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COMMUNICATIVE COMPETENCE AND
THE PREDISPOSITION TO COMMUNICATE
AS DETERMINATNS OF
COORIENTATIONAL ACCURACY AND AGREEMENT
IN SUPERVISOR/SUBORDINATE DYADS

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COMMUNICATIVE COMPETENCE
AND
THE PREDISPOSITION TO COMMUNICATE
AS DETERMINANTS OF
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IN SUPERVISOR/SUBORDINATE DYADS

By

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ABSTRACT

COMMUNICATIVE COMPETENCE AND THE PREDISPOSITION TO COMMUNICATE AS DETERMINANTS OF COORIENTATIONAL ACCURACY AND AGREEMENT IN SUPERVISOR/SUBORDINATE DYADS

By

Susan Germaine Bachman

This research examined the communication behaviors of supervisors and subordinates in a manufacturing firm. Outcomes of their communication exchanges were evaluated in terms of the degree of coorientational accuracy and agreement about the communication rules that govern their behaviors.

It was predicted that accuracy and agreement would be a function of the communicative competence and the predisposition to communicate of both supervisor and subordinate.

Data were obtained from a large mid-western manufacturing firm. One hundred and seven supervisor/subordinate dyads were surveyed. These data related to the employees' background, their perceptions of their dyadic communication, and predictions of their partner's perceptions of their communication.

Using regression analysis and re-estimation procedures, the supervisor's communicative competence was found to be the strongest predictor of accuracy and agreement. When a supervisor is communicatively competent it can significantly impact how accurate the supervisor's predictions are about the subordinate's attitudes, how accurate the subordinate's predictions are about the supervisor's attitudes, and how much the two

of them agree on communication rules. Subordinates' communicative competence was also a significant predictor of the subordinates' accuracy in predicting the attitudes of the supervisor.

Other predicted relationships were not supported. Potential factors which could have impacted the results are discussed. Suggestions are made for future research in the area of supervisor/subordinate relationships.

To

Connie and Barbra

to whom I owe so much.

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CHAPTER I

THEORETICAL CONTEXT AND HYPOTHESES

Introduction

Communication processes in organizations have received considerable attention by social scientists for the latter part of the 20th century (Jablin, 1979). Much of this attention has been directed at supervisor/subordinate relationships because they are a structural characteristic of all formal organizations. Farace, Monge, and Russell (1977) call supervisor/subordinate dyads the "fundamental units" of the organization because they allow the organization to coordinate both its people and its resources. They serve as the linking structure of the hierarchy through which information is transferred.

The linking and coordinating functions of supervisor/subordinate dyads are not only of scientific interest but of practical importance to organizations as well. Both functions are accomplished through communication and are dependent upon two factors. The first is the accuracy with which information is transmitted and received, as evidenced by the degree of understanding between people. The second is agreement which is the degree of similarity of attitudes between two people. Accuracy is obviously an essential aspect in the exchange of organizational information. Likewise there must be agreement among

organizational members to establish organizational policies, procedures, and operations.

Accuracy and agreement have also been found to be important elements in understanding several aspects of organizational behavior. These concepts have been studied in terms of their impact on role ambiguity and stress (Hunt and Lichtman, 1970; Greene, 1972), organizational climate (Kahn, Wolfe, Quinn, Snoch, and Rosenthal, 1964; Organ, 1974; Schneider, Parkington, and Buxton, 1980), and job performance (Schuler, 1979; Wexley, Alexander, Greenawalt, and Couch, 1980). However, little formal research has been conducted to identify the antecedent conditions necessary for accuracy and agreement to occur.

The purpose of this study is, therefore, to identify possible determinants of accuracy and agreement in supervisor/subordinate dyads. Two communication variables were examined as determinants. One was the general propensity of an individual to communicate. The other was the general skill or competence of an individual at communicating.

The balance of this chapter is divided into three major sections. The first looks at how role prescriptions of supervisors and subordinates influence the way in which they communicate, and the potential impact that role behavior can have on accuracy and agreement. Next, a framework and a model for the study of accuracy and agreement are presented. The last section is devoted to investigating the relationship of the two predicted determinants to accuracy and agreement in supervisor/subordinate dyads.

The Effects of Role Behavior on Supervisor/Subordinate Communication

Role behavior is defined by Katz and Kahn (1978) as "the recurring actions of an individual, appropriately interrelated with the repetitive activities of others, so as to yield a predictable outcome" (p. 189). In other words, roles are expected patterns of behavior that are associated with particular organizational positions.

