

CCO Judge's Mar. 4 2003

Understanding Our Differences: Performance in Decision-Making Groups with Diverse Members

Martha L. Maznevski^{1,2}

The purpose of this article is to develop a model to explain performance in decision-making groups characterized by high diversity in composition. It begins with a brief discussion on the nature and effects of diversity. Previous research on group performance is then reviewed with the general conclusion that diverse groups perform less well than homogeneous ones do. This conclusion is challenged by closely examining a small group of studies specifically researching the effects of diversity, and it is shown that diversity can enhance a group's performance if it is integrated. Communication is proposed as an integrating mechanism, and a theory of communication in terms of preconditions is described. This theory is then used to develop propositions concerning the relationships among diversity, integration, and performance in decision-making groups. Implications for research and practice are discussed.

KEY WORDS: groups; performance; diversity; integration; communication.

INTRODUCTION

Organizations are vehicles for cooperative effort. Their essence is to coordinate diverse contributions and accomplish a goal that could not have been achieved by any of the contributors working alone. The management of such diversity has received considerable attention recently for two important reasons. First, the types and degree of diversity in organizations have increased greatly to a point where their effects cannot be ignored. Second, at the same time, the need for integration of diversity, for example in decision-making teams, has never been greater. Escalating complexity requiring increased knowledge and skill specialization, international move-

¹School of Business Administration, The University of Western Ontario, London, Ontario, N6A 3K7 Canada.

²Requests for reprints should be addressed to Martha L. Maznevski, Western Business School, The University of Western Ontario, London, Ontario, N6A 3K7 Canada.

ment of human resources, and equity legislation have all played a role in increasing diversity. On the other hand, globalization of business and a remarkably heightened pace of competition have led to the need for high levels of integration. Management techniques developed with workforces relatively homogeneous in gender, nationality, ethnicity, skill, and knowledge often do not achieve positive results with the diversity of today's workforce in the complexity of today's environment.

Unfortunately, in practice diverse decision-making groups typically have not achieved their potential. The interaction problems associated with diversity often lead to lower performance than if the group had had fewer resources. The solution has generally been to avoid using diverse groups whenever possible; however, because of the trends outlined above, this alternative is no longer feasible. Managers cannot allow the diversity to hinder performance, and furthermore they should be able to use diversity to enhance performance. In developing a theory to understand and predict performance in decision-making groups with diverse members, this paper takes four steps. It begins with a brief discussion on the nature and potential benefits of diversity. Next, the literature on group performance is reviewed, with particular emphasis on research related to diversity and homogeneity of composition. The third section is devoted to model development and reinterpretation of group research within the framework of the new theory. Finally, implications of the theory for research and management are addressed.

DIVERSITY IN DECISION-MAKING GROUPS

Any group of people can be described by its diversity. An athletic team, a school debating team, a manufacturing team, and a strategic development team are all composed of individuals who differ on at least some dimensions. The diversity becomes salient only when it contributes to or detracts from the group's ability to achieve its goals. The countless potential sources of member diversity can be divided into two basic types.

The first is role-related diversity and includes occupation, organizational position, specialized knowledge and skills, and family role. Diversity along these dimensions is obvious and well-accepted. In organizational decision-making teams, role-related diversity is often deliberate. For example, a new product development team may include marketing specialists, design and process engineers, finance officers, and so on. By definition, roles are assigned to and accepted by individuals in a complementary way: the role of mother does not exist without the role of child, supervisor without subordinate, or marketer without producer. Roles and the behaviors, values, and attitudes associated with them are publicly acknowledged. In fact, they

could not achieve their purpose of organizing society and making it predictable if they were not public. Furthermore, people play many roles simultaneously and change roles several times over their careers and lives. As a result of these conditions, although conflicts among those in different roles are common, they are well-accepted and members of different roles can generally recognize that the other's viewpoint is legitimate or valuable.

The second type of diversity is along dimensions inherent in the person (at least by adulthood) and for most practical purposes cannot be changed. This category includes age, gender, nationality, cultural values, information processing style, and personality. Diversity along these dimensions is not necessarily public or obvious. Furthermore, since the dimensions are inherent, their effects are difficult for people to understand and accept. Someone who has always had a high need for achievement, for example, may not understand or even know that not everyone has the same drive to achieve moderately difficult goals (McClelland, 1985). Conflicts among people diverse on inherent dimensions are difficult for the parties to understand, and often remain unresolved.

Role-related and inherent dimensions of diversity are often related. People similar on age, personality, and information processing style may choose similar occupations and move through an organization in parallel, resulting in similarity on role-related dimensions. Until recently, it would be relatively safe to assume that these organizational members would be similar on many inherent dimensions, as well, such as gender, nationality, and cultural values. However, with increased international movement of human resources, entrance of women into the workforce, and equity legislation in many countries, diversity on inherent dimensions within organizations is increasing at a rapid rate. We are learning that role-related and inherent dimensions of diversity such as gender and culture are not necessarily related.

Two advantages of diverse composition in decision-making groups have been identified: specific and general (Ling, 1990). When a task requires more knowledge and/or skills than can be found in one individual, the group can be composed of individuals whose specific contributions complement each other. In this way, the group ensures that it has "covered" all areas important for achieving its goals. Specific advantages derive from role-related diversity. An engineer is included on a new product team for her knowledge of applied science, a graphic artist for his knowledge of design principles.

General advantages are those gained simply by having diversity in the group. With more ways of viewing a situation there is a greater potential for having among members the right solution or process (if there is one) or at least the ability to create the best one possible. General advantages

derive both from role-related and inherent sources of diversity. People in different roles notice different information and perceive the same information differently; this is also true for people who differ on gender, culture, personality, and so on.

A more detailed examination of diversity on two dimensions should help to clarify its effects: gender and culture. When a team is composed of both women and men, specific benefits include knowledge of how the different genders would respond to changes in organizational policies such as flextime and parental leaves. In this case, women and men are assigned to the team to represent their respective genders. Their gender is made public and legitimized as a source of information for making the decisions. In effect, gender becomes a role-related source of diversity. In terms of general benefits, research has demonstrated that women and men bring different perspectives to the group, and the general benefit of combining these ideas can lead to better performance (Dyson et al., 1976; Hoffman & Maier, 1961; Ruhe, 1978).

