

THE EFFECTS OF LEADERSHIP STYLE AND TASK
DIFFICULTY ON THE DECISION QUALITY
AND SATISFACTION OF SMALL PROBLEM-
SOLVING GROUPS

By

SHERI SUE WILLIAMS

Bachelor of Arts
Colorado State University
Fort Collins, Colorado
1968

Master of Arts
University of Illinois
Champaign, Illinois
1971

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Thesis Approved:

Bill F. Elsom

Thesis Adviser

Gail P. Halber, Ph. D.

David W. Deen

Robert J. Weber

Norman N. Durham

Dean of the Graduate College

1016663

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CHAPTER I

PROBLEM IDENTIFICATION

Purpose and Scope

The purpose of the present investigation was to determine the effect of leadership style and level of task difficulty on the decision quality and satisfaction of small problem-solving groups.

Leadership style includes three behaviors: task-oriented behavior (T), maintenance-oriented behavior (M), and an integrated concern for both task and maintenance-oriented leader behavior (TM). The three levels of task difficulty include High, Moderate, and Low. The investigator believed that there would be a differential interaction between leader style and the level of task difficulty.

Group decision quality on small-group problem-solving tasks of varying degrees of difficulty was quantified and measured with appropriate statistics.

Group member satisfaction on small-group problem-solving tasks was measured by a six-point rating scale, with (6) the most satisfying experience down the continuum to (1) the least satisfying experience.

Definitions

Leader Behaviors

Possibly the most consequential of findings related to leadership

in the small group comes from an attempt to identify those functions which must go on in a group. A descriptive system developed by Benne and Sheats (1948) includes task and maintenance functions. The assumption in this system is that both functions are necessary for the group to exist as a group, and in so doing, achieve its goals.

Task-oriented behaviors (T) are directly concerned with the selection and definition of a common problem and in the solution of that problem. Maintenance-oriented behaviors (M) deal with the effort to strengthen, regulate, and perpetuate the group as a group. In addition to the above two behaviors, the investigator combined the task and maintenance-oriented behaviors to form a third level of leadership. An integrated concern for both task and maintenance-oriented behaviors (TM) is accomplished by leaders exhibiting high task as well as high maintenance-oriented behaviors. A rationale for this expanded view of leadership is provided in the problem-analysis section of this chapter.

Task Difficulty

Degree of difficulty on problem-solving tasks is defined in terms of solution specificity and decision verifiability. Based on these two standards for judgment, a panel of experts were asked to classify the three experimental tasks as to level of difficulty: high, moderate, and low.

Problem Analysis

In view of the emphasis upon the interaction concept in theoretical discussions (Cronbach, 1967; Lewin, 1951), it is surprising that there

is a scarcity of research which tests the interaction of leader behavior with the group task. Replication of studies designed solely to examine leader characteristics such as task and maintenance-oriented behaviors is not likely to yield much in the way of new insights. Stogdill (1974), in his extensive review of research on leadership, concludes that:

A small number of variables [authoritarian and democratic leadership, consideration and initiating structure, for example] has been overworked at the expense of other variables that are equally important and about which little is known. [Competence] should be evaluated on the rigor and execution of research exploring relationships between known variables that have not been previously combined (p. 427).

Task Difficulty

An emphasis upon the situational conditions surrounding group problem solving has been of interest to investigators for the past two to three decades. Important questions, however, related to the interaction of leader behavior and task difficulty remain relatively unexplored.

Situational Leadership

In some of the early research, a situational approach was used to study differences in leadership under separate task conditions. Launor Carter (1951) used this approach to investigate leadership with groups solving logical reasoning, mechanical assemblies, and human-relations problems. In a similar investigation, reported by Burke (1943) emergent leadership patterns among enlisted men on a navy ship during wartime were studied under different conditions: during battle, during periods of rest, and when the ship was nearing port. Such discrete and separate ways of defining task conditions failed to lend themselves well to any

generalizations about optimal leadership behaviors under different task conditions.

The number of situations in which leaders find themselves creates a serious limitation as to what can be said about leadership effectiveness. In order to clarify the concept of situational leadership, it may be useful to talk about the task as a function of level of difficulty rather than as a function of discrete conditions which are specific to each situation.

Contingency-Based Leadership

Fiedler (1967) in his analysis of leadership, addresses himself in part to the question of task conditions. He maintains that the contingencies of the situation dictate the leadership style which will have the most effect. Contingency-based leadership suggests: (1) the importance of analyzing a given situation to determine the leadership style required, and (2) the necessity of determining the nature of the task.

It may be noted that Fiedler's contingency model of leadership follows the form of the interaction approach. This conditional or situational model gives attention to leader, follower, and group characteristics. Fiedler's theory is particularly noteworthy in that it provides for an explanation of group outcomes with regard to the nature of the group task.

In Fiedler's model, the task is defined as either highly structured (well-defined) or loosely structured (ambiguous). Using this definition of task structure, Shaw and Blum (1966) in an experimentally designed study, report that structured tasks are solved most effectively with

directive leaders. Tasks of low and medium structure are solved more quickly with nondirective leaders.

In the present investigation, the group task is defined in terms of degree of difficulty. A consideration of task difficulty is selected because of its potential value in educational decisions and plans. Because of the relatively unstructured nature of problem-solving tasks used in the classroom setting, it was considered more useful to study the degree of task difficulty rather than the task structure itself.

Leader Behaviors

A second consideration in the present study is the selection of the leader variables to be investigated. Blake and Mouton's approach to leadership (1964), while not emphasizing the interactionist viewpoint, is significant in terms of the units to employ in describing leader behavior.

An Expanded Definition of Leader Behaviors

Instead of defining leadership as either task-oriented or maintenance-oriented as Benne and Sheats (1948) had done before them, Blake and Mouton conceptualize leadership in terms of a managerial grid on which concern for people (group maintenance) represents one axis and concern for production (task demands) represents the other axis. A leader may be high or low on both axes, or high on one and low on the other. This model of leadership allows for an expanded definition of the behaviors performed by group leaders.

Two General Sets of Leadership

Research on leadership style has been generally characterized by

dichotomized and bipolar conceptualizations of leader behavior. Several forms of maintenance-oriented leader behavior have been identified for study, such as democratic, permissive, and student-centered behavior. Similarly, the various forms of task-oriented leadership have been defined for investigation, such as autocratic, directive, structured, and content-centered leader behavior.

Research on these two general sets of leadership has been of concern in the areas of management, education, and counseling. Likert (1961) found that in the management situation, supportive behavior by the supervisor was associated with better productivity in work groups. In a similar manner McGregor (1960) looked at leadership in the managerial situation from the viewpoint of autocratic management (theory X) and democratic management (theory Y). Such approaches to understanding leadership seem to suggest the following conclusions: (1) autocratic or theory X leaders tend to foster a climate of group antagonism and indifference to the goals of the group, and (2) democratic or theory Y leaders tend to foster a climate of group cohesiveness and commitment to the goals of the group.

Much of the research conducted by persons within the area of education is concerned with the question of the leadership style of the teacher. Some of the findings pertain to those leader behaviors which tend to produce a supportive classroom climate. Student-centered teacher behavior is proclaimed by many of these investigators to be directly related to student achievement and satisfaction.

Notable investigations in education and counseling have been concerned with the question of "which style is better?" such as: (1) is an integrative and facilitative style better than a dominative and directional

style? (Anderson, 1946); (2) is indirect teacher influence better than direct teacher control? (Flanders & Simon, 1970); (3) is an attitude of immediacy and genuineness better than an attitude of distance and formality? (Friel & Berenson, 1969).

Questions such as the above fail (as detailed in Chapter II) to consider: (1) the functional behaviors required of the leader to move the group toward optimal performance, and (2) the situational variables which may call for one particular leadership style or a combination of approaches.

It may be observed in the forthcoming chapter that no polarized theory of leader behavior and group response may be confirmed. Clearly, task or maintenance-oriented behaviors alone will not significantly and consistently influence group decision quality and satisfaction. In fact, much of the research reviewed in Chapter II is correlational in design and, as such, cannot be used to infer causation.

Directions for Research on Small-Group Leadership

Investigations of Leader Behavior

It appears that a promising approach to the study of leadership includes mixtures of the two principle categories of leader behavior: task-oriented and maintenance-oriented leadership. An investigation by Munn and Giffin (1973) underlines the importance of examining teacher-leader behavior under different combinations of leader style. The investigators considered four combinations of leadership which were classified into two broad categories: task-oriented and maintenance-oriented behaviors. They conclude that maintenance behavior serves to motivate and interest

students, yet they also expect to learn something and this expectation requires the teacher to exhibit high task behavior. Jarvis (1974), utilizing the managerial grid to articulate this concept of concern for task and group maintenance, maintains that the effective or "ideal" teacher avoids either complete student-centeredness or absolute goals regarding subject mastery. The above study conducted by Munn and Giffin (1973) is considered in more detail in Chapter II.

In view of the complexity of leader behavior and the variety of situations in which it functions, consideration of a combination of leader behaviors seems more reasonable than a bipolar view of leadership. It may be that leaders will exhibit task-oriented (T) or maintenance-oriented behaviors (M) in some situations and an integrated concern for both task and maintenance (TM) in other situations. Such a representation of leadership demonstrates a more sophisticated explanation of leader possibilities; thus the three behaviors: task-oriented, maintenance-oriented, and an integrated concern for both orientations, are explored in the present study.

Investigations of Task Difficulty

Studies considering an interaction between leadership behavior and degree of task difficulty are needed to generate knowledge about the conditions necessary for effective group work. The results of such an examination may challenge the generally accepted belief that problem-solving groups tend to function better under maintenance-oriented leadership than under task-oriented leadership. Zelko (1957), in his handbook on successful discussions, for example, advocates maintenance-oriented leadership as the most successful technique in problem-solving discussions.

While a concern for group maintenance is repeatedly referred to as the ideal in problem-solving groups, the research evidence has not consistently and significantly favored one particular style. Relative effectiveness depends, in part, on the nature of the task.

The interactionist viewpoint as applied to the study of leadership suggests that the aspiring leader must be alert to the functions which go on in the group as well as the situational demands. From this formulation, it would appear that leaders in small group settings have the responsibility to: determine the degree of task difficulty (Hi, Mo, Lo) for the group, and perform the necessary leader functions. A particular leader style may be needed to: (1) aid the group in its group building or maintenance needs (M), (2) help the group accomplish the task at hand (T), or (3) aid the group in both functions by encouraging member participation and coordinating ideas (TM).

Significance of the Present Investigation

Group Learning Through Group Discussion

Whether the present investigation applies to the classroom setting is a concern deserving emphasis here. The advantages of participation in group leadership and group discussion for decision making may be multiple for students and teachers alike. Carkhuff (1969) in his primer on helping and human relations, maintains that group methods allow the leader to create a facilitative atmosphere and to utilize resources in a productive manner. If leaders are equipped with guidelines regarding the optimal conditions for group problem solving, the power of the learning experience may be increased.

The questions raised in this investigation have particular significance for the secondary school. Much has been written in the past few years, particularly by advocates for reform in public education, regarding the use of small-group problem solving. In 1974, the National Panel on High Schools and Adolescent Education (Martin, 1974) recommended that one of the major functions of the school ought to be in the preparation of students to participate knowledgeably in the decision-making process.

Participation in small group discussions is viewed by many educational leaders as a powerful setting for learning. Spokespersons for the Phi Delta Kappa Task Force on Secondary Education (Gibbons, 1976) believe that the opportunity to participate in decision making has far-reaching implications for students. Such experiences are defined by these educators as a desirable framework for the development of necessary student competencies in: learning to formulate plans of action, learning to conduct cooperative exploration, encountering others and resolving difficulties, and experiencing relationships, roles, and responsibilities.

Group instruction in the classroom setting is gaining recognition as a viable learning experience. Gibb (1960), in his review of instructional groups, states that there is some evidence that group instruction maximizes the learning in the classroom. Wischmeier and Storey's experimental findings (1964) support this claim: i.e. group discussions tend to produce greater satisfaction with the decisions reached and a higher rate of member interaction. The present investigation with its concern for a variety of leader behaviors under varying task conditions may help to clarify the functions of leadership in the instructional group.

It appears that if teachers are to move in the direction of organizing suitable small-group experiences, it is necessary that they be

equipped with the understandings and competencies that are required for guiding learning in the small group. Rather than being the continuing performer of educational events, the teacher is increasingly called upon to demonstrate competence in varied forms of instruction. Such options should not exclude the arrangement and organization of group-learning experiences. Research is needed in this area to help the teacher make the decisions required to organize and plan such learning events.

Problem Solving in Student-Led Groups

As long as the teacher is perceived as such a critical member of the instructional group, her/his behavior will continue to dominate research on instructional effectiveness. This concern for teacher-centered or manager-centered research is reflected in many of the studies related to leadership behavior. Attempts to relate teacher behavior to student outcomes in small-group problem solving may be complicated by such variables as the age, status, and influence of the teacher.

In order to avoid such confounding factors as age and status, it may be useful to study leadership behavior in groups functioning under student-led conditions. Under such conditions the leader's reference-group identification will be more similar to the group's characteristics and such influences as age, position power, and expectations may be reduced.

In a call for a new focus in measurement of teacher leadership, Gaines (1973) urges researchers to consider alternative means of controlling such influencing variables as pupil expectations of teacher attitude toward the group and the task. In addition, Rosenshine and Furst (1971), in their review of research on teacher education, question whether or not

teacher behaviors will influence student outcomes in non-conventional classrooms when the teacher is not the dominant actor. A study of small-group problem solving under student-led conditions is one way to address these concerns.

Research Questions and Limitations

Research Questions

It was hypothesized that in the present investigation: leadership style would interact with level of task difficulty to produce differential decision quality and satisfaction among group members. Control procedures will be taken to remove the possible effects of order. Secondary analysis of main and order effects will be carried out in order to make the research design maximally sensitive.

Limitations

The present investigation may not generalize from the interpersonal domain to problem solving in large group situations. The unique interaction of members in small groups may require a different leader behavior than that required in larger organizational or educational environments.

The experiment is structured to test the effects of leadership on small-group problem solving. Other small-group situations such as personal-growth groups, informational committees, or religious-study groups, may well demand different styles of leadership.

Group member productivity and satisfaction may not be related exclusively to the interaction of task difficulty and leader behaviors. Decision quality and group satisfaction may be functionally related to such

interpersonal factors as: (1) group solidarity and cohesiveness, and (2) the tendency of group members to support others' perspectives. Control procedures for such extraneous variables in small-group problem solving are addressed in the design section of this study.

A variety of structural variables may influence the way in which the group accomplishes its task. The structural variables receiving most of the attention are classified by Giffin and Patton (1971) as: group size, member status, power structure, and satisfaction or a sense of belonging. In order to control for the complexity of the social situation, the present investigation is limited to randomized three- and four-member problem-solving groups, in which the group members know each other well and the patterns of influence are well established.

CHAPTER II

REVIEW OF RELATED LITERATURE

Purpose and Objectives

The purpose of this chapter is to investigate the research literature describing the relationship between leader behavior, task difficulty, and group outcome variables. Leadership behavior is defined here in terms of those variables which account for the performance output and morale of the group. Interrelationships between leader behavior, task difficulty, and group outcomes are represented through the perspective of a typical selection of research efforts. Investigations conducted by persons both analogous to the study of leadership effectiveness and within the area of study are examined. Conclusions drawn from existing knowledge regarding the proposed relationship are presented.

Specifically, the objectives of this investigation are threefold: (1) to review what is already known regarding the proposed relationship between leader behavior, task difficulty, and group outcomes, (2) to determine what needs exist for additional exploration, and (3) to identify both successes and failures of existing research so that during future research efforts deliberate replication of particular areas will be possible and unintentional replication will be avoided.

Definitions of Leadership

Leadership styles may be defined by a broad array of descriptors.

Some of the most frequently used terms for describing what is meant by leader style include: (1) interpersonal maintenance behavior, (2) socio-emotional orientation, (3) indirect influence and control, (4) integrative and/or facilitative orientation, and (5) authenticity and/or congruent behaviors. Similarities and differences in general usage of the above descriptors are illustrated on each of the five continua below.

