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WATSON, WARREN EDWIN

THE EFFECTS OF TASK PERFORMANCE INFORMATION ON LEADER-SUBORDINATE INTERPERSONAL COMMUNICATION IN AN ORGANIZATIONAL SETTING: AN ATTRIBUTIONAL INTERPRETATION

The University of Oklahoma PH.D. 1980

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THE EFFECTS OF TASK PERFORMANCE INFORMATION ON LEADER-SUBORDINATE INTERPERSONAL COMMUNICATION IN AN ORGANIZATIONAL SETTING: AN ATTRIBUTIONAL INTERPRETATION

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

BY

WARREN E. WATSON

Norman, Oklahoma

1980

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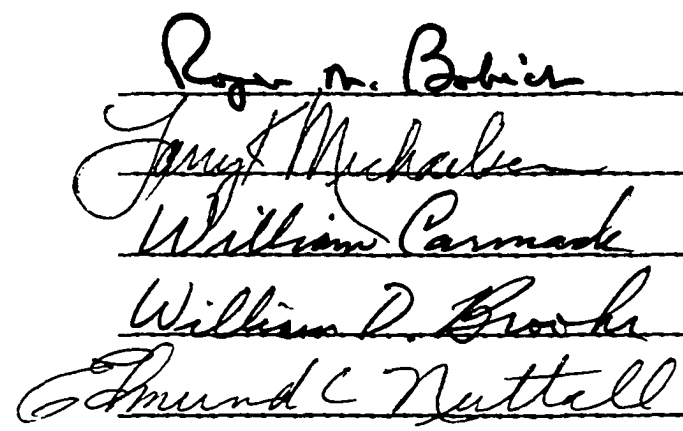
APPROVED BY



DISSERTATION COMMITTEE

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CHAPTER I

AN ATTRIBUTIONAL PERSPECTIVE OF INTERPERSONAL COMMUNICATION IN AN ORGANIZATIONAL SETTING

The fact that we are social beings makes communication with others a major component in our lives. Most of our interaction occurs on spontaneous and informal levels and requires adaptation to other persons during the communication event. In this communication context, most people attempt to give order and meaning to these communication acts by making guesses, educated and otherwise, as to why others act in a particular manner. Person perception, the processes by which we come to know and think about other person's characteristics, qualities, and inner states, is a fundamental factor in interpersonal communication, and may provide an explanation of the means by which we make such guesses. While the phrase person perception is used often in a loose way and may also denote among other things social perception, person cognition, and interpersonal perception (Tagiuri, 1969), the process by which we organize and interpret information about others is crucial to interpersonal communication and is the focus of this study.

The majority of current research on person perception is conducted under the umbrella of attribution theory which basically deals with explaining the way in which people account for human actions. Attributional

approaches see the "individual on the street" as obtaining information from his/her social surroundings and trying to discern the causes and consequences of ongoing behavioral events. The majority of investigations in this area have been concerned with understanding the causal factors pertaining to others' performance in various task situations. In other words, this type of research attempts to clarify how we perceive the motives, intentions, and causes regarding persons' task performances in vaious contexts. This perspective does not tell us whether the motives we infer others to have are objectively true, but simply provices an explanation for the way in which we reach our conclusions about motives and other causes for a person's actions.

As often used context in attribution research has been the superior-subordinate relationship where quite different status levels have been designated. Teacher-student, therapist-patient, and experimenter-subject contexts frequently have been employed to observe persons' attributions resulting from information provided about an individual's performance on specific tasks. Further, when persons in superior-subordinate situations are given information concerning others' task performance, questions have been raised concerning the ways in which their attributions regarding this information affect their perceptions and interactions with others. In the majority of studies examined, the effects of task performance treatments were evaluated by experimental techniques which illustrated subjects' tendency to: 1) accept responsibility for the performance, 2) blame another for the performance, 3) exhibit socio-emotional and task behavior toward another in the task relationship, and/or 4) be attracted to

another in the task relationship. Thus, the person perception orientation of the experimental investigations is evident.

Two distinct theoretical positions dominate current thinking about attributional processes. One position basically argues an informa- processing perspective, while the competing view stresses perceiver motivation, however, most theorists eventually acknowledge an interaction of the two perspectives. These two perspectives have been extremely difficult if not impossible to separate. A resulting view that is rapidly becoming popular maintains that many perceivers utilize a single, sufficient and salient explanation for behavior, often the first satisfactory one that comes along (Jones and Davis, 1965). In other words, people quite often make causal attributions of others in work or social situations that are shaped by salient information that appears to represent a sound basis for judgement. This saliency effect has been shown to have a significant and pervasive influence on attributions of dispositions even in highly constratined task situations. When these attributions are made concerning task performance information, the resulting interpersonal perception and behavior often is affected significantly.

Much of the effect of such information can depend on the degree to which it is self-involving, that is, information may not only be salient, it may also significantly affect one's self-esteem and perceived proper social desirability. While information may appear salient without being self-involving, when both of these elements are present the effect on one's attributions would, indeed, be powerful. For instance, designated superiors and/or subordinates are often evaluated

by the quality of their performances, and thus information about the nature of that evaluation would be very self-involving. The phenomenon of the self-fulfilling prophecy is not new; once attributions are made from this type of salient information, attitudes and behaviors consistent with these attributions continue to be produced.

One condition is an interpersonal communication context that would enhance the self-fulfilling tendency of such self-involving perceptions is the ongoing and interactive nature of a superior-subordinate relationship. If a task were one that required all participants to work together collectively, subordinates would be involved in attributional processes concerning the superior's behavior and the superior would also be involved in attributional processes concerning the subordinates' behavior. The constant adaptation of each person to the others' behavior can easily lessen the rationality and accuracy of the attributions (Jones, 1972). While attributions certainly are re-evaluated over time and may change as errors and biases are recognized, the rationality of inferences from such interactive communication is diminished because of the constant reciprocation of the superios-subordinate perspectives. Therefore, attributions made from salient, self-involving information are likely to remain strong because the interactive nature of the task situation produces a tendency for less re-evaluation of possible attributional biases. Such a view of superior-subordinate task groups has been examined in several interpersonal situations but has received little attention within an organizational environment.

Even though designated superior-subordinate roles have been employed in a variety of attribution research, little such research has

been conducted with an organizational setting. Correlational research in the area has been voluminous, but one shot correlational studies have received much negative commentary about the validity of their causal implications. Consequently, a great deal of interest during the last ten years has been directed toward attributional approaches as a means of better explaining leader and subordinate behavior, leader-subordinate interaction, and the resulting consequences.

Much of the attribution orineted leader-subordinate investigations have involved manipulated performance information after interaction and/or have used confederates playing a leader or subordinate role to manipulate performance levels in task scenerios. Only a few studies have manipulated information about task performance before interaction to test its effects on the attributional processes and the communication behaviors that follow. Most of these studies used subordinate perceptions of leader behavior, leader perceptions of subordinate behavior, and most frequently evaluated some variation of the general dimensions consideration and initiating structure (Stogdill, 1974). More specifically, behavior indicative of friendship, mutual trust, respect, and wamrmth is representative of the consideration dimension, and behavior that organizes and defines relationships or roles, and establishes well-defined patterns of organization, channels of communication, and ways of getting jobs done is representative of the initiating structure dimension (Bowers and Seashore, 1966).

Even though considerable research has been done on the consideration and initiating structure dimensions, widely varied findings resulted when more specific interpersonal variables were used to represent

these general factors. Other potentially relevant variables have been completely ignored, for example, very little research considers the effect of divergent levels of task performance information on the specific variable of interpersonal anger. Since attributions resulting from differing levels of performance information significantly affect interpersonal perception and behavior, it logically follows that the amount of interpersonal anger observed could also vary substantially. From these specific areas as well as some more broadly based attributional issues the following person perception questions emerge.

1) In a task situation, what effect will leader-subordinate attributions concerning divergent prior performance information have on leader-subordinate interpersonal communication and future task effectiveness?

2 In a task situation, will the attributions to divergent levels of prior performance information have a significant effect on the extent of interpersonal anger perceived by leaders and subordinates?

In order to more explicitly deal with these questions, the next section will more extensively describe the crucial part that person perception plays in interpersonal communication, and attribution research will be examined as the unifying perspective under which most of the person perception investigations take place. The foundations of current attribution theory will be examined, and the role of self-involving, salient information on persons' attributional processes in task situations will be investigated. Attnetion will then be directed toward the need for clarifying work in applying interpersonal research in the organizational setting, and finally, hypotheses will be derived directly from the literature reviewed to test the general research questions of interest here.

CHAPTER II

REVIEW OF SELECTED LITERATURE

The introduction described the rationale for the research questions of this study. This chpater will review relevant literature selected for support of the viability of the study and development of the hypotheses. Investigation of the notion that leader-subordinate attributions concerning task performance information will significantly affect their interpersonal perception and interpersonal communication behavior demanded a search of four areas of literature. First, a discussion of findings illustrating the meaning of interpersonal communication and person perception was necessary to show that the investigation was valuable as a communication study. Next, an examination of the development of current attribution theory was needed in order to establish the research perspective from which the study was derived. Also, an explanation of current research on persons' attributions concerning salient, self-involving information was appropriate to describe the power of this ytpe of attribution on person perception. Last, a description of the limited attribution research in an organizational context was important in pointing out specifically from where hypotheses of the study were derived. This review of literature, then, involves an explanation, in some detail, of interpersonal communication

and person perception, general attribution theory, attributions on salient, self-involving information, and attribution type analyses in an organizational context.

Interpersonal Communication and Person Perception

Interpersonal communication is a highly pervasive human activity. No matter what our station or niche in life, we devote a good deal of our waking time to this interaction. Obviously, it is vital for us to have some idea of why others do what they do in order to interact effecively. In this section, the basic elements of interpersonal communication will be discussed and emphasis will be directed to how person perception is a crucial component of this interpersonal behavior. Next, attribution theory will be shown to be the umbrella under which the majority of person perception research takes place. Therefore, this portion of the review of literature will illustrate the meaning of interpersonal communication and person perception, and that a great deal of interpersonal research is generated from attribution theory.

Luft and Ingram (1963) state that interpersonal communication consists of face-to-face interactions between people who are consistently aware of each other. Each person assumes the roles of both sender and receiver of messages, which involves constant adaptation and spontaneous adjustment to the other person/s. Barnlund (1968) argues that interpersonal communication is concerned with: 1) process, 2) the generation and attribution of meanind, 3) complex behavior, 4) irreversible and unrepeatable elements, 5) the total personality, and 6) is the basis of change in our views of the world and ourselves.

Many other definitions could follow, but these two popular perspectives capture the essential nature of this type of communication.

R. D. Laing adds another perspective to the study of interpersonal communication. He (1960, 1961, 1966, 1967) states that while behavior is observable, experience is intensely private. Consequently, inferring experience from behavior is extremely difficult (Laing, 1967). Laing (1967) pointed out: "I see you, and you see me. I experience you, and you experience me. I see your behavior. You see my behavior. But I do not and never have and never will see your experience of me." One's experience is affected largely by relations with others, which depend upon how one perceives or experiences others. How we behave toward another person depends upon our perception and relationship with that person and often involves a behavior-experience spiral. This evolves from Laing's notion of perspectives. That is, Jack perceives certain behaviors of Jill (direct perspectives). He also imagines Jill's perceptions of him and/or events (metaperspective). One can easily see how slight misinterpretations could spiral through the direct, meta, and meta-meta perspectives of interpersonal communication to provide highly distorted inferences about others. A person perception point of view is the essence of Laing's theory.

Littlejohn (1978) states that theories of interpersonal communication focus on various aspects of the process of communication. These aspects are: 1) the nature of human relationships, 2) interpersonal needs, 3) self-presentation, 4) disclosure and understanding, 5) social perception, and 6) attraction and conflict. These factors are not mutually exclusive and theories of interpersonal communication focus on one or another, but in a more global sense they are interdependent

and mutually supportive. Thus interpersonal communication encompasses a broad area of interpersonal behaviors.

Conclusion

A major component of interpersonal communication is interpersonal perception of which is studied primarily under the heading of attribution theory. Berger (1973) has expressed concern that more research in communication has not dealt with attribution theory since the assertion that "menaings are in people" implies that humans are actively engaged in the process of attributing meanings to verbal and nonverbal message events perceived in their environment. The interpretations made concerning this information are the focus of this study, and Littlejohn (1978) and Wilmon (1979) feel that research in this area is beginning to mature and is crucial to the study of interpersonal communication.

Attribution Theory

"Attribution" is defined in many ways and as in many areas of social science, the explanation of this term cannot be dealt with easily in a cursory manner. Attribution theory originally grew from the work on person perception and refers to the conditions associated with the individual's attempt to find structure in his/her own behavior and the behavior of others. Actually, attributional approaches see the "individual on the street" as obtaining information from his/her social surroundings and trying to discern the causes and consequences on ongoing behavioral and environmental events (Harvey, Ickes, and Kidd, 1976). The major theme of this study concerns the effect of

attributional processes on persons' interpersonal perception and behavior in a specific communication context.

Consideration of the contributions of the most important attribution theorists may help in developing a clear understanding of the rationale for the present study. (Heider (1958) is considered to be the father of the current view of general attribution theory; Kelley (1967) revised the theory in order to more scientifically observe the effects of the attributional processes; Jones and Davis (1965) were most concerned with causality attributed to others; and Jones and Nisbett (1972) described attributional processes in an interactive, communication context. In order to provide a clear picture of this investigation's logical development, a brief review of these attribution theorists' contributions was considered important.

Fritz Heider

Heider (1944, 1946, 1958), considered to the father of attribution theory, refers to it as a "naive psychology" which persons employ to determine causality of actions or events. In other words, the attribution process is to organize into meaningful units a continuous stream of information from another's behavior. Heider assumed that the input already includes important causal judgments at some level (Newtson, 1976). He referred to Michotte's (1946) work on perception of mechanical causality which demonstrated that certain physical configurations give rise to immediate unambiguous experiences of causation. Heider (1958) said something close to this when he stated that animate objects have the potential for patterns of action (he called this equifinality) that permit a particular set of invariances to be employed in the perceptual organization of action. That is, different clues

are available to us which in some cases seem to converge on an identical end or are all supportive of a particular causal inference.

H. H. Kelley

Kelley's (1967, 1972) notion on the unit of input to the inference process is not the same as Heider's. Kelley argues that the main data for the attribution process is an "entity effect covariation." An effect is said to be attributed to that entity which is present when the effect is present and which is absent when the effect is absent. These data are converted to internal or external attribution by noting variation of effects over entities, persons, modalities, and time with respect to several criteria of validity. In the interpretation of causality, he shifts from the direct perception of causal entities in the stimulus field (Heider, 1958) to the combination of successive perceptual entities in the stimulus field (Heider, 1958) to the combination of successive perceptual entities into stable sets of causal beliefs. Thus, Heider (1958) focused on attribution as the active construction of meaning in behavior, while Kelley (1967, 1972) focused on causal analysis over time and situations.

Implicit in the covariation-effect is the attribution of internal versus external responsibility. Kelley (q967) writes of four criteria attributing responsibility: 1) distinctiveness -- the impression is attributed to X if it uniquely occurs when the entity (e.g., person) is present and does not occur in its absence; 2) consistency over time -- each time X is present the individual's reaction must be the same or nearly so; 3) consistency over modality -- one's reaction must be consistent even though their mode of interaction with X varies;

and 4) consensus -- attributions of external origin are experienced the same way by all observers. Kelley goes on to say that to the degree to which a person's attributions fulfill the criteria, he/she feels confident that they have a true picture of the external world. The internal-external dichotomy refers to whether the causality is attributed to persons or contexts. That is, in an organizational situation, are the bahaviors observed attributable to subordinates in the problem-solving situation or to something external to human behavior, effort and ability, such as task difficulty?

