the literature around different focal constructs so that what is taken as cohesion varies and what are taken as cohesion's antecedents and consequences also vary (Cartwright 1968, Hogg 1992, Lott & Lott 1965). Contemporary analyses of social cohesion treat it either as a multidimensional phenomenon or as a latent construct with multiple indicators (Bollen & Hoyle 1990, Drescher et al. 1985, Evans & Jarvis 1980, Hagstrom & Selvin 1965, Mudrack 1989, Piper et al. 1983). However, this contemporary multidimensional/multi-indicator approach to social cohesion does not address the

problem of integrating the individual and group levels at which social cohesion has been defined.

The definitional confusion in the social cohesion literature is symptomatic of the complexity involved in reciprocally linked individual-level and group-level phenomena. Elucidating the mechanisms involved in this linkage is a generic problem that has challenged sociologists and other social scientists in a variety of substantive domains (Coleman 1987). Standard contextual effects models, including hierarchal linear models, allow tests of hypotheses concerned with effects of group-level conditions on individual attitudes and behaviors, but these models do not address the micro-macro interaction in which individuals also affect group-level structures or aggregate conditions. Hence, some progress on a comprehensive theory of social cohesion might be obtained by elaborating the causal mechanisms in groups that reciprocally link individuals' attitudes and behaviors with the group-level conditions in which they are situated. Groups are cohesive when group-level conditions are producing positive membership attitudes and behaviors and when group members' interpersonal interactions are operating to maintain these group-level conditions. Thus, cohesive groups are self-maintaining with respect to the production of strong membership attractions and attachments.

The present analysis of the social cohesion literature is organized along the lines suggested by this micro-macro interaction. First, I describe the domain of individual membership attitudes and behaviors, on the basis of which some investigators have defined groups as more or less cohesive. Second, I describe the domain of group-level conditions, on the basis of which other investigators have defined groups as more or less cohesive. I develop the argument that these group-level conditions of cohesion are either derivative properties of the distribution of individual-level indicators of cohesion or causal antecedents of these indicators. Third, I point to recent work on mechanisms that reciprocally link the group-level conditions of cohesion and the individual-level indicators of cohesion.

Membership Attitudes and Behaviors

Individual-level indicators of social cohesion include: (*a*) individuals' membership attitudes (their desire or intention to remain in a group, their identification with or loyalty to a group, and other attitudes about the group or its members); and (*b*) individuals' membership behaviors (their decisions to sever, weaken, maintain, or strengthen their membership or participation in a group, their susceptibilities to interpersonal influence, and other behavioral indicators of commitment and attachment to the group). Without loss of generality, I ground the analysis of social cohesion on the explanation of these individual-level attitudes and behaviors because many of the aggregate manifestations of group cohesiveness (e.g., membership turnover rate, average level of group identification, the proportion of group members contributing to particular group tasks, extent of attitudinal consensus or behavioral uniformity) are properties of the distribution of individuals' membership attitudes and behaviors. Although different investigators have emphasized different individual-level indicators of cohesion, the theoretical proximities of the

various indicators are close in that they deal with aspects of a person's attraction or attachment to a group (Hogg 1992). Thus, they might be treated as multiple indicators of a single individual-level construct, as different dimensions (each with multiple indicators) on which social cohesion is manifested, or as causally related variables. An exclusive focus on any one of these indicators is too restrictive: groups may be cohesive in different ways and, within the same group, members may contribute to the cohesion of the group in different ways. A selective review is presented below of how individuals may be said to contribute to the social cohesion of their groups.