1. Maintenance-Oriented Behavior--Task-Oriented Behavior

expressions of consideration,
encouragement, mutual trust,
respect and warmth

initiation of structure,
organization, clarification,
coordination and summary
statements

2. Positive Socioemotional Orientation--Negative Socioemotional

shared problem-solving
attitude, spontaneous response,
empathy, provisionalism

attitude of superiority,
evaluation, control,
certainty

3. Indirect Influence and Control--Direct Influence

responsiveness to ideas and
feelings, support, praise,
cooperative goal structure,
individual standards for
performance

giving and asking for
information, criticizing,
competitive goal orientation,
uniform standards for
performance

4. Integrative and Facilitative--Dominative and Directional

empathy, unconditional
positive regard, genuineness,
concrete, encouraging,
accepting, giving praise

giving orders and asking
for suggestions,
clarifying, regulating,
summarizing

5. Authenticity and Congruence--Affectation and Incongruence

genuineness, trustworthiness,
immediacy, responsiveness,
healthy self-concept,
commitment

mechanical, unreliable,
aloof, distant, imbalanced
between statements and
actions

A Bipolar View of Leadership

The above conceptualization of the leadership situation illustrates a bipolar view of leader styles. There are essentially two different

definitions of leadership posited above, two approaches to a typology of leadership, which differ mainly in the amount of leader structure and the degree of group participation. One approach may be called the "structured" or task-oriented approach to leadership; the other, the "group-centered" or maintenance-oriented approach.

More important than the differences in these two conceptions of leadership is what the two definitions hold in common. While there appears to be little consensus on the definition of the nature of leadership, both the task- and maintenance-oriented approaches to leadership may be conceived of in terms of those variables that account for the performance output and morale of the group.

Variations of Leadership Styles

Variations in the amount of leader structuring and the degree of group participation may help to explain why educators are concerned with leadership effectiveness research. Decisions regarding the appropriate leadership style may help educators understand the way leaders attempt to reconcile conflicting demands associated with the productivity and morale of the group.

Educators have concerned themselves with leadership styles for reasons other than for efficiency in the group decision-making process. Training in group problem solving is seen as a necessary goal of education for a democratic society. This point of view is quite clearly expressed in *The New Secondary Education* (Gibbons, 1976). The section on reform in public education includes a citation from the National Panel of High Schools and Adolescent Education: one of the major functions of the school ought to be in the preparation of students to participate

knowledgeably in the democratic process. In order to satisfy such a requirement, educators need to be equipped with more than an implicit or intuitive theory of leader effectiveness. Casual assumptions regarding which leader style is best for a particular group of students on a particular problem need to be examined. A word on the common assumptions regarding leadership effectiveness is first necessary to underscore why the question is of particular concern to educators.

Assumptions Underlying the Call for Improved

Interpersonal Maintenance Behavior

One of the principles governing interpersonal communication theory is that personality development and behavior patterns are determined by relationships between persons. In the leader-group relationship, it is widely believed that a supportive interpersonal climate enhances group development and reduces dissatisfaction. Further, advocates of this belief claim that the leader's maintenance-oriented behavior is directly related to a reduction in group tension and defensiveness along with an increase in the group's ability to receive and process information.

Casual literature is rich with platitudes about the need for improved interpersonal-maintenance behavior. Group building and maintenance skills are proclaimed as a panacea for eliminating anxiety and tangential behavior, motivating underachieving groups, and in general reducing the stresses encountered by decision-making groups in a world of social unrest.

The assumption underlying these global claims is that change in leader behavior toward improved interpersonal-maintenance behavior results in an increase in group performance and morale. Changing the leader's behavior may in some cases demand that the individual change a life style.

Whether changes of such a magnitude are warranted is one of the concerns of the present investigation.

Review of Research

In general, the research literature concerned with the study of leadership may be divided into three categories: theoretical works on the nature of leadership and the processes through which leadership is acquired; methodological works on the identification and measurement of leadership; and empirical works on the impact of leader behavior and task difficulty on group outcome variables. Since it is commonly argued (Stogdill, 1974) that the theories of leadership are less satisfactory than the research, it is the latter body of research which is of special concern in this review. Investigations conducted by persons both analogous to the study of leadership effectiveness and within the area of study are examined.

Analogous Research Findings and Their Implications for Leadership in the Small Group

The Facilitative and Directional Leader in Therapeutic Groups

The effects of facilitative conditions upon client functioning have been explored by a number of researchers and practitioners in the therapeutic profession. In general, the dimensions of empathic response, unconditional positive regard, and genuineness are positively related to therapeutic change in the client (Barret-Lennard, 1962).

Unless the helper offers the client a promise of direction, however,

the incidence of positive and constructive change may be reduced. Friel and Berenson (1969), in their examination of the behavior of high-facilitative therapists, note that high-level therapists must function at correspondingly high levels of immediacy in order to obtain feedback from the client and initiate direction.

Leader behaviors which are characterized by a facilitative orientation are thus likely to influence group growth. It may be, however, that the facilitative environment alone will not guarantee group productivity and satisfaction. Friel and Berenson, cited above, assert that high-action oriented communication is essential if clients are to experience directionality in therapy.

The Organizational Manager in Decision-Making

Groups

A second area of research which is analogous to leadership in the small group stems from the organizational development approach. Most organizational development projects are guided by a concern for human needs with the resultant emphasis upon group process skills. The assumption is that interpersonal interactions involving support and cooperative problem solving will produce gains in employee morale and work productivity (Migliore, 1973).

Kahn (1973) and Likert (1961) find that supervisors with better production records give a larger proportion of their time to supervisory functions, and especially to the interpersonal aspects of their jobs. In a recent study conducted by the Survey Research Center at the University of Michigan (1973), the research team concludes that high production work groups are characterized in part by employee satisfaction with their

position in the company and employer confidence in their supervisory roles. Casual literature suggests, however, that many organizational managers do not yet accept the assertion that gains in work productivity necessarily follow such cooperative decision making.

Indirect and Direct Teacher Influence in
Classroom Groups

Just as there is no clear agreement regarding a best style of leadership in therapeutic and management research, so there is no one best style emerging from teacher effectiveness research. Reports of successful research efforts which seem to indicate a positive relationship between teacher maintenance-oriented leadership and classroom productivity and satisfaction are reported in this section of the review, as well as some qualifications and contradictory evidence.

Reports of Successful Research Efforts. Hefele (1969) points out largely positive relationships between teacher maintenance-oriented leadership and the achievement of deaf students. Beeker (1970) finds that when fifth grade students are involved in an interpersonal as opposed to a directive climate, the students write stories of a more personal and unique nature. Wood (1974) reveals that teacher treatments involving openness tend to produce student gains in economic understanding. These three studies involving instruction of deaf students, fifth-grade composition students, and students enrolled in college economic classes all point to a positive relationship between maintenance-oriented behavior and gains in pupil achievement criteria.

Another focus of research on teacher leadership is influenced by

the use of observational systems which distinguish between direct and indirect teacher behaviors. Anderson (1946) conducted the early research relating to teacher indirect behaviors. His premise was that integrative or indirect teacher behavior has the effect of creating a more satisfying learning environment.

Since Anderson's time, categories such as teacher use of pupil ideas and acceptance of feelings have been commonly found among the observational tuning devices used to study teaching effectiveness. Rosenshine and Furst (1971), in a review of research on teacher performance criteria, conclude that teacher use of pupil ideas, level of questioning, and use of a variety of procedures are repeatedly although not significantly associated with pupil achievement.

Flanders and Simon (1970) most directly represent the proponents of interaction analysis with their concomitant emphasis upon indirect teacher behaviors. In their review of research dating from 1960 to 1966, Flanders and Simon conclude that:

The percent of teacher statements that make use of ideas and opinions previously expressed by pupils is directly related to average class scores on attitude scales of teacher attractiveness, liking the class, etc., as well as to average achievement scores adjusted for initial ability (p. 1426).

The definition generally given to the phrase "makes use of pupil ideas" is teacher clarification, building, or developing the ideas suggested by pupils. Gallagher and Aschner (1963) define the term more narrowly to mean specific teacher questions which have the effect of eliciting divergent responses from students. This definition is similar to the present use of the term maintenance-oriented leadership. In a preliminary analysis of classroom interaction, Gallagher and Aschner find that only a slight increase, amounting to 5 to 15 percent, in the time

devoted to asking divergent level questions elicits correspondingly high levels of divergent-expansion type responses from students. McKnight (1974) restates this conclusion in his working paper: teacher probe questions enable the learner to play a more active role in instruction.

Some Qualifications and Contradictions. At the Stanford Center for Research and Development in Teaching, Robert Hess and others (1973) found that an overall pattern of differences in student outcome which were believed to be effected by teacher strategies was less marked than anticipated. Only two specific teaching behaviors, of sixteen examined, stood out as significantly effecting student outcomes: (1) when the teacher is perceived as skillful in listening, students tend to exhibit high engagement or interest, and (2) when the teacher makes use of a high number of commands, students tend to exhibit low interest in the task. These two behaviors correspond roughly to the two dimensions of interest in the present investigation: maintenance and task behaviors, respectively.

An important variation which may help to explain why research on teaching styles does not always produce consistent results is revealed by Aspy (1969). Aspy found that increase in student functioning on reading achievement indexes is only significant immediately following high-facilitation encounters in which the teacher functions at high levels of empathy, respect, and genuineness. It appears that long-term measures of group performance need to be considered in making comparisons between studies which investigate leadership styles.

Some Confounding Results. The influence of the teacher's maintenance-oriented behavior is also found to be inconsistently related

to student achievement in a study by Kelley (1973). This finding confirms the results of the Beeker study, cited earlier, which reports to link student writing performance with interpersonal-maintenance behavior. In fact, Kelley concludes that neither clarifying nor task-oriented teacher behaviors significantly effect writing performance on student revisions or on papers written by students between contiguous units of study.

Evertson and Brophy (1974) examined the behavior of elementary teachers who consistently produced student learning gains on the Metropolitan Achievement Tests. The authors found that some teacher variables which correlate significantly with pupil gains in other studies did not in this naturalistic study. They conclude that some of the elements of a maintenance-oriented style: teacher warmth, enthusiasm, rapport, and patience, fail to show significant correlations with student outcomes.

Gains in student satisfaction are also questioned by Power and Risher (1974) in their study of teacher indirect and direct behaviors. They conclude that a certain amount of teacher task-oriented behavior is needed to produce gains in achievement as well as in satisfaction or attitude.

The above findings seem to suggest that specific teacher behaviors are not always consistently related to student achievement and student satisfaction. A discussion of the reasons for this inconsistency along with the potentials of such research efforts are presented in the concluding sections of this chapter.

Implications for Leadership Effectiveness in the

Small Group

The value of analogous research is determined by the degree of

similarity existing among the properties to be compared. Whether the above three areas of study apply to the small-group situation is a question deserving consideration here.

The comparison between studies of psychotherapist and group leader effectiveness is useful to a limited extent. Rogers (1971) reminds us that the therapeutic relationship is a special instance of interpersonal contact. Facilitative conditions are most effective in a climate which is free of evaluation, whereas evaluation may not be readily removed from group problem-solving situations. In addition, the client in therapy generally enters the relationship on her/his own accord. Hence the analogy is only partially useful. Unless evaluation procedures and task requirements are eliminated from the leader-group relationship, not all of the properties existing between the therapeutic and leader-group relationship are comparable.

The organizational development model is recently gaining recognition in problem-solving groups. The success of organizational development programs rests on participation and personal commitment to the organizational goals. Yet as long as group members are relegated to the role of information receivers rather than full participants in the decision-making process, the analogy between management and small-group leadership is only partially useful.

Research on teacher effectiveness is more directly linked to leader-effectiveness studies. Efforts to understand the leader-group relationship are enhanced through the analogy to the classroom situation. This is especially true when teachers and learners share a joint problem-solving attitude toward the learning tasks and toward problems confronted in the classroom.

Teacher leadership in the classroom is not always comparable to leadership in the small group however. Productivity and satisfaction with the teacher-leader may be blocked by the threat of teacher power and control over the student group. In a study of teacher leadership in experimentally created hierarchies, Kelley (1960) concludes that: "the threat of the teacher's power and how he (she) will use it directly blocks the learning process" (pp. 121-122). This view is voiced repeatedly by educators of the progressive school who assert that teacher control should be minimized if not eliminated altogether from classroom leadership. In a similar report on teacher control strategies completed by Forward in 1973, it is concluded that some teacher control and task structure is necessary, but primarily at the beginning of the learning process. It may be that prestige and status variables contribute to the perception of teacher control and serve to confound interpretations of teacher leadership in classroom groups.

The limitations discussed above suggest that leader effectiveness studies fail if they are based on models which are only weakly analogous to the small-group situation. The assumption that the tasks confronted by small groups depend upon a truth/trust relationship between leader and member is not accepted by all leaders. Other variables enter into the relationship which effect the way leaders and group members perceive their roles in the small-group setting. Whether specific leader behaviors significantly effect the group outcome must be considered in light of research conducted in small-group situations.

Existing Knowledge About the Influence of Leader
Behavior and Task Difficulty on Group Outcomes

Dimensions of Group Productivity Arising From the
Framework of Group Dynamics

Early research related to leadership effectiveness centered on the traits of the leader. When consensus regarding the utility of the trait approach revealed that the leadership focus was inconclusive, the emphasis shifted to a focus upon group dynamics and flexibility in role behavior. In the helping relations, group training is often considered to be the preferred mode of treatment (Carkhuff, 1969).

The principle assumption arising from group dynamics theory is that there is no one role description which is effective in all groups. When a need for structure is evident, group members tend to emerge to organize, summarize, and clarify the task. When a need for group cohesiveness is felt, group members tend to arise in order to encourage, support, and respond to the group needs.

From his extensive critique of research on leadership and group performance, Stogdill (1974) concludes that neither task nor maintenance-oriented leadership may be advocated as the best method for increasing group productivity. He contends that the research on leadership indicates that the group decision does not vary consistently with task- and maintenance-oriented styles of leader behavior. While group productivity is somewhat more highly related to a task than a maintenance orientation, results from a small number of studies on experimental groups suggests that "leaders tend to change certain aspects of their behavior in response to changes in group task demands" (Stogdill, 1974, p. 169).

It seems unsatisfactory, however, to suggest that flexibility in role behavior is the key to leadership effectiveness across varying levels of task difficulty. It may be that a focus upon the follower group's expectations and needs as an indicator of who will emerge in the leadership role tends to distort any explanation of leadership effectiveness. While the expectations of the follower group may have a significant impact on the quality of the group decisions, the influence of follower expectations may be reduced under conditions of varying task difficulty.

Most of the research on follower-oriented leadership is concerned with work groups in formal organizations, primarily industrial. The emphasis upon emergent leadership in such situations, while significant in terms of the emphasis upon the follower group, fails to yield much in the way of new insights into the leadership role. Important questions related to the functions of leadership as they interact with the task conditions are left unanswered under the emergent approach to leadership. In order to clarify the existing state of knowledge regarding leadership effectiveness, it may be necessary to talk about leadership styles as a function of the interaction between leader orientation and task difficulty.

Task Difficulty as a Moderator of Decision Quality

An optimal leadership style has not been supported by the research on leadership in interacting groups. The evidence neither invalidates nor confirms a task or maintenance-oriented style for all task conditions.

An Integrated Leadership Style Across All Task Conditions. Some

researchers, cited in this review, tend to favor a balanced concern for task and maintenance-oriented leadership. Three authors in particular stress this integration of styles: (1) Kelley (1960) suggests that the leader needs to balance concern for task and process to reduce the threat of leader power and control; (2) Forward (1973) concludes that some control and structure is necessary, particularly at the beginning of the learning process; and (3) Power and Risher (1974) also agree that a certain amount of structuring is needed to facilitate achievement and satisfaction.

A review of Munn and Giffin's (1973) study on the relationship between leader behavior and group outcomes serves to reinforce the evidence that an integrated concern for task and maintenance leads to group productivity. The leaders in this study functioned under four combinations of leadership which included the two dimensions of interest in the present investigation: task-oriented and maintenance-oriented leadership. The authors conclude that satisfaction with the leader is not a product resulting from excellence in maintenance behavior alone but instead a combination of concern for task-oriented and maintenance-oriented behavior. Achievement, as measured by the Patton Speech Content Exam, is not significantly effected by the degree of task and maintenance behaviors exhibited by the leaders. Satisfaction, as measured by a student satisfaction questionnaire, is highest when the leader exhibits high task and high maintenance behavior.