Jones and Davis

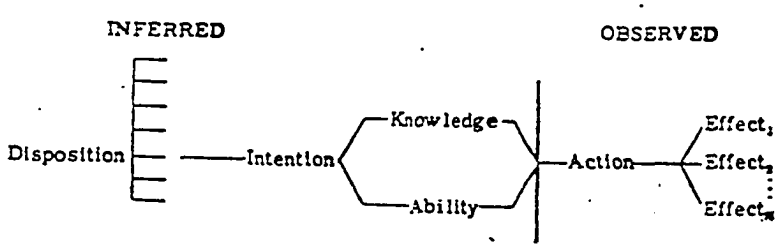
Jones and Davis (1965) looked at attribution from a different perspective. While Kelley was most concerned with the allocation of causality between the environment or self and/or others over time, Jones and Davis (1965) were most involved with the attribution of personal causality to others. They emphasized the problem of specifying the antecedent conditions for the attribution of dispositions to an actor; they were especially interested in the differential salience of particular effects of actions in the inference process.

Jones and Davis (1965) further developed Heider's theory to what they refer to as a theory of correspondence. This refers to the extent that the act and the underlying characteristic or attribute are similarly described by the inference or attribution. Several major factors which affect the strength of one's attributions of another are: 1) intentions and dispositions, 2) situational constraints, 3) number of noncommon effects present, 4) hedonic relevance of the action to the perceiver, and 5) personalism -- the actor's intention to benefit or harm the perceiver. Since Jones and Davis' perspective

is so important to attributions of causality to others, a brief look at these is appropriate.

According to Jones and Davis (1965), in order to conclude that at least some effects achieved by an action were intended, the perceiver must first believe that the actor was aware his action would have the observed effects. Therefore, the first step in the inference process is the assumption of knowledge on the part of the actor. In addition to the assumption about knowledge of consequences, decisions linking intentional attributes to the effects of action, are also affected by the perceiver's judgment of the actor's ability to to bring about the effects observed.

Knowledge and ability are preconditions for the assignment and each plays a vital role in enabling the perceiver to decide whether an effect or consequence of action was accidental. The attribution of intention, then, is important for inferences concerning dispositions toward which the perceiver presses in attaching significance to an action (Jones and Davis, 1965) The perceiver ordinarily strives to discover the invariances which underlie manifest actions in order to stabilize the environment and render it more predictable (Heider, 1958). These statements are summarized by the following model (Jones and Davis, 1965):



The Action-attribute Paradigm.

It is assumed that the perceiver typically starts with the overt action of another; this is the grist for his cognitive mill. He then makes certain decisions concerning ability and knowledge which will let him cope with the problem of attributing particular intentions to the actor. The attribution of intentions, in turn, is a necessary step in the assignment of more stable characteristics to the actor. (Jones and Davis, 1965)

Jones and Davis also argue that an attribution will be representative of the other's true disposition if the actor is relatively free of situational constraints. More information is conveyed about a person's dispositions when he/she may choose from a wide range of alternative behaviors than when his/her choices are more severely constrained. For example, if an actor is free to choose between only behaviors A and B, choice of behavior A tells the observer less about his unique disposition than it would about an actor who chose behavior A from among alternative behaviors A, B, C, D, and E.

An inference will be correspondent when the same observed effect is demonstrated through a variety of different behaviors (Jones and Davis, 1965). That is, imagine that behaviors A, B, and C result in a number of diverse effects, but at least one produced effect is common to all three behaviors. If behaviors A, B, and C have only shyness in common, for example, a correspondent inference may be made that the actor is shy. Jones and Davis state that the inference will be more correspondent the fewer the number of diverse effects (noncommon effects) also produced by the behaviors; that is, the same observed disposition or effect is demonstrated through a variety of different behaviors.

However, there are elements that affect dispositional inferences that are not concerned directly with ability and knowledge. Jones and Davis (1965) explain that hedonic relevance refers to the implications of an observed effect for an observer. An effect is said to have either positive or negative hedonic relevance depending upon whether its implications for an observer are positive or negative. The observer who is hedonically involved will make more correspondent, but not necessarily more accurate inferences. That is, the observer will assume the

attribution to be more representative of the actor's disposition, but this inference is not necessarily more accurate.

Suppose an observer has been monitoring an actor's behavior over a period of time but has observed only neutral effects, which convey little information about the actor's unique dispositions or intents. Then the actor produces an effect which has either positive or negative implications for the observer--perhaps the actor has made an error for which the observer is held accountable (negative hedonic relevance). Because he/she is hedonically involved, the observer will tend to interpret previously neutral effects of the actor in terms of the action which has had hedonic relevance for him (Jones and David, 1965; Stone, 1975). Thus, the previously neutral effects of the actor will be viewed in a generally negative context. Because they are now endowed with meaning from the relevant effect, previously neutral effects convey negative information to the observer, thus, enabling him to make inferences of higher correspondence. Therefore, the observer will feel that the perceived negative behavior of the other accurately represents their actual disposition whether this is true or not.

Jones and Davis argue that the hedonically involved observer will see functional relationships (commonality) between effects which were previously perceived as diverse, thus, reducing the number of diverse effects and thereby increasing the correspondence of inferences. That is, attributions will be made concerning what appears to be more salient, representative information. When previously neutral effects take on meaning from an effect which has had hedonic relevance for an observer, Jones and Davis (1965) state that assimilation to the

predominant hedonic value has occurred. For instance, performance information about a task in which an observer is personally involved would certainly produce hedonic relevance. If the information described either high or low levels of prior performance concerning other participants in an interdependent task situation, the strong positive or negative relevance for the observer would result in positive or negative attributions about the others involved.

An act or choice may be hedonically relevant to the perceiver even though it is clear that the act or choice did not occur because of their unique presence. The variable or personalism is introduced to distinguish between choices which are conceivably affected by the presence of the perceiver and choices which are not conceivably so affected. It is usually not easy to judge whether a choice was affected by personalistic considerations. Jones and Davis (1965) state that an individual may, in effect, experimentally arrange conditions of his own presence and absence in an attempt to detect differences in the choice made by the stimulus person.

Jones and Davis (1965) conclude that an action which is both relevant and personal has a direct and dramatic effect on evaluative conclusions about the actor. One reason is that personalism implies choice. If an actor benefits a perceiver, this is a personalistic episode only if it reflects the selection of that particular perceiver as a worthy beneficiary in the face of opportunities to select other targets or actions. The combination of personalism and positive relevance insures a positive evaluation by insuring a correspondent inference of focused benevolence (Jones and Davis, 1965). This attribution may lie in the fact that it

satisfies the perceiver's needs for information about his worthiness, as well as other needs for security, etc. In any event, the receipt of focused benefit or focused harm should generate halo effects in the inference process which go beyond the assimilation to hedonic value predicted in the case of impersonal hedonic relevance and much stronger positive or negative attributions would be made about the actor.

Jones and Davis (1965) emphasized antecedent conditions for the attribution of personal causality to others and were especially interested in the differential salience of particular effects of actions in the inference process. The major factors discussed which affect one's attributions of another were: intentions and dispositions, situational constraints, noncommon effects, hedonic relevance, and personalism. Since the effect of particular salient information on the interpersonal communication process is the focus of this study, a more in-depth explanation of Jones and Davis' perspective was considered important.

Jones and Nisbett

Jones and Nisbett, (1972) developed this theory further with a focus of observer versus actor perspectives as explanation of their respective behaviors. Basically, the actor's perceptions of his behavior are at variance with those held by outside observers. In fact, there is a pervasive tendency for actors to attribute their actions to situational requirements, whereas observers tend to attribute the same actions to stable dispositions of the actor. This assumption involves observations made when the actor and observer are not interacting, and the actor views elements of the situation as more salient, whereas, the observer sees dispositional characteristics of the actor as more salient.

Jones and Nisbett (1972) also argue that for observers who are also actors (for example, in an interpersonal communication context), the tendency toward heightened salience of behavioral and environmental information is more pronounced. Since the participants continually adapt to each other's behavior, the effect of salient, self-involving information results in stronger and more generalizable attributions. That is, the observer: 1) can no longer make leisurely appraisal, 2) tunes in to cures important to his/her next act, 3) does not operate at a peak of cognitive complexity, 4) is attracted to convenient simplifying assumptions, and 5) this action implies a disposition to continue acting in the same manner. Also, the observer's presence and behavior may affect the actor's responses in ways not discerned by the observer. It is difficult for the active observer to evaluate the significance of his own presence because he/she is not afforded comparative tests. This leads to an exaggeration of their and others' motives and causes. This view is especially relevant to an interpersonal communication where the roles of both sender and receiver of messages involve constant adaptation and spontaneous adjustment to others.

Conclusion

Implicit in the arguments of the attribution theorists reviewed is the notion that in our interactions with others, we constantly size up other people. Communicators do develop impressions of each other, and how persons see one another in communication settings is the topic of interpersonal perception (Littlejohn, 1978). The most consistent frameword for discussing the perception of others comes from attribution theory, which deals with the process of attributing meaning to the

behavior of ourself and the behavior of the other (Wilmot, 1979). Whether we are observing our own action or that of another, we make attributions based on available information.

From this view of the foundations of general attribution theory, it is evident that the process of attribution is a crucial component of interpersonal communication and is coming into its own in the seventies (Harvey, Ickes, and Kidd, 1976, 1978; Littlejohn, 1978; Wilmot, 1979). The brief touch upon the theories of Heider, Kelley, Jones and Davis and Jones and Nisbett identifies what is considered to be the base of current attribution theory, especially as it relates to interpersonal communication. Jones and Davis' and Jones and Nisbett's view points were emphasized because they were most involved with the attribution of personal causality to the self and others. They emphasized the problems of specifying the antecedent conditions for the attribution of dispositions to an actor, and they were especially interested in the differential salience of particular effects of actions and information in the inference process.

The Influence of Salient, Self-involving Information on the Attribution Process

As explained, we make attributions of others based on available information. When this information is personally relevant, very strong attributions result that can dominate one's perspective and often is referred to as the egotism phenomenon. Information revealing performance data about one's self or another in an interactive task situation should have a significant effect on resulting person perception. Since this effect upon interpersonal perception is vital to this study, the importance of particular salient information in task situations should be developed

further to illustrate its strength upon persons' attributional processes and the ease with which these inferences are generalized. A conceptual development will continue from the previous attribution base, and social scientific studies from several interpersonal communication contexts will be reviewed to illustrate that salient, self-involving information can significantly affect one's interpersonal perceptions and continue to generate affect supportive of these perceptions.

The idea of the saliency effect comes from the assumption that many perceivers seek a single, sufficient, and salient explanation for behavior, often the first satisfactory one that comes along (Heider, 1958: Jones and Davis, 1965; Kanouse, 1972). In cognitive psychology, researchers have found that instead of employing base rate information logically, people are often more influenced by a single, colorful piece of case history evidence (Kahnman and Tversky, 1973; Nisbett, Borgida, and Crandall, 1976; Taylor and Fiske, 1978). Instead of reviewing all the evidence that bears upon a particular problem, people frequently use the information which is most salient or representative to them, that is, that which is most easily brought to mind (Tversky and Kahneman, 1974).

That salient stimuli have such seemingly important effects on perceptions of causality has led theorists explicitly to acknowledge and generalize this principle. Jones and Davis (1965) for example stated that:

> The perceiver seeks to find sufficient reason why the person acted and why the act took a particular form. Instead of the potential regress of cause and effect which characterizes an impersonal, scientific analysis, the perceiver's explanation comes to a stop when an intention or motive has the quality of being reason enough.

Kanouse (1972) hypothesized that:

> Individuals may be primarily motivated to seek a single, sufficient, or satisfactory explanation for any given event, rather than one which is the best of all possible explanations . . . when more than one explanation is potentially available to an individual, which one he adopts may depend primarily on which of the various possible explanations is most salient.

The Egotism Phenomenon

Earlier, Jones and Davis' descriptions of hedonic relevance and personalism were explained. Certainly in cases where positive or negative hedonic relevance and/or personalism are manipulated, one can easily see that whatever type of information that may be, it would definitely be salient for the individual. This kind of information would affect a person through what Bradley (1978) has called "self-serving biases" or "self-enhancement". This refers to information that significantly affects: 1) self-esteem and 2) the perceived strength of proper social desirability in a particular context. Attributions concerning this type of information affect one's perceptions of self and others.

Snyder, Stephan and Rosenfield (1976, 1978) argue that an attributional effect of egotism results from self-involving information. That is, when one is influenced by information about her/his self, he/she has the tendency to take credit for good outcomes and deny blame for bad ones. Two factors that have been shown to be necessary for egotism to occur are: 1) a tendency to attribute the outcome to the self and 2) an attribution relevant to self-esteem. Salient, self-involving information and the egotism effect are major determinants of interpersonal and personal perception (Duval and Wickland, 1973: Bradley, 1978).

Support for the egotism tendency is wide spread in social science. Rosenthal and Jacobson (1968) have discussed teachers who exhibited the dtendency to tkae credit for certain students' high performance and place blame on other students for low performance, in some circumstances. Beckman (1973) found support for teachers accepting more responsibility for failure, but the teachers were aware that their trial-by-trial performance ratings would be compared to observers' ratings and, hence, the most socially desirable thing to do was to own up to possible weaknesses. Even though the results of these experiments may appear contradictory, the self-involving component seems to be the dominating factor especially when one's estimate of social desirability is added to the perspective.

The self-serving bias also receives support from the therapist-patient context. Harvey, Arkin, Gleason, and Johnston (1974) had college students serve as therapists or as observers in a study concerned with the ability of the ordinary person to give therapy to another person having a minor phobia. Based on a self-esteem model, the results indicated that therapist subjects showed a treater tendency to accept responsibility for positive than for negative outcomes. Similar results were found in studies by Arkin, Gleason, and Johnston (1976) and Federoff and Harvey (1976). That is, subjects in the positive outcome conditions accepted personal responsibility for the outcome regardless of perceived choice or expectancy. Furthermore, subjects in the negative outcome conditions attributed relatively little responsibility to themselves for the outcome except when there were no plausible alternative causal explanations or it was the socially desirable thing to do.

Considerable research deals with individual's causal attributions for their own successful or unsuccessful performances on skill-oriented tasks. Many of the investigations examined the egotism bias in interdependent outcome situations; Streufert and Streufert (1969) had subjects play a simulated international game against another team and results indicated that subjects experiencing increasing failure made relatively equal attributions to their own and to the opposing team's behaviors but subjects in the success condition attributed more causality to their own teams.

Similar results were reported in two studies by Wolosin, Sherman, and Till (1973) and Snyder (1976). Mounting evidence argues that people are more likely to make causal attributions to salient features of their environment than they are to nonsalient features (Taylor and Fiske, 1978: Jones, 1979). When self-involving performance information is manipulated, the egotism and social desirability components appear to have rather consistent effects.

Strong support appears for the causal asymmetry generally cited as evidence for self-serving biases; that is, individuals tended to accept responsibility for positive behavioral outcomes and to deny responsibility for negative behavioral outcomes. Self-enhancing attributions following positive and negative performance outcomes are likely to be elicited (Bradley, 1978): 1) when an individual's performance is public, 2) when an individual perceives himself to have high choice in taking an action, 3) under conditions of high ego-involvement, and 4) under conditions designed to produce high objective self-awareness.

The Self-fulfilling Function of Salient Information

Current research also supports the notion that certain person perceptions based on saliency and egotism effects tend to serve a self-fulfilling function (Ross, 1977; Taylor and Fiske, 1978). Snyder, Berscheid, and Tanke's (1977) experimental results have shown that a perceiver's actions based upon stereotype-generated attributions about a specific target individual may cause the behavior of that individual to confirm the perceiver's initially erroneous attributions. Their analyses revealed that targets who were perceived (unknown to them) to be physically attractive came to behave in a friendly, likeable, and sociable manner in comparison with targets who perceivers regarded as unattractive. In this sense, social stereotypes are a special case of interpersonal perception.