Role behavior affects the way in which supervisors and subordinates communicate with each other. Katz and Kahn (1978) describe five categories of supervisor communication (from the supervisor to the subordinate): (a) job instruction, specific task directives, (b) job rationale, information designed to produce understanding of the task and its relationship to other organizational tasks, (c) information about organizational procedures and practices, (d) feedback on performance, and (e) indoctrination to the organization's goals. Different types of information are communicated by subordinates to their supervisors. Katz and Kahn describe upward communication as one of four types: (a) information about themselves, their performance, and their problems, (b) information about their coworkers and their problems, (c) information about organizational practices and policies, and (d) information about organizational problems and how to solve them.

Because role behavior impacts communication processes, it necessarily will also impact the extent to which accuracy and agreement exist between dyadic partners. McLeod and Chaffee (1973) point out that prior experience, differing purposes, and differing roles affect how people perceive their situations. Therefore, it should not be

expected that perfect accuracy or agreement would ever exist between supervisors and their subordinates (Chaffee and McLeod, 1973).

Even though perfect accuracy and agreement may not be possible, distortion, inaccuracy, and disagreement have been identified as areas of potential organizational problems. According to Roberts and O'Reilly (1974) accuracy of communication is critical to organizational effectiveness:

> The extent to which accurate information is passed during supervisor/subordinate interactions has implications not only for the attitude and satisfaction of the sender and receiver, but also for organizational decision-making, performance, etc. (p. 205).

Boyd and Jensen (1972) link effective communication with managerial success:

> The degree of effective communication within a corporate organization often has been tied to the degree of managerial success of the organization. There appears to be a direct relationship between these two phenomena, i.e., the better the communication between levels of management, the greater the success of the organization in managing its resources - both human and physical (p. 331).

Furthermore, Schuler (1979) argues that when communication is ambiguous, organizational members cannot fulfill their role requirements and the communication in which they engage becomes dysfunctional.

Obviously, the need for effective communication in organizations is widely accepted. However, recent research would indicate that both inaccuracy and disagreement are quite prevalent in organizational settings (Jablin, 1979). For example, in a study of 1000 manufacturing firms, Boyd and Jensen (1972) found significant disagreement between first-line supervisors and their subordinates about the limits of the subordinates' authority. They conclude that either the supervisors do

not communicate the boundaries of authority effectively, or the subordinates do not seek clarification from the supervisors when directives are vague. Smircich and Chesser (1981) reported significant differences between the supervisor's and the subordinate's perception of the subordinate's job performance. "Such differences signal ineffective or incomplete communication" (p. 198), the authors conclude.

In a study concerned with accuracy of perceptions about communication behaviors, Webber (1979) found that supervisors and subordinates differed significantly in their perceptions about the amount of communication between them. He found that those who initiated conversations, whether supervisors or subordinates, perceived more interactions than their receivers. Those who received less communication tended to exaggerate the time spent communicating, and those who received more communications underestimated their communication time. He concludes that supervisors and their subordinates suffer from "gross misperceptions and misunderstandings" about their communication. Finally, in a study which focused on the specific issues of communication accuracy and agreement between supervisors and subordinates, Russell (1972) found 30% of the supervisors and subordinates in an extension agency to be inaccurate in their perceptions about the communication rules governing their interactions.

In each of the above studies the researchers concluded that a lack of effective communication contributed to the misperceptions that were found. Such conclusions emphasize the need to understand the communication processes that lead to accuracy and agreement among

organizational members. This study will, therefore, attempt to fill this lacuna: to identify the determinants of accuracy and agreement in supervisor/subordinate dyads.

In order to accomplish this objective a theoretical framework and working model were needed. The next section describes the model which was selected for this project.

The Coorientation Model

In this section the historical context of coorientation theory is reviewed followed by an explication of the coorientation model which was used in this study. Discussion of the model includes further descriptions of accuracy, agreement, and the object of orientation.

In the 1950s and 1960s a group of theories emerged which have been collectively labelled cognitive consistency theories. The most influential of these were Heider's (1946) balance theory, Newcomb's (1953) coorientation theory, Osgood and Tannenbaum's (1954) congruity theory, and Festinger's (1957) dissonance theory. These theories have in common two assumptions: first, that people strive to be in a state of cognitive balance, or consistency, with regard to their attitudes, feelings, and beliefs. The second assumption is that an imbalance in these cognitions creates sufficient stress that persons will strive to restore balance, often by changing their attitudes.

One of the cognitive consistency theories, coorientation theory, focused in particular on the role of communication in achieving cognitive balance. Newcomb (1953) introduced the concept of coorientation which he defined as the simultaneous orientation of

Person A towards Person B and towards Object X. This AtoBreX system is presented graphically in Figure 1.

