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A STUDY OF COHESION AND INVOLVEMENT
AS A FUNCTION OF TASK GROUP FORMATION

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George Stanley Cole, Jr.

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of the requirements for

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A STUDY OF COHESION AND INVOLVEMENT AS A FUNCTION OF TASK GROUP FORMATION

By

George Stanley Cole, Jr.

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ABSTRACT

A STUDY OF COHESION AND INVOLVEMENT
AS A FUNCTION OF TASK GROUP FORMATION

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Groups were studied toward determining if either the output of a group or the attitudes of a group's members varied in relation to the introductory information exchange format utilized by the group. The introductory interactions of a group are too often taken for granted, if not ignored, in group research situations. The introductory interactions, however, may affect the division of labor process in task groups.

Two prescriptive formats, in addition to a control situation, constituted three treatment conditions which were utilized in a study of graduate students, working in groups, on a business simulation exercise known as the Executive Game. Over a period of eight weeks, information was elicited from the subjects with the use of questionnaires containing both involvement and cohesion scales. The treatments were attempted during the first decision-making meeting of the groups. In addition to group member responses to the attitude scales, comparisons were made

on the basis of a group's ranking, relative to other groups in its industry, as a result of its rate-of-return on beginning owner's equity.

No significant differences were found between the treatment groups, resulting in the conclusion that variations in the introductory format used by group members will not affect either their group's output or their levels of both involvement and cohesion. The treatments may not have taken effect, however, if subjects tended to exchange more information than was prescribed by the treatment instructions. More study is needed of introductory interaction formats as used by group members. Several questions are presented as a result of the findings.

The cohesion and involvement scales while of an acceptable level of reliability, were found to be correlative to a noteable extent. An explanation is derived from the literature. Both those factors which underlie the conceptualizations of cohesion and involvement and those factors which underlie each of the scales must be better understood than they are at present. A need for further study arises as a result of the findings.

To both my mother and my late father,

believers in learning.

ACKNOWLEDGMENTS

One cannot expect to arrive at the end of a long journey without having received guidance from many persons. One of the best ways of thanking those who have helped is to stand willing to help those who follow, offering guidance as needed. So be it.

My family, as always, has been a source of strength and inspiration. Special notice is due my wife Lorna, a wonderful partner, whether the path be rough or smooth. Ariel, our one-year old daughter, has been especially helpful in providing me with a perspective. My tasks haven't seemed difficult at all when I compare them to hers; having learned to walk, she's now studying the linguistic situation.

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LIST OF ABBREVIATIONS AND NOMENCLATURE

df	Degrees of Freedom
Game	The Executive Game
grp.	Groups
MANOVA	Multiple Analysis of Variance
MBA	Master of Business Administration
n	Number of Subjects
ROR	Rate-of-Return

CHAPTER I

INTRODUCTION

This dissertation is the result of an interest in groups as social entities. While teaching a class in which students worked in groups, I was surprised to hear some students bemoan the fact that it took them over a month to find out that a groupmate was unable to carry a fair share of the group's workload. The students were senior level undergraduates, and I has assumed that they would have foreseen and prepared themselves for certain problems that may be expected to occur in group task situations.

At the end of the term, the students were asked what information they would seek to find out about a potential groupmate, should they again have to work in groups. The students were asked to list and rank their responses in order of importance. Typically, the top two responses dealt with either the average grade or the attitude toward working in groups as held by a potential groupmate. Given the large number of similarly top-ranked responses, I began to wonder about the extent to which people have a tendency to seek certain types of information when working with others.

Additional questions quickly arose, but could not be easily answered, even when turning to many of the numerous

studies of people in groups (Hare, 1976; McGrath and Altman, 1966; and Shaw, 1976). The unanswered questions were concerned with the process by which people come to know each other in groups. Various studies have identified certain phases through which a group may pass in the course of its development (Heinen and Jacobson, 1976; McFeat, 1974; and Tuckman, 1965), but the beginning instances in which introductory information is exchanged and roles are evaluated seemed to be either ignored or taken as given.

An idea for a dissertation topic gradually developed as the search for information continued. The topic is concerned with the extent to which various introductory formats will affect both the attitudes of group members and the output of the group. The attitudes studied here are related to both task involvement and group cohesion. The group output is measured by performance on a business simulation exercise. Three introductory formats were used as manipulations, so as to provide a range for comparison purposes.

Given the scarcity of studies concerned with introductory exchanges of information in groups, it was deemed best to limit the scope of the research task, while attempting to gather information by which other questions could be developed. The need to understand the process of group member interaction as it contributes to group effectiveness is well recognized (Hackman and Morris, 1975; and Steiner, 1972), yet difficult to deal with in research situations. This study is an attempt to begin unraveling the tangle of

relationships found in the early phase of a group's existence, by attempting to both answer and raise questions.

In the following chapters, the study of introductory interactions will be placed in perspective. The literature review indicates that while interactions may follow a pattern, the pattern is affected by many factors, including both cultural practices and situation specific behaviors. Given that task groups are concerned with a division of labor, however, little has been done toward understanding how task situations may be related to the exchange of introductory information in groups.

The findings of the study are discussed both in the light of statistical significance and with a concern for the questions which must be answered in order to further develop the research design. Any attempt to study the effect of an introductory information exchange on group performance must venture into relatively untrod territory. It is expected that the questions raised by this study will tend to make future ventures more fruitful.

CHAPTER II

LITERATURE REVIEW

The division of labor according to ability is an important element of organizational growth. A rational division of labor depends upon ascertaining not only what must be done, but who has either the ability or the resources to undertake an assignment. A large organization often has the capability to select persons whose major task is to oversee the selection and assignment of others, matching ability to task. Such specialists in large organizations may be called personnel specialists. In small, recently constituted groups, however, all members usually play a role in determining both what is to be done and who is to undertake an assignment. The division of labor in groups is not necessarily carried out by specialists.

The ability of a small group to undertake a division of labor depends upon member interaction. Thus, any act which increases member interaction may enhance the ability of a group to deal with a production or task completion process with which it is faced. Of course, increased member interaction may also result in a reduction of a group's ability to complete a task. The following review of the literature will consider group member interactions as they

may be related to both group performance and group response on factors such as cohesion and task involvement.

Introductory Interactions

Many task situations do not lend themselves to a clear-cut approach, particularly when a complex division of labor is required, such as when each group member must perform more than one task, while marshalling a number of resources. Additionally, a division of labor is complicated by any lack of information that group members may have about one another, particularly in newly established groups.

The effect of a lack of information will vary from individual to individual, as well as from group to group. As noted in one classical proposition, "Most human decision-making . . . is concerned with the discovery and selection of satisfactory alternatives," as opposed to optimal alternatives (March and Simon, 1958: 140-141). Individuals may be expected to differ in their definition of what alternatives are satisfactory, in regard to the collecting of information about someone, in order to undertake a task. The differences in information needs are reflected in the introductory information exchange that occurs in social situations. One study of social interaction notes that "the subjects appeared to go through an information search to discover similarities. . ." (Insko and Wilson, 1977: 908). Regardless of the specific information sought, however, it may be presumed that even though information needs can

differ, persons meeting for the first time are primarily concerned with "uncertainty reduction or increasing predictability about the behavior of both themselves and others in the interaction" (Berger and Calabrese, 1975: 100).

The initial or introductory interaction may be seen as a sampling process, during which the participants both present to and receive from each other a selection of the possible interactions and outcomes of the relationship. Thus, "the larger the sample drawn (that is, the more different interactions in the first encounter), the greater the likelihood the two individuals will experience the better of the outcomes potentially available to them" (Thibaut and Kelley, 1959: 20).

An assessment of others, to paraphrase Heider, includes not only perceiving certain facts about the others, but also understanding what perceptions the others utilize in order to assess us (Heider, 1958: 22). It is not enough that we merely evaluate another person, we should also understand how the other person evaluates us. From another point of view, exploratory interactions allow an individual to translate relevant cues into identity potentials, which "provide the basis for specific behavioral choices" (Alexander and Lauderdale, 1977: 232). In any event, exploratory interactions allow participants to determine the possible outcomes of continuing their relationship, which, consequently, allows them to determine the extent to which the relationship should be continued.