Pryor and Kriss (1977) conducted an experiment to test the notion that the relative salience of a potential causal agent (a person or object) influences the pattern of attributions made about that agent. Results showed that an agent was found to be perceived as more causal and more available for recall when it was salient than when it was not. Zandy and Gerard (1974) tested the hypothesis that ascribing a specific intention to an actor prior to witnessing his behavior leads an observer to perferentially recall action bearing on the intention. Taylor, Crocker, Fiske, Sprinzen, and Winkler (1979) tested the lasting strength of salience effects and found that these effects on the attributions of others continue to be found: 1) when the perceiver is distracted, 2) whether the perceiver's impressions are assessed immediately or after a delay, 3) when other information is given that has high interest value,

4) regardless of the perceiver's cognitive tuning set, and 5) when the perceiver is involved in the discussion. The strength and pervasiveness of salient, self-involving information upon attribution processes continue to be demonstrated.

Conclusion

The idea, that attributions made from personally relevant information can significantly affect a person's perceptions of their self and of others, has been supported in several interpersonal communication contexts. This type of information also generates interpersonal perceptions that continue to support the initial attributions. Research is needed in communication contexts that will illustrate more specifically what interpersonal factors are changed by attributions to differing levels of task performance information. The next section will examine such research in an organizational context that employes leader and subordinate roles in a task situation.

Person Perception in an Organizational Context

Although appointed superior-subordinate roles have been used frequently in social science attribution research, little has been done with such research in an organizational context. Leadership behavior investigations have evolved from the great man theories to interactional and situational perspectives, and correlationsl analyses used in these studies have been voluminous. Since one point in time correlational research has received much negative commentary for its causal arguments, a great deal of interest during the last ten years has been directed toward experimental type research to better explain causes of leader behavior, leader-subordinate interpersonal perception, and resulting

behavior. As explained, this type of analysis more validly illustrates causal arguments.

Certainly, the performance level of leaders and subordinates concerning relevant work data is salient, self-involving information to both leader and subordinates. The literature examined supports the notion that such information would have a significant effect on leader and subordinate interpersonal perceptions and behavior, and this effect should be quite powerful since this involves an interpersonal communication context in which the leader and subordinate roles are in a constant reciprocal spiral. However, very little research of this nature has been conducted in organizational situations and clarifying work is needed.

Before examples of attribution research in the leader-subordinate context are discussed, a brief statement should be given concerning the beginnings of this perspective. In the last 50 years, leader-subordinate research has concentrated on an assessment of the effects of the leader's behavior--what he or she does that leads to high group morale or performance (Green and Mitchell, 1979). Behavioral scientists (Blake and Mouton, 1964; McGregor, 1960; Likert, 1961, 1967, 1976) have argued strongly that leadership behavior affects the performance of subordinates. Also, types of leadership, leader behaviors, and the consequences of leadership have been reviewed (Stogdill, 1974). Little seems to be understood, however, about what causes leader and subordinate behavior, since most of the leader-subordinate research has been correlational studies.

Much of this research has generally assumed that leadership behavior or style caused the observed subordinate behavior. This assumption has been the basis of a great deal of criticism (Korman, 1966; Vroom,

1964, 1973). With few exceptions, correlational studies purporting to identify leader styles which enhance or impair subordinate performance can as easily be interpreted as picturing the reverse effect of performance on leader style. One point in time correlational studies may be interpreted as either behavior A causes behavior B or behavior B causes behavior A. Lowin and Craig (1968) give several reasons why this issue bears further inquiry: 1) the causal sequence of subordinate performance affecting leader style is undoubtedly to some extent a valid one. It would be difficult to conceive of a competent leader whose behavior is utterly insensitive to the performance level of his subordinates; 2) there are data available which suggest that leader style does indeed alter with the setting (Vroom, 1964; Fiedler, 1967); and 3) due to the enormous amount of research done concerning leader-subordinate relations, an improvement in analysis of possible causality is welcome.

As explained, it would be helpful to begin studying leadership from the perspective of looking at how leaders and subordinates react to divergent levels of performance information. The leader-subordinate exhcnage is viewed as an interactive and developmental phenomena where interpersonal perception is a vital component. Thus, leader attributions of subordinate performance, subordinate attributions of leader behavior, and the effects of these attributions on ensuing interpersonal behavior and perceptions is of great interest.

One study found to exhibit an attributional approach to leader-subordinate behavior was by Lowin and Carig (1968) who hired subjects to be supervisors to office trainees. Leaders' behaviors as measured by their closeness of supervision, level of initiating structure, and level of consideration was found to vary as a function of subordinates'

competence. Somewhat similar to this, Farris and Lim (1969) used a role-playing, problem-solving task in which leaders were given different information about their groups' past performance. Leaders were evaluated by the subordinates' perceptions of leader's support, interaction facilitation, goal emphasis, and work facilitation. In the high performance condition, subordinates rated leaders significantly higher on each of these dimensions compared to subordinates in the low performance condition. Farris and Lim's study was one of the first to argue that different levels of performance information would affect both initiating structure and consideration dimensions of leader styles in the same direction.

Herold (1975) used the attributional approach to show support for the notion that leaders' behaviors and attitudes varied as a function of subordinate performance and that subordinate behaviors and attitudes varied as a function of leaders' behavior. Greene (1975) produced results that showed directions of causality between leader behavior (consideration and initiating structure) and subordinate performance and satisfaction in a longitudinal study over three one-month intervals. Also Staw (1975) argued that subordinates will use knowledge of their own performance as a cue by which they attribute characteristics to themselves, their work groups, and organizations. Results showed that knowledge of performance affected the levels of influence, cohesiveness, communication, motivation, and openness to change attributed by members to their workgroup. Mitchell, Larson, and Green (1977) found support for the hypothesis that perceptions of good group performance could lead to higher ratings on leader behavior and situational masures than would perceptions of poor group performance.

Green and Mitchell (1979) and Mitchell (1979) offered extended arguments for support of the importance of attributional processes of

leaders and subordinates in leader-subordinate interactions. Evidently leader and subordinate attributions, especially concerning salient, self-involving information, do effect interpersonal perceptions and behavior. Most leaders and subordinates are evaluated largely by performance information of some type. It is easily seen that such information is of great concern to persons in both roles.

The most consistent notion in the organizational literature reviewed is that much clarification is needed of the interpersonal variables used. In some cases, results indicate consistent interpretations of interpersonal measures in high performance conditions but not for low (Lowin and Craig, 1968; Herold, 1975; Greene, 1975). In other studies (Farris and Lim, 1969; Staw, 1975; Mitchell, Larson, and Green, 1977), results exhibited strong tendencies to support predictions in high and low performance conditions but findings, were, nevertheless, of a mixed nature and, again, further research is encouraged.

One aspect most notably lacking in the research examined is that concerned with the leader providing subordinates with information about the decision, asking for opinions and ideas from subordinates, and presenting the problem to be solved with the subordinates. Very simply, this participation component means engaging jointly with others in some set of activities (Katz and Kahn, 1978) and is considered to be a crucial aspect of leader-subordinate effectiveness (House and Mitchell, 1974; Likert, 1976; Katz and Kahn, 1978). Obviously, subordinates' perceptions of leader effort to enhance participation is an important factor in an interdependent task situation.

As explained, the attribution studies in the organizational area dealt with leader and subordinate perceptions of certain interpersonal

dimensions. In the high performance condition, a more positive atmosphere has been argued compared to the low performance condition. That is, in the high performance condition, more consideration, subordinate influence, cohesiveness, satisfaction, communication, and openness to change was reported than in low performance condition. In the low performance condition, less consideration, communication, openness to change, satisfaction, and more supervision, task conflict, and initiating structure was reported than the high performance condition. Since these differences on interpersonal measures between performance conditions were frequently reported, the levels of negative affect should also significantly differ. No organizational studies could be found that included measures specifically oriented to evaluate any aspects of the extent of negative affect present in each performance condition.

Negative affect was operationalized as the extent of anger an individual reported toward another in the task, and the extent of anger that this individual reported that others in the task felt toward him/her. This measure was employed to demonstrate the effect of the performance manipulation on individuals' reports of their anger toward others and other's anger towrad them. This notion fits within Laing's (1966) concept of direct and meta perception of others. That is, will the performance manipulation significantly affect leader-subordinate reports of their direction perceptions (reported anger toward others) and their meta perceptions (reports of other's anger toward him/her) in a specific task situation?

Accuracy of perception of objective anger was not the purpose. The purpose was to show that the treatment does significantly affect leader and subordinate overall levels of reported interpersonal anger

and their reports of other's anger toward him/her. If these reported perceptions are so affected, the interpersonal communication or communication spirals (Laing, 1966) between the two performance conditions should produce quite different effects

It seems logical that subordinate and leader perceptions of interpersonal anger would be different in high versus low performance conditions. Infante (1979) contends that perceptions of self, perceptions of the other, and beliefs about how one is perceived by the other are crucial in leader-subordinate relations. That is, they need to be similar in order for the most efficient production to occur.

A contrary view states that one's role in a social system dictates one's perceptions of that system. Lieberman (1956) and Maier and Read (1963) found significant support for the thesis that changing roles produces concomitant changes in perceptions. Also, Redding (1964) and Geutzkow (1965) assert that an individual's frame of reference can be largely affected by a difference in viewpoint induced by one's position in an organization. Sussman (1975) posits that divergence of task-related perceptions in a leader-subordinate interpersonal context is not a manifestation of communication breakdown but is in fact a natural and often healthy state. Sussman also asserts that if leader-subordinate perceptions of the task are identical it would make for a breakdown of the roles and, thus, a loss in efficiency. This difference of perspectives certainly fits into the attributional point of view. Comparisons of leader and subordinate perceptions concerning the extent of interpersonal anger present in high and low performance conditions would be a welcome addition to the literature.

Conclusion

The attribution research perspective is beginning to grow in organizational contexts. The strength of the saliency effect has been shown to have a powerful and pervasive influence on leader-subordinate interpersonal perception and interpersonal behavior, especially when self-involving performance information is manipulated. Even though research has shown that performance information manipulations affect the leader-subordinate perceptions, no evidence could be found illustrating the extent to which perceptions of interpersonal anger were influenced. Due to the lack of such research in organizational areas and the inconsistent results concerning interpersonal factors, the need for further investigation has been supported strongly.

Development of Hypotheses

In this section, hypotheses have been generated from ideas synthesized in the previously cited research and are sensible predictions of the effects of high and low performance manipulations on leader-subordinate interpersonal perception and behavior. Support is given for the construction of each hypothesis and what it adds to the literature, and the Farris and Lim (1969) study is emphasized because of its innovativeness in interpersonal perception research in the organizational area and because no more recent work has been more complete. Testing the hypotheses given in this section will help clarify the effect of performance information on leader-subordinate interpersonal perception and behavior in an interactive task situation.

The dependent measures most extensively used for an interpersonal evaluation of subordinate perception of leader behavior have predominantly been classified in either the initiating structure or consideration

dimensions (Stogdill, 1974). More specific interpersonal variables frequently employed in evaluating leader and subordinate behavior have been taken from Bowers and Seashore's (1966) four-factor appraoch. Bowers and Seashore (1966) argued that many of the leader-subordinate effectiveness investigations used initiating structure and consideration dependent measures that could be divided into four factors: support, goal emphasis, interaction facilitation, and work facilitation.

The support variable is most concerned with another's personal worth; interaction facilitation emphasizes teamwork necessary for the task; goal emphasis encourages high performance; and work facilitation involves organizing agenda information. The variables most applicable to an interpersonal evaluation are: support, goal emphasis, and interaction facilitation. In addition, subordinate perception of leader behavior supportive of subordinate participation in making the decision was considered essential to an interpersonal perception analysis.

These factors are defined: 1) support--behavior that enhances another's feeling of personal worth and importance (Bowers and Seashore, 1966); 2) interaction facilitation--behavior that encourages members of the group to develop close, mutually satisfying relationships and work as a team (Bowers and Seashore, 1966); 3) goal emphasis--behavior that stimulates an enthusiasm for meeting the group's goal or achieving excellent performance (Bowers and Seashore, 1966); and 4) participation--behavior that provides members with information about the decision, asks for opinions and ideas from members, and presents the problem to be solved and works with the group to find a solution (Michaelsen, 1973).

The support and participation variables are most representative of the consideration dimension which Bowers and Seashore (1966) refer

to as behavior indicative of friendship, mutual trust, respect, and warmth, while the goal emphasis and interaction facilitation variables are most representative of the initiating structure dimension which refers to behavior that organizes and defines relationships or roles, and establishes well defined patterns of organization, and ways of getting jobs done. Previous research indicates that leaders told that their work group has been a high performing group exhibited behavior more supportive of the consideration dimension than leaders told they had low performing groups (Lowin and Craig, 1968; Farris and Lim, 1969; Herold, 1975; Mitchell, Larson, and Greene, 1977). Also, leaders told that their work group has been a low performing group exhibited behavior more supportive of the initiating structure dimension than leaders told they had high performing groups (Lowin and Craig, 1968; Greene, 1975). None of the research examined employed the combination of interpersonal variables of support, goal emphasis, interaction facilitation, and participation. Analysis of these concepts should help clarify previous inconsistent results. The first hypothesis of this investigation to test the attribution perspective in an organizational setting is:

> H1: Leaders told that they have high performance groups will be seen by their subordinates as showing more consideration behavior than will leaders told they have low performing groups.

This hypothesis assumes that attributions made by leaders concerning high performance information will influence their interpersonal perception and behavior regarding consideration to the extent that their subordinates will record responses that indicate perception of this factor to a significantly greater degree than subordinates in the low performance groups. Thus we would expect the following:

1A: Support. Leaders told that they have high performance groups will be seen by their subordinates as exhibiting behavior that enhances their feelings of personal worth and importance significantly more than will leaders told they have low performing groups.

2A: Participation. Leaders told that they have high performance groups will be seen by their subordinates as exhibiting behavior that provides them with information about the decision, asks for opinions and ideas from members, and presents the problem to be solved and works with the group to find a solution significantly more than will leaders told that they have low performance groups.

Derived directly from the literature, the second hypothesis is:

H2: Leaders told that they have low performance groups will be seen by their subordinates as showing significantly more initiating structure behavior than will leaders told they have high performance groups.

This hypothesis assumes that attributions made by leaders concerning low performance information will influence their interpersonal perception and behavior regarding initiating structure to the extent that their subordinates will record responses that indicate perception of this factor to a significantly greater degree than subordinates in the high performance groups. Thus we would expect the following:

2A: Goal Emphasis. Leaders told that they have low performance groups will be seen by their subordinates as exhibiting behavior that stimulates an enthusiasm for meeting the group's goal or achieving excellent performance significantly more than will leaders in the high performance condition.

2B: Interaction Facilitation. Leaders told that they have low performance groups will be seen by their subordinates as exhibiting behavior that encourages members of the group to develop close, mutually satisfying relationships and work as a team significantly more than will leaders in the high performance condition.

Farris and Lim (1969) measured leader and subordinate perceptions of influence but in a gross snese. For instance, "What is your perception of the foreman's influence: not at all 1 2 3 4 5 to a great extent". Much more could be contributed at this point by being

more specific about perceptions of influence: who suggested the solution? when did the leader make up his/her mind? and what best describes the selected solution? Also, the organizational literature examined supports the assertion that in positive conditions where subordinates have more input in the decisions process, they are more satisfied and achieve greater productivity than in negative conditions (Farris and Lim, 1969; Likert, 1976). If this were true in the current study, it would be an additional illustration of the generalizable nature of the performance information. Thus, the third hypothesis is:

H3: Subordinates in the high performance condition will indicate more input in the decision and will see this trend as continuing in the future significantly more than subordinates in the low performance condition.

This hypothesis assumes that the more positive interpersonal communication atmosphere evident in the high performance groups will encourage the subordinates to contribute more input in reaching the decision and feel that future productivity will increase significantly more than subordinates in the low performance groups. Thus, we would expect the following:

3A: Input in Reaching Decision. Subordinates in the high performance condition will assess their contributions to reaching the decision significantly higher than will subordinates in the low performance condition.

3B: Future Productivity. Subordinates in the high performance condition will express significantly higher estimates of future productivity than will subordinates in the low performance condition.

Derived directly from the literature, the fourth hypothesis is:

H4: Significantly more participants in the low performance condition will be dissatisfied with the decision reached than will participants in the high performance condition.