Classical Foundations of Research on Social Cohesion

Social psychological definitions of social cohesion have emphasized individuals' membership attitudes and behaviors. At first, the emphasis was on the duration of a person's membership. Moreno & Jennings (1937, p. 371) defined cohesion as "the forces holding the individuals within the groupings in which they are," and Festinger et al. (1950, p. 164) defined cohesion as "the total field of forces which act on members to remain in the group." Shifting emphasis from the causal mechanisms to the outcome variable, Festinger (1950, p. 274) described cohesion as "the *resultant* of all forces acting on the members of a group to remain in the group," as did Back (1951, p. 9), who stated that cohesiveness is "the resultant forces which are acting on the members to stay in a group" or, in other words, "the attraction of membership in a group for its members." This seminal focus on membership continuity and turnover remains salient in current work on social cohesion (McPherson & Smith-Lovin 2002). However, I want to draw the reader's attention to the classical idea that social cohesion is the causal system that determines individuals' membership attitudes and behaviors. Festinger's original insight probably should not have been abandoned, i.e., that social cohesion is the "field of forces" of conditions and their direct and indirect effects on persons' membership attitudes and behaviors, and I suggest that this perspective should be elaborated to include the mechanism by which group members shape the conditions of their environment.

The initial approach to social cohesion, in which the factor of membership duration was emphasized, was elaborated in two important respects. First, scholars recognized that the substantive focus on individuals' decisions to remain in or leave a group should be broadened to include their attitudes about their membership; in this elaborated approach "group membership" is an attitudinal "object" toward which each group member is positively or negatively oriented to some degree. Second, scholars recognized that a theory of social cohesion should be grounded on development of an account of individuals' membership attitudes and behaviors. Thus, Gross & Martin (1952) argued that the definition of cohesion should be based on individuals' attitudes about how attractive the group was to them personally because such attitudes are the proximate cause of persons' decisions to remain in or depart from a group. Libo (1953, p. 2) modified Festinger's definition of cohesion to focus on individuals' contributions to social cohesion more explicitly; that is,

cohesion was now defined as "the resultant of forces acting on *each member* to remain in the group."

The Differentiation and Disarray of Research on Social Cohesion

Since these early developments, the domain of individuals' membership attitudes and behaviors has been enlarged to include a variety of possible individual contributions to the social cohesion of a group. Measures of social cohesion now appear to encompass any attitude or behavior that could be construed as indicative of a person's attraction or attachment to a group (or social category) or to other members of a group. Factor-analytic studies have sought to reduce the multiplicity of available indicators of membership attractions and attachments to a small number of dimensions (Bollen & Hoyle 1990, Hagstrom & Selvin 1965, Piper et al. 1983, Smith et al. 1999). Although useful and important, this factor-analytic work is but an initial step in the exploration of the causal connections between the various membership attitudes and behaviors that have been emphasized in studies of social cohesion.

If some of the dimensions of social cohesion are causal antecedents or consequences of others, then they should be distinguished as such in a causal model and not lumped together as indicators of social cohesion. Both Cartwright (1968) and Lott & Lott (1965) sought to push the field in this direction. For example, Cartwright (1968, p. 91) wrote:

> The term group cohesiveness has come to have a central place in theories of group dynamics. Although different theorists attribute somewhat different conceptual properties to the term, most agree that group cohesiveness refers to the degree to which the members of a group desire to remain in the group. Thus, the members of a highly cohesive group, in contrast to one with a low level of cohesiveness, are more concerned with their membership and are therefore more strongly motivated to contribute to the group's welfare, to advance its objectives, and to participate in its activities.

Such a causal model can be elaborated so that it includes the effects of various membership attitudes on various membership behaviors, the antecedents of these attitudes, and the consequences of these behaviors. In such an elaborated causal system, group cohesion might be defined according to membership duration (Festinger et al. 1950, McPherson & Smith-Lovin 2002), or it might be defined according to one of the antecedent conditions that affect membership duration, such as a person's intention to remain in the group (Cartwright 1968), identification with the group (Hogg 1992), or interpersonal ties (Lott & Lott 1965). It might also be defined according to a consequence (different than membership duration) of these antecedent conditions, such as a person's susceptibility to the interpersonal influence of other members, participation in group activities, cooperativeness, or other contributions to the welfare of the group.