Munn and Giffin further conclude that maintenance-oriented behavior serves to motivate and interest student groups. Yet because students have a predetermined set of expectations regarding classroom functioning, these student expectations also exert some degree of pressure on the

teacher-leader to exhibit high task behavior.

Fleishman and Simmons (1970), in a study of work groups in Israel, have also concluded that an integrated concern for task and maintenance is related to group effectiveness. The researchers suggest combining the two principle dimensions for optimal productivity and satisfaction.

Combinations of Leadership Style as They Interact With the Task.

Greenwood and McNamara (1969) suggest, however, that even this combination fails to produce consistent and significant results. Exceptions to the general rule that leadership effectiveness is related to high scores on both task and maintenance-oriented dimensions have been demonstrated by a number of researchers (Stogdill, 1974, p. 61-62). While in general, an integrated concern for task and maintenance may relate positively to satisfaction and performance, such results occur in some but not all situations.

Summaries of research bearing on the integrated leadership style have been published by several investigators, notably Kerr et al. (1974), and Behling and Schriesheim (1976). The conclusion reached from examination of this evidence is that an integrated concern for task and maintenance is probably not universally effective under all conditions.

It may be concluded that group outcomes do not vary consistently with task and maintenance-oriented styles of leader behavior. While there is a slight tendency for group performance to be related to an integrated leadership style, further investigations of how combinations of leadership interact with the task conditions are needed.

The task demands in problem-solving situations may vary in difficulty from relatively easy coding-type problems to more complex human-

relations cases. Attention to the task demands may help clarify leader conditions.

Situational Favorableness as a Consideration for Leadership. As discussed in Chapter I, Fiedler's contingency model of leadership (1967) helps to explain leader responsibility under varying task conditions. Because Fiedler's model is of particular value for a situational or conditional approach to leadership, a further consideration of Fiedler's position is provided here. Essentially, contingency-based leadership suggests that leaders have the responsibility to determine the favorableness of the situation in order to perform the necessary leader functions.

Fiedler's definition of situational favorableness includes a consideration of task structure. Task structure refers to the presence or absence of structure of the task. Fiedler specifies that the more structured the task, the easier it is for the leader to exert influence. Shaw and Blum (1966) have investigated this conceptualization of the leadership situation. They report that highly structured tasks are solved most effectively under directive or task-oriented leadership. Tasks of low and medium structure are solved more quickly under nondirective or maintenance-oriented leadership.

Structured procedures, according to Fiedler, provide the leader with more knowledge than the group has concerning the method of accomplishing the task, and with more opportunity for demanding that the group follow such procedures. While all three tasks used in the experimental manipulations in the present study are unstructured in terms of what is expected of the group, they do vary with regard to the methods which can be used to accomplish the task. Thus, Fiedler's definition of task structure differs somewhat from the present definition of task difficulty. While

methods may vary each task may provide the leader with the same amount of structure.

Knowledge of the level of task difficulty and how the tasks interact with leader style may provide a workable framework for determining appropriate leadership styles. Such knowledge should help the aspiring leader determine which style is appropriate for a particular level of task difficulty.

Dimensions of Member Satisfaction With Leadership

Arising From the Framework of Perceptual Psychology

While a synthesis of the extraordinarily rich literature in the area of person perception is beyond the scope of this review, the research in this area is clearly germane to the study of leadership effectiveness. The works of Heider (1958) and Combs (1962) provide a workable starting point for review.

An essential element of balance theory is the perception of congruence between the attitudes and resultant behavior of a person (Heider, 1958). The way in which a person or group perceives the leader in a group situation may be what is crucial to an understanding of satisfaction with leadership.

Perceptual styles are especially relevant in leader-group relations. Seemay (1965), in a study of the therapist-client relationship, notes that success in psychotherapy is closely associated with how the client perceives the helper in the relationship. Seemay reports a high degree of agreement among clients in therapeutic relationships as to which attitudinal elements in the relationship are helpful. The results of the

study suggest that group member perceptions of leader attitudes may be closely related to success in group decision making.

Satisfaction with leadership may thus be related to complex perceptual patterns in the leader-group relation. Combs (1962) in an analysis of the research conducted at the University of Florida, concludes that only when the helper's preferences regarding strategy and methods fit the helper's style and the needs of the client will the helper be perceived and judged as effective. Barnes and Shemilt (1974) support this premise in their analysis of teacher expectations: the relationship between leader and group is shaped by the way in which the leader perceives the group task, the abilities of the group in fulfilling the task, and the decisions made about group interest in the task.

The leader's preference for a particular style is thus only one variable to consider in light of the perceptual framework for understanding satisfaction with leadership. A useful illustration of the perceptual approach is derived from the above study by Barnes and Shemilt. The leader who sees task decisions regarding performance correctness as taking priority over group maintenance decisions and concomitantly spends more time in correcting errors, is likely to be judged effective at least on a scale of authenticity and congruence.

An alternative explanation of satisfaction with leadership comes from behavioral psychology. Results from a growing number of studies support the view that "the leader's behavior conditions the response of the follower" (Stogdill, 1974, p. 354). For example, if the leader expresses concern for and acts in such a way to facilitate group action and interaction, this type of leader behavior may condition followers to be favorable toward a concern for group structure and support of the group

members. Thus, it is not surprising to find in a study by Wischmeier (1955) that the formally designated leader of a group tends to receive higher ratings in terms of the value of her/his contributions to the group.

Favorable response to the leader style may not, however, guarantee satisfaction with the task. In a 1974 study of high school students' tendency to enroll in or avoid physics, Parkee hypothesized that student-centered (or group-maintenance-oriented) teachers encourage more students to enroll in physics. The investigator reports that neither the student group who enrolled in physics nor the group who avoided physics saw the course as student-centered. The assumption that a favorable perception of the leader's orientation will change the group's unfavorable perception of the task was rejected in this study.

From the work of Seemay and Laurence, cited above, it appears that satisfaction with the leader may result from a number of factors including the group members' perception of the leader's attitude and the group's perception of the task. A third perceptual factor related to satisfaction with leadership is reported by Schmuck (1966). Schmuck concludes that abilities are utilized more fully in school achievement when the student tends to feel liked by the peer group and has a positive attitude toward self and school. The group member's status in the peer group is, then, an additional variable which may need to be considered along with the above two factors to explain member satisfaction with leadership.

A Call for New Knowledge

Causality Between Leader Behavior and Group Outcomes

It is concluded from the above review that neither task- nor maintenance-oriented behaviors are consistently and significantly related to group productivity and satisfaction. This conclusion is especially observable in studies demonstrating maintenance-oriented behavior in the absence of task-oriented behavior.

A question which arises from the inconclusive nature of the findings is whether or not specific leader behaviors are causally effective in producing decision quality and satisfaction in small groups under varying task conditions. Hess (1973) found that his attempts to relate leader behavior to group response were complicated by variables such as the size of the group, length of group life, and the nature of the task. Clearly not enough is known to determine whether or not specific leader behavior significantly influences group outcomes under varying task conditions.

Problems Inherent in Correlational Studies

Many of the studies reviewed in this paper are correlational in design. Potter (1975), in his position paper, notes that problems abound in correlational studies of the relationship between leader behavior and group outcomes. He believes that more reliable process and product measures need to be developed in order to address the problem of causation.

Gaines (1973) is concerned that too many researchers rely on the assumption that variables in the leadership act itself will bring about desired changes in behavior. More experimental studies are needed to control other influencing elements such as the size and time frame of the

group and task-related variables. In addition, Rosenshine and Furst, cited earlier, question whether or not leader behaviors will similarly influence group outcomes in non-conventional situations such as those in the classroom when the teacher is not the dominant actor.

The advantages of experimental studies on leader effectiveness may outweigh the disadvantages inherent in correlational studies, particularly since the proposed relationships in some studies are probably curvilinear. More investigations of conditions in a wide variety of settings need to be conducted in order to properly interpret results.

Potentials of Past Research Efforts

Even though the state of the art in leader effectiveness studies is beset with problems in the control of human variables, the potential of gleaning new direction from past research efforts is apparent.

While conclusions drawn from this review suggest that no one leadership style consistently and significantly influences group outcomes, it is likely that leadership effectiveness may be increased through a consideration of maintenance-oriented behaviors and task-oriented behaviors as they interact with the group task. Specifically, the work of Shaw and Blum, cited earlier, confirms the necessity of matching leader behaviors with task conditions.

CHAPTER III

METHODS AND PROCEDURES

Introduction

The purpose of the present investigation was to determine the effects of leadership style and level of task difficulty on the decision quality and satisfaction of small problem-solving groups.

Subjects

The subjects for this experiment were 154 male and female undergraduate students at Oklahoma State University, enrolled in small group and organizational communication courses during the fall semester of 1977.

Using a table of random numbers, the experimenter assigned the subjects to 45 three- and four-member groups with 26 groups of 3 and 19 groups of 4. The sampling unit consisted of five intact classroom groups in which the members knew each other well and the patterns of interaction were well established. Enough subjects were present at a given time to form between 7 and 12 groups of three- and four-persons each.

The variation in group size was not considered detrimental to group problem solving, as contributions tend to lessen in quality when the group size is increased rather than when the group size is reduced in number. In fact, Bales and Borgatta (1965, p. 495), in their study of the small group, have suggested that "groups from three to eight members tend to function similarly."

Fifteen groups worked under task-oriented leadership (T), fifteen groups worked under maintenance-oriented leadership (M), and fifteen groups worked under an integrated concern for task and maintenance-oriented leadership (TM). Random assignment of subjects to the 45 groups was a means to ensure opportunity for problem solving in each of the groups and to control for extraneous variables.

Design

The design used in the present investigation was a Type III Lindquist Analysis of Variance, in which the effects of individual differences are counterbalanced (Lindquist, 1953). The design is regarded as a mixture of the simple-randomized and the treatment X subjects designs with repeated measures on one of the factors.

Each factor of the three-factor mixed design (Task Difficulty X Leader Style X Order) was performed with three levels, with a total of 27 treatment combinations. The design is illustrated in Figure 1, in which the order of the three tasks was altered in the following three serial positions: Order 1 = 1, 2, 3; Order 2 = 2, 1, 3; and Order 3 = 3, 1, 2.

	Hi	Mo	Lo		
Group 1				Order 1	Task Difficulty: Hi = High Mo = Moderate Lo = Low
2				Order 2	
3				Order 3	
4				Order 1	Leader Style: T = Task-Oriented M = Maintenance-Oriented TM = Task and Maintenance Oriented
5				Order 2	
6				Order 3	
7				Order 1	
8				Order 2	
9				Order 3	

Figure 1. Type III Lindquist ANOVA Design, Where Each Group is Composed of Five Small Problem-Solving Task Groups

Experimental Treatments

Leadership Behaviors

The first variable in the present investigation, type of leadership behavior, was manipulated in the three intended directions (T, M, TM). In order to ensure that maximal difference among each of the three leader behaviors was observed, all subjects completed a leadership questionnaire designed to identify leadership preferences. Subjects receiving high scores on one of the three levels of leadership were assigned to the leadership position, trained to perform the intended behavior, and then randomly assigned to the 45 groups. Fifteen of the leaders received training in task-oriented leadership (T), fifteen received training in maintenance-oriented leadership (M), and fifteen received training in an integrated concern for task and maintenance (TM).

Leadership Training Methods

Various behavior adjustment methods developed by educators and psychologists have been adapted to the training of leaders. Of the several methods employed: including traditional instruction, psychodrama, socio-drama, business games, and role playing; the experimenter selected traditional instruction for use in the training of leaders in the present study.

The various techniques used for leadership training fail to differ significantly from traditional instruction. Mann and Mann (1960) compared role playing and task-oriented group experience in a training program. They reported, contrary to their hypothesis, that subjects in the task-oriented problem-solving groups changed more in leadership than those in

the role-playing groups. Although participants generally regard role playing in favorable terms, training directors and supervisors have expressed mixed attitudes toward its benefits.

It appears that while neither traditional instruction nor role playing is a superior method for training leaders, some generalizations may be made regarding factors affecting training outcomes. Barnlund (1955) demonstrated that trained leaders, in comparison with a control group receiving no training, improved leadership quality in group discussion, regulated participation more, and exhibited greater ability to resolve conflict in group discussion. In his summary of the factors which tend to influence leadership acquisition, Stogdill (1974) reported that training tends to be more effective when leaders are highly motivated and participate actively in the training program.

Measurement of Attitudes Toward Leadership

The leaders were selected on the basis of their responses to a leadership questionnaire which all subjects completed two weeks prior to the experiment proper. The leadership questionnaire was originally developed by Sergiovanni, Metzcus, and Burden (1960). It has since been adapted by Pfeiffer and Jones (1969). Copies of the questionnaire, directions for scoring, and a profile sheet are included in Appendix A.

The leadership questionnaire was used to identify attitudes toward leadership methods. The questionnaire was judged useful for selection purposes in the present study primarily as an instrument for the measurement of leadership tendencies.

The following considerations were made in the selection of the leadership questionnaire: (1) the instrument was based on a leadership theory

compatible with the present research purposes, (2) the instrument could be administered and scored in an objective and efficient manner, and (3) the instrument was not previously familiar to the subjects in the study.

While the instrument was deemed valid for selection purposes, as with most interest inventories the scores are probably only of moderate stability. Since the instrument was originally developed for group facilitators, it is most applicable for training of leaders rather than for prediction and control purposes.

Selection of Leaders

In order to identify a particular style of leadership from the leadership questionnaire, high scores on the instrument were used to indicate a preference for one of the three levels of leadership. Only those subjects scoring high on the dimensions of concern for task (T) and concern for people or group maintenance (P) were selected for the leadership position. The highest possible score on the task dimension was 20; the highest score on the group maintenance or people dimension was 15.

Subjects scoring ≥ 12 on the concern for task dimension and ≤ 10 on the concern for people dimension of the instrument were assigned to the task-oriented leadership position. Similarly, subjects scoring ≥ 11 on the concern for people dimension and ≤ 9 on the task dimension were assigned to the maintenance-oriented leadership position; and subjects scoring ≥ 14 on the task dimension combined with scores ≥ 9 on the people dimension were assigned to the integrated concern for task and maintenance leadership position.

An individual's scores may be plotted on a leadership style profile sheet and then interpreted in terms of the descriptive elements in the

appropriate box (See Appendix A). In order to keep subjects naive of the purpose of the leadership questionnaire, however, subjects were not given a copy of the profile sheet or any interpretations of their scores.

Training Program for Assigned Leaders

The experimenter believed that the assigned leaders would be most receptive to training which reinforced the leader's existing beliefs about leadership. Only those subjects selected on the basis of their high scores on the leadership questionnaire were asked to participate in the training phase of the study. The assigned leaders were not told which of the leadership dimensions they indicated a preference for; nor were the leaders told that they would be given different instructions for their part in the group sessions.

Personal interaction effects were eliminated from the training sessions by standardized procedures. All assigned leaders were given training booklets one week prior to the study and were instructed to return the completed booklets to the experimenter. No additional information was exchanged between the experimenter and the assigned leaders.

The content of the training booklets varied only with regard to specific descriptions of the three leadership styles; otherwise the booklets were identical in format. None of the assigned leaders observed that the booklets varied in any way. Copies of each of the three group leader training booklets are included in Appendix B.

Material for Group Leader Training Booklets

Descriptions of effective leadership styles used in the training booklets were adapted from W. J. Reddin's 3-D approach to leadership

(1970). Group Leader Training Booklet . described the effective leader as task-oriented and therefore primarily responsible for initiating structure, seeking information, and evaluating progress. Group Leader Training Booklet . . described the effective leader as maintenance-oriented and therefore primarily responsible for giving encouragement, seeking group harmony, and reducing conflict. Group Leader Training Booklet . . . described the effective leader as one who integrates task and maintenance orientations and is therefore primarily responsible for encouraging high performance, coordinating group effort, and interacting meaningfully.