It is not unlikely that there may be initial interactions in which one or more of the participants are predisposed toward either continuing or not continuing the interaction beyond the initial meeting. Such predispositions are important for the manner in which they impact on group formation and functioning. No-choice relationships have been studied in which subjects apparently set aside their initial dislike of someone. Anticipating that they would be interacting with someone, whom they had initially evaluated either ambivalently or negatively, subjects subsequently increased their liking for such persons. No such subsequent increase in liking was noted for persons who were initially evaluated positively (Tyler and Sears, 1977).

Needless to say, the greater the amount of information that is presented at an initial meeting, the greater the amount of information that a person will have when making a decision both as to whether or not to continue interacting with someone, beyond the initial encounter, and in what manner the interaction should continue. Even if a person is only using that information which supports a predisposition, the greater the amount of information available, the better will be the opportunity to receive information which will buttress a decision. An increase in the amount of information available does not necessarily mean that it is easier to make decisions. Additional information may increase a decision-making quandry. One study of perceptions of interaction found "that a specific interaction behavior may

increase ratings on one dimension of attraction, credibility, or homophily, while at the same time contributing to a decrease in another" (McCroskey, Hamilton, and Weiner, 1974: 50). Thus, as interaction occurs, a person may be expected to constantly be evaluating various dimensions of relationships held with others in the interaction situation.

Introductory formats are generally taken for granted in research situations. A study may furnish a time period for members to introduce themselves and get to know each other (Worthy, Gary, and Kahn, 1969), or a study may be undertaken of an established group, with an underlying assumption being that the members are somewhat acquainted with each other (Greer, Galanter, and Nordlie, 1954). In Bales' oft-noted studies of interaction behavior in groups, the scoring of interactions usually begins once a group meeting has been called to order, otherwise ignoring prior interactions (Bales, 1950). It may be useful to standardize introductory interaction formats, more than has been done thus far, for various reasons.

In a review of studies concerned with exchanges of personal information, it is suggested "that early in a relationship it is crucial for the interactants to convey information evenly and at a fairly rapid rate and to disclose information which is at about the same intimacy level" (Berger and Calabrese, 1975: 105). Should the information exchange be perceived as being less than reciprocal, it is probable that a subsequent relationship between the

interactants will be less than stable. Also, the frequency of disclosure may be as important as the content of disclosure.

Task Interactions

A noteworthy aspect of work organizations is the division of labor process that associates tasks with individuals, according to the ability of the individuals. Indeed, Max Weber states that "Every type of social action in a group . . . involves to some degree a particular mode of division and organization of human services in the interest of production" (Weber, 1964: 218).

When a group is assigned a task to complete, member interactions will affect the completion of that task. Task interaction patterns in the early phase of a group's history will be affected by problems related to socializing and developing a socio-emotional climate conducive to task accomplishment (Fisher, 1970: 58). It is to be expected that the pattern of interaction followed by a group will be affected by the probable lifetime of the group, that is, groups in which the members expect to meet only once will have a pattern of interaction that differs from that of groups in which the members expect to meet more than once. On an individual-to-individual basis, Tyler and Sears (1977) found that an individual's liking for another person was apparently affected by whether or not the individual expected to be working with the other person again.

The collection of information may be abbreviated in line with a group's development. Concerned with one-meeting-only groups and their development, Mabry incorporated the findings of others into a four-phase model of group development. Mabry was unable to find that one-meeting-only groups entered into more than two phases of the four phases predicted by the model (Mabry, 1975). Of particular interest to this study, the groups apparently bypassed the phase in which information is gathered about each person and what the person brings to the group situation.

Task interactions are among the multitude of actions that Steiner includes in the definition of process. It is losses due to faulty process that detract from the potential productivity of a group. According to Steiner's theory, "one group . . . may be more successful than another because it has a better supply of relevant resources . . . or because its processes more fully meet the demands of the task, or both" (Steiner, 1972: 9). Thus, to the extent that the interaction process is enhanced, so will the productivity of a task group be enhanced.

Information about a person is useful in that it allows the group to understand the person as a resource. Personal information, inadvertently or not, may allow the group to understand what a person has done, is doing, and is capable of doing, as well as understanding the perspective of the person described. A perspective might include goals, as well as viewpoints of various situations. Personal

information may be useful in another context, especially if a "sense of solidarity, loyal behavior, and perceptions of having things in common--tend to go together" (Patchen, 1970: 157). In Patchen's scheme, a person's expectations of gaining various satisfactions from membership in an organization partly depends upon having things in common with other members of the organization. The perception of things in common creates a sense of solidarity with and loyalty to an organization. Among the factors that aid in determining how much members have in common with other members, Patchen includes: nature of interpersonal relationships, demographic similarities, other memberships, and possibility of leaving the organization.

Patterning of Interactions

While information is useful toward evaluating a resource, it is possible that allowing persons to interact at their own pace may hinder a group from receiving the needed information about group members. When Patchen discusses loyalty and aolidarity, he does not directly address the question of how do people discover similarities between themselves and others. Generally, it may be shown that the discrimination used by people in revealing information may be categorized, revealing various patterns of interaction.

Jourard, in his book Self-Disclosure, is concerned with "the act of revealing personal information to others" (1971: 2). Numerous studies are cited by Jourard, toward

establishing the idea "that self-disclosure from one person is the most powerful stimulus to self-disclosure from the other" (1971: 185). Basically, the studies involve one-on-one situations, that is, they are concerned with self-disclosure interactions between persond in dyads, as opposed to interactions between one person and all others, in a group of three or more persons.

Studies of disclosure acts reveal some interesting relationships. Age may be important, to some extent, concerning a group member's tendency to reveal information to others. In a study of college students, Jourard found that the tendency to disclose information to one's mother, father, or a same-sex friend tended to decrease with age, whereas, to an opposite sex friend, including a spouse, the tendency to disclose information tended to increase with age (1961: 47). A study of children, ages six to twelve years, found that the tendency to disclose information to a same-sex close friend increased with age (Jourard, 1961: 51). Webber found that "younger men appear to be able to utilize groups to improve on individual performance more effectively than do older men" (Webber, 1974: 572). Webber could only furnish conjecture as to why age made a difference, but he felt that it was related to the ability of those in younger groups to more effectively discover the assets (abilities) of group members.

It should not be assumed that age, as such, is responsible for an individual's variations in disclosure patterns.

The development of role relationships, in conjunction with the progression of age, may have a direct bearing on a person's tendency to disclose information to someone. Balswick and Balkwell conclude that the patterns exhibited in acts of self-disclosure "are clearly relational in character" (1977: 285). Thus, self-disclosure should not be viewed as being an individual attribute, according to Balswick and Balkwell, but should be viewed as a person's tendency to reveal information to another individual, based on the discloser's knowledge of a role relationship between the discloser and the other individual.

The act of disclosing information is affected by conventions or restrictions which have a bearing on the content of the disclosure. An individual's understanding as to what is "proper" for a given act of disclosure will affect that person's reactions to disclosures by others. When someone is asked to tell others something about his or her background, it may be expected that the person will make an attempt to present a good face, but what constitutes a good face? To a certain extent, the face that a person attempts to present to a group will be affected by that person's understanding of what constitutes a good face in that group. Furthermore, the presentation of information will probably be in a patterned sequence, as opposed to a random sequence.

In a study of sequential structure, as found in various communication situations, Stech concludes that the amount of structure to be expected in a given situation will depend

upon both the degree of role specificity for the interactants and the size of the group under study. Stech comments that "there is reason to believe that the highest levels of sequential structure will be found in dyadic interaction between persons enacting clearcut superior-subordinate roles . . ." (Stech, 1975: 177). Groups larger than a dyad present problems in ascertaining the degree of structure to be found in interactions, because a "participant may be responding to an earlier statement or may be trying to get something in which he has been thinking for several minutes" (Stech, 1975: 177).

It is probable that people bring expectations related to information sequencing with them when they enter into interactions with others. When respondents are asked to indicate the order in which given statements would come up in a conversation between two persons, significant differences have been found, depending upon a respondent's: age, education, sex, and desired number of friends (Berger, Gardner, Clatterbuck, and Schulman, 1976). Information was elicited from persons living in a suburb of Chicago, Illinois, ranging in age from seventeen to seventy-five years. Essentially, the study consisted of a sorting task, concerned with comments as they might arise in a two-hour conversation between persons meeting for the first time. Respondents were allowed to indicate that the given comments might not be made at all during the situation as described. The placement of items was "not affected by such variables as

self-esteem, number of close friends, birth order, or economic status" (Berger, Gardner, Clatterbuck, and Schulman, 1976: 44).