The theory predicts that people will strive to be in a "preferred state of equilibrium". This force is called the strain toward symmetry and is a function of both the strength of A's attraction to B, and A's attitude towards X. The major postulate of his theory is:

> The stronger the forces toward A's coorientation in respect to B and X, (a) the greater A's strain toward symmetry with B in respect to X; and (b) the greater the likelihood of increased symmetry as a consequence of one or more communication acts" (p. 396).

Newcomb's symmetry is similar to what has been defined as agreement in this study.

A model of coorientation was later introduced by Chaffee and McLeod (1968) and Chaffee, McLeod, and Guerrero (1969, as cited in McLeod and Chaffee, 1973). This model, although not a theory of coorientation, does provide additional perceptual comparisons. Newcomb's AtoBreX system addressed only one person's "attraction" toward another person. The coorientation model, however, adds the prediction of the other person's point of view. As Figure 2 illustrates, this expansion provides for three comparisons to be made in the perceptions of Person A and of Person B: accuracy, agreement, and congruence. Agreement is the degree of similarity between the attitudes of the two people toward Object X. For example, if Mary supports the passage of the Equal Rights Amendment (ERA) and so does her friend John, then they are in agreement about the passage of the ERA. Accuracy is the degree of similarity between one person's prediction about another's attitude or behavior and the other person's actual attitude or behavior. For example, if Mary predicts that John supports the passage of the ERA and