The training booklets were intended to reinforce the assigned leaders' own preferences for leadership. Booklets were matched to the assigned leaders' prior sets about leadership and were designed to arouse commitment to a particular leader style.

To ensure maximum participation from the assigned leaders in the training program, leaders were asked to write their responses to a number of questions raised in the booklet. Booklets were to be returned to the experimenter prior to the first group meeting. Questions pertained to the informational material in the booklet: (1) one set of questions asked the leaders to rate their present performance as a group leader in relation to their perception of effective leadership; (2) another set of questions asked the leaders to test their understanding of appropriate leadership behavior by responding to sample case problems; and (3) a third set of questions asked the leader to do some personal goal setting regarding leadership development. Each set of questions related to a particular leadership style.

Final instructions were given to the assigned leaders immediately preceding the first group session. Leaders were instructed to reconsider

the capsule description of their leadership function as contained in the group leader training booklet. Leaders were further instructed to: (1) put themselves into the role but not to overplay the role, and to (2) be natural while emphasizing behavior aimed at fulfilling their role.

Level of Task Difficulty

The second variable in the present investigation, level of task difficulty, was manipulated by selecting problems of low, moderate, and high difficulty. Task difficulty was operationally defined in terms of the type of problem confronted by the problem-solving group. This definition of difficulty as related to type of problem was modified from the ideas of S. J. Parnes in his extensive study of the small group (1967). The ideas were further developed by Merry and Allerhand (1977).

The major types of problems confronted by small groups during problem-solving deliberations are problems of fact and problems of value. These two types of discussion problems vary in level of difficulty according to the kind of information necessary for resolution of the problem.

Mudd and Sillars (1975) offer additional explanation of the differences in the types of problems. Essentially, a problem of fact asks the question: "what is?" or "what exists?" Factual questions ask the decision makers to observe and describe the circumstances which exist. A question of value asks the question: "what ought to be?" Value questions ask the decision makers to express a judgment about the goodness, rightness, quality, or merit of something. While no statement can be absolutely objective and nonpersuasive, factual questions differ from value questions in that they rely more on observation than on judgment and

inference. When questions of fact and value are combined, the result is a problem which demands both factual and attitudinal information.

On the basis of this explanation of the types of discussion questions, the following difficulty levels are described.

Low Task Difficulty: Questions of Fact

Problems of this kind require decision makers to gather pertinent information and specific expertise needed to solve the problem. These problems can sometimes be decided by experts alone, sometimes by the combined experience of the group, or sometimes by a toss of the coin. Questions of fact require that the group proceed directly from fact finding and on to making the decision.

Moderate Task Difficulty: Questions of Value

Problems of this kind demand the inclusion of feelings and attitudes. Value questions have the potential for producing highly affective data which may interfere with rational problem solving. The subjective nature of the data raises the problem to a higher level of difficulty than that of the factual problem. Difficulty in resolving value questions may result from failure to understand the nature of attitudes, values, and emotions involved in the question.

High Task Difficulty: Questions of Fact and Value

These problems are the most complicated ones. They demand a problem-solving process which ensures consideration of both: (1) relevant information and expertise, as well as (2) subjective involvement with the issues, concepts, etc. Groups working on complex problems may begin with

fact finding and progress to application of prior knowledge to the issue at hand. This kind of problem requires the group to effectively combine factual information with attitudinal information in order to move to a resolution of the question.

Judgment of Task Difficulty

In the present investigation, tasks were chosen to represent each of the above three types of problems. A panel of judges evaluated the tasks for level of difficulty. Requests for ranking task difficulty were sent to 13 faculty at Oklahoma State University. All were currently teaching courses of study related to small group communication and/or leadership concepts. A copy of the memorandum requesting faculty assistance in ranking task difficulty is included in Appendix C.

Judges were asked to individually rate the three tasks according to level of difficulty from high to low. Ten of the thirteen judges returned the questionnaire. The returned rankings were analyzed by the Kendall Coefficient of Concordance statistic to determine the extent of agreement among the judges. The analysis indicated significant agreement among the judges, $S(N = 3, k = 10) = 98, p < .01$.

Experimental Tasks

One of the problems facing the researcher when dealing with an experimental task is the difficulty of making the task relevant to problem solving in daily life. In order to control for the effects of the usually highly-artificial problem-solving experiment, the problem-solving tasks of the present investigation were designed to relate to the objectives of courses of study in which the subjects were currently enrolled. Subjects

were meeting together with the common objective of working on small group and organizational communication.

The three tasks were selected for the specific population of subjects in this study on the basis of several performance requirements, i.e. how well the subjects could be expected to perform the problem-solving tasks. Three performance demands were selected as criteria to ascertain the appropriateness of the tasks for the subjects in this study: student knowledge, ability, and motivation, as suggested by Rhetts (1972).

The three tasks were judged to appropriately match the subjects' entering level of ability and knowledge. In addition, the high difficulty task was structured so as to remain within the range of ability of the subjects. The experimenter believed this was an important consideration since it has been reported by Streufert and Castore (cited in Schroeder & Suedfeld, 1971) that if tasks are extreme in difficulty for a given population, then problem solving tends to deteriorate to a point so low that individual differences cease to exist.

The three tasks were also judged to be intrinsically motivating, as the subjects were expected to find the tasks sufficiently challenging to spend the full time available in trying to solve the tasks.

Three tasks were used in the present investigation. The low difficulty task (Lo) titled "Letter Occurrence" required the group members to identify the basic facts necessary for problem solution. The moderate difficulty task (Mo) titled "Life Crises" required the group to apply information to a question of value. The high difficulty task (Hi) titled "Twelve Angry Men" required the group to integrate factual information and value judgments in order to recommend a solution. All three tasks required group members to rank order twelve items. Copies of the three

tasks and their primary sources are included in Appendix D. The three tasks are also conveniently located in Pfeiffer and Jones' 1972, 1973, and 1975 structured experience handbooks.

Procedure

As recommended in the research conclusions of Stone (1971), the subjects in each group were selected from intact classroom groups in which the class members knew each other well and the patterns of interaction were established. The experiment proper was conducted during regularly-scheduled class meetings in the same classroom in which the subjects normally attended.

In order to control for subject response bias, the small groups were formed after no less than 6 but no more than 24 contact hours together. This decision satisfied both the need to work with an established classroom group (Hill, 1971) and the need to reduce possible bias which might occur if the groups were exposed to contradictory information regarding leadership effectiveness. All subjects were previously informed that they would be part of an experimental study on small-group problem solving.

Subjects were assigned to their groups based on a previously determined random assignment. Group members were instructed to be seated in a circle so that all members would have an equal opportunity to interact as suggested by Bavelas (1950).

General Instructions to Groups

Each subject was given a copy of the general instructions to groups which the experimenter presented orally to the entire class (See Appendix E). The instructions indicated that the groups would be asked to solve

three problems and that one of their members had been appointed as leader to the group. Since the climate to which the leader is assigned "tends to condition leader behavior" (Stogdill, 1974, pp. 181-182), the follower groups were instructed at this time that the leader had received training in group problem solving and that the groups were to follow their leaders' directions. The instructions further stated that discussion on the implications of the ranking tasks was to be held until after all three ranking tasks had been completed.

Each group attempted the same three problem-solving tasks which were chosen to vary along the dimension of task difficulty. The order in which the three tasks were presented to the groups varied such that each task was attempted first, second, and third a variable number of times. Groups were allotted 20 minutes for completion of each task. One of the tasks, "Twelve Angry Men," involved a tape-recorded and typed introduction which was to precede the regularly allotted time period for problem solving. Since Task 3 required additional time for introductory information, this task was placed only in the first or last position in the three orders: Order 1 = 1, 2, 3; Order 2 = 2, 1, 3; and Order 3 = 3, 1, 2.

After each task was completed, final solutions and leadership evaluations were collected. Groups were instructed that the decision could be reached by any method which the group devised. While group members could be asked to individually evaluate the problem, asking for an individual response to a group problem was judged unworkable in the present study. According to the small-group research conducted by Wallach, Kogan, and Bem (1967), the group decision will persist regardless of whether individuals or groups are asked to respond. Only group decisions were thus collected as a measure of the solution.

Preliminary Feedback

After all the data was collected for the present investigation, subjects who participated in the study were given some preliminary feedback about the project. Subjects were informed that not all of the groups worked with the same type of leader on the tasks. Subjects were further informed that the leaders were given training booklets which supported one of three leadership styles. It was also not until this time that the leaders were informed that the training booklets were designed to match their preferred leadership style as measured by the leadership questionnaire. A copy of the preliminary feedback to subjects involved in the study is included in Appendix F.

Measurement

Leader effectiveness on a given task was defined here as a function of decision quality and member satisfaction. Similar definitions have been advanced by Stogdill (1974), Bass (1960), and Collins and Guetzkow (1965). Many researchers consider task performance as the primary criterion, since the task is the reason for establishing the interacting group in the first place.

Decision Quality

Group decision quality on the three tasks of varying levels of difficulty was measured by the extent of group agreement with an authoritative source.

Rationale for the Use of Group Decisions

Even though the group's decision is not entirely the function of the

leader's behavior and the task difficulty, leader effectiveness was here evaluated in terms of group performance on the groups' primary assigned tasks. Such events as personality clashes, bad luck, or unfavorable circumstances may affect the group decision to a greater or lesser extent. Member attitudes, abilities, and motivations may similarly affect the decision. In terms of the statistical treatments in the present study, however, such factors as the above were considered error variance, which reduces the relationship between leader behaviors and group performance. Fiedler (1967) suggests that if the researcher allows this type of error, the strategy will thus err in the conservative direction.

Given the above reasoning for using group decisions as a measure of leader effectiveness for varying tasks, a difficulty remains in the definition and measurement of the group product. Some researchers count units of output as measures of productivity. Others use ratings of quantity or quality of output as productivity measures. Still others rely upon the speed of decision. Thus, there is little commonality from study to study in the definition of group decision quality.

Two frequently employed measures of task performance include: response time and rankings of the group solutions. For example, (1) Snadowsky (1969) varied task complexity, communication net, and leadership in experimental groups. Group productivity was defined by the amount of time spent in the planning and solution phases of the group task; (2) Fiedler, Bass, and Fiedler (cited in Fiedler, 1967) conducted a church-leadership study with tasks designed for group creativity. The criterion of group performance consisted of the judgments and ratings of all other conference participants. Subjects did not rate the product of their own group. The reliability of the criterion ratings was assessed by randomly

dividing the ratings into two subgroups and computing separate rankings. The rank-order correlations between the two sets of ratings were computed for the separate tasks; (3) McGrath and Julian (1963) studied a group-bargaining situation. Group tasks were rated on a multiplicative scale based on the product of points received from a reference group and on points the entire group obtained for the constructiveness of the solution.

A Measure of Group Decision Quality

For the purpose of this study, group decision quality consisted of the absolute difference between the group's decision and the decision of an authoritative source. The total score for each problem-solving group then represents the sum of this difference, disregarding plus or minus signs.

Only those problems demonstrating a single "correct" decision were selected for use in the present study. The decisions on all three problems could be verified by giving reference to an authoritative source. This criterion was modified from Shaw's (1967) research in which he suggested several dimensions for the classification of tasks.

The procedure for deriving a score for each group may be illustrated with the following example. The authoritative source with the single "correct" decision for the high difficulty task was the author of the play, "Twelve Angry Men," from which the task was originally developed, Reginald Rose.

For the "Twelve Angry Men" ranking task, groups were instructed to predict the order in which the jurors changed their votes to "not guilty" during the process of a lengthy jury deliberation. The group's final ranking of jurors is judged on the basis of how well the group's solution

agrees with the actual sequence in which the jurors shift their votes to not guilty. The answer key and scoring information for the three experimental tasks is included in Appendix G.

Member Satisfaction

Member satisfaction was also considered in the present investigation as a necessary criterion of leader effectiveness. While the usual concern in small groups is with the effectiveness and performance on the group task, it may also be of meaning to consider the building of morale or the increase of member satisfaction as a complementary goal of the leader. In some cases, member satisfaction is the primary goal of the leader and is explicitly made the leader's task. Both member satisfaction and decision quality contribute to group performance and should be considered as necessary criteria of performance.

Member satisfaction was measured by a six-point rating scale, with (6) the most satisfying experience down the continuum to (1) the least satisfying experience. The rating scale was completed at the conclusion of each of the three tasks. All subjects responded to questions calling for ratings of satisfaction with leadership on each of the three tasks.

Since optimal decision quality with low member satisfaction may be inferior to minimal decision quality with high satisfaction, it was necessary to determine the relative satisfaction of the group members with leadership. Mean ratings of satisfaction with leader performance were generated from the individual subjects' ratings.

Items on the rating scale were adapted from the task prominence and sociability factors isolated in a study reported by R. D. Mann (1961) on the dimensions of performance in small groups. A sample item designed to

measure leader influence read as follows: "The leader's suggestions were acceptable to me." Subjects who responded to this item with a rating of (1) evaluated the leader's suggestions as unacceptable; subjects responding to this item with a rating of (6) evaluated the leader's suggestions as optimally acceptable. See Appendix H for a copy of the post-meeting reaction form used in the present investigation.

CHAPTER IV

ANALYSIS OF DATA

Introduction

This chapter contains an analysis of data collected during the present investigation. The chapter relates specifically to the principle research question:

Leadership style will interact with task difficulty to produce differential decision quality and satisfaction among group members.

Control procedures were instigated to remove the possible effects of order. Questions pertaining to the order variable were raised in order to make the research design maximally sensitive. The design used in the present investigation was a Type III Lindquist ANOVA, with three levels each of task difficulty, leader style, and order.

In the Type III design, the total sum of squares may be analyzed by: (1) examining the components of the variables under consideration, and by (2) collapsing the design and disregarding one or more of the variables in the analysis (Lindquist, 1953, p. 283). In the present investigation, the effects involving the order variable were considered in some but not all of the tests of significance.

Analyses of the data were thus conducted with two factors (leader and task) to test the overall interaction hypothesis and the main effects of task and leader. Analyses of the data were conducted with three factors (leader, task, and order) to test all main and interaction effects

involving order. All analyses were conducted for both response measures, decision quality and satisfaction with leadership.

Each factor was comprised of three levels. The task difficulty factor was assigned the following values:

- Task 1: Low Difficulty
- Task 2: Moderate Difficulty
- Task 3: High Difficulty

The leader style factor had the following values:

- Leader 1: Task-Oriented Leadership
- Leader 2: Maintenance-Oriented Leadership
- Leader 3: Integrated Concern for Task and Maintenance

The order effect factor had the following values:

- Order 1: Serial position of 1, 2, 3
- Order 2: Serial position of 2, 1, 3
- Order 3: Serial position of 3, 1, 2

Group decisions and satisfaction ratings were collected as a measure of these three factors.

Group Decision Quality

Group decisions on each of three tasks of varying levels of difficulty were collected for all 45 groups. The score for each problem-solving group was derived by finding the absolute difference between the rankings of an authoritative source and the rankings from each group. The total score for the group then represents the sum of this difference. The best possible score for each of the three tasks is zero; the worst is 60. A score of zero represents complete agreement with the authority's ordering of items.

In the present investigation the scores for the three tasks ranged from 34 to 8. The scores on each of the three tasks fell within the following ranges:

Task 1: Low Difficulty Task:	14-34
Task 2: Moderate Difficulty Task:	8-34
Task 3: High Difficulty Task:	8-28

Satisfaction With Leadership

Group ratings of satisfaction with leadership on each of the three tasks were collected from all 45 groups. The satisfaction score for each problem-solving group was derived by dividing the total rating for each leader by the number of members in each group. The highest possible rating for a particular leader is 36.

In the present investigation, the satisfaction scores for the three tasks ranged from a score of 22.7 to 36.0.

The satisfaction scores for each of the three tasks fell within the following ranges:

Task 1: Low Difficulty Task:	36.0-24.5
Task 2: Moderate Difficulty Task:	36.0-24.0
Task 3: High Difficulty Task:	36.0-22.7

Overall Interaction and Main Effects

Separate analyses were conducted to test the significance of the overall interaction of task and leader and the main effects of task and leader. Analyses were conducted for both response measures, decision quality and satisfaction with leadership.