While a researcher may have an interest in detecting the existence of a sequential communication structure in a group, so might a member of a group have such an interest. To the extent that a structure is perceived, the group member may understand the probable ends of a given conversation series and adequately participate in exchanges, so as to be either seen as a member of the group or to be seen as a rational being. The less that a group member correctly perceives a sequential structure in communication exchanges, the greater the degree of uncertainty faced by that person when participating in group events; uncertainty as to what a situation requires in the way of an adequate response.

Looking at what people tend to do, as opposed to studying what they expect to do, one study asked subjects to write self-descriptions. It was found that subjects began "their self-descriptions with high-frequency, good, and non-threatening characteristics," carrying the statements of goodness into the "middle portions of the self-descriptions" (Jones, Sensenig, and Haley, 1974: 43).

Generally, it is not surprising to find that people may tend to put their best foot forward first. As to when the worst foot should be put forward, if at all, the issue is more complex, aside from the issue of what is the difference between good and bad information. The study by Jones,

Sensenig, and Haley (1974) was not designed to deal with highly idiosyncratic characteristics. Thus, individuals may have begun their self-descriptions with very negative self-effacing characteristics which were overlooked in final tabulations.

A study by Jones and Gordon finds that a person who is perceived as being responsible for his or her actions is more attractive to another person if they disclose bad fortune early in a discussion, rather than later. Should a person not be responsible for an experience of bad fortune, however, that person will be better liked if the event is disclosed late in the interview (Jones and Gordon, 1972: 358). Another study concerned with disclosure timing found that individuals who revealed very personal information, early in a relationship were "viewed as more immature and maladjusted and tended to be viewed as more phony and insecure than the late discloser" (Wortman, Adesman, Herman, and Greenberg, 1976: 189).

Certain information about a person may best be presented by someone other than the person described by the information. When defending actions which offend a given code, testimony concerning mitigating circumstances is best given by a witness, instead of by the defendant. According to findings of work by Frankel and Morris (1976), testimony by a witness elicited a lesser penalty, than did the same testimony by the defendant.

Defining Group Cohesion and Task Involvement

The outcomes of an interaction process are reflected in the level of both group cohesion and task involvement. In a review of the literature concerned with group cohesiveness, Lott and Lott (1965) focus on the interpersonal attraction aspect of group cohesion, since members must have some level of attraction for each other in order for a group to exist. It is within the interaction process that we are able to evaluate others and decide whether or not we are attracted to such individuals, as well as determining the possible extent to which others may be attracted to us.

In a study of group cohesiveness, Seashore operationalized the concept of group cohesiveness with the statement "that a group will be said to have a high degree of cohesiveness if the members (1) perceive themselves to be a part of a group, (2) prefer to remain in the group rather than to leave, and (3) perceive their group to be better than other groups with respect to the way" the members get along together, help each other, and stick together (Seashore, 1954: 36). The operational definition used by Seashore, as well as adaptations of the questions that he subsequently developed, were used as a part of this research effort.

Given that a group is concerned with undertaking a task, it is of some interest to understand the level of task involvement that exists within the group. In a review of the literature, it is noted "that there is a great deal of conceptual confusion . . . about the construct" referred to

as job involvement (Rabinowitz and Hall, 1977: 267). A popular operationalization of the concept of job involvement centers on the degree to which a person's self-esteem is affected by that person's task performance. Thus, among other items, a person's job or task involvement is affected by relationships held with co-workers, as well as by the nature of the work. Adaptations of a questionnaire developed by Lodahl and Kejner (1965) have proved to be useful in a variety of research settings (Hall and Foster, 1977; and Maurer, 1969). An adaptation of Lodahl and Kejner's short-form questionnaire was used in this study.

Review Summary

When people must interact in group situations, it may be expected that they will attempt to reveal information about themselves according to certain socially determined formats. Optimal interaction conditions usually do not prevail; the interaction process tends to have shortcomings. The shortcomings may arise for any number of reasons, for example, a person may not want to present what he or whe perceives as negative or unnecessary information. It is also possible for someone to refrain from presenting any information until a situation can be more fully assessed, so as to develop a better understanding of how a potential presentation might be received. In any event, one person's hesitancy to present information, for whatever reason, will affect the amount of information available to other members

of a group, possibly affecting the group's ability to function toward a given end.

In task groups, member interactions will be related to a group's ability to complete the task. To the extent that group members fail to obtain information about each other, members may be underutilized as resources. Given possible shortcomings of the interaction process, there is a need to examine the interaction process in relation to group functioning. As a beginning, the effect of various introductory interaction formats on further group progress makes a worthwhile study.

Research Questions Arising from the Literature

The review of the literature raises several questions which are worthy of an attempt to answer. Two questions are important to this study:

1. If introduction formats of groups are varied, does the production or output of a group vary according to the degree of formality used in the member introduction process?

2. Do measures of either task involvement or group cohesion vary according to the introductory format assigned to a group?

CHAPTER III

BACKGROUND OF ANALYSIS AND EXPERIMENTAL DESIGN

The Environment of the Experiment

A major goal of this study was the determination of whether or not differences can be ascertained in task groups according to variations in the format that group members are instructed to use in their introductions to each other. The primary differences of interest are: task performance, or group ranking; group cohesion; and group member involvement. There are probably other differences which could be of interest, but due to the exploratory nature of this study, it was felt that the in-depth use of a few generally accepted measures would yield more substantial findings, than would an attempt to use many measures. Furthermore, it was felt that it would be best to disturb the natural class group processes as little as possible, while still attempting to gain useful information from the group members. Given the time shortages often faced by graduate students, it was also deemed best to ask a few questions often, rather than attempting to ask a larger number of questions over a smaller period of time.

Information was gathered from students in two classes of a course in the Graduate School of Business

Administration at Michigan State University. The course is taught under the auspices of the Department of Management. Entitled "Decision Making Models," and code numbered MGT833, the course is concerned with the normative analysis of business decision situations, and uses Executive Game as a tool for learning and evaluation. Both classes, or sections, of MGT833 were taught on the same day. Dr. Richard C. Henshaw, Jr., the professor responsible for teaching the two classes, is also a coauthor of The Executive Game (Henshaw and Jackson, 1972), which presents both the theory underlying the Game as well as the rules to be followed when playing the Game.

The Executive Game is a business simulation game, with two years of Game time encompassed in eight weeks of class time. One week of class time equals one-quarter of a year in Game time. The student groups, or firms, must submit a variety of decisions, once each week, concerned with such matters as: marketing strategy, research and development, number of production work shifts, inventory size, dividend payout, and cash on hand, among others. There are five firms within an industry, that is, a block of five groups are in competition with each other. Game conditions are affected by the sum of the decisions of the firms within a given industry. For grading purposes, the groups within an industry are ranked according to the end-of-Game level of rate-of-return (ROR) on beginning owner's equity, with dividend payout being an important part of the ROR computation.

Profit maximization is not, of itself, the major goal of a group; the Game may be typified as one which is oriented toward maximizing the level of yield, as opposed to the level of growth. All firms and all industries begin Executive Game with the same asset, liability, and capital structure.

Fifteen percent of a student's final grade is directly related to the performance of the group, to which the student belongs, on assignments related to the Executive Game. Two papers, each worth five percent, are written by a group; one paper is concerned with the group's initial Game strategy, the other paper is concerned with the group's evaluation of its attempt to follow and revise the initial Game strategy. A group's end-of-Game ranking, based upon its return on beginning owner's equity, affects five percent of a student's final grade. The Executive Game also serves as a training vehicle in that the methods employed in developing and evaluating decision strategies for the Game are also useful in responding to questions on class examinations taken by the student during the course of the term.

A total of twenty groups were studied; ten groups in each class, five groups in each industry. There were four four-person groups and sixteen three-person groups. While all persons had to belong to a group, group membership was self-chosen, with a general stipulation being that group membership must represent as many disciplines as possible. Comparisons of students in the two class sections are presented in Table 1.