Cultural diversity also offers benefits. Specific benefits are evident when an international team is assembled to implement a project in the respective members' countries. For example, members of an international emergency food program implementation team would include people from the donating countries, receiving countries, and countries that would be involved in the transportation. The specific knowledge that team members have of their own countries would aid delivery of the emergency supplies. Again, the inherent dimension of nationality is legitimized as a source of information and thus becomes a role-related source of diversity. General benefits also accrue from cultural diversity. Research has shown that multicultural groups develop more and better alternatives to a problem and criteria for evaluating those alternatives than do culturally homogeneous groups (McLeod & Lobe, 1992). Furthermore, multicultural groups have been shown to be more creative than homogeneous groups (Ling, 1990).

Diversity is inevitable in organizational decision-making groups. Role-related diversity is deliberate, and inherent diversity is becoming more and more common. Diversity among organizational members attracted focused attention only recently, however, when global business and social trends resulted in an increased need to manage it productively. With this in mind, past literature on group performance can be investigated for recommendations on managing these groups.

LESSONS FROM THE LITERATURE

Research on group performance has been accumulating for decades. While there are disputes on many of the details, several general conclusions

on the characteristics of a productive decision-making group can be drawn. This overview is synthesized from discussions by Hackman (1987), Hare (1976), Jewell and Reitz (1981), McGrath (1984), Rush et al. (1988), and Watson and Michaelson (1988). A basic model of group performance is shown in Fig. 1.

In terms of composition, members of successful groups must have the skills, resources, and motivation necessary to contribute to the task. These characteristics, like the types of diversity, can be both inherent and role-related. Furthermore, productive groups have leaders who motivate members and facilitate task accomplishment. Members believe that everyone in the group has unique, important information to share and will contribute enthusiastically to the task, and the groups generally are cohesive and have high morale.

Several interaction processes of productive groups have also been identified. According to previous research, these groups operate with clear, performance-oriented goals to which all members are committed, an appropriate task strategy, and a clear set of rules that is suitable to the task and is enforced. High-performing groups utilize members' strengths well by having wide participation, good coordination, adequate control over members' behaviors, and flexibility. There is fairly high tolerance for inter-member conflict. Explicit communication feedback channels are developed to ensure that information is understood. Finally, members of productive

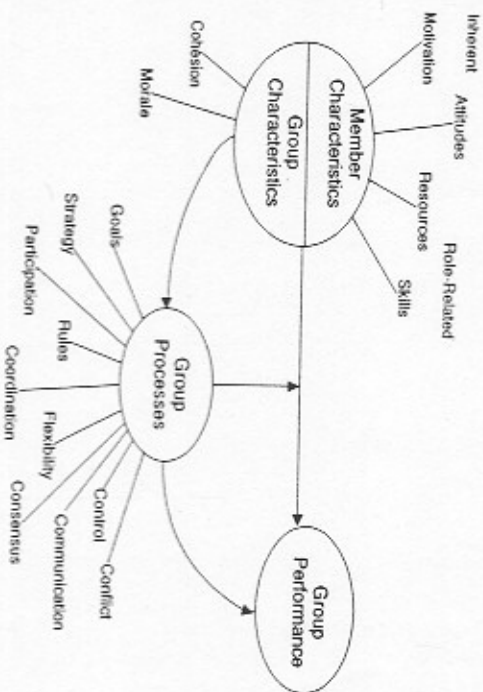


Fig. 1. Basic model of group performance (see text for details).

groups make decisions through consensus, rather than through some voting procedure.

While this brief summary covers the literature's broad conclusions, the detailed research is studied with caveats. One is particularly germane here. For decision-making tasks, diversity in membership—both inherent and role-related—is desirable for increasing the number of solutions offered and alternatives considered. However, diversity presents great obstacles to smooth interaction processes, more often than not resulting in decreased performance (Adler, 1991; Fiedler & Meuwese, 1963; Hackman & Morris, 1975; Hoffman, 1965, 1979; Jewell & Reitz, 1981; Levine & Moreland, 1990; Ling, 1990; Rigby, 1987; Shepherd, 1978; Wanous & Youtz, 1986).

Again, the examples of gender and culture diversity can demonstrate the barriers raised by heterogeneous composition. While mixed-sex groups have the potential to perform better than same-sex groups (Shaw, 1981), men and women interact differently and often these differences pose barriers for effective group interaction. Men's interaction tends to be more task oriented, while women's tends to be more socially oriented (Aries, 1976; Johnson, 1989; Kramarae, 1990; Maltz & Borker, 1982; Tannen, 1990). Women often feel intimidated and uncomfortable in groups with men, and are thus less willing to offer ideas; on the other hand, men are often impatient with women's reluctance to get on with the job and do not interact effectively (Tannen, 1990). As a result, while mixed-sex groups *can* outperform same-sex groups, many research studies have found the opposite result (e.g., Kent & McGrath, 1969; Clement & Schiereck, 1973; Kanter, 1977).

Studies on group interaction in multicultural groups show that these teams have the potential to perform well: they generate alternatives and criteria for evaluating the alternatives better than homogeneous groups do. However, in past research multicultural groups generally have not performed better than homogeneous ones on final solutions (Ruhe & Allen, 1977; Kumar et al., 1991). Furthermore, they consistently score lower on most process measures than do culturally homogeneous groups (Kumar et al., 1991; Kirchmeyer & Cohen, 1992). Interpretation of these results suggests that the cultural diversity poses such barriers to effective interaction that performance is hindered.

Overall, the research seems to recommend as little diversity as possible in decision-making teams. This advice is extremely discouraging for managers, especially when factors such as equity laws and a need for specialized knowledge make it impossible to follow. Surely there must be some way to realize the potential diversity offers?

A few studies conducted over the past three decades suggest that diversity can be managed productively (Abramson, 1992; Anderson, 1983;

Crossan, 1991; Fiedler, 1966; Hoffman, 1959; Hoffman & Maier, 1961; Kovach, cited in Adler, 1991; Kumar et al., 1991; Mitchell, 1986; Triandis et al., 1965; Walsh et al., 1988). A close examination of this group of studies reveals that the common element in high performing groups with high member diversity is integration of that diversity. In all of these studies, diversity led to higher performance only when members were able to understand each other, combine, and build on each others' ideas. For example, in Hoffman's (1959) and Hoffman and Maier's (1961) studies, homogeneity in abilities provided an integrating factor that encouraged members diverse in attitudes to respect each other and work together. Abramson (1992) found that companies with management teams high on both diversity and integration measures had the best performance in new market entries. Other studies report parallel findings for diversity on attitude, culture, information-processing, and organizational function dimensions.