Task X Leader Interaction for Decision Quality

The analysis of the task X leader interaction for decision quality was conducted with two factors: task difficulty and leader style. Means and standard deviations for each of the nine possible combinations of these two factors are displayed in Table I.

TABLE I
 STANDARD DEVIATIONS AND MEAN GROUP-DECISION SCORES FOR
 EACH OF NINE POSSIBLE TREATMENT COMBINATIONS

Task	Leader	Standard Deviation	Score ^a
1	1	4.74	22.33
1	2	3.74	21.40
1	3	2.95	22.47
2	1	5.74	21.80
2	2	4.00	17.87
2	3	5.83	20.33
3	1	7.71	14.53
3	2	5.29	17.27
3	3	7.19	16.60

Note. Maximum score = 0.

^an = 15 groups for each of the treatment combinations.

The analysis of the total sum of squares for decision quality is summarized in Table II. There was no significant task X leader interaction.

Main Effects of Leader and Task for Decision Quality

The analysis of variance indicated a significant main effect for task, $F(2, 84) = 17.07$, $p < .001$. The effect of leadership style was not statistically significant.

Tests of significance for the main effects of leader and task for decision quality are highlighted in Table III.

Multiple Comparisons of Task for Decision Quality

The test of significance for the main effect of task difficulty for decision quality was significant at $\alpha = .001$. Since the obtained value of F exceeded the table value of $F(2, 84)$, it may be concluded that the means for the three levels of task difficulty are not all estimates of a common population mean. The main effect of task difficulty thus produced significant differences among the means.

Multiple comparisons among the means for each level of task difficulty were conducted to determine which of the three levels of task difficulty showed the greatest differences. The differences are summarized in Table IV.

Referring to Table IV, it may be observed that the following pairs of means exceeded an HSD equivalent of 3.23 for an α of .01:

$$\bar{X}_{T_1} - \bar{X}_{T_3}, \text{ and } \bar{X}_{T_2} - \bar{X}_{T_3}.$$

The comparison between the means for Task 1 and Task 2 does not yield a statistically significant difference; however both the means for Task 1 and Task 2 are different from Task 3.

TABLE II
ANALYSIS OF VARIANCE SUMMARY
TABLE FOR DECISION QUALITY

Source of Variation	Degrees of Freedom	Mean Square	F Value
Between-Subjects			
Leader	2	11.09	0.39
Group (Leader) ^a	42	28.24	
Within-Subjects			
Task	2	408.20	17.07**
Task X Leader	4	41.86	1.75
Task X Group (Leader) ^b	84	23.91	
Corrected Total	134	31.35	

**p < .001.

^aerror (between).

^berror (within).

TABLE III
 TESTS OF SIGNIFICANCE FOR MAIN EFFECTS OF
 LEADER AND TASK FOR DECISION QUALITY

Tests	Source	Degrees of Freedom	Mean Square	F Value
Numerator	Leader	2	11.09	0.39
Denominator	Group	42	28.24	
Numerator	Task	2	408.20	17.07**
Denominator	Task X Group	84	23.91	

**p < .001.

TABLE IV
 DIFFERENCES AMONG MEANS ON TASK
 DIFFICULTY FOR GROUP DECISION

	\bar{X}_{T_1}	\bar{X}_{T_2}	\bar{X}_{T_3}
$\bar{X}_{T_1} = 22.07$		-2.07	5.94**
$\bar{X}_{T_2} = 20.00$			3.87**
$\bar{X}_{T_3} = 16.13$			

** The difference is significant at $\alpha = .01$ for $df_w = 84$ and $k = 3$.

Task X Leader Interaction for Satisfaction

The analysis of the task X leader interaction for satisfaction with leadership was conducted in the same manner as the analysis for decision quality. Means for each of the nine possible combinations of the two factors: task difficulty and leader style, are displayed in Table V.

The analysis of the total sum of squares for satisfaction with leadership is summarized in Table VI. There was no significant task leader interaction.

Main Effects of Leader and Task for Satisfaction

The analysis of variance indicated a significant main effect for task difficulty, $F(2, 84) = 3.20, p < .05$. The effect of leadership style was not significant.

Tests of significance for the main effects of leader and task for satisfaction are highlighted in Table VII.

Multiple Comparisons of Task for Satisfaction

The test of significance for the main effect of task difficulty for satisfaction was significant at $\alpha = .05$. Since the obtained value of F for task exceeded the table value of F at 2 and 84 degrees of freedom, it may be concluded that the means for the three task levels are not all estimates of a common population mean. The main effect of task difficulty thus produced significant differences among the means.

Multiple comparisons among the means for each level of task difficulty were conducted to determine which of the three levels showed the greatest difference. The differences are summarized in Table VIII.

TABLE V
MEAN SATISFACTION SCORES FOR EACH OF NINE
POSSIBLE TREATMENT COMBINATIONS

Task	Leader	Score ^a
1	1	30.79
1	2	31.57
1	3	29.97
2	1	30.58
2	2	31.03
2	3	29.95
3	1	29.47
3	2	30.29
3	3	30.02

Note. Maximum score = 36.0.

^an = 15 groups per treatment combination.

TABLE VI
ANALYSIS OF VARIANCE SUMMARY
TABLE FOR SATISFACTION

Source of Variation	Degrees of Freedom	Mean Square	F Value
Between-Subjects			
Leader	2	11.56	0.59
Group (Leader) ^a	42	19.75	
Within-Subjects			
Task	2	8.57	3.20*
Task X Leader	4	2.63	0.99
Task X Group (Leader) ^b	84	2.68	
Corrected Total	134	8.25	

* $p < .05$.

^aerror (between).

^berror (within).

TABLE VII
 TESTS OF SIGNIFICANCE FOR MAIN EFFECTS OF
 LEADER AND TASK FOR SATISFACTION

Tests	Source	Degrees of Freedom	Mean Square	F Value
Numerator	Leader	2	11.56	0.59
Denominator	Group	42	19.75	
Numerator	Task	2	8.57	3.20*
Denominator	Task X Group	84	2.68	

* $p < .05$.

TABLE VIII
 DIFFERENCES AMONG MEANS ON TASK
 DIFFICULTY FOR SATISFACTION

	\bar{X}_{T_1}	\bar{X}_{T_2}	\bar{X}_{T_3}
$\bar{X}_{T_1} = 30.78$		-0.26	0.85*
$\bar{X}_{T_2} = 30.52$			0.59
$\bar{X}_{T_3} = 29.93$			

* The difference is significant at $\alpha = .05$ for $df_w = 84$ and $k = 3$.

Referring to Table VIII, it may be observed that the difference between means for Task 1 and Task 3 exceeds an HSD equivalent of 0.81. This difference is significant at $\alpha = .05$. The remaining comparisons do not yield an honestly significant difference.

Analyses of Main and Interaction Effects Involving Order

Analyses were conducted to test the significance of the main effects of task, leader, and order, and the interactions of the three factors. Analyses were conducted for both response measures, decision quality and satisfaction with leadership.

Task X Leader X Order Interaction for Decision

Quality

The analysis of the task X leader X order interaction for decision quality was conducted with three factors: task difficulty, leadership style, and order effect. Means for each of the 27 possible treatment combinations are displayed in Table IX.

The analysis of the total sum of squares for decision quality, conducted with three factors, is summarized in Table X. There was no significant task X leader X order interaction.

Main and Interaction Effects of Leader, Order, and Task for Decision Quality

The main effects of leadership style and order were not statistically significant. There was no significant leader order interaction. The analysis of variance indicated a significant main effect for task, $F(2, 72) = 15.90$, $p < .001$. None of the interactions involving task difficulty

TABLE IX
 MEAN GROUP-DECISION SCORES FOR EACH OF TWENTY-SEVEN
 POSSIBLE TREATMENT COMBINATIONS

Task	Leader	Order	Score ^a
1	1	1	20.8
1	1	2	24.8
1	1	3	21.4
1	2	1	20.8
1	2	2	22.0
1	2	3	21.4
1	3	1	23.4
1	3	2	22.8
1	3	3	21.2
2	1	1	23.6
2	1	2	22.8
2	1	3	19.0
2	2	1	17.2
2	2	2	16.4
2	2	3	20.0
2	3	1	20.2
2	3	2	21.0
2	3	3	19.8
3	1	1	13.2
3	1	2	14.8
3	1	3	15.6
3	2	1	18.0
3	2	2	17.2
3	2	3	16.6
3	3	1	15.6
3	3	2	19.6
3	3	3	14.6

Note. Maximum Score = 0.

^an = 5 groups for each of the treatment combinations.

TABLE X
ANALYSIS OF VARIANCE SUMMARY TABLE FOR
GROUP DECISION WITH THREE FACTORS

Source of Variation	Degrees of Freedom	Mean Square	F Value
Between-Subjects			
Leader	2	11.09	0.37
Order	2	20.68	0.68
Leader X Order	4	12.98	0.43
Group (Leader Order) ^a	36	30.36	
Within-Subjects			
Task	2	408.20	15.90**
Task X Leader	4	41.86	1.63
Task X Order	4	4.52	0.18
Task X Leader X Order	8	17.68	0.69
Task X Group (Leader Order) ^b	72	25.68	
Corrected Total	134	31.35	

**p < .001.

^aerror (between).

^berror (within).

were significant. Tests of significance for the main effects of leader, order, and task for decision quality are highlighted in Table XI.

Task X Leader X Order Interaction for Satisfaction

The analysis of the task X leader X order interaction for satisfaction was conducted in the same manner as the analysis for decision quality. Means for each of the 27 possible combinations of the three factors: task difficulty, leader style, and order effect, are displayed in Table XII.

The analysis of the total sum of squares for satisfaction, conducted with three factors, is summarized in Table XIII. There was no significant task X leader X order interaction.

Main and Interaction Effects of Leader, Order, and Task for Satisfaction

The main effects of leadership style and order were not statistically significant. There was no significant leader order interaction. The analysis of variance indicated a significant main effect for task, $F(2, 72) = 3.36, p < .05$. Tests of significance for the main effects of leader, order, and task for satisfaction are highlighted in Table XIV.

With the exception of the task X order interaction, none of the remaining interactions involving task for the satisfaction measure were significant. The analysis of variance indicated a significant interaction of task and order, $F(4, 72) = 2.52, p < .05$.

TABLE XI
 TESTS OF SIGNIFICANCE FOR MAIN EFFECTS OF
 THREE FACTORS FOR DECISION QUALITY

Tests	Source	Degrees of Freedom	Mean Square	F Value
Numerator	Leader	2	11.09	0.37
Denominator	Group	36	30.36	
Numerator	Order	2	20.68	0.68
Denominator	Group	36	30.36	
Numerator	Task	2	408.20	15.90**
Denominator	Task X Group	72	25.68	

**p < .001.

TABLE XII
 MEAN SATISFACTION SCORES FOR EACH OF TWENTY-SEVEN
 POSSIBLE TREATMENT COMBINATIONS

Task	Leader	Order	Score ^a
1	1	1	31.02
1	1	2	30.00
1	1	3	31.36
1	2	1	30.88
1	2	2	31.50
1	2	3	32.34
1	3	1	29.20
1	3	2	30.40
1	3	3	30.30
2	1	1	30.70
2	1	2	29.58
2	1	3	31.46
2	2	1	30.42
2	2	2	30.36
2	2	3	32.32
2	3	1	29.30
2	3	2	29.36
2	3	3	31.18
3	1	1	26.16
3	1	2	29.02
3	1	3	30.22
3	2	1	30.16
3	2	2	30.44
3	2	3	30.28
3	3	1	29.32
3	3	2	31.98
3	3	3	28.76

Note. Maximum score = 36.0.

^an = 5 groups per treatment combination.

TABLE XIII
 ANALYSIS OF VARIANCE SUMMARY TABLE FOR
 SATISFACTION WITH THREE FACTORS

Source of Variation	Degrees of Freedom	Mean Square	F Value
Between-Subjects			
Leader	2	11.56	0.53
Order	2	9.47	0.43
Leader X Order	4	5.38	0.26
Group (Leader Order) ^a	36	21.91	
Within-Subjects			
Task	2	8.57	3.36*
Task X Leader	4	2.63	1.03
Task X Order	4	6.42	2.52*
Task X Leader X Order	8	1.94	0.76
Task X Group (Leader Order) ^b	72	2.55	
Corrected Total	134	8.25	

* $p < .05$.

^aerror (between).

^berror (within).

TABLE XIV
 TESTS OF SIGNIFICANCE FOR MAIN EFFECTS OF
 THREE FACTORS FOR SATISFACTION

Tests	Source	Degrees of Freedom	Mean Square	F Value
Numerator	Leader	2	11.56	0.53
Denominator	Group	36	21.91	
Numerator	Order	2	9.47	0.43
Denominator	Group	36	21.91	
Numerator	Task	2	8.57	3.36*
Denominator	Task X Group	72	2.55	

* $p < .05$.

Simple Effects of the Task X Order Interaction
for Satisfaction

Tests of significance for the simple effects of task difficulty at the three given levels of order were conducted to determine which of the three levels of order made the greatest difference. The task effects for each given order were tested against the task X group interaction mean square computed for that given level of order only, as in a simple two-factor design.

The simple effects of task at Order 1 and Order 2 were not statistically significant. The one-way analysis of variance indicated a significant effect for task difficulty at Order 3, $F(2, 72) = 6.09, p < .01$. The tests of significance for the simple effects of task difficulty at three levels of order are displayed in Table XV.

Summary of Analysis

From the preceding analysis, it may be observed that there was no significant task X leader interaction. The obtained F values exceeded table values for only two main effects in the principle analysis and one interaction effect in the analysis involving order. The main effect of task difficulty was significant for both response measures, group decision quality and satisfaction with leadership. The task X order interaction was significant for the satisfaction measure. None of the remaining main effects or interaction effects were significant.

Conclusions regarding the failure to observe a significant interaction between leadership style and task difficulty are presented in Chapter V. Discussion of the significant main and interaction effects for task difficulty is included and recommendations follow.

TABLE XV
 TESTS OF SIGNIFICANCE FOR SIMPLE EFFECTS
 OF TASK AT THREE LEVELS OF ORDER

Tests	Source	Degrees of Freedom	Mean Square	F Value
Numerator	Task X Order 1	2	2.69	1.05
Denominator	Task X Group (Leader Order) ^b	72	2.55	
Numerator	Task X Order 2	2	3.17	1.24
Denominator	Task X Group (Leader Order) ^b	72	2.55	
Numerator	Task X Order 3	2	15.52	6.09**
Denominator	Task X Group (Leader Order) ^b	72	2.55	

** $p < .01$.

^a n = 15 groups for each treatment combination.

^berror (within).

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

This chapter contains a summary of the findings of the present investigation, an interpretation of the findings, and a statement of recommendation for further study.

The purpose of the present investigation was to determine the effects of leadership style and task difficulty on the decision quality and satisfaction of small problem-solving groups. It was hypothesized that leader style and task difficulty would interact to product differential decision quality and group satisfaction with leadership.

The subjects for this investigation were 154 male and female undergraduate students at Oklahoma State University, enrolled in organizational and small group communication courses during the fall semester of 1977. The subjects were randomly assigned to 45 three- and four-member groups for the purpose of solving three ranking tasks which varied from low to high in difficulty. Group members functioned under three leadership conditions: task-oriented leadership, maintenance-oriented leadership, or an integrated concern for task and maintenance. Group decisions and satisfaction ratings were collected as a measure of these variables.

Summary of Findings

The analysis of variance statistic was used to determine the

significance of 14 main and interaction effects conducted on the Lindquist Type III, three-factor, mixed design. From the preceding chapter, it may be observed that there was no significant task X leader interaction for either response variable, group decision quality or satisfaction with leadership. The obtained F values exceeded table values for only two main effects in the principle analyses and one interaction effect in the analysis pertaining to the order variable.

The main effect of task difficulty for both response measures, decision quality and satisfaction, was significant. The task X order interaction for the satisfaction measure was significant. None of the remaining main or interaction effects were statistically significant.

The main effect of task for group decision quality was significant at $\alpha = .01$. Multiple comparisons between the means were conducted to determine which of the three levels of task showed the greatest difference. The means for Task 1 and Task 2 were significantly different from Task 3.