Table 1

Demographic Characteristics of Class Members

Category	Sub-Category	Section 1	Section 2	Treatment 1	Treatment 2	Treatment 3	Female	Male	Total
Age Range	(Greater than 20) to 28 years	27	26	18	18	17	10	43	53
	(Greater than 28) to 36 years	5	5	4	5	1	1	9	10
	(Greater than 36) to 44 years	0	1	0	0	1	0	1	1
Class Section	Section 1	32	0	10	13	9	5	27	32
	Section 2	0	32	12	10	10	6	26	32
Degree Goal	Masters Level	31	31	21	22	19	11	51	62
	Other	1	1	1	1	0	0	2	2
Discipline	Accounting-Finance	12	11	7	10	6	3	20	23
	Hotel-Restaurant	3	3	3	3	0	0	6	6
	Management	5	4	1	5	3	2	7	9
	Marketing-Transportation	12	11	9	4	10	4	19	23
	Non-Business	0	3	2	1	0	2	1	3
Sex	Female	5	6	3	2	6	11	0	11
	Male	27	26	19	21	13	0	53	53
Treatment	1: Control	10	12	22	0	0	3	19	22
	2: Structured	13	10	0	23	0	2	21	23
	3: Self-Structured	9	10	0	0	19	6	13	19
Groups	Section 1	10	0	3	4	3			10
	Section 2	0	10	4	3	3			10
Groups	Disciplines:								
	All Different (3 person grp.)	3	5	3	3	2			8
	3 Different (4 person groups)	2	2	1	2	1			4
	2 Different (3 person groups)	5	2	3	2	2			7
	All Same (3 person groups)	0	1	0	0	1			1

Sources of Information

The research design is a variant of the "Posttest-Only Control Group Design" discussed by Campbell and Stanley (1966: 25-27), which is especially applicable to research situations concerned with studying the effect of differing instructions. The primary source of information for this study is a series of eight weekly questionnaires which sought responses from each student. The first questionnaire was administered during classtime, except for students who were absent, who were asked to complete the questionnaire at a later time. The first questionnaire primarily sought information of a biographical or sociometric nature.

Questionnaires two through eight were handed out in packets, one quesionnaire for each group member, each week. The questionnaire packet was handed to a representative of each group. Group representatives, and any group members present, were told that the questionnaires were to be responded to after the next group meeting for the purpose of making a Game decision. Questionnaires two through eight posed the same thirteen basic questions which constituted the attitude or summated rating scales for involvement and cohesion. The first eight questions were adapted from Lodahl and Kejner (1965), and elicit information about task involvement. The next five questions were adapted from Seashore (1954), and elicit information about group cohesion. The thirteen basic questions are shown in Appendix A.

One group questionnaire was given out to be answered after the first group meeting for the purpose of making a Game decision. The group questionnaire was included in the first packet of questionnaires for individual group members. Group representatives were told to be sure that any instructions on the questionnaires were followed as closely as possible. Furthermore, group representatives were told that the questions on the group questionnaire were to be answered before answering the questions on the questionnaire for individual group members.

Treatment Conditions

Instructions on the group questionnaire, without stating such, were used as a means of establishing the three treatment conditions of this study. All group questionnaires were identical as to the instructions given and the questions asked, except for the instructions pertaining to the members' act of introducing themselves to each other. The three introductory format conditions may be identified as: (1) no treatment, or control; (2) structured; and (3) member self-structured, or self-structured.

The three treatment conditions varied as to the degree of introduction engaged in by the members of the group. In the control condition, no instructions were given to the group members concerning either member introductions or the format to be followed in presenting an introduction; member introductions were not even suggested in the instructions.

Under the structured format treatment condition, group members were given a format that they were to follow in introducing themselves to each other. The structured format asked that information be exchanged related to topics such as: a member's availability for group meetings; a member's opinion as to the value of a group effort in a task such as Executive Game; and of what value might the member be to the group. In the member self-structured treatment condition, members were merely asked to take time to introduce themselves to each other. The assignment of treatment conditions to the groups was on a randomized basis. The paragraphs which differed on the three group questionnaires are presented in Appendix B.

In order to minimize the possibility of groups comparing their group questionnaires, once such questionnaires were completed they were returned. The treatment instructions as well as both the questions and the answer spaces were on the same page. Furthermore, each time that any questionnaire was handed out during the study, in addition to a request printed on the questionnaire, persons were verbally requested to return the questionnaire with the answer sheet. Ostensibly, there were two reasons for requesting the return of the questionnaires with the answer sheet. One reason was concerned with the minimization of confusion on the part of the respondent as to which questionnaire was the current one to be answered. If respondents had been told to keep the questionnaires, the possibility of confusion, as to

which questionnaire was current, would have been increased. The other reason for requesting that questionnaires be returned with the answer sheet was that it permitted, for coding purposes, the association of the answer sheet with the time period in which it was handed out. Thus, for those persons who neglected to return a questionnaire according to schedule, it was relatively easy to determine when an answer sheet was originally scheduled to be returned, by determining which questionnaire it accompanied.

Except for the group questionnaire, all responses to questions were indicated on a scoring sheet which could be processed through an optical scanning system. Besides ease of indicating a response, the use of such an answer sheet aids in eliminating any problems of interpreting handwriting. Optical scanning of responses also permits a high level of accuracy in the transfer of responses to punched cards which may be used in computer analysis.

Generally, the research design was a reflection of the situation under which the information was being collected, with one goal being to intrude upon the situation no more than the minimal level required to collect the necessary information. Given that many questions are yet to be developed, concerning interactions in groups, it was felt that the study should attempt to both refine existing questions and develop additional questions of use to those who study people in groups.

The following hypotheses were posed and are tested within the study.

Hypothesis 1: Groups that follow a prescribed member-introduction format will perform better on the Executive Game than will those groups which follow a less prescribed member-introduction format.

Hypothesis 2: The degree of involvement with a task will be greater in those groups that follow a prescribed member-introduction format, than in those groups that follow a less prescribed member-introduction format.

Hypothesis 3: The degree of group cohesion will be greater in those groups that follow a prescribed member-introduction format, than in those groups that follow a less prescribed member-introduction format.

CHAPTER VI

ANALYSIS AND DISCUSSION OF RESULTS

Evaluation of Scales

Before looking at findings directly related to the hypotheses, findings related to the measuring instruments, or attitude scales, will be reviewed. The two scales of concern are the eight-item involvement scale (α = .77) and the five-item cohesion scale (α = .78). The reliability of each scale, as given within the parentheses, is a measure of the internal consistency of the scale; a measure of the extent to which a scale's items are homogeneous. The level of reliability for both the involvement and the cohesion scales more than satisfies generally accepted minimum requirements for such scales.

An examination of the correlation between the two scales reveals that they may be more alike than they are different (r = .63). If involvement and cohesion were not being independently measured, a question arises as to what each of the scales was examining; was it involvement, or cohesion, or a combination of both conceptualizations? No instance could be found in the literature in which both scales had been used together, nor could any suggestion be found to the effect that the scales would be correlated to

the extent found in this study. Such a level of correlation certainly ranks as an important finding.

A factor analysis, using alpha rotation (Kaiser and Caffrey, 1965; and Kim, 1975: 481) revealed that while the cohesion items could form one factor, there is a positive relationship with several of the involvement items. The results of the factor analysis are presented in Table 2. As a research tool by which underlying relationships between variables may be tentatively identified, factor analysis can be very useful. Given both the results of the factor analysis and the level of correlation between the two scales, additional research studies, concerned solely with the underlying elements of the two scales, seem to be justified.

Bartlett's test, for the statistical significance of the correlation matrix, from which the factor analysis was run, yielded a chi-square of 443.97 (78df). Essentially, Bartlett's test is concerned with whether or not a data set may be suitably factor analyzed. A set of random numbers, for example, could not be properly factor analyzed from a statistical standpoint (Weiss, 1970). According to the results of Bartlett's test, the data upon which the factor analysis of Table 2 is based are suitable, to a statistically significant level, for the purposes of factor analysis.