This small group of studies provides some hope for managers of diversity. It suggests that while interaction processes are important in all groups (Hackman & Morris, 1975; Lanzetta & Roby, 1960; McGrath, 1984; Watson & Michaelsen, 1988), they are especially critical for integrating diverse viewpoints in teams with heterogeneous composition. Once the diversity is integrated, diverse groups can achieve their potential (Hurst et al., 1989). Two propositions can be derived directly from this review of research on groups and diversity:

Proposition 1. Other things being equal, groups with high integration perform better than groups with low integration on complex decision-making tasks.

Proposition 2. The relationship between diversity and performance is moderated by integration such that: (a) groups with high diversity and high integration perform better than groups with low diversity, but (b) groups with high diversity and low integration perform worse than groups with low diversity.

Given these conclusions, the next vital step in managing diversity is understanding how to improve integration in these groups.

THE INTEGRATING MECHANISM OF COMMUNICATION

Integration is a combining of elements into a unified result. When the integrated product is something greater than the sum of its parts, it can be considered synergistic. The notion of synergy is critical for management teams. By integrating the diverse strengths of the various people on

a team, solutions and strategies can be developed that produce greater results than the simple addition of each contribution alone.

The process of integration itself, although so vital to the performance of diverse management teams, has not yet been the focus of group research. Perhaps this is because the prescription of using homogeneous groups has been relatively simple to follow until recently. Homogeneity itself can be considered an integrating mechanism, since people similar on several dimensions have fewer unique perspectives to integrate and have more similar behavioral norms for integrating them. When the majority of groups do not have problems with integration, other issues, such as motivation and task strategies, become more important. The inevitability of diversity has only recently become apparent, and simultaneously the synergistic potential of diversity has been recognized. To enable management teams to use their diversity productively, it is crucial that integration now be examined closely.

Many group interaction processes associated with high performance facilitate integration. For example, equal participation encourages all members to share their views. Superordinate cooperative goals, as opposed to competitive ones, also encourage integration and combination of ideas. Appropriate rules, control, and conflict management could serve to ensure that people's views are elicited and combined in a relatively objective way. The list of potential facilitators is lengthy, and is filled with conditions and contingencies. For example, a rule or type of control appropriate for one task, environment or group of people may be inappropriate for another. One process, however, is an absolute prerequisite for integration: effective communication. The successful transmission of meaning *as it was intended* from each person to the others in the group is essential for any integration to take place. Unless group members are aware of and understand the different elements they have, they cannot combine the elements effectively.

Proposition 3. Other things being equal, the more effective the communication is in a group, the more the members' ideas will be integrated in the final decision.

The process of effective communication for the purposes of integration is the focus of the theory development here.

A Theory of Communication in Terms of Preconditions

There are many theories that provide insight into communication processes in groups. The one to be adapted here was developed by Blakar (1980, 1984, 1985) in the field of clinical psychology to understand communication problems of families with a schizophrenic member. Given the

proliferation of communication theories, it is hardly justifiable to develop a new one; instead, bridging and building upon existing theories is more appropriate. Given this initial assumption, Blakar's theory was adapted for three reasons: it embodies an interactionist perspective; it is neither too broad nor too narrow; and, it highlights the effects of member diversity.

The symbolic interactionist paradigm assumes that perspectives on reality are negotiated, as are roles and norms for behavior (Blumer, 1969; Charon, 1989). The interactionist perspective is appropriate for the phenomena being examined here: it underscores the fact that synergistic solutions to decision-making problems are developed and negotiated in an ongoing process rather than discovered in the air or developed through simple combination of individual thoughts. Consistent with this perspective, the theory of communication in terms of preconditions emphasizes negotiating and constructing a shared view of reality and the communication process.

The mid-range level of theory represented in the theory of communication in terms of preconditions is ideal for examining diversity in decision-making groups. Broad-range, macro theories of communication explain the process as involving a source, message, encoder, channel, decoder, and receiver (e.g., Berlo, 1960). The source composes a message, encodes it into speech or some other form, sends the message across a channel such as airwaves or electronic mail to a receiver, who decodes the message into symbolic form meaningful to him- or herself. Like other broad-range theories, though (such as the overall model of group performance in Fig. 1), variations on the theme are infinite and the theories as a whole are not useful for identifying and describing important elements of specific situations.

On the other hand, there are many narrow-range theories that describe communication in situations with diversity, such as specific cultural interactions (North Americans with others; e.g., Gudykunst & Ting-Toomey, 1988; Porter & Samovar, 1988; Sarbaugh, 1988; Imahori & Lanigan, 1989; Martin & Hammer, 1989; Wiseman et al., 1989), gender (men and women in North America; e.g., Aries, 1987; Maltz & Borker, 1982; Pruett, 1989; Tannen, 1990; Spitzberg & Brunner, 1989), and perspectives (e.g., interpersonal gap; Wallen, 1973). Blakar's empirical work is at this specific level, but his theory development began at the middle-range. While focused theories successfully explain the situations they are intended to describe, they do not help us understand how these situations are similar to or different from other situations where diversity is salient. The prescriptions made from these theories apply only to the populations studied and could actually hinder communication in other situations. For example, Wallen, who addresses a Western (presumably North American) audience, suggests that gaps between intentions and actual results in interpersonal relationships be reduced through open discussions of feelings, including negative emotions.

In cultures where face-saving is valued, such as Japan, expressing negative emotions or open criticisms towards the receiver is not appropriate. This behavior would not enhance cross-cultural communication between a North American and a Japanese.

Narrowly-focused theories are appropriate within their intended boundaries. A middle-range theory, though, with its broader level of abstraction, can be adapted and applied to many specific instances and therefore helps us perceive both commonalities and differences across these instances.

Finally, important elements of the context in which Blakar developed his approach—families with a psychopathic member—bear striking parallels to the situation of diversity in decision-making groups. As in these groups, the difficulties addressed with Blakar's subjects concern the transmission of meaning among people who have very different ways of viewing the world. The communication problems considered adversely influence relationships, people's abilities to function cooperatively, and adaptability to a changing environment. In addition, Blakar's perspective does not assign "blame" for communication problems to the schizophrenic (diverse) member of the interaction but instead concentrates on dysfunctions in the process itself, contributed to by all members. This approach acknowledges the potential contributions from all parties and thus provides a productive approach for handling communication problems in diverse groups.

In conclusion, Blakar's theory of communication in terms of preconditions is ideal for adaptation to the present situation. Its basic assumptions provide insight into group functioning, its mid-range level of abstraction allows it to be applied productively to different situations, and it emphasizes the effects of member diversity. We will now turn to a description of the communication theory.