In fact, the theoretical location of social cohesion has "floated" among various interrelated constructs, creating tremendous confusion. It is little wonder that it has been difficult to integrate findings on the consequences and antecedents of a phenomenon that may be located in any of the constructs of a causal system. Terminological differences among investigators in how they label variables is more of a nuisance than a fundamental question of theory. It is not important if one investigator defines social cohesion according to membership duration and another defines it according to the desire to maintain membership. What is important is that both investigators agree that a causal relationship probably exists between the two variables. Investigators may define their variables in any way they want to; as long as their definitions are clear and their analysis is sound, we should not worry too much about whether they define a cohesive group in terms of one or another individual-level attitude or behavior. That being said, and given the amount of confusion that has developed in the literature on social cohesion, it might be helpful if investigators did not label any of their constructs as a measure of cohesion. The adoption of such a practice is also justified by the recognition that cohesion has multiple dimensions that are connected in a complex system of causal effects; hence, a causal model that involves two or more of these dimensions might be a contribution to a developing theory of social cohesion, although no single construct is labeled as *the* basis of social cohesion.

It is worth emphasizing that important research questions tend to be suppressed when different dimensions of social cohesion are treated as indicators of a unitary construct. Membership attitudes and behaviors may have different consequences and be differently affected by the same antecedent conditions, and it may be valuable to elucidate these different effects. A particularly important unresolved research question concerns the causal antecedents and consequences of groups and individuals as attitudinal "objects" of attachment and attraction. Persons have attitudes about specific other persons and their groups as units. For instance, along these lines, Parsons (1951, pp. 77–78) distinguished persons and groups as objects of loyalty:

> By extension of this conception of expressive loyalty between individual persons we derive the further important concept of the loyalty of the individual person to a collectivity of which he is a member. The collectivity may be treated as an object of attachment . . . not its members as individuals.

We might employ both types of attitudes as indicators of social cohesion, but then we would not be in a position to inquire into the origins and consequences of each type of attitude. Such an inquiry is worthwhile because we do not know which type of attitude is more consequential for particular behaviors, and we do not know whether person-group attachments derive from person-person attachments. There are opposing theoretical positions on this matter. On one hand, Allport (1962, pp. 23–24) argued that, "When the group dynamicist speaks of the 'attraction of the group for the individual' does he not mean just the attraction of the individuals for one another? If individuals are all drawn toward one another, are they not *ipso facto*

drawn to the group?'' On the other hand, Hogg (1992) argued that attachments to a group cannot be reduced to interpersonal attachments. His argument, which I detail later, is based on evidence that persons may identify with social categories that are "minimal groups" without any interpersonal relationships among their members. Clearly, an important research question is suppressed when social cohesion is conceptualized as a construct with multiple indicators that include both individuals' attitudes about the group and about other individuals as "objects" of attachment and attraction.

Distributions of Membership Attitudes and Behaviors

Grounding the analysis of social cohesion on the explanation of individual membership attitudes and behaviors is consistent with the development of indexes of the overall condition of a group that are based on the distribution of these attitudes and behaviors. Without individual membership attitudes and behaviors there would be no distribution of particular attitudes and behaviors, and there would be no properties of the distribution in terms of which a group might be described as more or less cohesive.

Scholars have employed both the mean and the variance of individuals' membership attitudes and behaviors to measure group cohesiveness. The central tendency of distributions of individuals' membership attitudes and behaviors has been a widely used indicator of cohesion. For example, Libo (1953) described the cohesion of a group by summing the members' reported levels of attraction to the group. Similarly, Israel (1956, p. 25) defined cohesion as "the attractiveness of the group, which is the pooled effect or the average of the individual members' attraction-to-group. . .or their wish to remain in the group." Other aggregate measures include the membership turnover rate, the rate of absenteeism, and the proportion of members who participate in particular group activities. Scholars have also argued that a cohesive group is one in which there is a uniformly high positive level of individual membership attitudes and behaviors. Hence, Deutsch (1954) and Israel (1956) argue that the variance of persons' attraction-to-group scores should be taken into account as well as their mean score, and Van Bergen & Koekebakker (1959, p. 85) suggested that "the essence of cohesiveness . . . should be related to the degree of unification of the group field." Interpersonal disagreement and behavioral discord among group members may reduce their attraction to the group. Thus, the degree of attitudinal consensus or behavioral uniformity in a group have been employed by scholars as measures of group cohesion.