The level of correlation between the involvement and cohesion scales is not unexpected. One of the generally accepted dimensions of cohesion is a degree of attractiveness toward others in a group (Lott and Lott, 1965; and

Table 2

Varimax Rotated Factor Matrix After Rotation with Kaiser Normalization*

Questions	Factor 1	Factor 2	Factor 3	Factor 4	Communality
Involvement 1	0.40134	0.56385	0.44630	0.47808	0.90674
Involvement 2	0.23236	0.78794	0.16866	0.03184	0.70430
Involvement 3	0.24806	0.34609	0.55029	0.49177	0.72597
Involvement 4	0.06299	0.11412	0.76068	-0.04155	0.59735
Involvement 5	0.20369	0.70090	0.16815	-0.02197	0.56151
Involvement 6	0.31137	0.48920	0.68451	-0.06650	0.80924
Involvement 7	0.19936	0.08731	-0.02618	0.61921	0.43147
Involvement 8	0.05053	-0.10953	-0.02243	0.77551	0.61647
Cohesion 1	0.43940	0.33676	0.20388	0.07032	0.35299
Cohesion 2	0.48950	0.12067	0.32316	0.00787	0.35867
Cohesion 3	0.69954	0.16728	0.07711	0.17221	0.55294
Cohesion 4	0.80822	0.20552	0.10138	0.27192	0.77968
Cohesion 5	0.88500	0.21888	0.06917	0.11412	0.84894
Eigenvalue	2.81979	2.06787	1.77411	1.58451	8.24628
Percentage of Variance	21.69%	15.91%	13.65%	12.19%	63.43%

*n = 60

Seashore, 1954). In the conclusion of the study from which the involvement measures were adapted, it is noted that, among other factors, the hypothetical highly job-involved individuals prefer to work in a highly interdependent job, and are more highly satisfied with both their work and other workers than are the less involved individuals (Lodahl and Kejner, 1965). Thus, a person's level of cohesion, or attractiveness toward a group, could be expected to be correlated, to some extent, with that person's level of involvement, which is related to both the interdependence of the work performed and satisfaction with other workers.

Research Findings

The following discussion will present each of the hypotheses tested, along with a presentation of the statistical methods used to test the hypothesis. In all situations, unless a finding has a significance level equivalent to 0.05 or higher, the finding will be considered to be insignificant for the purposes of this study.

Hypothesis 1: Groups that follow a prescribed member-introduction format will perform better on the Executive Game than will those groups which follow a less prescribed member-introduction format.

T-tests of both midterm and final team rankings did not reveal a significant difference between the groups, regardless of the treatment category to which a group had been assigned (Table 3). For comparison purposes, the average

Table 3

Comparisons of Treatment Groups on Game Performance, T-tests*

Treatment Comparison	Midrank t	Final Rank t	df
Control ------ Structured	0.75	-0.52	12
Control ------ Self-Structured	-0.22	1.57	11
Structured --- Self-Structured	-0.91	1.69	11

*n = df + 2

group rankings are shown in Table 4. The results of the t-tests indicate that hypothesis 1 cannot be accepted as true.

Table 4

Average Treatment-Group Rank*

Treatment	Midterm	Final
Control	3.14	3.14
Structured	2.57	3.57
Self-Structured	3.33	2.17

*The lower the number, the higher the rank.

Hypothesis 2: The degree of involvement with a task will be greater in those groups that follow a prescribed member-introduction format, than in those groups that follow a less prescribed member-introduction format.

The findings of probable relationships of a correlative nature between the involvement and cohesion scales mand that, for the purposes of statistical analysis, hypotheses 2

and 3 be dealt with together. Therefore, the discussion of the results of the analysis of hypothesis 2 will follow the statement of hypothesis 3.

Hypothesis 3: The degree of group cohesion will be greater in those groups that follow a prescribed member-introduction format, than in those groups that follow a less prescribed member-introduction format.

Hypotheses 2 and 3 were tested with the use of analysis of variance oriented tests. The three treatment groups were compared over the seven weeks in which the levels of both cohesion and involvement were measured (Table 5). Univari-

Table 5

MANOVA Tests for Hypotheses 2 and 3*

Variable	Univariate F	P Less Than	Step-Down F	P Less Than
Involvement	4.5981	0.0140	4.5981	0.0140
Cohesion	3.0882	0.0531	1.7678	0.1798

*n = 62; df: 59,2

ate F tests provide a preliminary indication of significant results for involvement and nearly significant results for cohesion. The next stage of analysis calls for the use of step-down F tests. The step-down F tests, however, indicate that truly significant differences cannot be shown, given the level of correlation between the involvement and cohesion scales. The actual average summed response is presented in Table 6, a more detailed summary of responses is presented in Appendix C.

Table 6

Average Summed-Scale Responses*

Treatment	Involvement	Cohesion
All Groups	13.3249	3.49078
Control	13.1948	2.88961
Structured	15.4898	4.46259
Self-Structured	11.0827	3.11278

*The higher the number, the less the level of involvement or cohesion.

The use of step-down F tests is appropriate because of the arbitrary utilization of equally spaced intervals in the response scale, in addition to the fact that repeated measures were taken (Bock, 1975). Thus, any seemingly significant difference between the three groups is primarily due to artifactual causes, that is, the difference is a result of inherent limitations of the response scale that was used. The results of the analysis indicate that hypotheses 2 and 3 cannot be accepted as true.

Aside from purely statistical concerns, an examination of the figures in Table 6 reveals that differences between the groups do exist. The structured format treatment groups tended to be both less involved and less cohesive than either of the other treatment groups. The utilization of additional controls in the research design could possibly have strengthened the findings in the direction of significance, especially if additional controls reduced the standard deviations, or overlap, of the responses.

Possible Explanations

It is difficult to assess the findings of insignificance, but several explanations are possible, either alone or, in some instances, in combination. Possible explanations include:

1. Differences occurred, but were masked by other inadvertant factors.

2. Differences occurred, but are indetectable on comparisons of either group ranking or the measures provided by the test instruments.

3. Differences did not occur; varying the information exchange level of introductory statements in a group has no subsequent effect on the group's performance.

The possible explanations will be reviewed in turn, although combinations will not necessarily be reviewed. The effectiveness of design controls will be discussed before any review is undertaken.

Effectiveness of Design Controls

As a methods check, the teams were asked to indicate, on the group questionnaire, both how much time was spent in developing an initial strategy for dealing with the requirements of the Game and how much time was spent in social or introductory group matters. T-test comparisons of the responses to the two questions reveal that significant differences exist only in the reports of time spent in developing an initial strategy (Table 7).

Table 7

Comparisons of Time Usage in Initial Group Meeting, T-tests

Treatment Comparison	Developing Strategy t	Social Matters t	df
Control ------ Structured	-0.20	1.08	12
Control ------ Self-Structured	2.68*	-0.09	11
Structured --- Self-Structured	1.74	-1.18	11

*Significant at 0.05 level.

In all situations of or attempts at explaining the findings, it is assumed that the subjects followed the instructions as closely as they could. No reason was found to doubt either the sincerity or the motives of the subjects. As graduate students, in an MBA program, many of whom had worked in organizations outside of the university, the subjects appeared to have a high level of interest in seeing to it that their participation was properly undertaken. The response rate, for the term, was just slightly above 95.5 percent, for eight questionnaires for each student.

Of the sixty-four subjects in the study, fourteen persons did not answer all eight of the questionnaires. Two persons did not respond to three questionnaires, and were dropped from the final analysis. Five persons did not respond to two questionnaires, while seven persons did not respond to one questionnaire. For the purposes of analysis, if no more than two questionnaires were missed, a

respondent's average summed reply to the other five or six questionnaires, for the blocks of questions concerned with either involvement or cohesion, were substituted for the requisite missing responses.

Should subjects in a research situation become aware of treatment differentiations, it is possible that a researcher's intended treatment effect would be diminished, due to actions on the part of the subjects. It appears that a combination of natural controls, in line with additional design controls, acted toward preventing the subjects from gaining knowledge about the nature of the attempted treatments.

In quite a few of the groups, members felt that it would not be to their advantage to communicate with members of other groups, out of a concern that they might communicate information that would detract from their group's competitive position in the Game. The inhibitions affecting intergroup communication, coupled with the requirement that the questionnaires, by which the treatments were effected, be returned during the first week, acted toward ensuring that the subjects would have a minimal level of knowledge, if any, as to an important aspect of the research. At no time, either during or since the beginning of the study, has any subject ventured a guess to the effect that the study was concerned with the introductory format used by group members. Apparently, no subject detected the existence of the treatment conditions.