To begin his research, Blakar posed the following question:

What are the prerequisites for (successful) communication, i.e., under what conditions will somebody succeed (to a reasonable degree) in making something known to somebody else? (1985, p. 25).

Blakar defines communication as follows:

... an act of communication is social and directional (from a sender to a receiver) . . . [the] sender has an intention to make something known to the (particular) receiver. [Communication is] defined as a (sender's) intentional act to make something (the message) known to another (the receiver) (1984, p. 33).

Blakar's definition, like the theory, is practical and identifies the elements important to members of decision-making groups: individuals (senders) who have information (messages) to contribute (intention) to the rest of the team (receivers). Communication is identified as primarily a social process.

ess. The unit of analysis is the interpersonal exchange, in effect excluding from this theory one-way lectures and other non-interpersonal communication. This emphasis corresponds to the significance of interaction processes in the group performance literature.

Preconditions

Blakar argues that a theory of communication should involve the specification of situational, individual, and relational preconditions. He and his associates have examined five preconditions in detail and postulated a sixth (Blakar, 1980, 1984, 1985).

Shared Social Reality (Situational). This is the most basic precondition. Participants must have a common "here-and-now" within which exchange of messages can take place, including a shared language base and perspective. In their research, Blakar and his associates test this condition by having pairs of participants describe routes on maps to each other without being able to see each other's map. The manipulation is that the two participants have slightly different maps, and communication breaks down (and must be restored) whenever the participants proceed on the assumption that they share a common reality. There is some uncertainty about *how* much reality must be shared for communication to be effective. At one extreme, if participants have identical perspectives there is nothing to communicate (perhaps this is perfect communication); at the other, participants' views of the world may be so different they have no shared basis upon which to build. Nevertheless, it can be postulated that, overall, effective communication is more difficult the more different participants' views of reality are.

Ability to Decenter (Individual). Decentering is conceived as the opposite of egocentrism in developmental psychology. It involves taking the perspective of the other into account. An important aspect of decentering is empathy, or the ability to understand another's affect. However, decentering as a social skill involves also the ability to put oneself in the other's cognitive position (Redmond 1989, 1992). Decentering is manifested in communication by encoding a message in terms the other will understand, and decoding a message within the framework of the sender's encoding.

Motivation to Communicate (Individual). Unlike the other five preconditions, this one has not been explicitly tested. It has been assumed that if the motivation is not present, communication is not likely to be effective. Motivation to communicate is distinct from motivation to integrate. The two types of motivation may be associated, but it is possible to

want to exchange views with someone without wanting to combine elements into a unified whole.

Ability to Negotiate and Endorse Contracts of Behavior (Relational). Since interpersonal communication is an interactive behavior, there must be some agreement among participants about how the interaction will take place. Contracts must be negotiated, for example, on the topic of conversation, the perspective taken, and the roles of the sender and receiver. The interaction process itself must also be negotiated. Norms of participation, selection of a leader, conflict management mechanisms, and so on must all be agreed upon. This negotiation-endorsement process often takes place implicitly. Participants enter a group equipped with a repertoire of norms learned in similar situations. If this repertoire is common to all members, the negotiation process is simple and virtually automatic (Bettenhausen & Murnighan, 1985). Blakar has found, though, that if the norms are not similar and a common set of norms is not explicitly negotiated, then achieving effective communication is unlikely.

Ability to Attribute Difficulties Appropriately (Relational). Communication is not always successful; that is, the other five preconditions are not always met. In this case, communication must be reestablished by identifying the problem accurately and solving it. Both recognition of a problem and appropriate attribution of its causes can be very controversial. In Blakar's research program it has been found that communication is more effective when difficulties are attributed to elements of the situation (e.g., "It's difficult when we can't look at the map together") rather than to other participants (e.g., "You're not trying").

This finding is supported by attribution theory, which explains how we attribute causes of our own and others' behavior. Whether we attribute a problem to ourselves or to some other factor is important since it will influence how we behave in the future in order to solve or avoid such problems. Attribution theory predicts that we tend to blame problems we experience on elements in the situation (including other participants) rather than on ourselves. When we attribute problems to others we attribute them to the person rather than to the "external" situation. In communication exchanges, then, a person will tend to blame problems on the other's lack of motivation, intelligence, etc., leading in turn to a decrease in the first person's own motivation and confidence (see next section). Effective communication is less likely in this situation. Attribution theory, then, suggests that participants must strive not to ascribe difficulties to others' personal qualities without considering other options seriously.

Confidence (Relational). The final precondition is that participants are confident that they share enough reality to communicate, and have confidence

in their own and each others' ability to decenter, endorse contracts, and attribute difficulties appropriately.

Conclusion

The theory of communication in terms of preconditions has been under development for two decades and has been well-supported (Blakar 1980, 1984, 1985; Blakar & Valdimarsdottir, 1981; Kale & Sönmez, 1990; Blakar et al., 1978; Hulberg et al., 1978; Mossige et al., 1979; Wilkran et al., 1978; Stokstad et al., 1976). The mid-range nature of the theory, its practical orientation on processes and negotiation of norms, and its demonstrated internal validity make Blakar's theory ideal for adaptation into organizational research. The fourth proposition follows directly from the theory of communication in terms of preconditions:

Proposition 4. The more the communication preconditions are fulfilled, the more effective communication will be (i.e., the more likely that messages will be transmitted and received as intended).

Diversity and Communication

The relationship between member diversity and the group's ability to communicate effectively constitutes the final link in this theory development. Many of the factors associated with diversity (gender, culture, age, etc.) influence the six variables identified as communication preconditions, leading to Proposition 5:

Proposition 5. Diversity in member composition is associated with differences in initial norms for communication preconditions.

For three of the preconditions—motivation, ability to decenter, and confidence in ability to communicate—simple directional hypotheses can be made: the more each person in the interaction has of these characteristics, the more likely communication will be effective. If the salient type of distance communication with these preconditions, increased diversity could enhance communication by including someone who is more motivated, a better decenterer, or has more confidence than other group members, or could hinder communication by including someone with the opposite qualities.

Proposition 5a. Other things being equal, increased diversity in member composition will increase communication effectiveness if the addition

of diversity raises the group's overall level of motivation, ability to decenter, or confidence in ability to communicate.