This hypothesis assumes that the more positive interpersonal environment evident in the high performance groups that encourages members to interact and work together in a more positive manner will result in significantly fewer group members being dissatisfied than members in low performance groups. Thus, we would expect the following:

4A: Leader Dissatisfaction. In the low performance condition, sinificantly more leaders will report dissatisfaction with the solution than leaders in the high performance condition.

4B: Subordinate Dissatisfaction. In the low performance condition, significantly more subordinates will report dissatisfaction with the solution than subordinates in the high performance condition.

One very interesting aspect of the Farris and Lim (1969) study was that in many cases subordinates had to attribute leaders' dispositions to the overt behavior they witnessed. No mention was made of whether the leaders revealed the performance information or not and if they did, what did they say? If the egotism influence held true (Snyder, Stephan, and Rosenfield, 1976, 1978), leaders in the high performance condition will disclose prior information less than leaders in the low performance condition. That is, in the low performance condition, leaders would not want to assume blame themselves and would lighten thie responsibility by letting his/her subordinates know that since they were low performers in the past, they should work harder to correct this tendency in the present task. Also, leaders in the high performance condition would be more likely to keep that information to themselves in order to maintain their status position at an appropriate level and not to alter a "good thing". By not disclosing this information, the leader could tend to assume mre of the positive responsibility themselves. This point needs much clarification. The fifth hypothesis is:

H5: In the high performance condition, leaders will reveal knowledge of prior performance significantly less often than leaders in the low performance condition.

The high performance condition tends to promote more consideration behavior and less initiating structure, while the low performance condition tends to promote more initiating structure and less consideration. Farris and Lim (1969) took this trend one step further by showing that in the high performance condition, leaders perceived more group cohesiveness along with increases in subordinate satisfaction. Other researchers (Staw, 1975; Herold, 1977; Mitchell, Larson, and Green, 1977) had described higher subordinate effort, less task conflict, and more situation favorability in the high performance condition than in the low performance condition. From these results, it would logically follow that the sixth hypothesis is:

H6: In the high performance condition, leaders will indicate significantly fewer problem subordinates than leaders in the low performance condition.

As explained, in the low performance condition, leaders and subordinates perceive more initiating structure, less cohesiveness, more task conflict and less satisfaction. Thus, more negative affect appears to be present in the low performance condition compared to the high performance condition. An additional perspective asks how divergent are the leader and subordinate views of each other's perceived negative affect? Lieberman (1956), Maier (1963), and Sussman (1975) argue that some perception difference due to occupying different roles in necessary for maximum efficienty. Perhaps, then, in the high performance condition, the extent of interpersonal anger is not viewed similarly by leader and subordinates because of the more effectively established roles through which the participants are interacting. In the low performance contition,

the extent of interpersonal anger would be viewed similarly because of the ineffectiveness of the leader and subordinate roles. Clarifying work is needed in this area and the seventh hypothesis is:

H7: Participants in the low performance condition will report a significantly higher level of interpersonal anger than participants in the high performance condition.

This hypothesis assumes that in an interdependent task context the less positive atmosphere evident in the low performance groups will result in participants' sensing more interpersonal anger than participants in high performance groups. Thus, we would expect the following:

7A: Leader Anger. Leaders in the low performance condition will report significantly higher levels of interpersonal anger than will leaders in the high performance condition.

7B: Subordinate Anger. Subordinates in the low performance condition will report significantly higher levels of interpersonal anger than will subordinates in the high performance condition.

Derived directly from the researcher's synthesis of the literature, the eighth hypothesis is:

H8: In the high performance condition, leader and subordinate reports of the extent of anger felt toward each other will be more divergent than such reports in the low performance condition.

This hypothesis assumes that due to the different perspectives generated by being in a leader versus subordinate role, and the notion that effectively functioning roles of different status levels are supportive of dissimilar perspectives, the leaders and subordinates will have more divergent perceptions of their reported anger felt toward each other in the high performance condition than in the low performance condition. Thus, we would expect the following:

8A: Leader Anger toward Subordinates. Leader reported anger toward subordinates will correlate more highly with

subordinate reported leader anger in the low performance condition than in the high performance condition.

8B: Subordinate Anger toward Leader. Subordinate reported anger toward the leader will correlate more highly with leader reported subordinate anger in the low performance condition than in the high performance condition.

Conclusion

These hypotheses have been generated from ideas synthesized in the previously cited research and are sensible predictions of the effects of reported high and low past task performance on leader-subordinate interpersonal perception and behavior. The next chapter will describe the procedure and method for testing these hypotheses in the most appropriate manner.

CHAPTER III

METHOD AND PROCEDURE

This study was designed to answer the general question: What effects will task performance information have on leader-subordinate interpersonal communication in a specific task situation? This chapter details the specific method and procedure designed to answer the proposed question. This discussion will focus on subjects, task, design, procedure, measures, and data analysis.

Subjects

Subjects involved in the experiment were members of organizational behavior classes sponsored by the University of Oklahoma and were classified as one of the following: on-campus seniors and graduate students, off-campus graduate students, and persons in off-campus management training programs. Thus, this sample of subjects consisted of 60 groups of students involving 153 males and 87 females. Forty-six groups were taken from on-campus classes, while 14 groups were part of off-campus management training programs. The study was conducted as part of the courses' and programs' instructional procedures and was completed during regular class time.

Task

The task consisted of Maier's (1975) Change of Work Procedure which involves a foreman and three workers who assemble fuel pumps in an automobile company (See Appendix A). Maier describes it as follows:

> The assembly operation is divided into three positions and the workers have adopted a system of hourly rotation among the three jobs. The role-play consists of a meeting called by the foreman to discuss the possibility of their changing their work method to one in which each man works on one position only, his best position according to the time study data given to the foreman. Although theoretically the new method should increase the productivity of the workers and thus increase their piece-rate wages, the foreman's suggestion of a change to the new method usually meets with considerable resistance.

Boredom from working on only one position is an important source of worker resistance to the suggested change. The possible solutions to the case vary in quality and conformance to the wishes of the workers and the foreman: old (favored by the workers), new (preferred by the foreman), and integrative (an innovative solution combining positive aspects of the old and new solutions). The case has been used extensively for research which describes and analyzes leader-subordinate interpersonal behavior in a task oriented problem-solving context (Farris and Lim, 1969; Maier, 1975).

The use of the role-play task was considered an asset in the search for inferential validity. In an actual organizational setting, many uncontrollable factors stemming from individuals' daily routines could have interfered with the proper execution of the experiment. The artificial setting of a simulated organizational setting and task was a strength of the study because the place, time, types of subjects, manipulation of treatments, and measures were administered in the same manner each time the role-play was employed. The organizational and

interpersonal communication aspects involved in the role-play were supported by the literature and were felt to be genuinely carried out by the subjects.

Design

During the first class of the instructional program, all students were randomly selected into six or seven person permanent groups. During the second class meeting the roles for each member of the Change of Work Procedure, which were in a closed envelope, were handed by the researcher arbitrarily to a member in each group. This individual distributed them to other group members desiring to participate in a decision-making task. In most cases, the member who randomly received a role accepted that role; however, in a few instances, a participant would ask not to be the foreman and would exchange roles with another member. Group members not actively participating were asked to be observers and later filled worker questionnaires.

At a brief meeting prior to the role play, the treatment categories of high or low past performance were assigned by telling the foreman of each group that the group with which they are about to work had been either the second lowest or second highest performing group in the company. The treatment categories of high or low past performance were under the researchers' direct manipulation and were not conditions resulting from actual job performance. The effects of the treatments were examined by analyzing recorded observations of the foremen and workers' questionnaires administered immediately following the role play and on a Group Comparison Form on which the researchers would record verbal responses to specific questions asked group members (See Appendix B). These independent variable manipulations were approximately the same as those

employed in research conducted by Farris and Lim (1969) and Herold (1975) who manipulated subordinate performance prior to interaction and compared the effects of performance levels on leader-subordinate perceptions. Thus a major strength of this study was the attempt to establish a causal, explanatory statement accounting for the effect of prior subordinate performance on leader-subordinate perception and interpersonal behavior.

Procedures

In the assigned role-playing situation, one member of each group plays the foreman, Jim/Jamie Thompson, while three other participants play the crew members: Jack/Jackie, Steve/Stephanie, and Walt/Wilma. When all members have received their role sheets, the instructor reads the general information for all participants aloud and the role players then study their individual roles in preparation for the group discussion. The Jim/Jamie Thompsons stand beside their groups when they have finished studying their roles, to signal the instructor that they are ready to begin. At this point, the instructor asks the foremen to setp outside for a brief meeting regarding a company problem at which time they are told, by random selection, either that the group with which they are about to work has been the second lowest or second highest performing group in the company. This procedure was followed until 30 groups had participated in each performance condition (total N = 60 groups).

When all the foremen return to their groups, they stand beside their seats and the instructor helps set the stage for the role play by commenting that the foreman has asked the crew members to meet with him/her in their office for a few minutes to discuss a problem before starting work. He/she explains that when the foreman is asked to sit

down, it will signal that Jim/Jamie has entered the office. When all role players understand their functions, the instructor asks the foreman to sit down and all groups role play simultaneously. Approximately 20 minutes is needed by the average group to reach a decision (Maier, 1975). At the end of this period, the instructor observes the progress of the groups and if most of them have finished, he/she gives the remaining groups a two-minute warning signal.

After the completion of the task, group members place the role instructions back into their envelope which also contains the leader and subordinate questionnaires. Participants were instructed to fill out their questionnaire according to their role and make observations concerning the role play. Observers had been instructed to view the role play from the perspective of Walt/Wilma and filled out the subordinate questionnaire accordingly. The questionnaires required approximately five minutes to complete and upon completion, the instructor asked members in each group a few questions concerning aspects of the task in which he/she recorded on the Group Comparison Form. Next, the participants were instructed to place the questionnaires into the envelopes which were then collected.

Dependent Measures

Dependent variables employed in the experiment were administered by means of a variety of questionnaires completed by subjects following the role-playing exercise. Most of the measures employed interval type scales which were tested for internal validity in a pilot study (See Appendix C). Dependent measures were chosen in keeping with criteria established in previous similar research and were consistent with the type of data considered important to test the listed hypotheses. To

provide a clear explanation of the dependent measures employed, the measures will be described in the sequence in which they were listed on the various questionnaires. First will come the measures present on the subordinate questionnaire; second, will be those found on the leader questionnaire; and third, will come those listed on the Group Comparison Form.

Subordinate Questionnaire

Subordinate measures concerning the described dimensions of support, goal emphasis, interaction facilitation, participation, and interpersonal anger were answered by responding on a five-point Likert type scale. The response alternatives for the items used on these measures were:

1) to a very little extent
2) to a little extent
3) to some extent
4) to a great extent
5) to a very great extent

In most cases the individual questions were grouped into multiple item indices for each dependent variable. An individual respondent's score on such an index is the sum of the response value for each item in the index. The analysis procedures in the present study required mean scores at the group level, and these were determined by obtaining a sum of each dependent variable index score for all of the subordinates in a work group and then dividing the total by the number of members in the group. A summary of all subordinate questionnaire dependent measures are listed in Table 3.1 and are described according to the

Table 3.1

Summary of Dependent Measures
on Subordinate Questionnaire

Item	Index	Hypothesis
1,2,3,	Leader Support	1A
4,5	Leader Goal Emphasis	2A
6,7	Leader Interaction Facilitation	2B
8a,8b,8c	Leader Participation	1B
9a,9b,9c, 10a,10b,10c	Subordinate Anger	7A,7B,8A,8B
11	Who Suggested Solution?	3A
12	At What Point Did Leader Make up His/Her Mind?	3A
13	What Leader Disclosed about Group's Prior Performance?	5
14	Percentage of Increase or Decrease in Future Productiviey	3B

questionnaire item, an index which is a brief description of the measure, and the hypothesis to be tested.

On the subordinate questionnaire, the first three items concerned the degree to which subordinates perceive the leader as being supportive by asking: to what extent was your supervisor friendly and easy to approach; to what extent did he/she pay attention to what you were saying; and to what extent was your supervisor willing to listen to your problems? These items purport to measure leader support, which is the issue of concern in Hypothesis 1, and were taken from Taylor and Bowers' (1972) evaluations of leader and subordinate styles.

Items 4 and 5 on the subordinate questionnaire indicate the degree to which the leader emphasizes goal emphasis as perceived by subordinates. The questions ask: to what extent did your supervisor maintain high standards of performance? Taylor and Bowers (1972) state that these items concern a goal emphasis dimension which is important to Hypothesis 2. Itesm 6 and 7 on the subordinate questionnaire, which were also taken from Taylor and Bowers (1972), are reported to indicate the degree to which the leader encourages interaction facilitation by asking subordinates: to what extent did your supervisor encourage the persons who work for him/her to exchange opinions; and to what extent did your supervisor encourage persons to exchange opinions and ideas?

Item 8 was divided into three parts which asked subordinates to what extent did your supervisor: provide workers with information about the decision; ask for opinions and ideas from mebers of the group; and present the problem to be solved and work with the group to find a solution? Subordinate responses on these three questions were intended

to reflect the degree to which the leader encourages participation and were taken from Michaelsen's (1973) investigation of leader-subordinate styles. The items dealing with the support and participation measure obtained data necessary for testing Hypothesis 1, and the items in the goal emphasis and interaction facilitation measures obtained data necessary for testing Hypothesis 2.

Item 9 on the subordinate questionnaire was divided into three parts which asked subordinates to indicate the extent of anger felt toward the leader and each other subordinate. Item 10 was divided into three parts which asked subordinates to indicate the extent to which the leader and each other subordinate was angry at him/her. Items 9 and 10 were developed in a pilot study (Watson and Michaelsen, 1978) and were constructed for the purpose of illustrating the extent of interpersonal anger present. These items were employed to obtain data to test Hypothesis 7 and Hypothesis 8 concerning interpersonal anger and divergent perceptions.

Item 11 asked subordinates who it was who suggested the solution--either another subordiante or the leader? Item 12 asked subordinates at what point in the meeting did the foreman make up his/her mind about the solution: at the very first; near the first; about half way through; near the end; at the very end? These items were developed by Watson and Michaelsen (1978) to indicate the degree of subordinate influence in the task solution and were used to test Hypothesis 3 concerning subordinate influence.

Item 13 on the subordinate questionnaire asked subordinates what the leader said about their group's performance compared to performance

of other similar by inquiring whether their group was evaluated as: near the top; above average; about average; below average; near the bottom; or no comparison. This item (Watson and Michaelsen, 1978) dealt with leader disclosure of performance and obtained data for testing Hypothesis 5 concerning leader disclosure of performance information.

Item 14 asked subordinates what percentage of increase or decrease in future production did they think would result from the decision? This item (Watson and Michaelsen, 1978) further concerned the extent of subordinate influence in the group decision and obtained additional data for testing Hypothesis 3.

Leader Questionnaire

On the leader questionnaire, all items were developed by Watson and Michaelsen (1978) in order to examine the leaders' perceptions of subordinates' behavior. A summary of the leader questionnaire dependent measures are listed in Table 3.2 and are described according to the questionnaire item, an index which is a brief description of the measure, and the hypothesis to be tested.

Item 1 on the leader questionnaire asked the leader which of the following most closely describes the decision reached: eliminate rotation; eliminate rotation on a trial basis; modify the rotation system; maintain present system. This item was intended to obtain responses indicating subordinate influence in the solution. Item 2 asked the leader at what point was his/her mind made up about the solution: from the very first; near the first; about half way through; near the end; at the very end. Item 3 asked the leader whether he/she or one of the subordinates suggested the solution. Again, items 2 and 3 were employed to indicate the degree of subordinate influence in the solution and,

Table 3.2

Summary of Dependent Measures
on Leader Questionnaire

Item	Index	Hypothesis
1	What Most Closely Describes Decision?	3A
2	At What Point He/She Made up Mind	3A
3	Who Suggested Solution?	3A
4,5,6	Leader Anger	7A,7B,8A,8B
7	True Feelings Being Known?	8A,8B
8	Was There Discussion of Prior Performance?	5
9	Who Brought up Performance Issue?	5
10	Information Disclosed about	5
11	Disclosure of Work Rate	5
12	Percentage of Increase or Decrease in Future Productivity	3B

thus, the first three items were used to obtain data for testing Hypothesis 3 concerning subordinate influence.