The main effect of task for satisfaction with leadership was significant at $\alpha = .05$. Multiple comparisons between the means were conducted to determine which of the three levels showed the greatest difference. The means for Task 1 and Task 3 were different from each other but not from Task 2.

The effect of the interaction of task with order for satisfaction with leadership was significant at $\alpha = .05$. The simple effects of task at Order 1 and Order 2 were not significant. The simple effects of task at Order 3 was significant at $\alpha = .01$.

Conclusions

No evidence exists to reject the null hypothesis of no interaction

between leader style and task difficulty. The hypothesis that leadership style and task difficulty will interact to produce differential group decisions and satisfaction cannot be accepted.

Conclusions regarding the failure to observe a significant interaction between leadership style and task difficulty are presented below. An interpretation of the significant main and interaction effects for task difficulty will follow.

Overall Interaction and Leader Effect

Based on the findings of the present investigation, the following conclusions may be drawn regarding the interaction hypothesis. The following conclusions give consideration to: (1) the main effect of leadership style, (2) the interaction of task and leader for group decisions, and (3) the interaction of task and leader for satisfaction.

Main Effect of Leadership Style

Based on the absence of an interaction between leadership style and task difficulty, it may be concluded that neither task, maintenance, nor an integration of the two leader dimensions may be advocated as the optimal leadership style for increasing group decisions or satisfaction. The evidence neither invalidates nor confirms combinations of task- or maintenance-oriented behaviors across levels of task difficulty.

In addition to the failure to observe an interaction among levels of leadership style and task difficulty, the investigator also failed to observe a significant main effect for leadership style. When the three levels of leadership style were entered into the present investigation, the test of significance for differences among the three leadership-style

means was nonsignificant. While task leadership is distinguishable from maintenance-oriented leadership in some investigations (Munn & Giffin, 1974; Shaw & Blum, 1966) the three levels of leadership: task, maintenance, and an integration of the two dimensions, failed to separate in the present investigation.

The failure to observe a significant main effect for leadership style may be partially explained as follows. It is possible that there was a discrepancy between the leaders' preferences for a particular style on the leadership questionnaire and the leaders' performance in the experimental setting. While the appointed leaders: (1) displayed a moderately strong or strong preference for a particular style and (2) were reinforced in that style through leadership training; it may be that the leaders' perception of their own behavioral preferences did not fit their actual range of performance behaviors.

It is also possible that the behaviors associated with task and maintenance styles could not be consistently performed by the appointed leaders. It may be that the student leaders in the present study were relatively flexible in their approach to leadership and therefore failed to present a dominant and consistent style of leadership. In the absence of a highly consistent and skilled leader, group members may influence the leader to adopt a strategy for problem solving which may contradict the approach predicted for a particular leader style.

Task X Leader Interaction for Group Decisions

Task difficulty did not interact with leader style to produce differential decision quality in the present study. The failure to reject the hypothesis of no interaction for group decisions contradicts the

accumulating body of literature on contingency management (Fiedler, 1967; Shaw & Blum, 1966) and earlier studies on situational leadership (Carter, 1951).

While comparisons among the various research investigations on leadership effectiveness are difficult to make, one difference among the studies is of relevance. It may be that researchers who tend to support a differential interaction of leader and group situation are dealing with a more broadly-conceived definition of situational variables than that used in the present study. In order to clarify the concept of situational leadership, it was considered more useful in the present investigation to examine the degree of task difficulty rather than the task structure itself.

When the tasks were defined by the difficulty level rather than the task structure, significant differences regarding which style is best were not observed. None of the leadership combinations interacted with the relatively unstructured tasks of the present investigation to produce optimal group decisions.

Task X Leader Interaction for Satisfaction

Task difficulty did not interact with leader style to produce differential group-member satisfaction in the present study. The failure to reject the hypothesis of no interaction for satisfaction contradicts the accumulating body of literature on participatory leadership (Lewin, 1961; McGregor, 1960; Vroom, 1964) and student-centered teaching (Flanders & Simon, 1970; Gallagher & Aschner, 1963).

Existing knowledge from research and casual literature leads to the suggestion that groups are most satisfied with maintenance-oriented

leadership. Contrary to such an assumption, satisfaction with leadership did not interact significantly with either maintenance-oriented leaders or other leader orientations in the present investigation.

One possible explanation for the nonsignificant task X leader interaction may be that the satisfaction scores were somewhat tempered by the halo effect. It is reasonable to suspect that group members may have rated leaders high across all levels of leadership because the groups were more influenced by the relatively unstructured but well-defined task rather than by the particular leader style itself. Group perception of task demands is thus an important consideration in the present study.

Another explanation for the agreement among the groups as to their satisfaction with leadership is that appointed leaders tend to receive high ratings in terms of the value of their contributions to the group (Wischmeier, 1955). It is possible that the appointed leaders, who have been selected and reinforced in a particular leadership style, are behaving in a manner which is congruent with their own preferred leadership style. Leaders who present such a balanced picture are likely to be judged effective at least on a scale of satisfaction with leadership across all task levels.

Task and Order Effects

In the present investigation the main effects of task difficulty for both response measures and the task X order interaction for satisfaction were statistically significant. While the purpose of the present study was to investigate the interaction of task difficulty and leader style, significant effects regarding the task difficulty variable are of interest.

This secondary data is useful in that it tends to further clarify the principle analyses.

Task Difficulty for Group Decisions

The statistically significant main effect of task difficulty for group decisions was predictable, since the three tasks were chosen to vary along the dimension of difficulty. A panel of experts established the difficulty level of the tasks prior to the onset of the investigation.

The multiple comparison of means for task difficulty was not, however, predictable. Analysis of the means revealed that Task 3, the high difficulty task, made the greatest difference among the three task levels. Contrary to what might be expected, as the complexity of the task increased, mean group decision quality increased and the amount of time spent working on the task was maximized.

Whatever the explanation may be for the reversed effect of performance on varying tasks, it may be concluded that a task requiring the greatest group effort may generate high standards for decisions and stimulate optimal group performance. A low difficulty task, in contrast, may become so tedious that it leads to a regressive effect on decision quality. The groups may have had difficulty sustaining their level of task activity on the low difficulty task, and thus tended to shift energies to non-task activities and off-topic tangents.

Task Difficulty for Satisfaction

Multiple comparisons of means for task difficulty revealed that Task 1 and Task 3 differed from each other but that neither differed from Task 2. The comparison between Task 1 and Task 3 showed the greatest difference

among the three task levels. It may be concluded that satisfaction with leadership differs most between tasks of low difficulty and tasks of high difficulty.

The group's tendency to differentially rate leader effectiveness on tasks of low and high difficulty may be partially explained as follows. Groups may tend to be more accepting of leader influence when the task is of such a nature that leadership and guidance is valuable and necessary for problem solving. Conversely, groups may tend to be less accepting and satisfied with the conduct of the leader when the task is of such a nature that procedure, suggestion, and/or guidance are less necessary for problem solving.

Task X Order Interaction for Satisfaction

Tests of significance for the simple effects of satisfaction at three given levels of order revealed that the third position of order made the greatest difference among the three levels of order, in which Order 3 = serial position of 3, 1, 2.

It may be concluded that Order 3 made the most difference because Order 3 had the unique position of beginning with Task 3. Since Task 3 was responsible for the most difference among the three task levels, it is predictable that the third position of order is responsible for the most difference among the three levels of order.

Order 3 was the only serial position which began with Task 3 in which additional processing time contributed to the difference. Groups, therefore, had an opportunity to orient themselves to the nature of the tasks and to their own groups in a manner different from those groups working under Order 1 or Order 2. It may be concluded that both process-

ing time and orienting responses helped contribute to the significance of the Order 3 position.

Recommendations

With the findings and conclusions of the present investigation, the following recommendations appear to be justified.

Importance of Establishing Task Difficulty

Although the present investigator failed to observe a significant interaction between leadership style and task difficulty, future researchers could delineate those situations in which a particular leadership style is most effective. While leadership theories are vague about which styles can be predicted to interact with task difficulty, an adequate theory of leader effectiveness should address itself to a consideration of whether a particular leader style is influential in achieving the goals of specific tasks.

The importance of establishing the difficulty of the task has been given support in this investigation. Task difficulty was operationally defined in the present investigation in a multidimensional fashion; problems requiring factual information, value judgments, or combinations of fact and value were assigned to the three levels of difficulty. It is recommended that future investigators consider a unidimensional approach to the definition of task difficulty as a way to address the question of internal validity.

More investigations of leader and task interactions need to be conducted in order to recommend with any degree of confidence a particular strategy for leader effectiveness. Further investigations of how

combinations of leadership interact with the task conditions may help clarify the leader's responsibility in group problem solving. Such knowledge may provide the aspiring leader with: (1) a workable base for examining combinations of the two leadership dimensions, task and maintenance, and (2) a mapping of the ways in which leader and task interact to determine the best fit between leadership style and task difficulty.

A Reliable Criterion for Group Decision Quality

The criterion measure for group performance is frequently cited as a problem in leader effectiveness studies. There has been little commonality from study to study in the definition of group performance. With the experience gained in the present investigation, it is recommended that the use of problem-solving tasks which have a single correct response may improve the technical soundness of research on leadership in the small group.

Instead of relying upon such hazardous procedures as the subjective scoring of group decisions, in the present study decision quality was a result of a consistent measurement of the absolute difference between the group's and an authority's rankings of a number of items on three tasks. Such a consistent measure of decision quality may be profitably considered by future investigators.

Satisfaction With Leadership as a Contributing Factor

The results of the present study have implications both for research and for small-group leadership. The criterion for group satisfaction with leadership clearly proved useful in the present investigation. Post-meeting reactions from group members were designed to be free of any

value-laden statements about leadership. Group members rated leader effectiveness uniquely in terms of their acceptance of leader influence, regardless of a particular leader orientation.

It is recommended that future investigators consider affective as well as cognitive outcomes of particular leadership orientations as they interact with task demands. In the present investigation treatment combinations which had positive affective outcomes were not always the same as treatment combinations which had positive performance outcomes. For example, the high difficulty task produced the most correct decision with the least satisfaction. Such results appear to be consistent with the observations made by Peterson (1977) and others regarding interactive effects of leader behavior and student outcomes.

Additional Moderating Variables

The experience gained by the investigator in the present study should be useful in designing further examinations of the interaction of leader style and task difficulty. Additional aspects of the problem-solving setting could be incorporated into further research. Future investigators may well examine additional moderator variables which may interact with leader and task to enhance group performance.

These moderating variables include but are not limited to an interaction of: (1) the expectations and desires of the group members, (2) the personalities, interpersonal maturity and skills of the group members, and (3) the pressures and constraints of the external situation facing the group. While most of the confounding variables were removed from the present investigation through standardized procedures and consistent measures, important considerations such as the above moderator variables may

be incorporated into future research.

The generalizability of the results of the present study to other populations and other problem-solving situations remains to be demonstrated. The power of further investigations may be improved by: (1) increasing the sample size required to satisfy the specified "effect size" (Cohen, 1969), and by (2) developing more reliable process measures of leadership behavior to ensure maximum separation among the treatments and minimal inference from leadership preference questionnaires.

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APPENDIXES

APPENDIX A

LEADERSHIP QUESTIONNAIRE, DIRECTIONS FOR SCORING,
AND LEADERSHIP STYLE PROFILE SHEET

LEADERSHIP QUESTIONNAIRE

Name

The following items describe aspects of leadership behavior. Respond to each item according to the way you would be most likely to act if you were the leader of a work group. Circle whether you would be likely to behave in the described way always (A), frequently (F), occasionally (O), seldom (S), or never (N).

If I were the leader of a work group . . .

- A F O S N ____ 1. I would most likely act as the spokesman of the group.
- A F O S N ____ 2. I would encourage overtime work.
- A F O S N ____ 3. I would allow members complete freedom in their work.
- A F O S N ____ 4. I would encourage the use of uniform procedures.
- A F O S N ____ 5. I would permit the members to use their own judgment in solving problems.
- A F O S N ____ 6. I would stress being ahead of competing groups.
- A F O S N ____ 7. I would speak as a representative of the group.
- A F O S N ____ 8. I would needle members for greater effort.
- A F O S N ____ 9. I would try out my ideas in the group.
- A F O S N ____ 10. I would let the members do their work the way they think best.
- A F O S N ____ 11. I would be working hard for a promotion.
- A F O S N ____ 12. I would be able to tolerate postponement and uncertainty.
- A F O S N ____ 13. I would speak for the group when visitors were present.
- A F O S N ____ 14. I would keep the work moving at a rapid pace.
- A F O S N ____ 15. I would turn the members loose on a job and let them go to it.
- A F O S N ____ 16. I would settle conflicts when they occur in the group.
- A F O S N ____ 17. I would get swamped by details.
- A F O S N ____ 18. I would represent the group at outside meetings.

- A F O S N ____ 19. I would be reluctant to allow the members any freedom of action.
- A F O S N ____ 20. I would decide what shall be done and how it shall be done.
- A F O S N ____ 21. I would push for increased production.
- A F O S N ____ 22. I would let some members have authority which I could keep.
- A F O S N ____ 23. Things would usually turn out as I predict.
- A F O S N ____ 24. I would allow the group a high degree of initiative.
- A F O S N ____ 25. I would assign group members to particular tasks.
- A F O S N ____ 26. I would be willing to make changes.
- A F O S N ____ 27. I would ask the members to work harder.
- A F O S N ____ 28. I would trust the group members to exercise good judgment.
- A F O S N ____ 29. I would schedule the work to be done.
- A F O S N ____ 30. I would refuse to explain my actions.
- A F O S N ____ 31. I would persuade others that my ideas are to their advantage.
- A F O S N ____ 32. I would permit the group to set its own pace.
- A F O S N ____ 33. I would urge the group to beat its previous record.
- A F O S N ____ 34. I would act without consulting the group.
- A F O S N ____ 35. I would ask that group members follow standard rules and regulations.

" ____ " ____

SOURCE: J. W. Pfeiffer and J. E. Jones, Structured Experiences for Human Relations Training (Iowa City, Iowa, University Associates Press, 1969), pp. 9-10.

LEADERSHIP QUESTIONNAIRE
DIRECTIONS FOR SCORING

1. Circle the following numbers:

8 12 17 18 19 30 34 35

2. Place a number 1 in the blank to the left of the circled items to which you have marked S (seldom) or N (never).
3. Place a number 1 in the blank to the left of the items not circled to which you have marked an A (always) or F (frequently).
4. Circle the number 1 items (one's) which you have marked in front of the following numbers only:

3 5 8 10 15 18 19 22

24 26 28 30 32 34 35

5. Count the circled 1's.

Record this score above the P at the bottom of the questionnaire.

6. Count the uncircled 1's (the 1's you have not circled).

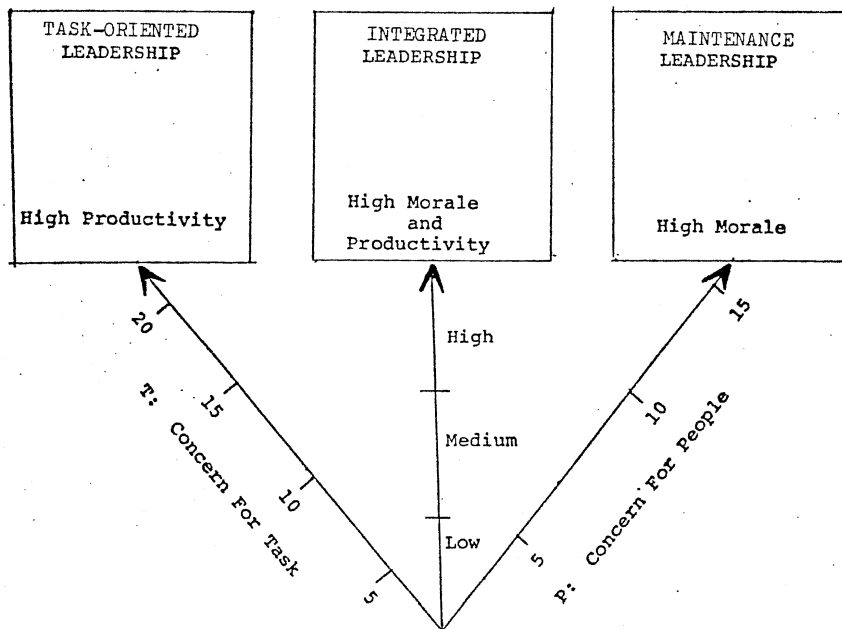
Record this score above the T at the bottom of the questionnaire.