Of a more complex nature are the situational and relational preconditions: having a shared social reality, negotiating norms for interaction, and attributing difficulties appropriately. As stated previously, which particular shared reality or norms are negotiated does not matter as long as there is agreement, and attributing difficulties appropriately depends on what kind of difficulties arise. Both one's initial view of the world and the norms a person brings to an interaction situation are influenced by the person's background, that is, by the same factors that differentiate people (gender, culture, age, etc.). How that same person attributes communication difficulties will depend at least in part on how he or she views the world and what he or she expects as norms for interaction. Many views of reality and norms for communication may be brought to a group marked by diversity, making the negotiation of a common framework difficult:

Proposition 5b. Other things being equal, the greater the diversity in a group, the larger the differences in initial views of reality and norms for communication, and the less successful the group will be at fulfilling the preconditions of shared social reality, negotiating norms, and attributing difficulties appropriately.

The five propositions are summarized in Fig. 2. According to the model developed here, it is the potential incongruity inherent in propositions two and five (b) that leads to the dilemma of managing groups with high member diversity. Diverse groups have more viewpoints at their dis-

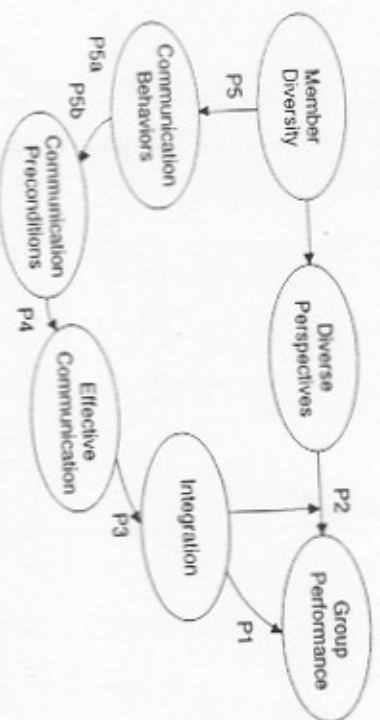


Fig. 2. Summary of propositions concerning diversity, communication, integration, and performance in decision-making groups.

posal, and thus have higher potential for performance, than homogeneous ones do. But diversity on any dimension that influences communication behaviors will result in differences in group members' initial norms for the preconditions. These behavioral differences will lead to greater difficulty fulfilling many of the communication preconditions, and, following the relationships in the model, less effective communication, lower integration, and lower performance.

Two brief examples will help to illustrate this dilemma.³ In the first, two town councillors, a man (Steve) and a woman (Shawna) discuss the re-zoning of some town land from residential use to commercial.

- Steve: The town needs more tax revenue, and we don't need this land for houses, so I don't see any reason why it shouldn't be re-zoned.
- Shawna: Yes.
- Steve: Besides, the company that wants to build here could bring more jobs. They're talking about putting their head office here, and that would put our town on the map.
- Shawna: Yes. What about the nearby residents? Shouldn't we . . .
- Steve: Oh yeah, they'd love it! When this town gets booming, think how their property value will go up! And lots of them could get great jobs close to home.
- Shawna: Perhaps some of them won't want it. A lot of people moved here so they wouldn't be in a big city. They may not want the town to get any bigger than it is. I think there may be some opposition.
- Steve: Sure, but once they hear what the re-zoning could do for us, they'll support it. Let's write up the recommendation.

In this situation, Steve portrays a *view of reality* typical for men: he is results-oriented and status is important to him. Shawna, on the other hand, wants to explore the issue and consider the feelings of others. This is a typical *view of reality* of women (Aries, 1987; Kramarae, 1990; Johnson, 1989; Maltz & Borker, 1982). Shawna, like many women, tries to see the new from others' perspectives: she is likely to be good at *decentering* (Aries, 1987). Two examples of conflicting *norms of communication* can be seen in this conversation (Aries, 1987; Maltz & Borker, 1982; Pruett, 1989; Spitzberg & Brunner, 1989). The first is the use of the simple word "yes": women tend to use "yes" to signal comprehension, while men use it to signal agreement. As a result, Steve is likely to think that Shawna agrees with him even though she may not. If Steve rarely agrees with Shawna, that is, if he rarely says "yes" after her statements, Shawna is likely to think he is not listening or does not understand what she is saying. The second norm illustrated is Steve's interrupting Shawna. This is perfectly acceptable

³The and the following conversation were constructed to demonstrate gender and cultural differences in perspectives and communication behaviors. They have been fictionalized in order to demonstrate many concepts in a short space, but have been constructed to adhere strictly to research and examples in these fields as cited in the analyses.

in men's conversation, which tends to be results-driven, but not in women's conversation, which tends to encourage listening to others. Of course, if the outcome of the conversation (the recommendation and its passage through council) does not go as either anticipated, Shawna and Steve will *attribute communication difficulties* to different things.

If Steve and Shawna can overcome their communication difficulties, they will be able to understand each other's views of reality and build a common one that integrates both perspectives. This is likely to be a better solution than either would develop alone: for example, the solution may convince the company to come to the town without re-zoning residential land. Unfortunately, research evidence shows that the barriers to communication due to gender diversity are unlikely to be overcome without intervention.

In the second case, low staff motivation and low commitment to quality is causing product quality problems in a Canadian manufacturing plant. The manager, John, is discussing the problem in a group with two other employees: Fahad, who is from Saudi Arabia, and Shirlee, who is Native Ojibway.

- John: We just have to make people understand. We've got to do whatever it takes to change them. Where do you think we should start?
- Fahad: What do you mean? We can't change them. People are who they are and we can't change whether or not they will work.
- John: Of course we can. We just figure out what they want and what will make them work, and we provide it for them, as long as they do the work. It's pretty scientific, really.
- Fahad: The workers may begin to take more care with their work, but it will be because they were going to change anyway. We'd be better putting our effort in other areas.
- John: Oh come on, this is *important*. If we can improve product quality, we'll have better sales and more profits and we'll all be better off, right?
- Fahad: Whatever will happen, will happen.
- John: Hey, Shirlee, we need your input, too. What do you think?
- Shirlee: Maybe we could get together with the workers and find a way to get everything to work together again.

Cultures differ on several dimensions, including individualism, uncertainty avoidance, power distance, and masculinity (Hofstede, 1984), and orientation to other people, activity, time, and nature, and assumptions about the nature of humans (Kluckhohn & Strodtbeck, 1961). The three cultures represented here—Canadian of Western European descent, Saudi Arabian, and Native Ojibway—differ in their orientation to nature (Adler, 1991; Lane & DiStefano, 1992). John believes humans are masters over nature, that it is humans' purpose to change things in the world (including other humans) to their own purposes. Fahad, on the other hand, believes that humans are subjugated to nature and it is their duty to work within that

framework. Finally, Shirlee's culture has a harmony orientation to nature: she believes that humans' purpose is to work together with the natural world (including other humans) to maintain a balance.