Related to the level of intergroup communication, one subject voiced an observation, at the end of the study, that is pertinant to the use of the last three questions in the cohesion scale. The three questions are posited toward causing a respondent to compare conditions in the respondent's group with the conditions found in other groups. The subject, voicing an objection to the format of the three questions, mentioned the difficulty of settling upon an answer to any of the three questions due to the fact that the subject felt that he had known very little about the conditions to be found in other groups. When the subject did find time to speak with members of other groups, the topics of the three questions of interest had never been broached. Thus, the questions were answered according to the subject's momentary feelings when reading the question, not according to any hard knowledge that the subject felt that he possessed. Several other persons expressed a similarly based disquietude. The feeling that more information was needed apparently didn't prevent anyone from answering any of the questions, although it did result in a sense of frustration. The expression of exasperation, in content, served to partially affirm the validity of the cohesion scale as a measure of attitudes.

Given that Differences Occurred

Given that the treatments are different, the magnitude of the differences may have been masked or minimized for

several reasons, notably:

1. The knowledge that subjects possessed about each other prior to their initial group meeting.

2. The level of sophistication of graduate students in acquiring and using knowledge about others.

3. Facets of the research design that either lessened or negated any effects of the treatments.

The reasons noted will be addressed in turn.

Prior knowledge. In the aggregate, subjects may or may not have possessed a great deal of information about each other, prior to the beginning of the study. Of the sixty-four subjects, fifty-two persons, or eighty-one percent, reported that they knew at least one other classmate, prior to the beginning of the term. Furthermore, forty-one persons, or sixty-four percent, reported that they knew at least one other member of their Game group, prior to the beginning of the term. Such percentages, however, do not necessarily serve to show that the effect of the treatments may have been weakened due to the fact that the subjects had some knowledge of each other prior to the beginning of the term.

Knowledge of others may vary in several ways, as noted by the subjects. When asked how many others they knew in the class, one person immediately asked what was meant by the work "knew." In reply, subjects were told to use the definition that would apply if they were to describe to someone else the number of persons whom they knew in the class. Such latitude in the defining of a word could result

in personalized definitions that render the results of the question to be almost meaningless for many research purposes. In this situation, the results are treated as an indication of the thought that others were known, without a determination of either the nature or the extent of the basis of such a thought. This was done to gain a potential understanding of the extent to which the thought that knowledge was held might affect the results of future information exchanges.

In retrospect, a crucial difference, between the results of the questions concerned with knowledge about others and the results of any other questions, is that the results of one set of questions are flagged because the subjects raised a question. The results of the other questions may also be suspect, as in any research situation, yet the reasons for any such suspicion are not easily recognized. Fortunately, for the study, subjects were willing to raise questions so as to both eliminate any confusion on their part and to increase the reliability of the responses elicited by the study.

A person may say that someone is known to the person merely because the other person's name is known, or because of having worked with the other person for a number of years, or whatever. A number of questions are relevant, and worthy of mention, regarding the possession of knowledge about others.

1. In the introductory group sessions, if a person thought that someone was already known, how much additional information would the first person need or want from the other person; conversely, how much information would be willingly given to the other person?

2. To what extent is the thought that others are known to you related to the thought that you are known to others?

3. Is the mere thought that someone is known to you, regardless of the information actually possessed, sufficient to create a working relationship?

4. To what extent does the thought of having knowledge about someone actually reflect the possession of either an optimal or a satisfactory level of information about the person, in regards to a given situation?

5. Did the treatment conditions alter any preconceived opinions which stemmed from the thought that a person already knew someone?

6. Did the treatment conditions add to the knowledge already possessed by a person, or was the knowledge merely duplicated?

Neither the questions related to prior knowledge about groupmates, nor the evaluations of the impact of the treatments, in conjunction with the prior knowledge, are capable of being dealt with in this study, other than to note the existence of a complex situation. The study did not set out to deal with such questions as they were not highlighted or

openly dealt with in previous research studies. In summary, knowledge about someone may have several dimensions which were not directly controlled for in the research design, other than to determine if the thought of knowledge possession existed.

Level of sophistication. The level of sophistication possessed by graduate students, in relation to their ability to work with others, regardless of the knowledge held about the others, could also have lessened the impact of the treatment effects. A graduate level of sophistication in dealing with information about others may include an ability to either effectively seek whatever information is needed and/or efficiently use whatever information is possessed. As noted by Balswick and Balkwell (1977), a knowledge of role relationships is important in the act of disclosing in-information to others. Working with non-students, or undergraduate students, or combinations of the two groups plus graduate students may or may not have produced results different from those of this study.

Facets of the research design. Due to a facet of the research design, it is possible that the net initial results of the treatments were similar. The lack of either written or verbal restrictions as to the amount of information that could be exchanged in the introductory session may have allowed for levels of information exchange that negated the attempt to create three distinct treatment conditions. Thus, while instructions were followed to the letter, the

instructions, being prescriptive in nature, contained no prohibitions against exchanging more information than that called for in the instructions. In developing the design, it was realized that, without certain restrictions, it would be possible for the subjects to exchange more than the level of information required of their treatment group, much as they would in a typical work situation.

The lack of any prohibitions against the exchange of more information than called for in the instructions was due to two major considerations. For one thing, it would be difficult to control for the exchange of non-verbal information, without creating a situation that would have been unlike any envisioned for the purposes of the Game. The other consideration revolved around the feeling that the placement of restrictions on the exchange of introductory information might have drawn undue attention to the act of exchanging such information.

Any attempt to utilize other controls, such as either direct observation or before and after meeting questionnaires, would have entailed substantial additional work with questionable results in relation to the additional cost. Direct observation might reveal an exchange of information, other than that called for in the instructions, but without revealing the impact or effect of the additional exchange of information. The interpretation of the information exchanged would tax the objectivity of any observer. The use of questionnaires either before or after the first meeting

would serve to draw attention to the exchange of information, at the same time that the research design sought to avoid such attention. Furthermore, given the longitudinal nature of the design, a questionnaire tendered in the eighth week, so as not to affect any future group interactions, would be of little value in ascertaining the importance of information exchanged at the first meeting.

The fact that more information may have been exchanged than was required by the research design is not a shortcoming of the study. As a study concerned with examining various levels of instructions concerned with introductory information exchange, without otherwise limiting such exchanges of information, the study is a success. Given that the topic of introductory informatin exchange, as it is related to group formation, has not been the focus of previous studies, any findings are important as they might have a bearing on future research. Findings may be useful as much for the questions that they raise as for those that they answer.

Given that subjects in groups do exchange more information than required by the instructions of a researcher, an explanation for such behavior may be derived from the literature. There may be a predilection to exchange information, on the part of the subjects of a study. As noted by Heinen and Jacobson (1976), the development of a group is affected by relationships between the group and the organization of which the group is a part. The groups used

in this study were part of an organization, the class, which required that the individuals interact, in one way or another, for a period of at least nine weeks. A willingness to interact with another person is enhanced if the other person is liked by the potential interactant. One means of increasing the liking that a person has for another is to increase the level of explicit social interaction engaged in by the individuals (Insko and Wilson, 1977). It is possible that the subjects in this study engaged in social interaction to an extent sufficient to create a feeling of liking, so as to be able to endure the period of interaction required by the Game. In groups of either a more voluntary or a less formal nature, than that of the groups in this study, there may be a different general predilection to exchange information.

Subjects in all treatment conditions also may have engaged in introductory information exchanges to a level at least equal to that of those in the most prescribed format treatment condition. Even though they were not instructed to engage in an introductory information exchange, for example, control or no treatment group subjects may have done so, and to the same extent as that engaged in by the prescribed, or structured, format group. Neither were the prescribed format treatment groups restricted as to the additional information that could be exchanged. Theoretically, groups could achieve the same level of output, even though they varied as to the quantity and quality of

information exchanged by group members. This is not to say that group members would consciously seek a given level of information exchange, merely, for reasons not explicitly known to them, they may have felt a need to engage in a given level of information exchange.

The foregoing explanations do not obviate the fact that limiting the exchange of information may have resulted in interesting, or even dramatic, differences between the gropus. Given both the requirements of the Game in a class situation and the desire to maintain research control without emphasizing the presence of a treatment condition, however, it was deemed best to introduce the treatments in the manner as attempted in the study.