Item 4 asked the leader to indicate the extent to which he/she perceived the subordinates to be angry at each other. Item 5 asked the leader to indicate the extent that each subordinate appeared to be angry at him/her and item 6 asked the leader to indicate to what extent he/she was angry at each subordinate. These three items were employed to illustrate the degree of interpersonal anger present and the data were used to test Hypothesis 7 and Hypothesis 8. Item 7 asked the leader to assess the extent to which the subordinates perceived his/her true feelings and was conducted as an additional check on leader's feelings of the subordinates' perception accuracy. This was relevant to the degree of divergent perceptions issue considered in Hypothesis 8.

Item 8 asked the leader whether or not there was any discussion of the group's performance compared to other groups. Item 9 asked the leader whether he/she or a subordinate brought up the issue of performance relative to other groups. Item 10 asked the leader whether he/she revealed the group's performance to be: second highest; above average; about average; below average; second lowest; gave no information. Thus, items 8, 9, and 10 obtained data indicating the leaders' disclosure of performance relative to other groups and, thus, was used to test Hypothesis 5. Approximately the same questions were asked the subordinates in order to check the accuracy of the leaders' responses concerning performance. In addition, Maier's (1975) role play instructions supplied the leader with individaul work rate data to use if desired in reaching a solution. This was not information relating to other groups' performance but did involve possible disclosure of a type of

performance information. This was employed as a manipulation check in order to determine whether the treatments had an effect on disclosing work rate information, and to give a more complete determination of leader disclosure of performance information. Item 11 asked the leader to describe how much information he/she gave the group concerning individual work rate performance: gave copies of data; showed them all of data; told them about best and worst position; told only of best position; told only of worst position; revealed nothing. This item was employed as a supplement to the previous group performance items in indicating the degree of leader disclosure to test Hypothe..s 5.

Item 12 asked the leader to estimate the percentage increase or decrease in production which would result from the group decision. This item was used as a measure of leader dissatisfaction with the solution, which was the issue in question in Hypothesis 4.

Group Comparison Form

The Group Comparison Form was desigend to assist the researchers in identifying sets of groups, keeping count of the groups in each treatment, and scoring verbal responses on several dependent measures. A summary of Group Comparison Form dependent measures are listed in Table 3.3 and are described according to the questionnaire item, an index which is a brief description of the measure, and the hypothesis to be tested. The first dependent measure concerned asking the subordinates in each group to indicate a consensus estimate of increase or decrease in future productivity. The groups were given a couple of minutes to calculate this and the responses were given orally and were recorded by the researcher. This measure was used as additional evidence for the future productivity issue in Hypothesis 3.

Table 3.3

Summary of Dependent Measures
on Group Comparison Form

Item	Index	Hypothesis
1	Subordinate Consensus Estimate of Future Productivity	3B
2a	Leader Dissatisfaction	4A
2b	Subordinate Dissatisfaction	4B
3	Leader Reports of Problem Employees	6

The next dependent measure consisted of the researcher asking each group member whether he/she was "basically dissatisfied" with the decision. Again, the verbal responses were recorded by the researcher and the data were used in testing Hypothesis 4 which was concerned with the effect of treatments on leader and subordinate dissatisfaction. The 1st dependent measure consisted of the researcher asking each leader whether he/she perceived any problem employees and, if so, who they were. These verbal responses were recorded and were used to test the effects of performance information on the leader's perception of problem subordinates, the significant issue in Hypothesis 6.

Data Analysis

This section describes the statistical analyses considered most efficient to test the hypotheses listed. All hypotheses were directional and predicted that the means, frequencies, or correlations in one performance condition were significantly greater or smaller than the means, frequencies, or correlations in the other performance condition. In the statistical expression of the hypotheses, the high performance condition will be referred to with the subscript h, and the low performance condition will be referred to with the subscript l. Furthermore, the significance level of the statistical tests will be specified in numerical terms for example, p .05. In addition, the letter t will represent t-test, r will represent Pearson correlation, and X^2 will represent a chi-square analysis.

A summary of the ordinal and interval level data analyses for the items on the subordinate questionnaire (See Table 3.4), the leader questionnaire (See Table 3.5), and the Group Comparison Form (See Table 3.6) are described according to the questionnaire item, an index which

Table 3.4

Analysis of Interval and Ordinal Level Data
on Subordinate Questionnaire

Item	Index	Hypothesis	Statistical Expression and Prediction
1,2,3	Leader Support	1A	$\bar{X}_h > \bar{X}_l$ (t, $p < .05$)
8a,8b,8c	Leader Participation	1B	$\bar{X}_h > \bar{X}_l$ (t, $p < .05$)
4,5	Leader Goal Emphasis	2A	$\bar{X}_l > \bar{X}_h$ (t, $p < .05$)
6,7	Leader Interaction Facilitation	2B	$\bar{X}_l > \bar{X}_h$ (t, $p < .05$)
12	Point Leader Made up Mind	3A	$\bar{X}_h > \bar{X}_l$ (t, $p < .05$)
14	Future Productivity	3B	$\bar{X}_h > \bar{X}_l$ (t, $p. < .05$)
9a,9b,9c, 10a,10b,10c	Subordinate Anger	7B	$\bar{X}_l > \bar{X}_h$ (t, $p. < .05$)

Table 3.5

Analysis of Interval and Ordinal Level Data
on Leader Questionnaire

Item	Index	Hypothesis	Statistical Expression and Prediction
1	Description of Decision	3A	$\bar{X}_h > \bar{X}_l$ (t, $p < .05$)
2	Point Made up Mind	3A	$\bar{X}_h > \bar{X}_l$ (t, $p < .05$)
12	Estimate of Future Productivity	3B	$\bar{X}_h > \bar{X}_l$ (t, $p < .05$)
13	Number of Dissatisfied Workers	4B	$\bar{X}_l > \bar{X}_h$ (t, $p < .05$)
11	Disclosure of Work Rate Information	5	$\bar{X}_l > \bar{X}_h$ (t, $p < .05$)
4,5a,5b, 5c,6a,6b, 6c	Leader Anger	7A	$\bar{X}_l > \bar{X}_h$ (t, $p < .05$)

Table 3.6

Analysis of Interval and Ordinal Level Data on Group Comparison Form

Item	Index	Hypothesis	Statistical Expression and Prediction
1	Subordinate Consensus Estimate of Future Productivity	3B	$\bar{X}_h > \bar{X}_l$ (t, $p < .05$)
2b	Leader Dissatisfaction	4A	$\bar{X}_l > \bar{X}_h$ (t, $p < .05$)
2A	Subordinate Dissatisfaction	4B	$\bar{X}_l > \bar{X}_h$ (t, $p < .05$)
3	Problem Subordinates	6	$\bar{X}_l > \bar{X}_h$ (t, $p < .05$)

is a brief description of the measure, the hypothesis to be tested, and the statistical expression and prediction. A summary of the nominal data analyses are listed in Table 3.7 in a similar fashion, and a summary of the correlational comparisons regarding Hypothesis 8 are listed in Table 3.8.

Analysis of Subordinate Questionnaire Interval and Ordinal Level Data

Because most of the data recorded on the subordinate questionaires consisted of interval or ordinal data (See Table 3.4), independent sample, one-tailed t-tests were performaed to test the effect of the performance manipulations on the following measures: 1) the support measure, which consisted of summed items 1, 2, and 3, was used to test Hypothesis 1A which concerned subordinate perception of leader support and was operationalized as--Support $\bar{X}_h$>Support $\bar{X}_l$, (t, $p<.05$); 2) the goal emphasis measure consisting of summed items 4 and 5 used to test Hypothesis 2A concerning subordinate perception of leader encouragement of goal emphasis and was operationalized as--Goal Emphasis $\bar{X}_l$>Goal Emphasis $\bar{X}_h$, (t, $p<.05$); 3) the interaction facilitation measure consisting of summed items 6 and 7 for testing Hypothesis 2B was operationalized as--Interaction Facilitation $\bar{X}_l$>Interaction Facilitation $\bar{X}_h$, (t, $p<.05$); 4) the participation measure consisting of summed items 8a, 8b, and 8c used to test Hypothesis 1B and operationalized as--Participation $\bar{X}_h$>Participation $\bar{X}_l$, (t, $p.<05$); 5) the interpersonal anger measure consisting of summed items 9a, 9b, 9c, 10a, 10b, and 10c used to test Hypothesis 7B and operationalized as--Anger $\bar{X}_l$>Anger $\bar{X}_h$, (t, $p<.05$); 6) the point at which the leader made up mind measure consisting of item 12 and used to test Hypothesis 3A was operationalized as--Time for Decision $\bar{X}_h$>Time for Decision $\bar{X}_l$, (t, $p<.05$); and 7) estimate of future productivity

Table 3.7

Analysis of Nominal Data

Item	Index	Hypothesis	Questionnaire	Statistical Expression and Prediction
11	Who Suggested Solution	3A	Subordinate	Subordinate(h)> Subordinate(l), (X^2, $p < .05$)
3	Who Suggested Solution	3A	Leader	Subordinate(h)> Subordinate(l), (X^2, $p < .05$)
13	Leader Disclosure of Correct Performance Information	5	Subordinate	Correct (l)> Correct (h), (X^2, $p < .05$)
8	Discussion of Prior Performance	5	Leader	Yes(l)> Yes (h), (X^2, $p < .05$)
9	Who Brought up Subject of Performance	5	Leader	Leader (l)> Leader (h), (X^2, $p < .05$)
10	Leader Disclosure of Correct Performance Information	5	Leader	Correct (l)> Correct (h), (X^2, $p < .05$)

Table 3.8

Analyses of Correlational Comparisons
for Hypothesis 8

Item				
6a,6b,6c	Leader Anger at Subordinates	Leader	$r(\text{Leader Anger at Subs})_h$ $(\text{Sub View of this Anger})_h$ $(r, p > .05)$	8A
10a	Sub View of this Anger	Subordinate	$r(\text{Leader Anger at Subs})_l$ $(\text{Sub View of this Anger})_l$ $(r, p < .05)$	8A
9a	Sub Anger at Leader	Subordinate	$r(\text{Sub Anger at Leader})_h$ $(\text{Leader View of this Anger})_h$ $(r, p > .05)$	8B
5a,5b,5c	Leader View of this Anger	Leader	$r(\text{Sub Anger at Leader})_l$ $(\text{Leader View of this Anger})_l$ $(4, p < .05)$	8B
7	Leader Report of Subs Knowing True Feelings	Leader	$r(\text{True Feelings})_h$ $(\text{Leader Anger at Subs})_h$*	8A
			$r(\text{True Feelings})_l$ $(\text{Leader Anger at Subs})_l$*	8A
			$r(\text{True Feelings})_h$ $(\text{Sub Anger at Leader})_h$*	8B
			$r(\text{True Feelings})_l$ $(\text{Sub Anger at Leader})_l$*	8B

*These comparisons were performed for descriptive purposes and no prediction of significance was stated.

consisting of item 14 used to test Hypothesis 3B and was operationalized as--Productivity $\bar{X}_h$ > Productivity $\bar{X}_l$, (t, $p < .05$).

Analysis of Leader Questionnaire Interval and Ordinal Level Data

Because most of the data recorded on the leader questionnaire (See Table 3.5) consisted of interval or ordinal data, independent sample, one-tailed t-tests were performed to test the effect of the performance manipulations on the following measures: 1) the description of the decision reached measure consisting of item 1 used to test Hypothesis 3A concerning subordinate influence and was operationalized as--Flexibility of Solution $\bar{X}_h$ > Flexibility of Solution $\bar{X}_l$, (t, $p. < .05$); 2) at what point he/she made up their mind measure consisting of item 2 used to test Hypothesis 3A and was operationalized as--Time for Decision $\bar{X}_h$ > Time for Decision $\bar{X}_l$, (t, $p < .05$); 3) the interpersonal anger measure consisting of summed items 4, 5a, 5b, 5c, 6a, 6b, and 6c used to test Hypothesis 7A and was operationalized as--Anger $\bar{X}_l$ > Anger $\bar{X}_h$, (t, $p < .05$); 4) what he/she disclosed about individual work rates consisting of item 11 used to test Hypothesis 5 and was operationalized as--Disclosure $\bar{X}_l$ > Disclosure $\bar{X}_l$, (t, $p < .05$); and 6) number of dissatisfied workers measure consisting of item 13 used to test Hypothesis 4 concerning subordinate dissatisfaction and was operationalized as--Dissatisfied Subordinates $\bar{X}_l$ > Dissatisfied Subordinates $\bar{X}_h$, (t, $p < .05$).

Analysis of Group Comparison Form Data

Because the data recorded on the Group Comparison Form (See Table 3.6) consisted of interval or ordinal data, independent sample, one-tailed t-tests were performed to test the effect of the performance manipulations on the following measures; 1) the consensus estimate of future productivity measure used to test Hypothesis 3 and was

operationalized as--Frequency of Subordinate Choice (h) > Frequency of Subordinate Choice (l), (X^2, $p < .05$). Also, on the subordinate questionnaire, the leader disclosure of performance measure regarding Hypothesis 5 and consisting of item 13 was coded according to reported disclosure of correct performance information and operationalized as--Correct Information (l) > Correct Information (h), (X^2, $p < .05$).

Because of the data recorded on items 3, 8, and 9 on the leader questionnaire consisted of nominal data, a two independent sample chi-square of significance was performed to test the effect of the performance manipulations on the following: 1) who suggested the solution measure consisting of item 3 used to test Hypothesis 3A concerning subordinate influence and was operationalized as--Frequency of Subordinate Choice (h) > Frequency of Subordinate Choice (l), (X^2, $p < .05$); 2) discussion of level of performance measure consisting of item 8 used to test Hypothesis 5 and was operationalized as--Frequency of Yes Response (l) > Frequency of Yes Response (h), (X^2, $p < .05$); and 3) who brought up subject of performance measure consisting of item 9 used to test Hypothesis 5 and was operationalized as--Frequency of Leader Response (l) > Frequency of Leader Response (h), (X^2, $p < .05$). Also, on the leader questionnaire, what he/she reported disclosing about group performance regarding Hypothesis 5 and consisting of item 10 was coded according to reported disclosure of correct performance information and operationalized as--Correct Information (l) > Correct Invormation (h), (X^2, $p < .05$).

Correlational Comparisons

The eighth hypothesis that predicted divergent perceptions of interpersonal anger was concerned with two relational comparisons in each performance condition (See Table 3.8):

1) When concerned with the extent of leader anger felt toward subordinates, how similar are the subordinates' view of his/her anger with the leaders' perception of anger?

Items 6a, 6b, and 6c on the leader questionnaire were summed and averaged by the number of items for the measure of leader anger at subordinates, and item 10a on the subordinates' questionnaires were summed and averaged by the number of subordinates in each group for the measure of subordinate perception of leader anger; the correlation of these two measures dealt with the leader anger toward subordinates issue. Testing this first part of Hypothesis 8 was operationalized in two parts: a) $r(\text{Leader Anger at Subordinates})_h$ $(\text{Subordinates' Perception of Leader Anger})_h$, $(r, p > .05)$, and b) $r(\text{Leader Anger at Subordinates})_l$ $(\text{Subordinates' Perception of Leader Anger})_l$, $(r, p < .05)$.

The extent to which the leader reported that the subordinates knew his/her true feelings measure consisting of item 7 on the leader questionnaire was employed for descriptive purposes and was operationalized in two parts: a) $r(\text{Knowledge of True Feelings})_h$ (Leader Anger at Subordinates)$_h$, and b) $r(\text{Knowledge of True Feelings})_l$ (Leader Anger at Subordinates)$_l$. These comparisons were performed for descriptive purposes and no prediction of significance levels was stated

2 When concerned with the extent of subordinate anger felt toward the leader, how similar is the leaders' view of their anger as compared with the subordinates' perceptions of anger?