LEADERSHIP STYLE PROFILE SHEET

Name

INDICATING A LEADERSHIP STYLE:

Directions: In order to indicate your style of leadership, find your score on the concern for task dimension (T) on the left-hand arrow. Next, move to the right-hand arrow and find your score on the concern for people dimension (P). Draw a straight line that intersects the P and T score; the point at which that line crosses the inner leadership arrow indicates your score on that dimension.



INTEGRATED LEADERSHIP RESULTING FROM
BALANCING CONCERN FOR TASK AND CONCERN FOR PEOPLE

LEADERSHIP EFFECTIVENESS

GROUP LEADER
TRAINING BOOKLET.

Group Leader

Write your responses to the questions raised in the booklet. Return the booklet to your instructor prior to the first group meeting.

This booklet provides a training program for leaders of small groups. While the origins and references derive primarily from information on leadership in organizations, the program is most useful for the research project for which it was intended.

The program was developed by Sheri S. Williams, Oklahoma State University Doctoral Candidate, Fall, 1977.

GROUP LEADERSHIP TRAINING BOOKLETS

APPENDIX B

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INTRODUCTION

The purpose of this booklet is to make leaders more effective in the leadership situation. The booklet gives leaders direct advice on how to improve their effectiveness.

The problem with some leadership training programs is that leaders may learn what their functions are without ever trying out these leader functions in an actual situation. This program attempts to narrow the distance between what leaders know and what they actually do in group settings.

You have been assigned to the role of leader of a small, problem-solving group. Your task as leader is to perform those functions which will help the group move toward solution on three separate problems.

In order to fulfill this task, it is first necessary to establish some common ground. This booklet will tell you what role you are to play in the group sessions and when your leadership behaviors are most effective.

LEADERSHIP EFFECTIVENESS

A leader is someone seen by others as being primarily responsible for achieving the group's objectives. The leader's effectiveness is thus measured by the extent to which the followers are influenced to achieve the objectives of the group.

In leadership training the central question is, "How can we increase leader effectiveness?" To create the kind of thinking needed to improve effectiveness, the leaders must first be willing to diagnose where they are now. The activities which follow will help leaders think about the leadership situation and how they might improve their own effectiveness.

LEADERSHIP STYLE

There has been a great deal of research into styles of leadership. Recently some clear patterns have emerged. The majority of leadership style research uses some kind of labeling to make clear what kind of leadership is being described.

While the labels vary somewhat, one term best describes the conclusions of the research. The effective leader's basic style is **TASK-ORIENTED**.

A Capsule Description of the Basic Style

As the leader, you are expected to exhibit certain behaviors: initiate structure, seek information, and evaluate progress.

Your task is to make sure the problem is solved. It is important to set definite standards for group performance. Closely monitor the group's progress to see that the group is meeting your standards.

Ask frequent questions. Your dedicated style will help the group move toward solution, which is the purpose of the group in the first place.

INSTANT FEEDBACK

Score your present performance as a group leader. Place a number between 1 (low) and 5 (high) in the columns below.

1 means very poor performance right now
5 means very high performance right now

How I Perceive
My Performance

How I Believe
Others See Me

- | | | |
|-------|---|-------|
| _____ | 1. Helps Group Stay on Target | _____ |
| _____ | 2. Expresses Self Clearly | _____ |
| _____ | 3. Offers Original Ideas | _____ |
| _____ | 4. Provides Helpful Summary | _____ |
| _____ | 5. Gives Helpful Suggestions
on How to Proceed | _____ |

Which ones did you rate a "4" or higher on both columns? How can you capitalize on these competencies? Are there other important skills which are not listed here?

6. _____
7. _____

WHAT LEADERS DO: THREE ESSENTIALS

The "instant feedback" activity tells you where you are in relation to your perception of leadership. The material which follows seeks to close the gap between where you stand now and where you want to be.

As you diagnose your own learning needs, keep in mind that self-diagnosis is a continuing process which must change as your skills change.

Function 1. Initiate Structure

Your leadership motto is: "do it now." Your time perspective is immediate and in the present. You prefer to play an active part in discussion. You initiate and direct the procedures for the most part.

Function 2. Seek Information

You are concerned that the best possible resources be available to the group. You press for information from all members but do not hesitate to close down discussion if some members are not productive. You are concerned with the use of time, and wasted time bothers you.

Function 3. Evaluate Progress

Your determined, and sometimes aggressive, style communicates to the group a concern for the task and the solutions to that task. You are confident that your judgments help OBTAIN RESULTS, which is after all the group's purpose. By setting standards and evaluating progress, what you are doing is obtaining results.

LEADERSHIP THAT FAILS TO ACT

There are some behaviors which should be avoided in performing this leadership style. While you are primarily interested in obtaining results, you do not do so without first consulting the group.

It may be useful to "see" how these behaviors operate on the simple continuum which follows.

Things to Do

Be decisive

Show initiative

Get quality decision

Plan time wisely

Obtain results

Things to Avoid

Be critical

Act threatening

Suppress conflict

Demand immediate solution

Act without consultation

TEST YOUR UNDERSTANDING

Here are some leader responses to group problems. How would you respond?

Situation 1. Starting the Group

You are the leader in a group which is meeting for the first time. You introduce yourself and the members introduce themselves. Then all members turn and look at you expectantly. There is silence. What do you do?

Sample Responses:

1. Describe the purposes and procedures of the group.
2. Encourage members to discuss their goals in behavioral terms.
3. _____

PERSONAL GOAL SETTING

Situation 2. An Attack Upon the Leader

After spending much of the second meeting talking about politics and religion, the group suddenly turns on you. They accuse you of being uninvolved, distant, and uncaring. What do you do?

Sample Responses:

- 1. Say that everyone seems so casual that you wonder if the group is going to get off the ground.
- 2. Suggest that the group is attempting to avoid the issues and make direct suggestions for dealing with the problem.
- 3. _____

Situation 3. Failure to Reach a Decision

Your group has failed to reach an appropriate decision for the problem. In your opinion, to what is the failure attributable?

Sample Responses:

- 1. The reluctance to face up to the requirements of the task directly.
- 2. The failure to hold irrelevant discussion about personal feelings to a minimum.
- 3. _____

You have an opportunity now to look at your own development in the leadership position.

Complete the statements below on as many separate occasions as you wish. Which areas do you believe should receive the most attention?

- 1. Knowledge. Knowledge is information that can be tapped for deeper exploration. I want to develop knowledge about:

- 2. Understanding. Understanding or insight is the ability to apply knowledge effectively to a variety of situations. I want to develop increased understanding or insight about:

- 3. Attitude. Attitudes grow out of a person's experience. Whatever provides the person with the feeling of greater success will be the person's attitude. I want to develop the following attitude:

- 4. Skill. Skill is learned by practice. I want to develop skill in:

The most skilled leader often asks such questions as: What do I do particularly well in the leadership position? What would I like to learn to do better?

Continue to reappraise and redefine your own goals for leadership effectiveness. It will be well worth your effort.

TAKING ACTION

Now that you have completed this program in leadership effectiveness, you are ready to try out your role in an actual situation.

Remember that the leader's primary responsibility is to the group. You may best help the group achieve its goals when you:

Initiate Structure

Seek Information

Evaluate Progress

As the assigned leader to the small problem-solving group, you are asked to perform these specific functions. As you carry out this leadership role, remember especially to:

1. Consider the description of the three essential functions of leadership on page 4 of this booklet.
2. Put yourself into the leadership role, but do not overplay the role.
3. Be natural, but emphasize behavior aimed at fulfilling your role.

LEADERSHIP EFFECTIVENESS

GROUP LEADER
TRAINING BOOKLET..

Group Leader

Write your responses to the questions raised in the booklet. Return the booklet to your instructor prior to the first group meeting.

This booklet provides a training program for leaders of small groups. While the origins and references derive primarily from information on leadership in organizations, the program is most useful for the research project for which it was intended.

The program was developed by Sheri S. Williams, Oklahoma State University Doctoral Candidate, Fall, 1977.

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TEST YOUR UNDERSTANDING _____	5
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TAKING ACTION _____	8

INTRODUCTION

The purpose of this booklet is to make leaders more effective in the leadership situation. The booklet gives leaders direct advice on how to improve their effectiveness.

The problem with some leadership training programs is that leaders may learn what their functions are without ever trying out these leader functions in an actual situation. This program attempts to narrow the distance between what leaders know and what they actually do in group settings.

You have been assigned to the role of leader of a small, problem-solving group. Your task as leader is to perform those functions which will help the group move toward solution on three separate problems.

In order to fulfill this task, it is first necessary to establish some common ground. This booklet will tell you what role you are to play in the group sessions and when your leadership behaviors are most effective.

LEADERSHIP EFFECTIVENESS

A leader is someone seen by others as being primarily responsible for achieving the group's objectives. The leader's effectiveness is thus measured by the extent to which the followers are influenced to achieve the objectives of the group.

In leadership training the central question is, "How can we increase leader effectiveness?" To create the kind of thinking needed to improve effectiveness, the leaders must first be willing to diagnose where they are now. The activities which follow will help leaders think about the leadership situation and how they might improve their own effectiveness.

LEADERSHIP STYLE

There has been a great deal of research into styles of leadership. Recently some clear patterns have emerged. The majority of leadership style research uses some kind of labeling to make clear what kind of leadership is being described.

While the labels vary somewhat, one term best describes the conclusions of the research. The effective leader's basic style is MAINTENANCE-ORIENTED.

A Capsule Description of the Basic Style

As the leader, you are expected to exhibit certain behaviors: give encouragement, seek group harmony, reduce conflict.

Your primary responsibility is to be supportive and to win the friendship of the group. Since groups will be led by leaders they like, it is important that you concentrate on group morale.

Give frequent encouragement and support. The more accomplished you are at putting on a "good show" of friendliness, the more your group will respond.

INSTANT FEEDBACK

Score your present performance as a group leader. Place a number between 1 (low) and 5 (high) in the columns below.

1 means very poor performance right now
5 means very high performance right now

How I Perceive My Performance		How I Believe Others See Me
_____	1. Listens to What Others Say	_____
_____	2. Provides Helpful Feedback	_____
_____	3. Makes Others Feel At Ease	_____
_____	4. Senses When To Talk	_____
_____	5. Helps Members Express Their Ideas	_____

Which ones did you rate a "4" or higher on both columns? How can you capitalize on these competencies? Are there other important skills which are not listed here?

6. _____
7. _____

WHAT LEADERS DO: THREE ESSENTIALS

The "instant feedback" activity tells you where you are in relation to your perception of leadership. The material which follows seeks to close the gap between where you stand now and where you want to be.

As you diagnose your own learning needs, keep in mind that self-diagnosis is a continuing process which must change as your skills change.

Function 1. Give Encouragement

Your leadership motto is: "people come first." You represent a needed source of support and affection to your group. You know when to emphasize personal development and when to emphasize group development. You maintain open communication channels by placing implicit trust in the group.

Function 2. Seek Group Harmony

You are convinced that the best effort comes from group harmony. You rely on friendship and understanding to influence others. You are reluctant to use authority. You prefer to see good fellowship above all other concerns. Your faith in the group's ability serves to motivate them to perform better.

Function 3. Reduce Conflict

Your sympathetic, approving, and accepting manner helps to create a secure and conflict-free atmosphere. Your group feels free to contribute in every way they can or think they can. You believe that conflict is out of place in a working group and that no good ideas ever come from argument.

LEADERSHIP THAT FAILS TO ACT

There are some behaviors which should be avoided in performing this leadership style. While you are primarily interested in group harmony, you do not press for harmony at the expense of performance.

It may be useful to see how these behaviors operate on the simple listing of "things to do" and "things to avoid."

Things to DoThings to Avoid

Place Members First	Seek Acceptance of Self
Create Secure Atmosphere	Make Things Easier
Maintain Trust	Avoid Conflict
Develop Group Talents	Lack of Concern for Output
Work Well with Group	Give No Direction

TEST YOUR UNDERSTANDING

Here are some leader responses to group problems. How would you respond?

Situation 1. Starting the Group

You are the leader in a group which is meeting for the first time. You introduce yourself and the members introduce themselves. Then all members turn and look at you expectantly. There is silence. What do you do?

Sample Responses:

1. Say that the group is theirs to make use of as they wish.
2. Ask members how they feel about being in the group.
3. _____

Situation 2. An Attack Upon the Leader

After spending much of the second meeting talking about politics and religion, the group suddenly turns on you. They accuse you of being uninvolved, distant, and uncaring. What do you do?

Sample Responses:

- 1. Say how you are feeling (for example: tense and expectant).
- 2. Reassure them that a certain amount of hostility is typical in the second phase of the group.
- 3. _____

Situation 3. Failure to Reach a Decision

Your group has failed to reach an appropriate decision for the problem. In your opinion, to what is the failure attributable

Sample Responses:

- 1. The unreasonable demands which were made on the group to generate more ideas.
- 2. The lack of sensitivity to the feelings and personal interests of group members.
- 3. _____

PERSONAL GOAL SETTING

You have an opportunity now to look at your own development in the leadership position.

Complete the statements below on as many separate occasions as you wish. Which areas do you believe should receive the most attention?

- 1. Knowledge. Knowledge is information that can be tapped for deeper exploration. I want to develop knowledge about:

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- 4. Skill. Skill is learned by practice. I want to develop skill in:

The most skilled leader often asks such questions as: What do I do particularly well in the leadership position? What would I like to learn to do better?

Continue to reappraise and redefine your own goals for leadership effectiveness. It will be well worth your effort.

TAKING ACTION

Now that you have completed this program in leadership effectiveness, you are ready to try out your role in an actual situation.

Remember that the leader's primary responsibility is to the group. You may best help the group achieve its goals when you:

Give Encouragement

Seek Group Harmony

Reduce Conflict

As the assigned leader to the small problem-solving group, you are asked to perform these specific functions. As you carry out this leadership role, remember especially to:

1. Consider the description of the three essential functions of leadership on page 4 of this booklet.
2. Put yourself into the leadership role, but do not overplay the role.
3. Be natural, but emphasize behavior aimed at fulfilling your role.

LEADERSHIP EFFECTIVENESS

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5 means very high performance right now

How I Perceive
My Performance

How I Believe
Others See Me

- | | | |
|-------|--|-------|
| _____ | 1. Takes Leadership When Needed | _____ |
| _____ | 2. Encourages Group to High Level | _____ |
| _____ | 3. Levels with Other Members | _____ |
| _____ | 4. Provides Helpful Summaries | _____ |
| _____ | 5. Contributes Without Cutting
Others Off | _____ |

Which ones did you rate a "4" or higher on both columns? How can you capitalize on these competencies? Are there other important skills which are not listed here?

6. _____
7. _____

WHAT LEADERS DO: THREE ESSENTIALS

The "instant feedback" activity tells you where you are in relation to your perception of leadership. The material which follows seeks to close the gap between where you stand now and where you want to be.

As you diagnose your own learning needs, keep in mind that self-diagnosis is a continuing process which must change as your skills change.

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LEADERSHIP STYLE

There has been a great deal of research into styles of leadership. Recently some clear patterns have emerged. The majority of leadership style research uses some kind of labeling to make clear what kind of leadership is being described.

While the labels vary somewhat, one term best describes the conclusions of the research. The effective leader's basic style combines an integrated concern for TASK AND MAINTENANCE.

A Capsule Description of the Basic Style

As the leader, you are expected to exhibit certain behaviors: encourage high performance, coordinate group effort, and interact meaningfully with the group.

Your primary responsibility is to see that the group's objectives are met. Since appropriate solutions are most likely to occur when group members are involved, it is important that you create a climate in which group members are free to interact.

Arouse participation and obtain commitment to the group's goals. When you make sure your members understand why they are doing something, they will put forth their best effort.