It is possible that differences occurred, but not of a type to be reflected in either rankings or measures of cohesion and involvement. Given the measures used, in conjunction with the rules of the Game, significant differences between the groups could not be detected and, thus, the three treatments had no measurable effect on the performance of the groups.

Given that Differences did not Occur

Due to the lack of any findings of significance, it cannot be said that, from a subject's viewpoint, the treatments were different. To the extent that they appear to be different, the treatments may be said to have face validity.

Previous attempts to explain what could have taken place in this study certainly do not rule out the fact that the treatments, as posited, may not have an effect upon a group's performance under any circumstances. Given the findings of insignificance, a conclusion of this research effort must be that varying the prescribed level of introductory information that a group's members exchange with each other, as done in this study, will not have an effect of significance on either a group member's level of both cohesion and involvement or the productivity of the group. From a statistical standpoint, any other conclusion would be unacceptable.

Implications of Research Findings

Implications of the research findings are apparent for situations wherein people must work in task or decision-making groups. Either asking or not asking group members to reveal information about themselves to each other will have a negligible impact on the group's level of productivity, member task involvement, and group cohesion. Asking group members to go through an introductory process ensures that some time will be spent in such a pursuit, whereas, the time might be better spent by skipping the introduction and beginning to work on the task of concern. In situations wherein the group is an object of research, introductory information exchanges would not be necessary as a means of enhancing the productivity of the group.

Along with the findings related to the hypotheses, consideration must also be given to findings concerned with both the involvement and the cohesion scales. Should further studies be unable to demonstrate the theoretical independence of the scales, then there may be a need to redefine either the scales or the concepts after which the scales are named.

Several questions are raised by the findings of this study and should be of concern to anyone contemplating either using the cohesion and involvement scales or studying information exchanges in groups. The following questions are accompanied by a statement or two toward developing a perspective on the question. As indicated by Stech (1975), group interaction situations can be extremely difficult to deal with from a researcher's viewpoint.

1. Can it again be shown that the cohesion and involvement scales have a relatively high level of correlation? Several combinations of the cohesion and involvement scales, in addition to the one used in this study, must be examined toward determining just what is being measured by both the involvement and the cohesion scales. One possible combination would use the cohesion scale along with the long-form involvement scale, from which the short-form involvement scale used in this study was extracted (Lodahl and Kejner, 1965). There is a considerable body of literature concerned with the concept of both involvement (Rabinowitz and Hall, 1977) and cohesion (Lott and Lott,

1965) which treats the concepts as independent entities, although Rabinowitz and Hall find that there is some conceptual confusion about the construct of job involvement. Should the scales by which the concepts are examined be relatively similar, then a reexamination of both the concepts and their measures might be in order.

2. Prior to an introductory group session, an attempt might be made to understand:

a. What information about others, given the situation in which the group will be working, is sought or desired by a prospective group member? An answer to the question would be useful in understanding both how a person perceives a situation and the consequent information search resulting from the initial perception. As Mabry (1975) found, even the prospective life of a group may have a bearing on whether or not members exchange introductory information with each other.

b. What information about other group members is already possessed by a group member? Such would enable a researcher to understand the knowledge base with which the subjects in a study would be working.

c. To what extent does a person think that other group members have knowledge about that person? The question is related to the idea that in order to be able to assess others, we must understand how others perceive us (Heider, 1958).

d. Combining the findings of two earlier questions, to what extent does the feeling that knowledge is held about others correlate with a feeling that others hold knowledge about us? Again, this question is related to Heider's theory.

3. After an introductory group session has taken place:

a. What information about other group members did a person gain as a result of the introductory session?

b. What additional information about other group members does a member want?

Both of these questions are directed at determining the utility of the introductory group session, both as a source of information and as a vehicle for developing questions related to perceived future information needs.

4. What differences, if any, in the introductory exchange and utilization of information are detectable in comparing both graduates and undergraduates with each other and with persons in other organizations, such as business organizations? An answer to this question could be useful in determining both if levels of sophistication exist in the use and gathering of information, as indicated by both Balswick and Balkwell (1977) and Webber (1974), and how might levels of sophistication be usefully categorized for research purposes.

5. Does the exchange of introductory information differ in voluntary groups as compared to less voluntary groups? The question depends upon an individual's, as well as a researcher's definition of voluntary membership. In any event, it would provide insights useful in understanding if information exchanges are affected by the nature of group membership, or by some other factor, such as the purpose of the group meeting, or both.

Dealing with the questions raised will not be easy, otherwise it is to be expected that such questions would probably have been dealt with by this time. Collecting the needed information, as well as the consequent analysis, may call for new approaches. By utilizing an unusual combination of questions, this study was able to find that the standard conceptualizations of both cohesion and involvement may not be as distinct as they are treated in the literature. Thus, it may be said that a minor finding of this study is that, not only are there many interesting questions yet to be answered about people in groups, but there may be many novel approaches to gathering information about the unanswered questions.

Summary

Varying the member introductory format of a group did not result in significant differences between groups on the basis of either member level of both cohesion and involvement or group rank. Seemingly, setting aside time for

members to introduce themselves to each other may not be an efficient use of a group's time.

The study raised questions related to both the attitude scales used and the research design. The attitude scales are too highly correlated to be considered as distinct and independent measures. Refined versions of the scales might be more useful in a future study. While the research design was satisfactory for the purposes of this study, it could be usefully modified so as to provide additional information about the exchange of introductory information in groups. There are a myriad of design possibilities, given the questions raised, but suitable or reliable methods of collecting and analyzing information about groups in research situations must be developed so that relatively practical designs may be created.

CHAPTER V

SUMMARY OF RESEARCH AND CONCLUSIONS

Comments by students to the effect that they did not know as much about groupmates as they needed to know led to a search for information related to the means by which people in groups gather informatio about each other. A search of the literature showed that while much has been done toward understanding why or how individuals are willing to exchange information with another, little has been done toward investigating the exchange of information in task groups, particularly the exchange of introductory information.

The exchange of introductory information is important in that it may be related to the division of labor process. While groups may be otherwise equal in resources, the processes by which the resources are utilized may often be the point on which groups may be differentiated (Steiner, 1972). Generally, processes of a given level of efficiency may be expected to permit a group with a given resource pool to outperform a group which has a similar resource pool, but which operates at a lower level of efficiency. Through the division of labor process, resources are matched to needs. To the extent that the exchange of introductory information aids in the division of labor, the exchange of introductory

information will enhance the efficiency of the division of labor process.

Whether or not a need to exchange introductory information exists, it has been noted that subjects, in given situations, appear to seek information about others (Insko and Wilson, 1977). Typically, in research efforts concerned with groups, the exchange of introductory information is either overlooked or taken for granted. Understandably, if people know each other prior to entering into a group interaction situation, there would be little need for them to enter into a lengthy or extensive period of interaction prior to undertaking a task. Of course, the knowledge that persons hold about each other may vary both as to content and as to quality. Ascertaining the nature of the knowledge that one person holds about another presents a difficult problem for a researcher. Also, just as groups may differ as to the efficiency of the processes that are utilized in gathering and using information, so may individuals differ, based on their needs and levels of sophistication.

Students in a graduate level management course served as the subjects for this study. The students worked in groups on a business simulation exercise, entitled Executive Game, over a period of eight weeks. Three treatments were developed, in which the introductory format engaged in by a given group was prescriptively varied. The three treatment conditions were: (1) control; (2) structured; and (3) self-structured. In the control treatment condition, the groups

were given no instructions as to how they were to introduce themselves to each other. In the structured treatment condition, the groups were given a list of topic areas that they were to cover in their introductions to each other. In the self-structured treatment condition, the groups were merely told to introduce themselves to each other.

Over the course of the Game, information was elicited from students by a series of weekly questionnaires which included summated rating scales concerned with both task involvement and cohesion. Information was also available as to a group's ranking, relative to other groups in its industry, on the basis of rate-of-return on beginning owner's equity. It was hypothesized that, depending upon the treatment condition assigned to a group, the group would differ as to their: (1) relative ranking; (2) level of task involvement; and (3) level of group cohesion.

During the analysis of the information gathered during the term, it was found that the involvement and cohesion scales correlated to a fairly high degree. Step-down F tests of the data determined that statistically significant differences between the treatment groups could not be found. Neither could statistically significant differences be found between the groups on the basis of group ranking. Thus, none of the hypotheses could be accepted as true. It is concluded that prescriptive introductory formats will affect neither a group's output nor group member levels of either task involvement or group cohesion.