Attitudinal consensus and behavioral uniformity are special cases of distributions of attitudes and behaviors that have zero variance. Such distributions may be explained in terms of causal mechanisms that are affecting individuals' membership attitudes and behaviors. Assuming that social homogeneity is not mainly the result of membership selection (McPherson & Smith-Lovin 2002), endogenous mechanisms of interpersonal influence are probably involved in producing attitudinal consensus and behavioral uniformity (Abelson 1964; Friedkin & Johnsen

1990, 1999; Latané 1990). These endogenous mechanisms may produce attitudinal agreement and behavioral concordance via sequences of interpersonal interactions in which members' attitudes and behaviors are influenced by the attitudes and behaviors of one or more other members. The production of social homogeneity from endogenous interpersonal influences requires pathways of interpersonal influence among group members, as well as group members who are susceptible to such influences. For instance, an influence network in which interpersonal influence may flow directly or indirectly between all pairs of members will produce a near consensus if all members are sufficiently open to such influences.

Thus, it is not surprising that both the structural features of a group's social network and group members' susceptibilities to endogenous interpersonal influence have figured prominently in the literature on social cohesion. I describe the work on these structural features, and their effects on persons' susceptibilities, in the next section. There are, however, many nonstructural conditions that also affect members' susceptibilities to interpersonal influence. Interestingly, positive membership attitudes and behaviors are among the known determinants of persons' susceptibilities to influence (Back 1951, Berkowitz 1954, Festinger et al. 1950, Gerard 1954, Latané 1981, Lott & Lott 1961). For instance, Gerard (1954, p. 314) observed:

> It has been shown that the more attracted an individual is to a group, the more concerned will he be with the opinions of other members about issues which are important to that group and the more subject to modification will be his opinions about these issues. That is to say, the more attracted an individual is to a group, the more acceptable will be evidence offered by other group members. Since what other members do affects his opinions, we may say that his opinions are "anchored" in that group.

Obviously, this effect of membership attitudes and behaviors on individual susceptibilities to endogenous interpersonal influences does not suffice to explain the formation and maintenance of homogeneous membership attitudes and behaviors, unless these membership attitudes and behaviors are being affected by the interpersonal influences they are fostering. There may be such a reciprocal reinforcing effect.

ANTECEDENTS OF MEMBERSHIP ATTITUDES AND BEHAVIORS

Other reviews of the social cohesion literature have described various conditions that affect individuals' membership attitudes and behaviors (Cartwright 1968, Hogg 1992, Lott & Lott 1965). Given the disarrayed state of work on social cohesion, another inventory of antecedent conditions is less important than is an attempt to develop a critical perspective on these explanatory efforts. In general terms, the task appears straightforward: construct an account of individuals'

membership attitudes and behaviors. However, as I have noted, a degree of theoretical confusion surrounds this task because social cohesion has also been defined in terms of group-level variables that affect individuals' membership attitudes and behaviors. I have argued that we should discard the idea that group-level conditions indicate social cohesion and instead treat these conditions as antecedents of particular individual membership attitudes and behaviors. With respect to group-level conditions, the adoption of such a practice is also justified by the recognition that it may be misleading to define cohesion in terms of a particular group-level condition unless it is a sufficient condition of a positive individual membership attitude or behavior. Certain group-level conditions may contribute to positive membership attitudes and behaviors but, unless positive individual attitudes and behaviors are actually present (i.e., resultant) in a group, one cannot characterize the group as cohesive. Any particular group-level condition is likely to be part of a larger set of antecedent conditions, one or more of which may have important countervailing effects on individuals' membership attitudes and behaviors.