Item 9a on the subordinates' questionnaires were summed for each group and averaged by the number of subordinates in each group for the subordinate anger at the leader measure, and items 5a, 5b, and 5c on the leader questionnaire were summed and averaged by the number of items for the leader perception of suordinate anger measure; the correlation of these two measures dealt with teh subordinate anger toward the leader

issue. Testing this second part of Hypothesis 8 was operationalized in two parts as: a) r(Subordinate Anger at Leader)$_h$ (Leader Perception of Subordinate Anger)$_h$, (r, $p > .05$); and b) r(Subordinate Anger at Leader)$_l$ (Leader Perception of Subordinate Anger)$_l$, (r, $p < .05$).

The extent to which the leader reported that subordinates knew his/her true feelings measure consisting of item 7 on the leader questionnaire was employed for descriptive purposes and operationalized in two parts: a) r(Knowledge of True Feelings)$_h$ (Subordinate Anger at Leader)$_h$, and b) r(Knowledge of True Feelings)$_l$ (Subordinate Anger at Leader)$_l$. These comparisons were made for descriptive purposes and no significance level was stated.

The Pearson Product Moment Correlation was considered the best statistic for evaluation of these relational comparisons. As explained, the interpersonal anger items were set up as interval scales and, thus, suitable for a correlational analysis which would indicate the extent of divergence of the compared perceptions in each performance condition. The scores of subordinates' anger at the leader and the leaders' anger at each subordinate were averaged to obtain aggregate anger scores.

This section has described the analyses considered most appropriate to test the listed hypotheses. The next chapter will report and discuss the results.

CHAPTER IV

ANALYSES AND DISCUSSION OF RESULTS

In the preceeding chapters eight hypotheses were advanced and a method for gathering data to test those hypotheses was described. In this chapter statistical tests for hypotheses are reported and additional data are analyzed. Discussion of these findings is then followed by suggestion for future studies in this area. Finally, an overall summary integrates the conceptual perspectives from which this study was generated with final interpretations.

Reliability and Descriptive Statistics of Dependent Measures

Coefficient alpha statistics were calculated to assess the internal consistency of the summed item interval measures (See Table 4.1). Coefficient alphas ranged from .887 to .961, and from these statistics, the measures appeared to be acceptably consistent. Statistics describing the remaining single item measures illustrate their minimum, median, and maximum scores (See Table 4.2). The interrelationship of the leader and averaged subordinate interval measures across both performance conditions are given in Appendix D.

Description of Independent Variable Manipulations

From the data recorded by the researchers and the responses given by leaders and subordinates, the performance manipulations were equally administered and a substantial number of leaders and subordinates

Table 4.1

Minimum, Median, and Maximum Scores and Coefficient Alphas for Subordinate and Leader Summed Item Measures

Measure	Minimum	Median	Maximum	Coefficient Alpha
Support	2.328	4.490	5.00	.961
Goal Emphasis	2.480	3.811	5.00	.911
Interaction Facilitation	1.732	3.680	5.00	.887
Participation	2.250	4.121	4.880	.932
Subordinate Anger	1.00	1.511	3.510	.959
Leader Anger	1.00	1.386	4.710	.910

Table 4.2

Minimum, Median, and Maximum Scores for Subordinate and Leader Single Item Measures

Measure	Instrument	Minimum	Median	Maximum
Who Suggested Solution	Subordinate	1.00	2.73	5.00
At What Point Did Leader Make Up Mind	Subordinate	1.00	3.80	5.00
Leader Disclosure of Group Performance	Subordinate	1.00	4.67	7.00
Estimate of Future Productivity	Subordinate	-30%	+10.25%	+25%
Description of Decision	Leader	1.00	2.824	4.00
At What Point Did Leader Make Up Mind	Leader	1.00	3.050	5.00
Who Suggested Solution	Leader	1.00	3.250	5.00
What Extent True Feelings Known	Leader	1.00	3.438	5.00
Discussion of Prior Performance	Leader	1.00	1.125	2.00
Who Brought Up Subject of Performance	Leader	1.00	1.083	3.00
Leader Disclosure of Group Performance	Leader	1.00	4.636	8.00
Leader Disclosure of Work Rate Information	Leader	1.00	3.184	7.00
Number of Dissatisfied Group Members	Leader	0.00	.055	2.00
Consensus Subordinate Estimate of Future Prod.	Group Comparison Form	-20%	+10.01%	+24%
Dissatisfied Foreman (Leader View)	Group Comparison Form	0.00	.121	1.00
Dissatisfied Subordinates (Subordinate View)	Group Comparison Form	0.00	.257	3.00
Number of Problem Subordinates (Leader View)	Group Comparison Form	0.00	.681	3.00

Table 4.3

Results of t-tests of Hypotheses

Hypotheses	Dependent Measure	t-test Value	Instrument	Significance Level
1A	Support	t=.13	Subordinate	.446
1B	Participation	t=.18	Subordinate	.430
2A	Goal Emphasis	t=.04	Subordinate	.480
2B	Interaction Facilitation	t=-1.23	Subordinate	.11
3A	Point at Which Leader Made Up Mind	t=-.18	Subordinate	.43
3A	Description of Solution	t=-.97	Leader	.34
3A	Point at Which Leader Made Up Mind	t=-.33	Leader	.37
3B	Estimate of Future Productivity	t=1.04	Subordinate	.15
3B	Consensus Subordinate Estimate Of Future Productivity	t=-1.24	Group Comparison Form	.11
4A	Leader Report of Dissatisfaction with Decision	t=-1.68	Group Comparison Form	.04
4A	Number of Dissatisfied Subordinates	t=-.20	Leader	.42
4B	Subordinate Reports of Dissatisfaction with Decision	t=.38	Group Comparison Form	.35
5	Disclosure of Work Rate Information	t=-.26	Leader	.40
6	Leader Reports of Problem Employees	t=.18	Group Comparison Form	.43
7A	Leader Anger	t=-.74	Leader	.23
7B	Subordinate Anger	t=1.07	Subordinate	.15

acknowledged this information. A frequency computation was obtained for item 13 on the subordinate questionnaire and item 10 on the leader questionnaire both of which asked what information was known or given regarding prior task performance. On the subordinate questionnaire, 70% of the subordinates reported correct performance information in the high performance condition while 75% of the subordinates reported this information correctly in the low performance condition. Disclosure of performance was not required of foremen but these results do indicate that this information was received by a substantial number of subordinates.

On the leader questionnaire, 79% of the leaders reported disclosing correct performance information in the high performance condition while 96% of the leaders reported giving correct performance information in the low performance condition. Again, leaders were not instructed to disclose this information but their responses indicate that a substantial number did offer this data to the subordinates.

Hypotheses Tests

H1: Leaders told that they have high performance groups will be seen by their subordinates as showing more consideration behavior than subordinates in low performance groups.

This general hypothesis was more specifically defined in two parts.

1A: Support. Leaders told that they have high performance groups will be seen by their subordinates as exhibiting behavior that enhances their feelings of personal worth and importance significantly more than subordinates in the low performance condition.

Results (t=.13, p=.446) indicate that the performance manipulation did not significantly affect subordinate reports of the degree of leader support (See Table 4.3).

1B: Participation. Leaders told that they have high performance groups will be seen by their subordinates as exhibiting

behavior that provides them with information about the decision, asks for opinions and ideas from members, and presents the problem to be solved and works with the group to find a solution significantly more than subordinates in the low performance condition.

Results (t=.18, p=.43) indicate that the performance manipulation did not significantly affect subordinate reports of the degree to which the leader encouraged participation.

H2: Leaders told that they have low performance groups will be seen by their subordinates as showing more initiating structure behavior significantly more than subordinates in the high performance condition.

This general hypothesis was more specifically defined in two parts.

2A: Goal Emphasis. Leaders told that they have low performance groups will be seen by their subordinates as exhibiting behavior that stimulates an enthusiasm for meeting the group's goal or achieving excellent performance significantly more than subordinates in the high performance condition.

Results (t=.04, p=.48) indicate that the performance manipulation did not significantly affect subordinate reports of leaders' goal emphasis behaviors.

2B: Interaction Facilitation. Leaders told that they have low performance groups will be seen by their subordinates as exhibiting behavior that encourages members of the group to develop close, mutually satisfying relationships and work as a team significantly more than subordinates in the high performance condition.

Results (t=-1.23, p=.11) indicate that the performance manipulation did not significantly affect subordinate reports of leader interaction facilitation behaviors. A difference approaching significance was exhibited at the .11 level of significance showing that more leader interaction facilitation was reported by subordinates in the low performance condition than in the high performance condition.

H3: Subordinates in the high performance condition will indicate more input in the decision and will see this trend as continuing in the future significantly more than subordinates in the low performance condition.

This general hypothesis was more specifically defined in two parts.

> 3A: Input in Reaching Decision. Subordinates in the high performance condition will indicate they have more input in reaching the decision significantly more than subordinates in thw low performance condition.

Results (t=.18, p=.43) on item 12 of the subordinate questionnaire, indicate that the performance manipulation did not have a significant effect on subordinate reports of the point at which the leader made up his/her mind about the solution. Results (X^2=.077, p=.78) on item 11 of the subordinate questionnaire indicate that there was no difference in subordinate reports of a subordinate suggesting the solution between high and low performance conditions (See Table 4.4). Results (t=.97, p=.34) on item 2 of the leader questionnaire indicate that the performance manipulation had no significant effect on the flexibility of the solution reached. Results (t=-.33, p=.37) on item 2 of the leader questionnaire indicate that the performance manipulation did not significantly affect leader reports of the time he/she took to decide upon a solution. Results (X^2=.095, p=.758) on item 9 of the leader questionnaire indicate that leader reports of a subordinate suggesting the solution was not significantly different between high and low performance conditions. Thus, overall results on leader and subordinate items show that high/low performance manipulations had no significant effect on subordinate input in reaching the decision.

> 3B: Future Productivity. Subordinates in the high performance condition will indicate higher estimates of future productivity significantly more than subordinates in the low performance condition.

Results (t=1.04, p=.15) on item 14 of the subordinate questionnaire indicate that the performance manipulation had no significant effect

Table 4.4

Results of Chi-square Analyses of Hypotheses on High/Low Performance Conditions

Hypotheses	Item	x^2 Value	Instrument	Significance Level
3A	Subordinate Reports of a Subordinate Suggesting Solution	.077	Subordinate	.78
3A	Leader Reports of a Subordinate Suggesting Solution	.095	Leader	.76
5	Leader Disclosure of Correct Performance Information	.819	Leader	.37
5	Leader Disclosure of Any Performance Information	.083	Leader	.77
5	Subordinate Reports of Leader Disclosure of Correct Performance Information	.338	Subordinate	.56

on subordinate predictions of future productivity, but the findings do show a difference approaching significance in the predicted direction, that is, subordinates in the high performance condition predicted higher future productivity than subordinates in the low performance condition at a significance level of .15. Results (t=1.24, p=.11) of the consensus estimate of future productivity on the Group Comparison Form indicate that the performance manipulation had no significant effect on subordinate consensus estimate of future productivity; the direction of the prediction appraoched significance at the .11 significance level. Overall, the performance manipulation did not produce a significant difference in subordinate or subordinate consensus estimates of future productivity. A difference approaching significance was evident in the predicted direction on each measure that does offer some support for the suggestion that among subordinates a prediction of higher future productivity in the high performance condition is consistently reported compared to group members in members in the low performance condition.

> H4: Significantly more participants in the low performance condition will be dissatisfied with the decision reached than will participants in the high performance condition.

This general hypothesis was more specifically defined in two parts:

> 4A: Leader Dissatisfaction. In the low performance condition, significantly more leaders will report dissatisfaction with the solution than leaders in the high performance condition.

Results (t=-1.68, $p<.05$) of the leader reports of his/her dissatisfaction on the Group Comparison Form indicate that the performance manipulation did have a significant effect on leader reports of dissatisfaction. That is, significantly more leaders in low performance groups

reported dissatisfaction with the decision than leaders in the high performance groups.

4B: Subordinate Dissatisfaction. In the low performance condition, significantly more subordinates will report dissatisfaction with the solution than subordinates in the high performance condition.

Results (t=-.20, p=.42) on item 13 of the leader questionnaire indicate that the performance manipulation did not have a significant effect on the leader reports of the number of dissatisfied subordinants. Results (t=-.38, p=.35) of subordinate reports of dissatisfaction with the decision on the Group Comparison Form indicate that the performance manipulation did not have a significant effect on the subordinate reports of dissatisfaction with the decision. Overall, the leader reports of his/her dissatisfaction were significantly affected by the performance manipulation, but the leader and subordinate reports of subordinate dissatisfaction were not so affected.

H5: In the high performance condition, leaders will reveal knowledge of prior performance significantly less often as leaders in the low performance condition.

Responses on item 10 of the leader questionnaire were coded in the form of correct and incorrect reports of performance information to more clearly illustrate the effect of performance manipulations on disclosure of prior performance. Results (X^2=.819, p=.366) indicate that leader disclosure of accurate performance information did not significantly differ between high/low performance groups. The same data transformation was performed on item 13 of the subordinate questionnaire and results (X^2=.338, p=.560) indicate that subordinate reports of leader disclosure of correct performance information did not significantly differ between high/low performance groups (See Table 4.4).

Results (t=-.26, p=.40) on item 11 of the leader questionnaire indicate that the performance manipulation did not significantly affect leader reports of work rate information. Results (X^2=.083, p=.773) indicate that the performance manipulation did not significantly affect leader discussion of prior performance. That is, leaders in the low performance condition did not report discussion of prior performance information significantly more than leaders in the high performance condition.

Overall, results indicate that the independent variable manipulations were correctly interpreted by subordinates and leaders and the performance manipulation had no significant effect on leader disclosure of prior performance information.

H6: In the high performance condition, leaders will indicate significantly fewer problem subordinates thatn leaders in the low performance condition.

Results (t=.18, p=.43) of leader reports of problem employees on the Group Comparison Form showed that the performance manipulation had no significant effect on leader reports of problem subordinates.

H7: All participants in the low performance condition will report a significantly higher level of interpersonal anger than participants in the high performance condition.

This general hypothesis was more specifically defined in two parts.

7A: Leader Anger. Leaders in the low performance condition will report significantly more interpersonal anger than leaders in the high performance condition.

Results (t=-.74, p=.23) on the leader interpersonal measure indicate that the performance manipulation did not have a significant effect on the leader reports of interpersonal anger.

7B: Subordinate Anger. Subordinates in the low performance condition will report significantly more interpersonal anger than subordinates in the high performance condition.

Results (t=1.07, p=.18) indicate that the performance manipulation did not significantly affect subordinate reports of interpersonal anger. Overall, results indicate that the performance manipulation had no significant effect on either subordinate or leader interpersonal anger.

> H8: In the high performance condition, leader and subordinate reports of the extent of anger felt toward each other will be more divergent than such reports in the low performance condition.

This general hypothesis was more specifically defined in two parts.

> 8A: Leader Anger toward Subordinates. Leader reported anger toward subordinates will correlate more highly with subordinate reported leader anger in the low performance condition than in the high performance condition.

Results (See Table 4.5) indicate that the hypothesis was supported. In the high performance condition, leader anger at subordinates was not significantly correlated (r=.07, sig.=.35) with their view of leader anger, while in the low performance condition, leader anger was positively correlated (r=.65, sig.$<$.001) with their view of leader anger.

> 8B: Subordinate Anger toward Leader. Subordinate reported anger towards the leader will correlate more highly with leader reported subordinate anger in the low performance condition than in the high performance condition.

In the high performance condition, subordinate anger at the leader was not significantly correlated (r=.25, sig.=.09) with the leaders' views of their anger, while in the low performance condition, subordinate anger at the leader was positively correlated (r=.60, sig.=.001) with the leaders' reports of their anger.