Function 1. Encourage High Performance

Your leadership motto is: "challenge without threatening." Your own commitment to both Task and group Maintenance needs is evident. You set high standards for performance while realizing that everyone is different and should be treated individually.

Function 2. Coordinate Group Effort

You work hard to produce a smoothly functioning group. You strive to obtain involvement in discussion and to get the best thinking of the group. You know that individual needs and group needs can be meshed. As a result, your group works hard and their morale is high.

Function 3. Interact Meaningfully

You do not want to be bothered with what you see as artificial barriers to meaningful discussion. You prefer equality in leadership over power differences. You also prefer that the group give their loyalties to the goals of the group rather than to you or to their own duties. You work best when there are no power differences and you can interact with the group as a team.

LEADERSHIP THAT FAILS TO ACT

There are some behaviors which should be avoided in performing this leadership style. While you are primarily interested in developing an effective team, you do not do so at the expense of producing acceptable decisions.

It may be useful to see how these behaviors operate on the simple listing of things to do and things to avoid.

Things to Do

Use Teamwork

Seek Appropriate Participation

Seek Shared Objectives

Integrate Members

Hold Down Power Differences

Things to Avoid

Ambivalent about Decisions

Overuse Participation

Rely on Compromises

Use Interaction when Inappropriate

Yield to Group Members

TEST YOUR UNDERSTANDING

Here are some leader responses to group problems. How would you respond?

Situation 1. Starting the Group

You are the leader in a group which is meeting for the first time. You introduce yourself and the members introduce themselves. Then all members turn and look at you expectantly. There is silence. What do you do?

Sample Responses:

1. Ask why everyone is silent.
2. Describe how members seem to be expecting you to start things.

3. _____

Situation 2. An Attack Upon the Leader

After spending much of the second meeting talking about politics and religion, the group suddenly turns on you. They accuse you of being uninvolved, distant, and uncaring. What do you do?

Sample Responses:

1. Describe their "off the topic" remarks as an expression of the group's anxieties about the discussion question.
2. Ask what they think might be going on in the group.

3. _____

Situation 3. Failure to Reach a Decision

Your group has failed to reach an appropriate decision for the problem. In your opinion, to what is the failure attributable

Sample Responses:

1. The tendency to place total emphasis on keeping harmony in the group rather than balancing task concerns with group member concerns.
2. The preoccupation with status differences among group members rather than an integration of available resources.

3. _____

PERSONAL GOAL SETTING

You have an opportunity now to look at your own development in the leadership position.

Complete the statements below on as many separate occasions as you wish. Which areas do you believe should receive the most attention?

1. Knowledge. Knowledge is information that can be tapped for deeper exploration. I want to develop knowledge about:

2. Understanding. Understanding or insight is the ability to apply knowledge effectively to a variety of situations. I want to develop increased understanding or insight about:

3. Attitude. Attitudes grow out of a person's experience. Whatever provides the person with the feeling of greater success will be the person's attitude. I want to develop the following attitude:

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The most skilled leader often asks such questions as: What do I do particularly well in the leadership position? What would I like to learn to do better?

Continue to reappraise and redefine your own goals for leadership effectiveness. It will be well worth your effort.

TAKING ACTION

Now that you have completed this program in leadership effectiveness, you are ready to try out your role in an actual situation.

Remember that the leader's primary responsibility is to the group. You may best help the group achieve its goals when you:

Encourage High Performance

Coordinate Group Effort

Interact Meaningfully

As the assigned leader to the small problem-solving group, you are asked to perform these specific functions. As you carry out this leadership role, remember especially to:

1. Consider the description of the three essential functions of leadership on page 4 of this booklet.
2. Put yourself into the leadership role, but do not overplay the role.
3. Be natural, but emphasize behavior aimed at fulfilling your role.

APPENDIX C

MEMORANDUM REQUESTING RANKING OF TASK DIFFICULTY

Oklahoma State University

MEMORANDUM

To:
From: Sheri S. Williams
Date: September 2, 1977
Subject: Request for Ranking Task Difficulty

I need your assistance. I am conducting an experimental study on the effects of leadership style and task difficulty on problem solving. One of the variables is the level of task difficulty on three ranking tasks.

The three tasks to be used in the investigation are described on the enclosed sheets. Please rate the three tasks according to level of difficulty from high to low.

The tasks will be completed by small groups of four members each. The groups may use any method they devise to reach agreement on the final rankings. The subjects for the ranking tasks are 180 undergraduate students at OSU.

Thank you for your cooperation. A mailer is enclosed for your reply.

TASK DESCRIPTION	LEVEL OF DIFFICULTY*
Life Crises	_____
Twelve Angry Men	_____
Letter Occurrence	_____

*Assign the Most Difficult Task a 1
Assign the 2nd Most Difficult a 2
Assign the Least Difficult Task 3

Signature of Judge

Please return to: Sheri S. Williams
% Dr. Bill F. Elsom, Head
Applied Behavioral Studies in Education, and
Advisory Committee Chair for S. S. Williams
116 North Murray, Campus

APPENDIX D

GROUP PROBLEM-SOLVING TASKS

Group Number _____

GROUP PROBLEM SOLVING TASK

LETTER OCCURRENCE RANKING WORKSHEET

Instructions: Below is a list of the twelve letters which occur most often in written English. Your group's task is to rank these letters in the same order as their actual frequency of occurrence.*

A number 1 is placed by the most frequently used letter: E. Place the number 2 by the letter that your group thinks is the second most frequently occurring letter. Continue through number 12, which is your group's estimate of the letter used least frequently.

_____ 1	E
_____	D
_____	H
_____	I
_____	T
_____	R
_____	F
_____	L
_____	N
_____	A
_____	S
_____	O

*The actual frequency of occurrence is derived from material in A. E. Karbowiak and R. M. Huey, Information, Computers, Machines, and Man, (New York: John Wiley, 1971). This worksheet was developed by Kenneth D. Scott and published in A Handbook of Structured Experiences for Human Relations Training, J. W. Pfeiffer and J. E. Jones, editors (Lajolla, California: University Associates, 1975).

Group Number _____

GROUP PROBLEM SOLVING TASK

LIFE CRISES RANKING WORKSHEET

Introduction: Some events in our lives require significant personal and social readjustment. A recent survey asked people to rate these life crises as to the amount of readjustment they require: MAJOR, MODERATE, or MILD.*

Your group's task is to rank each of the following crises events according to your estimation of how the people surveyed regarded the intensity of the event.

The number of spaces given in each level indicates the number of crises to be placed there. The letter K is placed next to number 1 under the First Level, indicating that a death of a spouse requires the most readjustment. Continue ranking the events through number 12, which is your group's estimate of the least significant crisis event.

Crisis events to be ranked under the three levels:

- | | |
|---------------------------------|-------------------------------|
| A. foreclosure of mortgage | G. personal injury or illness |
| B. divorce | H. pregnancy |
| C. vacation | I. change in residence |
| D. personal sex difficulties | J. fired at work |
| E. death of close friend | K. death of spouse |
| F. son or daughter leaving home | L. marriage |

First Level: MAJOR Second Level: MODERATE Third Level: MILD

- | | | |
|------------------|------------------|-------------------|
| 1. <u> K </u> | 4. <u> </u> | 10. <u> </u> |
| 2. <u> </u> | 5. <u> </u> | 11. <u> </u> |
| 3. <u> </u> | 6. <u> </u> | 12. <u> </u> |
| | 7. <u> </u> | |
| | 8. <u> </u> | |
| | 9. <u> </u> | |

*The survey is reported in Psychology Today, April, 1972, pp. 71-2. This worksheet was developed by Don Keyworth, Drake University, Des Moines, Iowa. Similar ranking tasks may be found in A Handbook of Structured Experiences for Human Relations Training, J. W. Pfeiffer and John E. Jones, editors, (Iowa City: University Associates, 1973).

Group Number _____

GROUP PROBLEM SOLVING TASK

12 ANGRY MEN RANKING WORKSHEET

Instructions: Listen to Act I of 12 Angry Men, by Reginald Rose. At the conclusion of the opening act of this play, one of the jurors (#8) has switched his vote to 'not guilty.' By the end of the play, all of the jurors, one by one, have changed to not guilty.

Your group's task is to predict the order in which the remaining jurors will change their votes to 'not guilty.' Rank juror #8 as juror number 1, because he was the first to vote for not guilty. Continue through number 12, which is your group's estimate of the juror who is the last to change his vote from guilty to not guilty.

Introduction to the Play: The 12 jurors are designated solely by number in the play. You are encouraged to take notes to help you remember each juror as you listen to and read through Act I.

Consider the following factors as they effect the jurors:

1. the jury room itself
2. the time of day and the weather
3. the jurors' reactions to one another
4. the disparity in what the various jurors remember about the testimony and evidence presented
5. the emotional patterns of the individual jurors
6. the occupational roles and backgrounds of the jurors
7. the biases and preoccupations of each of the jurors
8. the differences in personality and temperament of the jurors

You may wish to refer back to specific passages from the play to help you account for your group's predictions of how the jurors will shift their votes to not guilty.

<u>Group Prediction</u>	<u>Jurors</u>
_____	Foreman
_____	2
_____	3
_____	4
_____	5
_____	6
_____	7
_____	8
_____	9
_____	10
_____	11
_____	12

*This exercise was developed by Robert R. Blake and described by Jay Hall in Psychology Today, November, 1971, pp. 51-54.

APPENDIX E

GROUP PROBLEM-SOLVING TASKS: LEADER INSTRUCTIONS AND GENERAL INSTRUCTIONS TO GROUPS

GROUP PROBLEM SOLVING TASKS

LEADER INSTRUCTIONS

1. Reconsider the description of your leadership function in the group leader training booklet.
2. Put yourself into the leadership role, but do not overplay the role.
3. Be natural, but emphasize behavior aimed at fulfilling your role.
4. Make sure your group understands the general instructions before you begin the three tasks.
5. One of the tasks involves listening to a tape recording of the first act of a play. Give your group the full 20 minutes to solve the problem at the conclusion of the tape.
6. One member of the group is to record the group's decision on the group worksheet. Make sure that all items are ranked.
7. Instruct group members to complete the post-meeting reaction form at the completion of each task.

GENERAL INSTRUCTIONS TO GROUPS

1. One of your members has been appointed as leader to the group. You are to follow your leader's directions.
2. Your group is asked to solve three problems.
3. Group members may come to agreement on the solutions to each problem according to any method which the group devises.
4. One member of the group is to record the group's decision on the group worksheet. RANK ALL ITEMS.
5. Your group has 20 minutes to complete its ranking of items on each of the three problems.
6. Group members are to complete the post-meeting reaction form at the completion of each task.
7. Discussion on the implications of the ranking tasks is to be held until after all three ranking tasks have been completed.

APPENDIX F

PRELIMINARY FEEDBACK TO SUBJECTS INVOLVED IN THE EXPERIMENTAL STUDY

Oklahoma State University

MEMORANDUM

To:
From: Sheri S. Williams
Re: Research Project Feedback
Date: November 16, 1977

Thank you for your assistance in my research project.

I will appreciate it if you will read the following statement to your students who were involved in the study.

Debriefing Information

Thank you for your willingness to participate in my research project on leadership in the small group. The following information is designed to give you some preliminary feedback about the study.

The three ranking tasks your groups discussed were selected on the basis of their difficulty. The 'letter occurrence' task was judged to be the least difficult of the three problems. The 'twelve angry men' task was judged to be the most difficult.

Not all of the groups worked with the same type of leader on these three problems. Your leaders were given training booklets one week before the group sessions. The booklets contained information which supported one of three basic leadership styles. The three styles selected for this study were: a concern for task, a concern for group maintenance, and an integrated concern for task and maintenance.

Your leader was instructed to read the booklet and to answer questions which were designed to favor one particular leadership style. For example, if your leader received a high score for 'concern for task' on the leadership questionnaire, then the booklet your leader received would contain arguments favoring a task-oriented approach to leadership. Your leaders were not told that the booklets were written to match their preferred leadership style.

It is important to note here that the research literature is not conclusive on the question of leadership effectiveness. There is no one 'best' style of leadership which is supported in the research. It may be that the most effective leadership style will vary with the level of difficulty of the problem. I am interested in discovering if a particular leadership style is more effective with groups working on easy, moderate, or high difficulty problems.

APPENDIX G

ANSWER KEYS AND SCORING INFORMATION
FOR THE THREE EXPERIMENTAL TASKS

ANSWER KEYS: GROUP PROBLEM SOLVING TASKS

<p>I. Letter Occurrence Ranking Worksheet</p> <p>1. E 2. T 3. A 4. O 5. N 6. R 7. I 8. S 9. H 10. D 11. L 12. F</p>	<p>Group Rankings</p>	<p>Difference d </p> <p>Total _____</p>																										
<p>II. Life Crises Ranking Worksheet</p> <table border="0"> <thead> <tr> <th>First Level</th> <th>Second Level</th> <th>Third Level</th> </tr> </thead> <tbody> <tr> <td>1. K</td> <td>4. L</td> <td>10. F</td> </tr> <tr> <td>2. B</td> <td>5. J</td> <td>11. I</td> </tr> <tr> <td>3. G</td> <td>6. H</td> <td>12. C</td> </tr> <tr> <td></td> <td>7. D</td> <td></td> </tr> <tr> <td></td> <td>8. E</td> <td></td> </tr> <tr> <td></td> <td>9. A</td> <td></td> </tr> </tbody> </table>	First Level	Second Level	Third Level	1. K	4. L	10. F	2. B	5. J	11. I	3. G	6. H	12. C		7. D			8. E			9. A		<p>Group Rankings</p>	<p>Difference d </p> <p>Total _____</p>					
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SCORING: Each group's score is the sum of the differences between what the correct rank is for each item and how it was ranked by the group. Disregard plus or minus signs, and sum to find the total score. The best possible score is zero, the worst is 60.

Group Totals:
I. _____
II. _____
III. _____

APPENDIX H

POST-MEETING REACTION FORM FOR
SMALL-GROUP PROBLEM SOLVING

POST-MEETING REACTION FORM
SMALL GROUP PROBLEM SOLVING

Group Leader's Name

Group Member's Name

The following questions are concerned with aspects of leadership behavior. Respond to each question according to what you believe about the leader of your group at the present time. Circle the number which best describes your response NOW.

- | | | | |
|---|----------------|---|-------------------|
| 6 | Strongly Agree | 3 | Somewhat Disagree |
| 5 | Agree | 2 | Disagree |
| 4 | Somewhat Agree | 1 | Strongly Disagree |

- 6 5 4 3 2 1 1. It was pleasant to be in the same group with the Leader.
- 6 5 4 3 2 1 2. The Leader's suggestions were acceptable to me.
- 6 5 4 3 2 1 3. The procedures the Leader initiated helped the group make progress toward its goals.
- 6 5 4 3 2 1 4. The Leader was valuable in guiding the discussion and getting things done.
- 6 5 4 3 2 1 5. The Leader helped the group establish effective ways for the members to work and communicate with one another.
- 6 5 4 3 2 1 6. I would like to see the Leader retain the Leadership position of my group.

VITA 

Sheri Sue Williams

Candidate for the Degree of

Doctor of Education

Thesis: THE EFFECTS OF LEADERSHIP STYLE AND TASK DIFFICULTY ON THE DECISION QUALITY AND SATISFACTION OF SMALL PROBLEM-SOLVING GROUPS

Major Field: Educational Psychology

Biographical:

Personal Data: Born in Denver, Colorado, May 23, 1946; the daughter of Mr. and Mrs. Bert Meilinger; the wife of Dr. John Wynston Williams; the mother of Shanna Sue and Ross Burton.

Education: Graduated from North Denver High School, Denver, Colorado, in June, 1964; received Bachelor of Arts degree in Speech Arts from Colorado State University in 1968; received Master of Arts degree in Speech Communication from the University of Illinois in 1971; completed requirements for the Doctor of Education degree at Oklahoma State University in May, 1978.

Professional Experience: Teacher and Director of Forensics, Centennial High School, Champaign, Illinois, 1968-1972; Teacher, Bryan High School, Omaha, Nebraska, 1972-1974; Instructor, University of Nebraska at Omaha, 1974-1975.

Professional Organizations: American Psychological Association; Kappa Delta Pi; past member of Speech Communication Association and National Education Association.