I concentrate my analysis of the antecedents of social cohesion on structural conditions of the social networks among group members (e.g., the pattern, strength, and number of interpersonal ties among group members) because sociologists have widely employed these structural conditions as indicators of cohesive groups. Hogg's (1992) review of the social psychological literature on group cohesion does not address the considerable body of sociological work that has dealt with structural bases of group cohesion; this sociological work, with its emphasis on the social network basis of social cohesion, is quite different from the social identity or self-categorization basis that Hogg hypothesizes. In the next two sections, I describe the various structural features of groups that scholars have proposed as indicators of social cohesion, and I recast the conceptualization of these features more clearly in terms of antecedent conditions of individuals' membership attitudes and behaviors. Finally, I contrast the mechanism involved in this network approach with the mechanism advanced by the self-categorization approach.

The Density of Positive Interpersonal Ties in a Group

If there is a beating heart in the field of group dynamics it is nurtured by the idea that positive interpersonal interactions are at the foundation of social processes. For example, Laumann (1973, pp. 111) noted:

> Intimate face-to-face interaction, whether in dyadic or larger group relationships, has long been recognized to be of crucial importance in the formation of an individual's basic personality or self-conception ..., the development and maintenance of myriad attitudes towards the world, the determination and social control of "appropriate behavior"..., and the maintenance of a "motivational commitment to participate".... Indeed, the intimate face-to-face group is often held to form the critical "primary environment" by which an individual is related to the larger society ....

Thus, many investigators have emphasized the extent of positive interpersonal ties among persons as a basis of social cohesion (Cartwright 1968, Gross & Martin 1952, Lott & Lott 1965). Moreno & Jennings (1937) argued that social cohesion is indicated by the number of mutual dyadic ties within the group. Festinger et al. (1950), along with many others (e.g., Frank 1996, Frank & Yasumoto 1998), have treated the density (or relative density) of interpersonal relations in a group as a group-level measure or basis of cohesion:

> The courts and buildings in Westgate and Westgate West were mainly social groups. The attractiveness of the group may, therefore, be measured by the friendships formed within the group. If residents had most of their friends within the court, the group was more attractive to them than if they had few friends within the court. The former situation will imply a more cohesive court which should be able to induce stronger forces on its members (Festinger et al. 1950, p. 91).

Along the same lines, Gross & Martin (1952, pp. 553–54) defined cohesiveness as "the resistance of a group to disruptive forces" and proposed that such cohesiveness is associated with the strength of the relational bonds among group members. Similarly, Lott (1961, p. 279) defined cohesion as "that group property which is inferred from the number and strength of mutual positive attitudes among the members of a group." Lott & Lott (1965, p. 282) noted that "if we define the cohesiveness of small groups in terms of the positive judgments which members make of one another, then a great deal is known about the conditions under which cohesiveness is likely to develop."

The Pattern of Positive Interpersonal Ties in a Group

Many investigators have argued that cohesive groups contain certain patterns of positive interpersonal ties among their members. The classic definition of a cohesive group as a clique—that is, as a network in which all possible interpersonal ties are present (Luce & Perry 1949)—was immediately recognized as too restrictive, and scholars have proposed a variety of alternatives (Alba 1973; Alba & Kadushin 1976; Borgatti et al. 1990; Frank 1996; French 1956; Friedkin 1984, 1998; Luce 1950; Markovsky 1998; Markovsky & Lawler 1994; Mokken 1979; Moody & White 2003; Seidman 1980; Seidman & Foster 1978). These social network definitions of cohesiveness have been used to locate cohesive subgroups within a group, to describe the cohesiveness of a group, and to describe the variation among individuals in their embeddedness in cohesive parts of the group's social network.

Social cohesion does not require small networks, high density networks, or networks based on strong interpersonal ties, such as friendships. A large, complexly differentiated group, with members connected directly or indirectly (through intermediaries) by paths of positive (weak or strong) interpersonal ties, may be cohesive if the group's social network has particular structural characteristics (Doreian &

Fararo 1998, Friedkin 1998, Granovetter 1973). Thus, theoretical advances in social network analysis have put some flesh on the fundamental insight of Durkheim (1933) that social integration is consistent with social differentiation. Social network structures may enable the production of consensus and the coordination of behaviors (i.e., the coherence and solidarity of attitude and behavior) in both small undifferentiated groups and large complexly differentiated groups. I point to some of these enabling mechanisms in the next section.