A descriptive check on the leader-subordinate interpersonal perception issue was performed by examining item 7 on the leader

Table 4.5

Results of Pearson Correlations Regarding Interpersonal Anger Measures in High/Low Performance Conditions

Comparison	Performance Condition	Correlation	Significance Level
Leader Anger at Subs with Subs' View of this Anger	High	.07	.03
Leader Anger at Subs with Subs' View of this Anger	Low	.65	.001
Sub Anger at Leader with Leader View of this Anger	High	.25	.09
Sub Anger at Leader with Leader View of this Anger	Low	.60	.001
Leader True Feelings Being Known with Sub Anger at Him/Her	High	-.19	.16
Leader True Feelings Being Known with Sub Anger at Him/Her	Low	-.49	.003
Leader True Feelings Being Known with Leader Anger at Subs	High	-.18	.17
Leader True Feelings Being Known with Leader Anger at Subs	Low	-.44	.008

questionnaire which dealt with the extent to which the leader felt his/her true feelings were known (See Table 4.5). In the high performance condition, the leader reports of their true feelings being known were not significantly correlated with either subordinate anger at the leader (r=-.19, sig.=.16) or leader anger at subordinates (4=-.18, sig.=.17). In the low performance condition, leader reports of their true feelings being known were negatively correlated to a significant degree with both subordiante anger at the leader (r=-.49, sign.=.003) and leader anger at subordinates (r=-.44, sig.=.008).

Overall, in the high performance condition, leader-subordinate reports of each others' interpersonal anger is not significantly similar, and the leaders' reports of his/her true feelings being known is not significantly correlated with the leaders' anger at the subordinates or their anger at him/her. In the low performance condition, leader-subordinate reports of each other's interpersonal anger is significantly similar, and leader reports of true feelings being known is negatively correlated to a significant degree with both his/her anger at subordinates and subordinate anger at him/her.

Discussion

Several of the tests of significance did support predicted differences and further explanation of these findings will be offered. Since a substantial number of these statistical tests did not illustrate predicted differences between high and low performance groups, an effort is made to identify possible confounding factors. Attention will be directed to previous inconsistencies in similar research and a posteriori analysis of an additional criterion variable will be examined for clarification of previous results.

Support for Predictions

Hypotheses received support for the predicted effects on the following measure: subordinate reports of leader interaction facilitation, subordinate estimates of future productivity, leader reports of dissatisfaction with the solution, and leader-subordinate reports of the other's interpersonal anger. Subordinates in the low performance condition reported more leader interaction facilitation and less future productivity than subordiantes in the high performance condition. These findings can be interpreted as the leader attributions concerning salient performance information influenced his/her behavior to the extent that subordinates in the low performance indicated greater leader interaction facilitation than subordinates in the high performance condition. That is, leaders in low performance groups exhibited behaviors that encouraged their subordinates to work as a team significantly more than leaders in the high performance groups.

Due to the leader behaviors and leader-subordinate interaction in the low performance groups, subordinates reported that future productivity would not be as high as that reported in high performance groups. The more negative interpersonal communication atmosphere evident in the low performance groups encouraged subordinates in this condition to estimate less future productivity than subordinates in the high performance condition. In addition, significantly more leaders in the low performance condition reported dissatisfaction with the solution than leaders in the high performance condition.

Thus, subordinates in the low performance condition indicated a more negative interpersonal communication atmosphere by reporting

more leader initiating structure behavior on the interaction facilitation measure and estimating less future productivity than subordinates in the high performance condition. Leaders in the low performance condition indicated similar negativity by more frequently reporting dissatisfaction with the solution than leaders in the high performance condition. The salience of low performance information did have a significant influence on leader attributions which in turn affected leader-subordinate perceptions of the other and the task.

The other predictions supported by the statistical tests of significance dealt with leader-subordinate reports of the other's levels of interpersonal anger. In the high performance condition, leader-subordinate reports of each other's anger is not significantly similar, and the leader reports of his/her true feelings being known is not significantly correlated with his/her anger at subordinates or subordinate anger at him/her. Due to the more effectively functioning roles in the high performance condition, different perspectives were evident in the leader versus subordinate roles, and reports of the other's interpersonal anger and true feelings being known were not significantly correlated. The roles generated differing perspectives because they functioned more effectively in the high performance condition as evidenced by less dissatisfaction and estimates of greater future productivity than exhibited in low performance groups. The notion of uncorrelated perceptions was supported.

Further, leader-subordinate perceptions of the other's anger was not significantly correlated in the high performance condition because the more effectively functioning roles resulted in attributions that perhaps indicated the perception of anger was attributed to

constructive, positive ends. That is, there was no significant correlation of anger perceptions which indicates that this intensity was attributed to some other more positive phenomenon, especially since the levels of leader-subordiante anger were not significantly different between performance groups, and the correlations of these perceptions were significantly correlated in the low performance groups.

In the low performance condition, leader attributions concerning performance influenced leader-subordinate perceptions and behavior so that leader and subordinate roles did not function effectively, and the result was that leader-subordinate perceptions of the other's anger was significantly similar. Since they did not attribute this intensity to constructive, positive behavior, the result was for leaders and subordinates to have significantly correlated views of the other's anger.

Further, in the low performance condition, the more interpersonal anger perceived by either leaders at subordinates or subordinates at leaders, the more the leader felt his/her true feelings were not known. That is, the true feelings measure was significantly negatively correlated with leader and subordinate anger at the other. This finding offers some support fot the egotism phenomenon. If the leader perceives increased interpersonal anger, he/she will not admit that his/her feelings are understood. On the other hand, if the leader perceives little interpersonal anger, then he/she feels his/her feelings are understood. This appears to follow the egotism assumption of "if it works well, I am very involved, if it works out to an unfortunate end, I had little or no influence on the action."

Even though support was demonstrated for several predictions, no support was found for the predicted effects of the performance manipulation on subordinate reports of leader support, participation, goal emphasis subordinate input in reaching the decision, subordinate dissatisfaction, leader disclosure of performance, leader reports of the number of problem employees, and reported levels of leader and subordinate interpersonal anger. Apparently, the salience of the performance information did not result in leader-subordinate attributions that demonstrated differences between performance groups on the described measures.

Two possible explanations may account for our results reported here. Either improvements are needed in the research and design measures, or performance information given prior to interaction does not remain salient throughout the prescribed task. A post hoc examination of the data provides some evidence to support the notion that performance information manipulations prior to interaction does significantly influence interpersonal communication throughout the task. While this possibility exists, a lack of significant differences on several dependent measures does not allow a clear-cut acceptance of this assumption. Some of the hypotheses concerning the attributional perspective were supported by tests of significance, while a number of other hypotheses were not significantly supported. Thus, an overall consistent interpretation is not evident.

One factor that may have very easily influenced the results was the context from which most of the subjects were taken. The context in which the subjects were taken probably differed form previous similar

research. In the research examined, subjects volunteered in classes, were part of a subject pool, or were part of an in-class role play. The major difference could be that even though in the current experiment the Change of Work exercise was administered on the second class day before acquaintances were formed, it was preceded by a session describing an evaluation session which assigned weights to individual work as well as group work for the students' final grades. A significant portion of students' grades are dependent on group effort (approximately 50%) which emphasizes very early that team work and participation in one's work group is significantly important to each individual's final grade.

This influence is very similar to business organizations where one immediately knows that individual performance is important, but coordination of group work is just as important to a worker's survival in that organization. The groups in this study were obtained from a variety of settings which aids in the generalizability of results to a variety of work environments, however, 46 of the 60 groups were taken from on-campus college classes and the participation effect could easily have influenced overall results. That is, the fact that approximately 77% of the subjects in this study were immediately exposed to substantial discussion and planning concerning participation with others in the class for a significant portion of their grades easily could have biased the results. Since the examined role play was conducted during the next class session, this assumption seems quite likely.

A Possible Intervening Variable

At this point in the study further manipulations are not feasible, but a posteriori examination of one possible intervening variable

is appropriate. A substantial amount of organizational behavior research supports the idea that the degree of subordinate participation significantly affects a problem-solving group's effectiveness (House and Mitchell, 1974; Likert, 1976; Katz and Kahn, 1978). One of the dependent measures in this study involved subordinate reports of leader behaviors that encouraged group participation, and an examination of possible differences between high and low participating groups was made. While an admitted weakness of this analysis is that the levels of participation were not independent variable manipulations, a correlational description of their relationship can still provide valuable data. Subordinate reports of leader participation were divided into high and low levels by a median-split and appropriate t-tests were then conducted with each of the dependent measures. These results are summarized in Table 4.6.

An examination of the various comparisons shows that the consideration and initiating structure variables display significant differences between high/low participation groups. Subordinates in high participation groups indicate significantly more leader support, interaction facilitation, and goal emphasis than subordinates in low participation groups. This may be consistent with Farris and Lim (1969) who argued that subordinates in the high performance condition indicated more initiating structure and consideration leader behavior than those in the low performance condition. The important point here is that Farris and Lim (1969) were among the very few researchers to assert that initiating structure and consideration behaviors changed in the same direction. Even though a post hoc reporting of levels of participation is very different from an actual manipulation of the performance

Table 4.6

*T-tests on Dependent Measures by High/Low Levels of Participation

Measure	Results	Direction of Differences Between Groups
Support	t=5.79, p=.001	Leaders in high partic. groups were reported to be more supportive than leaders in low partic. groups.
Goal Emphasis	t=3.53, p=.001	Leaders in high partic. groups were reported to exhibit more goal emphasis behavior than leaders in the low partic. groups.
Interaction Facilitation	t=2.49, p=.001	Leaders in high partic. groups were reported to exhibit more interaction facilitation behavior than leaders in low partic. groups.
Dissatisfied Subordinates	t=-2.49, p=.01	Leaders in low partic. groups reported more dissatisfied subs than leaders in high partic. groups.
Disclosure of Performance	t=-1.73, p=.04	Leaders in low partic. groups reported more total work rate information than leaders in high partic. groups.
Problem Employees	t=-2.71, p-.01	Leaders in low aprtic. groups reported more problem employees than leaders in high partic. groups.
Leader Anger	t=-3.16, p=.0015	Leaders in low partic. groups reported greater levels of interpersonal anger than leaders in high partic. groups.
Subordinate Anger	t=-3.24, p-.001	Subs in low partic. groups reported greater levels of interpersonal anger than subs in high partic. groups.

*T-tests were performed on all dependent measures; the results reported are only those showing a significance level of .05.

variables, the noted differences between groups suggests that levels of participation may be an appropriate place to look for explanations of initiating structure and consideration variables.

In the more positive interpersonal communication atmosphere of high participation groups, leaders encouraged both consideration behaviors and initiating structure behaviors to a significantly greater extent than did leaders in the low participation condition. Most previously examined organizational research argues that as consideration leader behaviors increase, initiating structure leader behaviors decrease and vice versa. Perhaps in this research a slight trend is being established that offers some support for the notion that when subordinates perceive greater consideration in the leader, they also accept more initiating structure. That is, as the leader shows more concern for subordinates as human beings, the subordinates in turn accept more task and goal oriented behavior from the leader.

In addition, in low participation groups subordinates were significantly more dissatisfied with the solution and indicated significantly more interpersonal anger than subordinates in high participation groups. In low participation groups, leaders disclosed significantly more work rate information, reported significantly more problem employees, and indicated significantly more interpersonal anger than leaders in the high participation condition. An overall interpretation is the degree to which leaders encouraged subordinate participation significantly affected results on the dependent measures used. The salience of the extent of the leader encouraging participation appears to have had at least as predominant an effect on leader-subordinate perceptions thoughout the task as did the performance manipulation. This offers

some support for the notion that the exposure of 77% of the subjects to the participation influence did bias results. More research is encouraged concerning the participation variable in conjunction with performance manipulations.

Conclusion

Predictions were supported regarding leader interaction facilitation, subordinate estimates of future productivity, leader reports of dissatisfaction, and leader-subordinate reports of the other's interpersonal anger. From these measures we can infer that a more positive interpersonal communication atmosphere existed in the high performance condition as a result of attributions concerning performance information. However, the remaining dependent measures did not show significant differences between performance groups which suggests either than performance information did not remain salient throughout the interaction or improved measures and design are needed. A possible intervening variable was the extent to which leaders encouraged subordinate participation. When comparisons were made between high and low levels of participation, t-tests showed significant differences on the majority of dependent measures used including the area of leader consideration, leader initiating structure, subordinate dissatisfaction, leader disclosure of information, problem employees, and leader-subordinate anger. The more positive interpersonal communication atmosphere which existed in high participation groups may account for these notable differences.

Future Implications

As described, predictions concerning performance information did receive some support and future research on this independent variable

manipulation is encouraged. Obviously, influences other than performance manipulations affected leader and subordinate reports on dependent measures. Even though levels of group participation appeared to be a significante factor in leader-subordinate interpersonal communication, the question remains--What causes leaders to exhibit behavior that results in differing levels of subordinate participation? Perhaps a substantial part of the answer to this question lies in the leaders' personal views or cognitive styles, and measures of personality variables might reveal some reasons here. That is, a small number of self-report personality measures that deal with such dimensions as ability to work with authority, orientation to motivation of others, internal/external locus of control, and apprehension toward communicating with others could easily be administered. If this personality profile would effectively predict leaders in high performance conditions that encourage participation and leaders in low performance conditions that encourage significantly less participation, a giant step toward understanding these individual's attributional processes will be taken.

Since the leader disclosure of information hypothesis was not supported, changes should be made concerning this issue. First, observers who do not interact in the task should receive performance information along with leaders which would serve as an additional check on validity of the performance manipulation. The possible biasing effect of ego-involvement in the outcome of the activity would thereby be eliminated. Observers should fill out forms similar to the subordinates' forms that should also contain leader disclosure of information items. Second, the point in the discussion at which the leader disclosed any such information would be an additional clarification

and would be added to leader, subordinate, and observer questionnaires. That is, do leaders in low performance groups reveal information early in the discussion in order to "motivate" subordinates to work harder as compared to leaders in high performance groups? This could be very revealing since leader disclosure of performance information was not significantly different between performance groups. These changes should help determine if any significant differences in leader disclosure of performance information result from attributions concerning prior performance levels.

Another interesting addition would be to contrast the Change of Work Procedure role play with another role play task, perhaps one that emphasized primarily subordinate satisfaction on an issue rather than one in which both subordinates and leader are greatly involved. In this way we could observe the effect of leaders' cognitive styles and high versus low performance levels of leader-subordinate interpersonal communication in different task scenerios.

Summary

The focus of this study has been the process by which we organize and interpret information about others in an interpersonal communication context. An attributional perspective was employed which basically deals with explaining the way in which people account for human actions. Jones and Davis' (1965) perspective that many perceivers utilize a single, sufficient and salient explanation for behavior was considered appropriate to use for examining causal attributions of others in work or social situations.

An often used context in attribution research has been the superior-subordinate relationship in which different status levels

have been designated, and attributions resulting from information provided about an individual's performance on specific tasks have been observed. Much of the effect of such performance information is that it may be self-involving as well as salient to an individua; for instance, designated superiors and/or subordinates are typically evaluated by the quality of their performances, and thus information about the nature of that evaluation would be very self-involving. Once attributions are made from this type of salient information, attitudes and behaviors consistent of these attributions continue to be produced.

Even though designated superior-subordinate roles have been employed in a variety of attribution research, little such research has been conducted within an organizational setting. Many of the past leader-subordinate investigations have involved performance manipulations after interaction, while only a few of the studies reviewed have manipulated information about task performance before interaction to test its effects on the attributional processes and communication behaviors that follow. This study attempted to manipulate performance information prior to interaction and observe the effect of this information on leader-subordinate interpersonal perception and behavior.

Typically, organizational studies of this nature have examined the general dimensions of initiating structure and consideration, but another potentially relevant variable that has been ignored is interpersonal anger. Since attributions resulting from differing levels of performance information significantly affect interpersonal perception and behavior, it should follow that the amount of anger should also significantly vary. Thus, the questions of this study

concerned the effect that task performance information has on leader-subordinate interpersonal communication, future task effectiveness, and levels of interpersonal anger.

Results of the current study indicate that the performance manipulation did have a substantial, but not consistent influence. Significant differences or directional influences supported predictions that in the high performance condition subordinates estimated greater productivity than subordinates in the low performance condition. Subordinates in the low performance condition reported more leader interaction facilitation behavior, while leaders in the low performance condition reported significantly more personal dissatisfaction with the decision than leaders in the high performance condition.