These cultural differences influence the participants' *view of reality*. John wants to change people, Fahad wants to let the problem solve itself if it was meant to, and Shirlee wants everyone to work together to restore harmony. Fahad is likely to be less *motivated* to discuss this topic than the others, and in fact seems to give up with his last statement. Furthermore, Fahad is probably not very *confident* that the group can overcome any communication problems they may have. *Communication norms* differ here, too. John jumps in to contribute whenever he has something to say (the problem must be conquered by whatever means), and expects others to do so, too. Shirlee, on the other hand, is unlikely to want to upset the flow of the conversation and does not speak until spoken to. If asked, Shirlee would probably favour norms with equal participation since all views should be considered. Obviously, the three employees would *attribute* the group's *communication difficulties* to different things: John to Fahad and Shirlee's unwillingness to tackle the problem, Fahad to John's unwillingness to trust in the natural unfolding of things, and Shirlee to the two men's unwillingness to restore harmony.

Like the discussion between Shawna and Steve, this organization's problem could probably best be solved by the three perspectives being integrated and built upon. Perhaps the group could realize that some things can't be changed, and they could work with the employees to change the organizational environment as a whole to change other aspects of the problem. The cultural diversity provides more perspectives for solving the problem, but poses barriers to being able to integrate the perspectives. If this group is like most others studied, the solution they develop will be worse than one developed by members from only one culture alone. As previous research and the above conversations show, integrating processes in groups are critical to realizing the potential offered by our diverse society.

IMPLICATIONS FOR RESEARCH AND PRACTICE

The theoretical model developed here draws from approaches in group research, communications theory, clinical psychology, organizational behavior, and diversity research. In a truly multidisciplinary manner, it integrates these approaches to develop a comprehensive explanation of performance in decision-making groups with diverse members. The conceptual model thus stands as a solid foundation from which to build empirical work examining this phenomenon, the results of which will strengthen and undoubtedly refine our understanding of the relationships.

To test the contextual boundaries of the theory, the relationships should be studied in groups with different types of inherent and role-related diversity. For each type of diversity, specific hypotheses can be made by predicting the effect of the diverse characteristics on perspectives and on communication behavior. Hypotheses can be tested by observing the relationships between the type and extent of diversity and communication behaviors, communication effectiveness, and quality of output on a complex, ambiguous decision-making task.

One important goal of this work is to assist those working in groups to use their membership more productively. Due to the demographic and environmental trends of increased diversity and complexity, workshops on managing diversity have sprung up in many consulting firms and organizations. Unfortunately, those who plan these workshops have little guidance from social science research on how to design the training. The theory developed here provides a substantial base for developing these interventions. The framework suggests that members of decision-making groups should strive to improve their communication effectiveness by endeavoring to satisfy the communication preconditions. The conceptual model provides group members with information necessary to diagnose communication difficulties and with knowledge necessary to solve them. The framework does not give managers a list of specific behaviors that will lead to performance—in fact, the application of the framework to a specific group situation depends in part on the type of diversity—but it is more widely applicable than such lists.

In an intervention based on the theory, group members would be made aware of the communication process and the preconditions and of the role of communication in group performance. As well, group members would be provided with specific information on the effects of the type(s) of diversity relevant to their own situation. Next, the groups would observe applicable models of interaction to identify and understand effective and ineffective communication behaviors—those that do and do not facilitate fulfilling the communication preconditions—for diverse groups. This could be accomplished by having them observe other groups similar to their own, their own pre-recorded action, or professionally-prepared videos showing interaction in groups with a similar type of diversity. The groups can then proceed to practice appropriate behaviors. They could role play structured situations designed to emphasize the various communication preconditions. During this phase group members would identify patterns of interaction specific to the group and the situation that facilitate communication. Interventions such as this would have a better theoretical grounding than many interventions being conducted today, and should result in better performance in decision-making groups, especially those with high diversity.

CONCLUSION

Understanding our differences is not a new dilemma. Inability to comprehend the way others see reality has presented us with serious challenges since prehistoric times. Our response to these conflicts is often either isolation or open hostility, but the negative consequences of these solutions are now being felt acutely, both in organizations and in larger, more complex environments. The aim of this research is to help people in organizations not only cope with one aspect of their environment but also to use it productively. Understanding our differences is the first step to managing them synergistically.

ACKNOWLEDGMENTS

The author gratefully acknowledges comments and suggestions from colleagues at the University of Western Ontario, two anonymous reviewers, and especially Professor J. J. DiStefano.

REFERENCES

- ABRAMSON, N. Factors influencing the Entry of Canadian Software Manufacturers into the United States Market. Unpublished doctoral dissertation, The University of Western Ontario, 1992.
- ADLER, N. J. *International dimensions of organizational behavior* (2nd ed.). Boston: PWS-Kent Publishing Company, 1991.
- ANDERSON, L. R. Managing of the mixed-cultural work group. *Organization Behavior and Human Performance*, 1983, 31, 303-330.
- ARIES, E. Gender and communication. In P. Shaver and C. Hendrick (Eds.), *Sex and gender*. Beverly Hills: Sage Publications, 1987, pp. 149-176.
- ARIES, E. Interaction patterns and themes of male, female, and mixed groups. *Small Group Behavior*, 1976, 7, 7-18.
- BERLO, D. K. *The process of communication: An introduction to theory and practice*. New York: Holt, Rinehart and Wilson, 1960.
- BETTENHAUSEN, K., & MURNIGHAN, J. K. The emergence of norms in competitive decision-making groups. *Administrative Science Quarterly*, 1985, 30(3), 350-372.
- BLAKAR, R. M. *Studies of familial communication and psychopathology: A social-developmental approach to deviant behavior*. Oslo: Universitetsforlaget, 1980.
- BLAKAR, R. M. *Communication: A social perspective on clinical issues*. Oslo: Universitetsforlaget, 1984.
- BLAKAR, R. M. Towards a theory of communication in terms of preconditions: A conceptual framework and some empirical explorations. In H. Giles and R. N. St. Clair (Eds.), *Recent advances in language, communication, and social psychology*. London: Lawrence Erlbaum Associates, 1985.
- BLAKAR, R. M., & VALDIMARSDOTTIR, A. Schizophrenia and communication efficiency: A series of studies taking ecological variation into consideration. *Psychiatry and Social Science*, 1981, 43-52.
- BLAKAR, R. M., PAULSEN, O. G., & SOLVBERG, H. A. Schizophrenia and communication efficiency: A modified replication taking ecological variation into consideration. *Acta Psychol. Scand.*, 1978, 58, 315-326.