Social Networks, Attitudes, and Behaviors

Hagstrom & Selvins (1965, p. 39) observed that "groups in which a large proportion of members are mutual friends are not necessarily groups which are highly attractive to members," and they also pointed out that "groups may be attractive without having intimate interpersonal ties binding members together." Along the same lines, Cartwright (1968) noted that a stable group membership may be coerced, which raises the possibility that a group may endure without any attraction-to-group or positive interpersonal ties among members. These and other special cases are not inconsistent with effects on individuals' membership attitudes and behaviors of the network of positive interpersonal ties in a group.

Many of the important rewards and punishments that people experience are products of interpersonal interactions with fellow group members and group leaders, or are attributable to the decisions or influences of specific people rather than the group as a collective actor. Rewards strengthen the interpersonal relationship for both the rewarder and the rewarded, and punishments weaken the relationship for both the punisher and the punished (Homans 1961, Lott & Lott 1965, Newcomb 1956, Thibaut & Kelley 1959). The interpersonal attachments that are shaped by these rewards and punishments are, in turn, an important foundation of the network of interpersonal influences that shape individuals' attitudes and behaviors (Friedkin 1993, 1998). Depending on the issue, these interpersonal influences may be limited to a small subset of the group's members (e.g., a focal person who is confronted with a personal issue and one or more other persons with whom he or she seeks advice), or they may involve a larger fraction of the membership. On highly visible and broadly engaging matters (e.g., leadership elections, crises, significant policy changes, or moral issues), most of the group members and many of their potential lines of interpersonal influence may be activated. Individuals' membership attitudes and behaviors also are subject to these interpersonal influences. For example, interpersonal influences may be brought to bear on a member who is deciding whether to remain in or leave the group. They may also affect members' attitudes about the attractiveness of the group as a unit and their normative orientations toward group membership, e.g., their views on appropriate levels and forms of contribution to the welfare of the group (Hechter 1987).

In the absence of interpersonal influences, individuals' attitudes are likely to be in disagreement and their behaviors to be uncoordinated. Interpersonal agreements and coordinated behaviors are rarely an automatic result of internalized norms;

instead, they must be continually produced (usually with much effort) through interpersonal interactions. For this reason, "social pressures toward uniformity" have been viewed as fundamental in theories of group dynamics. Interpersonal influences not only help to produce homogenous or coordinated membership attitudes and behaviors, but they also help to resolve the day-to-day disagreements, small and large, that arise in social groups. Moreover, the interpersonal influences that are based on positive interpersonal attachments are unlikely to result in a negative consensus in which group members agree that the group is unattractive, that it warrants no further (or only low levels) of individual contributions or commitment, and that it should be disbanded. Such a negative consensus is unlikely in the presence of positive interpersonal attachments because such attachments are the product of rewarding interactions and, in turn, such rewards should sustain positive membership attitudes and behaviors. If all rewarding interactions ceased, then the positive interpersonal relationships among the group members should weaken and a negative consensus on group membership should emerge.

There appears to be an important linkage between persons' positions in a network of positive interpersonal interactions and their satisfaction with group processes (Shaw 1981) and attraction to the group (Lawler et al. 2000; Lawler & Yoon 1993, 1996, 1998; Markovsky & Lawler 1994). A high density of positive interpersonal attachments indicates that people are involved, on average, in rewarding relationships with a large fraction of group members. In low density networks a person is tied, on average, to a small fraction of group members, but all these ties may be rewarding, and the many absent ties may not indicate negative (punishing) relationships. Positive interpersonal interactions are likely to be reified as a positive attraction to the group as a unit. With the reification of the group, an individual transfers the source of his or her rewards from the specific individuals who have provided them to the group as a unit, thus producing a positive attraction-to-group. In the same way, punishing interactions among group members, especially between members who control unequal amounts of resources, will produce negative interpersonal and person-group relations, with the latter relation again being the result of the reification of the group as collective actor.