The study raised some questions related to the independence of the involvement and cohesion scales in relation to each other. While not specifically noted in the literature, it may be shown that the concepts upon which the scales are based hold certain relationships in common. The findings highlight a need for additional research on both the scales and the concepts upon which they are based.

Lastly, as intended, the study was successful in the development of questions related to information exchanges in groups. While the questions may not be easily answered, at least they should be kept in mind during the conduct of further research about people in groups. In many ways the questions point out a need to further develop or refine the methods used to study groups.

APPENDICES

APPENDIX A

THIRTEEN BASIC QUESTIONS

Questions 1 through 8 are adapted from Lodahl and Kejner (1965), and constitute the involvement scale.*

1. The major satisfaction in this class comes from my work.

   (Questions 1 through 8 used the following answer selections.*)

   a. strongly agree
   b. agree
   c. undecided
   d. disagree
   e. strongly disagree

2. When I'm working on group related work, the time really flies by.

3. The most important things that happen to me in this class involve my group work.

4. I'm really a perfectionist in my group work.

5. I would probably keep working in my group, even if I didn't need the grade.

6. I'm very much involved personally in my group's work.

7. Most things in this class are more important than group work.

8. I used to care more about my group work in this class, but now other things are more important to me.

Appendix A (continued)

Questions 9 through 13 are adapted from Seashore (1954), and constitute the cohesion scale.*

9. Do you feel that you are really a part of your group?

   a. Really a part of my group.
   b. Included in most ways.
   c. Included in some ways, but not in others.
   d. Don't feel that I really belong.
   e. Don't feel that a group, as such, exists.

10. If you had a chance to do the same kind of work in another group, how would you feel about moving to the other group?

   a. Would want very much to stay where I am.
   b. Would rather stay where I am than move.
   c. Would make no difference to me.
   d. Would rather move than stay where I am.
   e. Would want very much to move.

Questions 11-13 are to be answered in reference to this central question:

How does your Executive Game group compare with other Executive Game groups in MGT 833 on each of the following points?

11. The way the people get along together?

(Questions 11 through 13 used the following answer selections.*)

   a. Better than most groups.
   b. About the same as most groups.
   c. Not as good as most groups.

12. The way the people stick together?

13. The way the people help each other on the Executive Game?

*Sentences so marked are not shown on the actual questionnaire.

APPENDIX B

TREATMENT PARAGRAPHS FROM THE THREE GROUP QUESTIONNAIRES

Control:

During your first meeting toward making a decision for the Executive Game, please take time to decide who will answer the questions on this sheet, and be responsible for its return.

Structured:

During your first meeting toward making a decision for the Executive Game, please take time to introduce yourselves to each other in your group. Also, decide who will answer the questions on this sheet, and be responsible for its return.

In your introduction to each other, please include the following information for each person:

a. Name; address; phone number where you may be contacted or a message left for you.

b. When are you available for group meetings; weekends and evenings, if necessary; possible problems in meeting with the group?

c. Your educational interests and goals; your major; why are you taking this class?

d. What are your employment goals and plans; past experience?

e. How do you feel that you will best be able to help your group?

f. What do you feel are the advantages and problems of working with a group to deal with tasks such as the Executive Game?

Appendix B (continued)

Self-Structured:

During your first meeting toward making a decision for the Executive Game, please take time to introduce yourselves to each other in your group. Also, decide who will answer the questions on this sheet, and be responsible for its return.

APPENDIX C

Table 8

Summary of Mean Responses by Treatment Group, by Question, by Week

Question:	Involvement 1				Involvement 2				Involvement 3			
Treatment:*	All	1	2	3	All	1	2	3	All	1	2	3
Week												
1	1.460	1.409	1.783	1.111	1.175	1.273	1.217	1.000	1.667	1.591	1.913	1.444
2	1.406	1.409	1.652	1.105	1.328	1.545	1.217	1.211	1.531	1.545	1.783	1.211
3	1.469	1.364	1.913	1.053	1.344	1.273	1.565	1.105	1.698	1.636	2.000	1.368
4	1.579	1.167	2.087	1.250	1.333	1.222	1.565	1.125	1.807	1.556	2.261	1.438
5	1.540	1.227	2.000	1.368	1.270	1.273	1.500	1.000	1.714	1.545	2.136	1.421
6	1.509	1.318	1.895	1.375	1.333	1.364	1.632	1.000	1.807	1.682	2.158	1.625
7	1.400	1.318	2.000	0.895	1.300	1.455	1.526	0.895	1.750	1.682	2.211	1.368

Appendix C, Table 8 (continued)

Question:	Involvement 4				Involvement 5				Involvement 6			
Treatment:*	All	1	2	3	All	1	2	3	All	1	2	3
Week												
1	1.667	1.773	1.652	1.556	1.968	2.273	2.130	1.389	1.429	1.409	1.522	1.333
2	1.875	1.773	2.087	1.737	1.844	1.955	2.174	1.316	1.391	1.455	1.391	1.316
3	1.938	1.864	2.304	1.579	1.906	2.182	2.130	1.316	1.391	1.273	1.609	1.211
4	1.842	1.722	2.217	1.437	1.982	2.222	2.217	1.375	1.561	1.444	1.783	1.375
5	1.905	1.727	2.182	1.789	1.841	1.955	2.364	1.105	1.444	1.500	1.727	1.053
6	1.804	1.773	2.053	1.533	1.860	2.227	2.000	1.187	1.421	1.500	1.421	1.375
7	1.850	1.773	2.105	1.684	1.817	2.136	2.158	1.105	1.400	1.500	1.684	1.000

Question:	Involvement 7				Involvement 8				Cohesion 1**			
Treatment:*	All	1	2	3	All	1	2	3	All	1	2	3
Week												
1	1.429	1.409	1.522	1.333	2.540	2.727	2.261	2.667	0.444	0.364	0.565	0.389
2	1.391	1.455	1.391	1.316	2.422	2.409	2.348	2.526	0.609	0.682	0.739	0.368
3	1.391	1.273	1.609	1.211	2.159	2.409	1.955	2.053	0.531	0.500	0.609	0.474
4	1.561	1.444	1.783	1.375	2.175	2.278	2.000	2.313	0.614	0.333	0.696	0.812
5	1.444	1.500	1.727	1.053	2.206	2.364	2.000	2.263	0.587	0.636	0.682	0.421
6	1.421	1.500	1.421	1.375	2.088	2.091	2.105	2.125	0.614	0.545	0.684	0.625
7	1.400	1.500	1.684	1.000	2.067	2.136	1.842	2.211	0.600	0.591	0.737	0.474

Appendix C, Table 8 (continued)

Question:	Cohesion 2**				Cohesion 3				Cohesion 4			
Treatment:*	All	1	2	3	All	1	2	3	All	1	2	3
Week												
1	0.921	0.773	1.087	0.889	0.667	0.591	0.826	0.556	0.714	0.682	0.870	0.556
2	0.844	0.818	1.000	0.684	0.500	0.318	0.652	0.526	0.609	0.364	0.870	0.579
3	0.938	0.909	1.000	0.895	0.578	0.364	0.826	0.526	0.609	0.455	0.783	0.579
4	0.982	0.778	1.130	1.000	0.684	0.556	0.826	0.625	0.684	0.444	0.913	0.625
5	0.921	0.955	1.000	0.789	0.651	0.455	1.045	0.421	0.635	0.455	0.955	0.474
6	0.825	0.727	0.895	0.875	0.614	0.500	0.842	0.500	0.772	0.636	1.000	0.687
7	0.900	0.909	1.105	0.684	0.800	0.682	1.105	0.632	0.733	0.591	1.158	0.474

Question:	Cohesion 5			
Treatment:*	All	1	2	3
Week				
1	0.619	0.545	0.783	0.500
2	0.594	0.364	0.913	0.474
3	0.688	0.500	0.870	0.684
4	0.684	0.389	0.913	0.687
5	0.698	0.455	1.091	0.526
6	0.754	0.636	0.947	0.687
7	0.750	0.545	1.158	0.579

*All = All groups combined
1 = Control groups
2 = Structured groups
3 = Self-Structured groups

**For the purposes of analysis, the order of the response scale was reversed for the questions so marked.

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