- BLUMER, H. *Symbolic interactionism: Perspective and method*. Englewood Cliffs, NJ: Prentice Hall, 1969.
- CHARON, J. M. *Symbolic interactionism* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall, 1989.
- CLEMENT, D. E., & SCHIERECK, J. J., Jr. Sex composition and group performance in a visual signal detection task. *Memory and Cognition*, 1973, 1, 251-255.
- CROSSAN, M. M. *Organizational Learning: A Sociocognitive Model of Strategic Management*. Unpublished doctoral dissertation, The University of Western Ontario, 1991.
- DYSON, J. W., GODWIN, P. H. B., & HAZLEWOOD, L. A. Group composition, leadership orientation, and decision outcomes. *Small Group Behavior*, 1976, 7, 114-128.
- FIEDLER, F. E. The effect of leadership and cultural heterogeneity on group performance: A test of the contingency model. *Journal of Experimental Social Psychology*, 1966, 2, 237-264.
- FIEDLER, F. E., & MEUWESSE, W. A. T. Leader's contribution to task performance in cohesive and uncohesive groups. *Journal of Abnormal and Social Psychology*, 1963, 67, 83-87.
- GUDYKUNST, W. B., TING-TOOMEY, S., & CHUA, E. *Culture and interpersonal communication*. Newbury Park: Sage, 1988.
- HACKMAN, J. R. The design of work teams. In J. W. Lorsch (Ed.), *Handbook of organizational behavior*. New York: Prentice-Hall, 1987, pp. 315-341.
- HACKMAN, J. R., & MORRIS, C. G. Group tasks, group interaction process, and group performance effectiveness: A review and proposed integration. *Advances in Experimental Psychology*, 1975, 8, 45-99.
- HARE, A. P. *Handbook of small group research* (2nd ed.). New York: The Free Press, 1974.
- HOFFMAN, L. R. Homogeneity of member personality and its effect on group problem-solving. *Journal of Abnormal and Social Psychology*, 1959, 60(1), 27-32.
- HOFFMAN, L. R. Group problem solving. *Advances in Experimental Social Psychology*, 1965, 2, 99-132.
- HOFFMAN, L. R. Applying experimental research on group problem solving to organizations. *Journal of Applied Behavioral Science*, 1979, pp. 375-391.
- HOFFMAN, L. R., & MAIER, N. R. F. Quality and acceptance of problem solutions by members of homogeneous and heterogeneous groups. *Journal of Abnormal and Social Psychology*, 1961, 62(2), 401-407.
- HOFSTEDE, G. *Culture's consequences: International differences in work-related values* (Abridged ed.). Newbury Park: Sage, 1984.
- HURST, D. K., RUSH, J. C., & WHITE, R. E. Top management teams and organizational renewal. *Strategic Management Journal*, 1989, 10 (Special issue), 87-105.
- IMAHORI, T. T., & LANIGAN, M. L. Relational model of intercultural communication competence. *International Journal of Intercultural Relations*, 1989, 13, 269-286.
- JEWELL, L. N., & REITZ, H. J. *Group effectiveness in organizations*. Glenview, IL: Scott, Foresman & Company, 1981.
- JOHNSON, F. L. Women's culture and communication: An analytical perspective. In C. M. Lort and S. A. Friedley (Eds.), *Beyond boundaries: Sex and gender diversity in communication*. Fairfax, VA: George Mason University Press, 1989, pp. 301-316.
- KALE, E., & SONMEZ, N. Schizophrenia and Communication Efficiency: A Study Taking Ecological Variation into Consideration. A Replication of Nordic Studies in Turkey. Unpublished dissertation, Institute of Psychology, University of Oslo, 1990.
- KANTER, R. M. Some effects of proportions on group life: Skewed sex ratios and response to token women. *American Journal of Sociology*, 1977, 82, 965-990.
- KELLEY, H. H. Attribution in social interaction. In Jones, E. E., Kanouse, D. E., Kelley, H. H., Nisbett, R. E., Valins, S., and Weiner, B. (Eds.), *Attribution: Perceiving the cause of behavior*. Morristown, NJ: General Learning Press, 1972, pp. 1-26.
- KENT, R. N., & MCGRATH, J. E. Task and group characteristics as factors influencing group performance. *Journal of Experimental Social Psychology*, 1969, 5, 429-440.
- KIRCHMEYER, C., & COHEN, A. Multicultural groups: Their performance and reaction with constructive conflict. *Group and Organization Management*, 1992, 17(2), 151-170.
- KLUCKHOHN, F. R., & STRODTBECK, F. L. *Variations in value orientations*. Evanston, IL: Row, Peterson & company, 1961.
- KRAMARAE, C. Changing the complexion of gender in language research. In H. Giles and W. P. Robinson (Eds.), *Handbook of language and social psychology*. New York: John Wiley & Sons Ltd, 1990, pp. 345-361.
- KUMAR, K., SUBRAMANIAN, R., & NONIS, S. A. Cultural diversity's impact on group processes and performance: Comparing culturally homogeneous and culturally diverse work groups engaged in problem solving tasks. *Southern Management Association Proceedings*, 1991.
- LANE, H. W., & DISTEFANO, J. J. *International management behavior* (2nd ed.). Boston: PWS-Kent Publishing Company, 1992.
- LANZETTA, J. T., & ROBY, T. B. The relationship between certain group process variables and group problem-solving efficiency. *Journal of Social Psychology*, 1960, 52, 135-148.
- LEVINE, J. M., & MORELAND, R. L. Progress in small group research. *Annual Review of Psychology*, 1990, 41, 585-634.
- LING, S. C. The Effects of Group Cultural Composition and Cultural Attitudes on Performance. Unpublished doctoral dissertation, The University of Western Ontario, 1990.
- MALITZ, D. N., & BORKER, R. A. A cultural approach to male-female miscommunication. In J. J. Gumperz (Ed.), *Language and social identity*. Cambridge: Cambridge University Press, 1982, pp. 196-216.
- MARTIN, J. N., & HAMMER, M. R. Behavioral categories of intercultural communication competence: Everyday communicators' perceptions. *International Journal of Intercultural Relations*, 1989, 13(3), 303-332.
- MCLELLAND, D. C. *Human motivation*. Glenview, IL: Scott, Foresman, 1985.
- MCGRATH, J. E. *Groups: Interaction and performance*. Englewood Cliffs, NJ: Prentice-Hall, 1984.
- MCLEOD, P. L., & LOBE, S. A. The effects of ethnic diversity on idea generation in small groups. *Academy of Management Annual Meeting Best Papers Proceedings*, 1992, pp. 227-231.
- MITCHELL, R. Team building by disclosure of internal frames of reference. *Journal of Applied Behavioral Science*, 1986, 22(1), 15-28.
- MOSSIGE, S., PETERSEN, R. B., & BLAKAR, R. M. Egocentrism and inefficiency in the communication of families containing schizophrenic members. *Family Process*, 1979, 18, 405-425.
- PORTER, R. E., & SAMOVAR, L. A. Approaching intercultural communication. In L. A. Samovar and R. E. Porter (Eds.), *Intercultural communication: A reader* (5th ed.). Belmont, CA: Wadsworth, 1988, pp. 15-30.
- RUETT, B. M. Male and female communicator style differences: A meta analysis. In C. M. Lort and S. A. Friedley (Eds.), *Beyond boundaries: Sex and gender diversity in communication*. Fairfax, VA: George Mason University Press, 1989, pp. 107-120.
- REDMOND, M. V. The functions of empathy (decentering) in human relations. *Human Relations*, 1989, 42, 593-605.
- REDMOND, M. V. A Multi-Dimensional Theory and Measure of Social Decentering. Unpublished document, 1992.
- REGEY, J. M. The challenge of multinational team development. *Journal of Management Development*, 1987, 6(3), 65-72.
- RIHE, J. A. Effect of leader sex and leader behavior on group problem-solving. *Proceedings of the American Institute for Decision Sciences, Northeast Division*, 1978, 123-127.
- RIHE, J. A., & ALLEN, W. R. Differences and similarities between black and white leaders. *Proceedings of the American Institute for Decision Sciences, Northeast Division*, 1977, 30-35.
- RISH, J. C., DISTEFANO, J. J., GANDZ, J., & LANE, H. W. *Effective managerial action: Cases in organizational behavior*. Scarborough, Canada: Prentice-Hall, 1988.
- SARBAUGH, L. E. *Intercultural communication* (Revised ed.). New Brunswick, NJ: Transaction Books, 1988.
- SHAW, M. E. *Group dynamics: The psychology of small group behavior*. 1981.