This relational approach to individuals' membership attitudes and behaviors suggests that changes in the rewards and punishments received by a person from significant others in the group may change the person's attraction-to-group from negative to positive, or vice versa; whether such individual change can be produced remains to be demonstrated. It is also unclear whether a person's attraction-to-group is determined by network density (the fraction of members with whom a person has positive ties) or by the bundle of positive ties with which each person is involved. The composition of a person's bundle of ties may also have more important effects on his/her attraction-to-group than the general density of ties in the group. For instance, ties to members who control especially valued resources may be more important in determining the valence of a person's attraction-to-group than are ties to members who do not control such resources. It is also unclear whether members' attraction-to-group affects conflict resolution and consensus production.

As I noted earlier, some work suggests that attraction-to-group affects susceptibility to interpersonal influence, but there is also work that suggests that susceptibility is affected by persons' network positions (Berkowitz 1954, Burt 1992, Festinger et al. 1950, Friedkin 1998, Laumann 1973). Hence, the association between persons' positive attraction-to-group and susceptibility to interpersonal influence may be the spurious result of the effect of persons' social network positions on both variables.

The Self-Categorization Theory Challenge

Recently, self-categorization theorists have developed a social cognition viewpoint on social cohesion in which social networks play no part. This viewpoint has been laid out most comprehensively by Hogg (1992). Hogg argues that social cohesion arises when individuals' identify themselves as members of a particular group and not as members of other groups. An in-group identification triggers a de-individuated state in which group members reference their attitudes and behaviors to the prototypical norms that are most characteristic of the in-group and uncharacteristic of the out-groups. What is prototypical and what is not is implicit in the distribution of attitudes and behaviors of persons in a particular situation and, therefore, these norms arise automatically. Hogg argues that in-group prototypes are self-enhancing relative to out-groups whose members are usually characterized by negative stereotypes, and he suggests that such self-enhancement (i.e., a positive in-group prototype) is a fundamental human response to situations in which persons identify themselves as belonging to particular groups and not to others. He assumes that group members bring their attitudes and behaviors into conformity with their in-group prototypes and, thus, generate the positive attitudinal consensus and behavioral uniformity that are indicative of cohesive groups. Hogg develops this theory as a counterpoint to approaches that have emphasized interpersonal interactions as sources of social cohesion. Interpersonal interactions are not theoretically central in the mechanism that Hogg describes. Hogg also argues that this mechanism operates at the group level and that it is nonreductionist because the prototypes to which group members are conforming are group-level phenomena that are determined by the distribution of individuals' attitudes and behaviors.

An observation of some forms of social homogeneity in "minimal groups" where interpersonal interactions are absent does not imply that interpersonal interactions are irrelevant in producing the attitudinal consensus and behavioral uniformity that appears in more complex groups where interpersonal interactions are present. The fundamental problem of social order and the central implication of persons' bounded rationality is that two or more persons cannot be relied upon to respond similarly to any stimulus in the absence of prior socialization or training; therefore, it is unclear how a prototype (or any shared attitude or behavior) could emerge reliably from independent individual responses to a complex intergroup setting. Interpersonal interaction has been at the foundation of most theories of group dynamics because such interaction is one of the main ways in which people deal with individual differences and influence each others' attitudes and behaviors in order to reach agreement and coordinate behavior. It is unclear how the findings on "minimal groups" bear on our understanding of how group members resolve

interpersonal disagreement and coordinate work on complex tasks. No doubt some identification-with-group does occur in "minimal groups," but it does not follow from such an observation that individuals' membership attitudes and behaviors are independent of interpersonal interactions.