The hypotheses concerning interpersonal perception of other's anger was supported in the predicted direction. That is, in the high performance condition leader reports of their anger at subordinates were not significantly correlated with subordinate reports of this anger, and subordinate reports of their anger at leaders were not significantly correlated with leader reports of this anger. In the low performance condition, leader reports of his/her anger at subordinates were significantly correlated with subordinate reports of this anger, and the subordinate reports of their anger at the leader were significantly correlated with leader reports of this anger. Additionally, in the low performance condition, the leader reports of their true feelings being known were negatively related to the levels of leader and subordinate interpersonal anger. The more anger reported by the leader toward subordinates or subordinates toward the leader,

the more the leaders reported that the subordinates did not know his/her true feelings.

A number of predictions made were not supported by the data and an effort was made to identify a possible confounding variable, namely, the extent to which different levels of subordinate participation affected leader-subordinate interpersonal communication and behavior. In high participation situations, subordinates reported more leader support, more leader goal emphasis, and more leader interaction facilitation than did subordinates who participated less. In low participation situations, subordinates reported more dissatisfaction with the decision and more interpersonal anger than did subordinates who participated more extensively. Low participation leaders reported more dissatisfied subordinates, more work rate information, and more interpersonal anger than leaders who participated more fully.

Obviously, the reported level of subordinate participation had an effect on the majority of interpersonal measures employed in this study, but the question remains--What factor influenced leaders to be supportive of differing levels of subordinate participation? Part of the answer may lie in a cognitive style analysis of leaders in conjunction with examination of the effects of performance manipulations. Even though evidence supporting the predictions was not consistently evident, the effect of performance manipulations is considered to have a substantial effect on leader-subordinate interpersonal communication. Also, the leader-subordinate role perspectives should be examined further because of the obvious differences in interpersonal perception that result from these two viewpoints. The attributional

perspective in an organizational context is beginning to surface, and hopefully this trend will continue in order to more clearly identify the salient, self-involving factors that significantly influence leader-subordinate interpersonal communication.

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APPENDICES

Appendix A

Maier's Change of Work Procedure

General Role Information

Individual Role Information

General Information for All Participants

In a company manufacturing subassemblies for the automobile industry, the assembly work is done by small groups of employees. Several of these groups are under the supervision of a foreman, Jim/Jamie Thompson. In one of these groups, Jack, Steve, and Walt work together assembling fuel pumps.

This operation is divided into three jobs or positions: Position 1, Position 2, and Position 3. Supplies for each position are located next to the bench where the man works. The men work side by side and it is possible for them to help each other out if they wish. Since all the jobs are simple and fairly similar, the three employees exchange positions on the line every now and then. This trading of positions was developed by the men themselves. It creates no financial problem because the crew is paid on a team piece-rate basis. In this way, the three members share the production pay equally.

Role Sheet: Jim/Jamie Thompson, Foreman

You are the foreman in a shop and supervise the work of about twenty people. Most of the jobs are piece-rate jobs; some of the employees work in teams and are paid on a team piece-rate basis. In one of the teams, Jack, Walt, and Steve work together. Each one of them does one of the operations for an hour and then they exchange, so that all men perform each of the operations at different times. The men themselves decided to operate this way and you have never given the matter any thought.

Lately, Tom Clark, the methods man, has been around studying conditions in your shop. He timed Jack, Walt and Steve on each of the operations and came up with the following facts:

Time per Operation (in Minutes)

	Position 1	Position 2	Position 3	Total
Jack/Jackie	3	4	4½	11½
Walt/Wilma	3½	3½	3	10
Steve/Stephanie	5	3½	4½	13
				34½

He observed that with the men rotating, the average time for all three operations is one-third of the total time or eleven and one-half minutes per complete unit. If, however, Jack worked in Position 1, Steve in Position 2, and Walt in Position 3, the time would be nine and one-half minutes, a reduction of over 17 percent. Such a reduction in time would amount to a savings of more than eighty minutes. In other words, the lost production is about the same as that which would occur if the men loafed for eighty minutes in an eight-hour day. If the time were used for productive effort, production would be increased more than 20 percent.

This makes pretty good sense to you, so you have decided to take up the problem with the team members. You think that they should go along with any change that is made.

Role Sheet: Jack/Jackie

You are one of three men on an assembly operation. Walt and Stever are your teammates, and you enjoy working with them. You get paid on a team basis and your wages are entirely satisfactory. Steve isn't quite as fast as Walt and you, but when you feel he is holding things up too much, each of you can help out.

The work is very monotonous. It helps that every hour you all change positions; in this way, you get to do all three operations. You are best on the number 1 position, so when you get in that spot, you turn out some extra work and make the job easier for Steve, who follows you in that position.

You have been on this job for two years and have never run out of work. Apparently your group can make pretty good pay without running out of a job. Lately, however, the company has had some of its experts hanging around. It looks like the company is trying to work out some speedup methods. If they make these jobs any simpler, you won't be able to stand the monotony. Jim/Jamie Thompson, your foreman, is a decent guy and has never criticized your team's work.

Role Sheet: Walt/Wilma

You work with Jack and Steve on a job that requires three separate operations. EAch of you works on each of the operations by rotating positions every hour. This makes the work more interesting and allows you to help a team member by varying your production speed. It's all right to help out because you get paid on a team piece-rate basis. You could actually earn more if Steve were a faster worker, but he is a nice guy, and you would rather have him in the group than someone else who might do a little bit more.

You find all three positions almost equally desirable. They are all simple and purely routine. The monotony doesn't bother you much because you can talk, daydream, and change your pace. By working slow for a while and then fast, you can sort of set a pace to music you hum to yourself. Jack and Steve like the idea of changing jobs and, even though Steve is slow on some positions, the changing around has its good points. You feel you get to a stopping place every time you change positions and this kind of takes the place of a rest pause.

Lakely, some kind of efficiency expert has been hanging around. He stands some distance away with a stopwatch in his hand. The company could get more for its money if it put some of those guys to work. You say to yourself, "I'd like to see one of these guys try and tell me how to do this job. I'd sure give him an earful."

If Jim/Jamie Thompson, your foreman, doesn't get him out of the shop pretty soon, you're going to tell him what you think of his draggin in company spies.

Role Sheet: Steve/Stephanie

You work with Jack and Walt on an assemply job and get paid on a team piece-rate basis. The three of you work very well together and make a pretty good wage. Jack and Walt like to make a little more than you think is necessary, but you go along with them and work as hard as you can to keep the production up where they want it. They are good guys and sometimes help you out if your fall behind, so you feel it is only fair to try and go along with the pace they set.

The three of you exchange positions every hour. In this way, you get to work all positions. You like Position 2 the best because it is easiest. When you get in Position 1, you can't keep up and then you feel Jim/Jamie Thompson, the foreman, watching you. Sometimes Walt and Jack slow down when you are on the number 1 spot, and then the foreman seems satisfied.

Lately the methods man has been hanging around watching the job. You wonder what he is up to. Can't they leave guys alone who are doing all right?

Instructions for Observers

1. Observe the leader's attitude toward change during the discussion.
   a. Was he partial to the new method?
   b. Did he seem mainly interested in increasing production or in improving the job for the crew?
   c. To what extent was he considerate of the objections raised by the crew? How did he react to their opposition?
   d. Did he defend the new method or argue for its acceptance? What effect did this have on progress in the discussion.

2. Make notes on characteristic aspects of the discussion.
   a. Did arguments develop?
   b. Was any crew member unusually stubborn?
   c. Did the crew members have their say?
   d. Did the leader really listen?
   e. What were the main points of differences?

3. Observe evidences of problem-solving behavior.
   a. What was agreed upon, if anything?
   b. In what respects was there a willingness to make concessions?
   c. What did the leader do to help or hinder a mutually acceptable work method?

Appendix B

Leader Questionnaire

Subordinate Questionnaire

Group Comparison Form

Change of Work Procedure Meeting Report
(To be completed by Jim/Jamie Thompson)

Name_____ Group_____

1. Which of the following most closely describes the decision that was reached in your group?

   a. Eliminate rotation between jobs permanently.
   b. Eliminate rotation between jobs on a trial basis.
   c. Modify the rotation system (eg. longer time on best position, only Jack/Jackie and Walt/Wilma rotate, rotate part of the time, etc.)
   d. Maintain present rotation between jobs permanently.

2. At what point in the meeting did you personally make up your mind that the above solution was the best way to go?

   a. From the very first. c. About half way through. e. At the very end.
   b. Near the first. d. Near the end.

3. Who suggested the solution that was finally adopted?

   a. Jack/Jackie c. Steve/Stephanie e. Not sure
   b. Walt/Wilma d. You did

	Very little extent				Very great extent
4. Would you please circle a number between 1 and 5 to indicate the extent to which Jack/Jackie, Walt/Wilma, and Steve/Stephanie appear to be angry <u>at each other</u> during the meeting. (1=to a very little extent; 2=to a little extent; 3=to some extent; 4=to a great extent; 5=to a very great extent)	1	2	3	4	5
5. To what extent did each of your subordinates appear to be angry <u>at you</u>?					
a. Extent of Jack/Jackie's anger	1	2	3	4	5
b. Extent of Walt/Wilma's anger	1	2	3	4	5
c. Extent of Steve/Stephanie's anger	1	2	3	4	5
6. To what extent were <u>you</u> angry at					
a. Jack/Jackie	1	2	3	4	5
b. Walt/Wilma	1	2	3	4	5
c. Steve/Stephanie	1	2	3	4	5
7. To what extent do you think your subordinate knew what your true feelings were?	1	2	3	4	5

8. Was there any discussion of the level of the group's performance compared to other groups? (If no, skip Questions 9 and 10.)

   a. Yes
   b. No

9. Who brought up the subject (group performance relative to other groups)?

   a. You did
   b. One of the workers
   c. Not sure

10. Which of the following most closely describes what you told them about their performance?

    a. 2nd high
    b. Above average
    c. About average
    d. Below average
    e. 2nd low
    f. Relevant comparison is with own, not other, group
    g. Gave them no information
    h. Other (Specify)

11. Which of the following best describes how much information you gave the group about differences in individual performance among group members?

    a. Gave them copies of the data
    b. Showed them all of the data
    c. Told them about both their best and worst positions
    d. Told them only about their best positions
    e. Told them only about their worst positions
    f. Nothing
    g. Other (Specify)

12. What percentage increase or decrease in production do you think will result from the decision that was made? _____% increase, decrease

13. Which group member(s) if any do you think was (were) dissatisfied with the final decision? (Circle all that apply)

    Jack/Jackie Steve/Stephanie Walt/Wilma

14. What do you think the dissatisfied member or members would say is the main reason for feeling this way?

Change of Work Procedure - Worker Reaction Questionnaire

Name_____ Group No._____

Which role did you play (Jack/Jackie, Walt/Wilma, Steve/Stephanie, (Observer)? (Circle one).

Would you please answer the following questions about the way in which Jim/Jamie Thompson (the supervisor) conducted the meeting. (To answer, circle the number between 1 and 5 that most nearly corresponds to your opinion on each of the questions. -1=to a very little extent; 2=to a little extent; 3=to some extent; 4=to a great extent; 5=to a very great extent.)

	Very little extent				Very great extent
1. To what extent was your supervisor friendly and easy to approach?	1	2	3	4	5
2. When you talked to your supervisor, to what extent did he/she pay attention to what you were saying?	1	2	3	4	5
3. To what extent was your supervisor willing to listen to your problems?	1	2	3	4	5
4. To what extent did your supervisor encourage people to give their best effort?	1	2	3	4	5
5. To what extent did your supervisor maintain high standards of performance?	1	2	3	4	5
6. To what extent did your supervisor encourage the persons who work for him/her to work as a team?	1	2	3	4	5
7. To what extent did your supervisor encourage people who work for him/her to exchange opinions and ideas?	1	2	3	4	5
8. To what extent did your supervisor do each of the following before a final decision was made?					
a. Provide members of your work group with information about the decision?	1	2	3	4	5
b. Ask for opinions and ideas from members of your work group?	1	2	3	4	5
c. Present the problem to be solved and work with the group to find a solution?	1	2	3	4	5

	Very little extent				Very great extent
9. To what extent were <u>you</u> angry at each of the following? (Omit yourself)					
a. Jim/Jamie Thompson	1	2	3	4	5
b. Jack/Jackie	1	2	3	4	5
c. Walt/Wilma	1	2	3	4	5
d. Steve/Stephanie	1	2	3	4	5
10. To what extent was each of the following angry <u>at you</u>? (Omit yourself)					
a. Jim/Jamie Thompson	1	2	3	4	5
b. Jack/Jackie	1	2	3	4	5
c. Walt/Wilma	1	2	3	4	5
d. Steve/Stephanie	1	2	3	4	5

11. Who suggested the solution that was finally adopted?

a. Jack/Jackie
b. Walt/Wilma
c. Steve/Stephanie
d. Jim/Jamie
e. Not sure

12. At what point in the meeting do you think Jim/Jamie (the supervisor) made up his/her mind that the solution that was eventually adopted was the best way to go?

a. From the very first
b. Near the first
c. About half way through
d. Near the end
e. At the very end

13. What did Jim/Jamie say about your group's performance compared to other similar groups?

a. Near the top
b. Above average
c. About average
d. Below average
e. Near the bottom
f. Nothing
g. Other (Specify)

14. What percentage increase or decrease in production do you think would result from the decision that was made?_____% increase, decrease (Circle one)

15. What was there about the <u>way</u> Jim/Jamie handled the meeting that you thought helped the group reach a good decision?

16. What was there about the <u>way</u> Jim/Jamie handled the meeting that hindered the group in reaching a good decision?

Organization/Class_____

Date_____

GROUP COMPARISON FORM
(Change of Work Procedure)

Group No.	Performance High	Performance Low	(Item #1) %Increase/Decrease Consensus	Dissatisfaction Workers (Item #2a) Jack/Jackie	Walt/Wilma	Steve/Stephanie	(Item #2b) Foreman Jim/Jamie	(Item #3) Problem Employee
1.								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

Appendix C

Descriptive and Reliability Statistics for Summed Item Dependent Measures in Pilot Study

Minimum, Median, and Maximum Scores And Coefficient Alphas

for Subordinate and Leader Summed Item Measures

in Pilot Study

Measure	Minimum	Median	Maximum	Coefficient Alpha
Support	2.330	4.50	5.00	.972
Goal Emphasis	2.50	3.837	5.00	.929
Interaction Facilitation	1.750	3.70	5.00	.893
Participation	2.250	4.115	4.890	.943
Sub. Interp. Anger	1.00	1.503	3.500	.964
Ldr. Interp. Anger	1.00	1.397	4.670	.903

Appendix D

Interrelationship of Leader and Averaged Subordinate Interval Measures Across Performance Conditions

The Interrelationship of Leader and Averaged Subordinate Interval Measures across Performance Conditions
(N=60)

	Support	Goal E.	Inter. Fac.	Partic.	Sub Anger	Ldr. Anger	Make Up Mind	Fut Prod.	Make Up Mind	True Feel.	Fut. Prod.
Support	(.961)***										
Goal Emphasis	.37	(.911)***									
Interaction Facilitation	.67*	.61*	(.887)***								
Participation	.73*	.44*	.72*	(.932)***							
Sub. Anger	-.62*	-.33*	-.45*	-.48*	(.959)***						
Leader Anger	-.59*	-.21	-.46*	-.56*	.34*	(.910)***					
Sub. Report of Leader Making Up Mind	.13	-.17	.03	.04	-.12	-.18	---				
Sub. Est. of Future Prod.	.37*	.32*	.39**	.30*	-.50*	-.26**	-.08	---			
Leader Report of Making Up Mind	-.24**	0.26**	-.17	-.24**	.14	-.26**	.34*	0.22**	---		
Leader Report of True Feelings	.34*	.16	.28**	.42*	-.20	0.31*	.07	-.05	.05	---	
Leader Report of Future Prod.	.32*	.02	.15	.25**	-.29**	-.39*	.15	.40*	-.17	.003	---

*p $<$.01
**p $<$.05
***Cronbach alpha for summed item measures - this statistic is not appropriate for the remaining single item measures.