- SHEPHERD, C. Some challenges for future group research: Reflections on the experience in sociology. In R. T. Golembiewsky (Ed.), *The small group in political science: The last two decades of development*. Athens, GA: The University of Georgia Press, 1978, pp. 505-519.
- SPIETZBERG, B. H., & BRUNNER, C. C. Sex, instrumentality, expressiveness and interpersonal communication competence. In C. M. Lort and S. A. Friedley (Eds.), *Beyond boundaries: Sex and gender diversity in communication*. Fairfax, VA: George Mason University Press, 1989, pp. 121-137.
- STOKSTAD, S. J., LAGERLOV, T., & BLAKAR, R. M. Anxiety, rigidity, and communication: An experimental approach. In R. Rommveit and R. M. Blakar (Eds.), *Studies of language, thought and verbal communication*. London: Academic Press, 1976.
- TANNEN, D. *You just don't understand: Women and men in conversation*. New York: William Morrow and Company, 1990.
- TRIANDIS, H., HALL, E. T., & EWAN, R. Member heterogeneity and dyadic creativity. *Human Relations*, 1965, 18, 33-55.
- WALLEEN, J. L. Developing effective interpersonal communication. In R. W. Pace, B. D. Peterson, and T. R. Radcliffe (Eds.), *Communicating interpersonally: A reader*. Columbus, Ohio: Charles E. Merrill Publishing Company, 1973, pp. 218-233.
- WALSH, J. P., HENDERSON, C. M., & DEIGHTON, J. Negotiated belief structures and decision performance: An empirical investigation. *Organizational Behavior and Human Decision Processes*, 1988, 42, 194-216.
- WANOUS, J. P., & YOUTZ, M. A. Solution diversity and the quality of group decisions. *Academy of Management Journal*, 1986, 29(1), 149-159.
- WATSON, W. E., & MICHAELSEN, L. K. Group interaction behaviors that affect group performance on an intellectual task. *Group and Organization Studies*, 1988, 13(4), 495-516.
- WIKRAN, R. J., FALEIDE, A., & BLAKAR, R. M. Communication in the family of the asthmatic child: An experimental approach. *Acta Psychiatrica Scandinavica*, 1978, 57, 11-26.
- WISEMAN, R. L., HAMMER, M. R., & NISHIDA, H. Predictors of intercultural communication competence. *International Journal of Intercultural Relations*, 1989, 13(3), 349-370.

BIOGRAPHICAL NOTE

MARTHA MAZNEVSKI is a PhD candidate in Organizational Behavior at the Western Business School, University of Western Ontario. Her dissertation examines cross-cultural communication and integration in multicultural management teams. Other research interests include managerial cognition, organizational learning, and international organizational behavior and human resources.

Self-Organization in Small Groups: A Study of Group Effectiveness Within Non-Equilibrium Conditions

Charles Smith^{1,2} and Debra Comer¹

Disipative self-organization, a theoretical framework with roots in physics and biochemistry, has often been proposed as having relevance to change in social systems. Specifically, the processes and design features associated with dissipative self-organization have been used to describe the dynamics of social groups and organizations, especially in cases where highly turbulent and/or near-chaos conditions are present. A study assessing the usefulness of the self-organization paradigm as applied to the small group is described herein. The study took place within the context of a Tavistock-like group intervention, wherein the necessary condition for self-organization, a situation of turbulence, was induced through experimental groups. Based upon an approach suggested by Ackoff (1981), the general self-organization model served as a hypothetical idealized design of a self-organizing task group. A quasi-experimental design provided a test of whether the presence of self-organizing characteristics made any difference in group effectiveness among experimental groups and in a comparison condition where turbulence was not induced. The study provided preliminary support for the usefulness of the paradigm in understanding small group dynamics within the turbulent or non-equilibrium conditions. Specifically, task effectiveness within the experimental condition was found to correlate significantly with the degree to which groups developed the properties or design features specified by the self-organization paradigm. Consistent with the model, fewer significant relationships were found within the comparison condition between effectiveness and the presence of self-organization design features.

KEY WORDS: self-organization; group effectiveness; group dynamics; social system change.

INTRODUCTION

The dissipative self-organization paradigm first appeared within physics and biochemistry, in the research of Prigogine (Nichols & Prigogine, 1977).

¹Department of Management, Hofstra University, Hempstead, New York 11550.

²Requests for reprints should be addressed to Charles Smith, Department of Management, Hofstra University, Hempstead, New York 11550.