ANTECEDENTS OF SOCIAL NETWORK STRUCTURE

Groups are often self-sustaining with respect to conditions that produce positive membership attitudes and behaviors. Groups are cohesive when they possess group-level structural conditions that produce positive membership attitudes and behaviors and when group members' interpersonal interactions maintain these group-level structural conditions. Many people understand the importance of retaining valued members, enlisting members' contributions to group activities and tasks, reducing the number of negative and increasing the number of positive relationships between members, resolving disruptive disagreements, achieving consensus, and encouraging a positive view of the group as a social unit. Because many people understand (or believe) that such things are important, they often act intentionally to bring them about. Social networks are formed in part from these intentional efforts to create and maintain various forms of social cohesion.

There are, of course, a host of conditions that affect the number, pattern, strength, and valence of interpersonal relationships in social groups, including physical propinquity (Festinger et al. 1950, Lott & Lott 1965), social distance (Blau 1977, McPherson & Smith-Lovin 2002), interpersonal balance (Cartwright & Harary 1956, Davis 1970, Johnsen 1985), interpersonal agreement (Lott & Lott 1965, Newcomb 1961), and resource inequality (Emerson 1962, French & Raven 1959, Thibaut & Kelley 1959). During the past decade, there has been a dramatic increase in research on how social networks are formed and change (e.g., Arrow 1997, Carley 1991, Doreian & Stokman 1997, Fararo & Skvoretz 1986, Friedkin & Johnsen 2003, Lazer 2001, Stokman & Berveling 1998). This rapidly developing line of inquiry on network formation and change will eventually elucidate the mechanisms in groups that reciprocally link individuals' membership attitudes and behaviors with some of the important structural conditions that affect these attitudes and behaviors. When it does so, it will substantially advance the classical sociological agenda of fostering the proliferation of noncoercive self-maintaining processes of social control (Janowitz 1975).

CONCLUSION

Social cohesion may be viewed as a domain of causally interrelated phenomena, as a "field of forces" or, in more modern language, as a class of causal models, in which some of the major dimensions of social cohesion occupy different theoretical positions with respect to one another as antecedent, intervening, or outcome variables. In this view, theories of social cohesion deal with the social processes

that link micro- and macro-level phenomena and affect individuals' membership attitudes and behaviors. I urge a deconstruction of the various definitions of social cohesion so that we might focus on the concrete constructs that are involved in these definitions and explore the causal interrelationships among these constructs. Working with these concretized constructs, rather than with measures of social cohesion, will allow us to advance the seminal program of research that was initiated by Festinger and his colleagues (1950) with a new "toolkit" of advanced methods of causal modeling and network analysis, and a more coherent theory of social cohesion is likely to emerge. The theoretical elaboration of a class of causal models concerned with individuals' membership attitudes and behaviors must grapple with three difficult and important challenges.

First, theories of social cohesion should be grounded on the explanation of individuals' group membership attitudes and behaviors, but they must also account for the distribution of members' attitudes and behaviors in a group. This will require the employment of models in which the standard assumptions of independence are relaxed and the forms of interdependence among individuals are specified. Theories of social cohesion may never be fully developed if they focus on the explanation of the independent responses of persons to particular conditions and do not describe how group members interact and influence each others' membership attitudes and behaviors.

Second, research on social networks should begin to specify more clearly the social processes in networks that are affecting individuals' attitudes and behaviors. It does not suffice to assert that certain network structures foster cohesion in the absence of an explicit model of the social processes that link the network structure to individual outcomes, because similar network structures may have dramatically different implications for individual outcomes depending on the social process that is occurring. The idea that effects of structure exist, independent of social process, must be abandoned if we are to develop a compelling theory of social network effects. The specification of the social processes in networks that affect individuals' membership attitudes and behaviors is of tremendous importance in advancing research on social cohesion phenomena.

Third, theories of social cohesion should be elaborated until they also can account for the group-level conditions that are most consequential in determining individuals' membership attitudes and behaviors. With respect to social network structures, the development of a theory of social cohesion should not ignore the effects on network structures of interpersonal disagreements and the loss or addition of members. Such theoretical elaboration is a crucial step toward a better understanding of the self-regulating processes that allow some social groups to maintain high levels of social cohesion under adverse and changing circumstances.

ACKNOWLEDGMENTS

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Volume 30, 2004

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