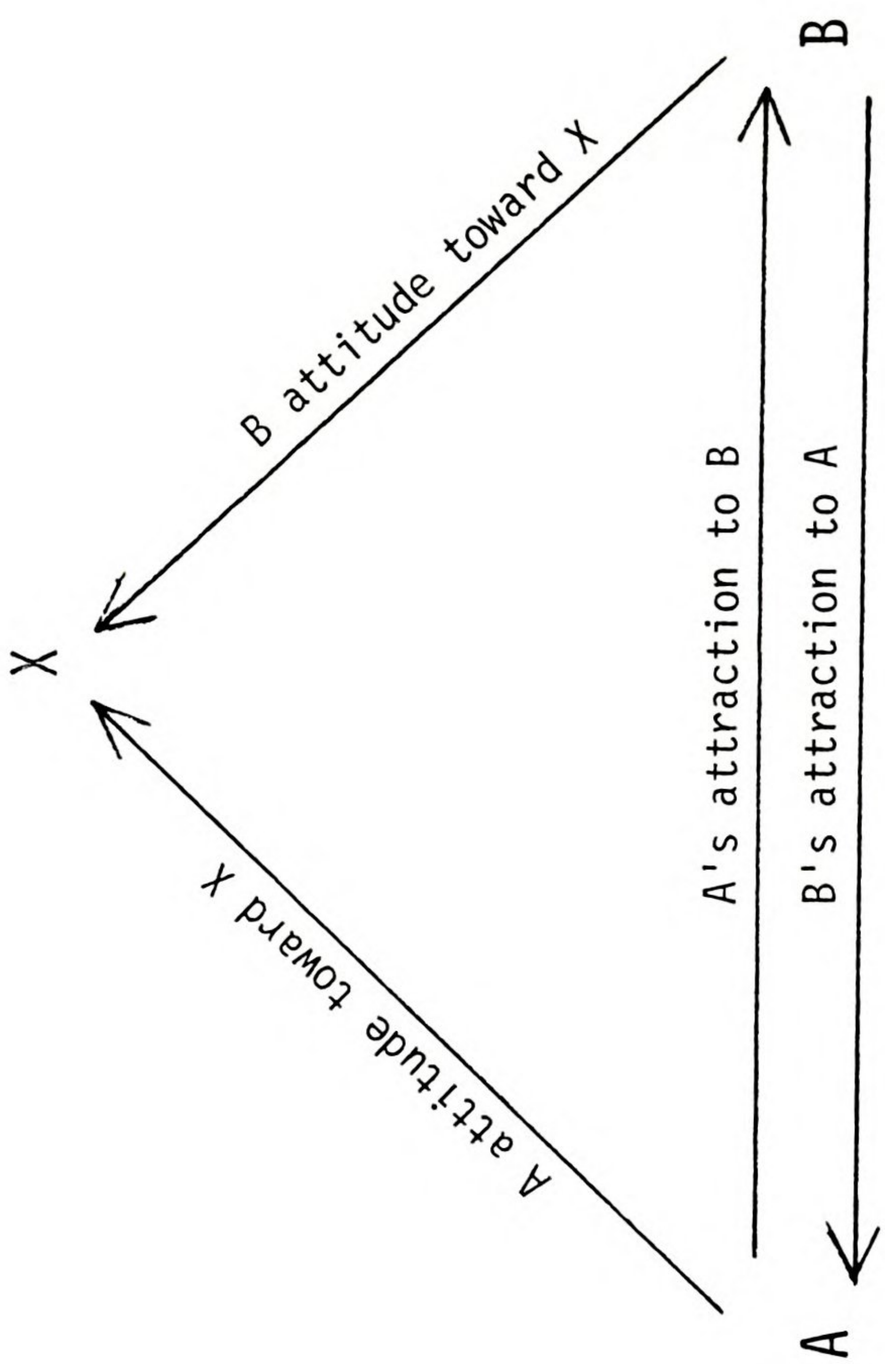

Figure 1. Newcomb's AtoBreX system

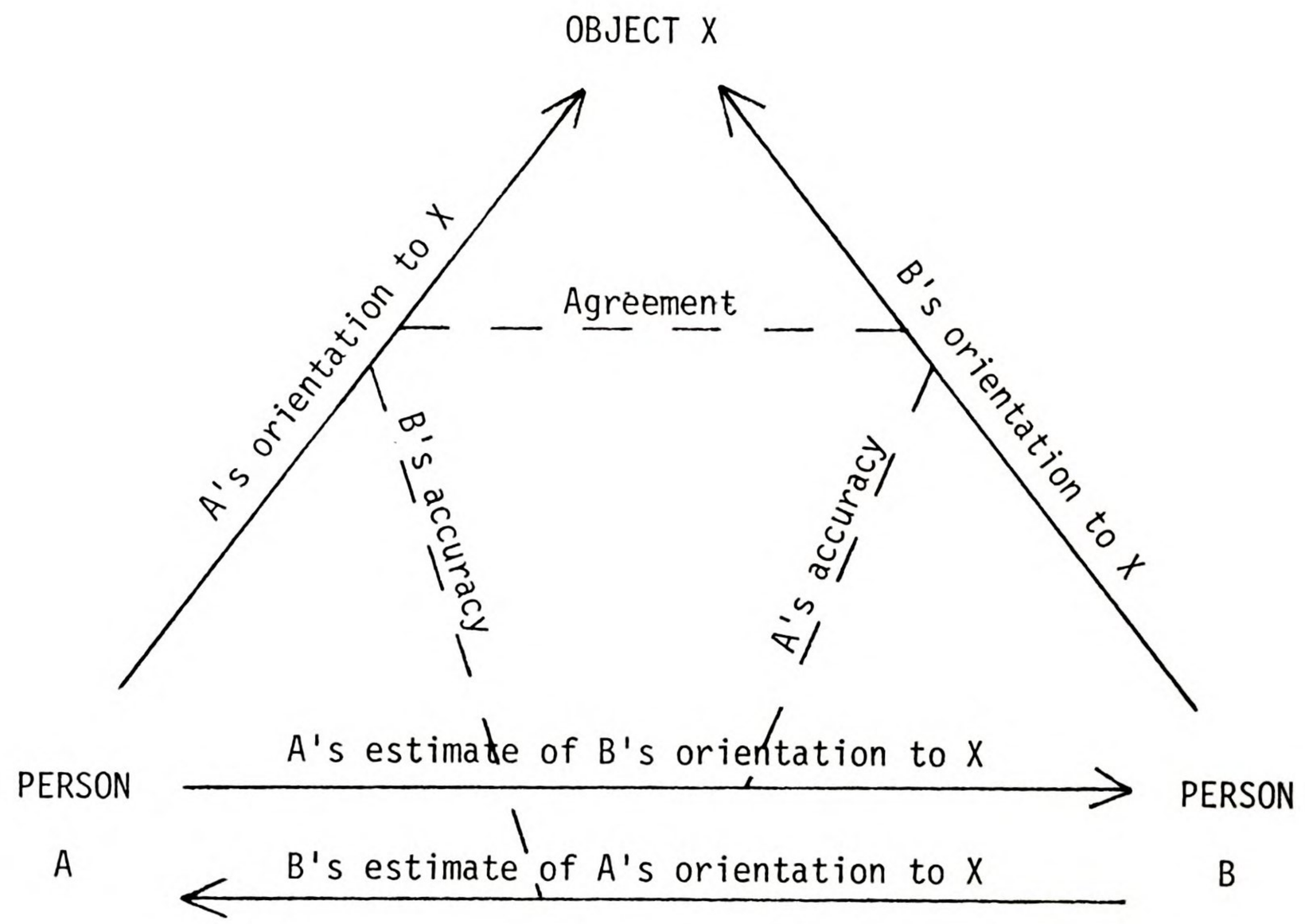

Figure 2. The coorientation model

John does indeed favor its passage, then Mary demonstrates an accurate perception of John's attitude. Congruence is perceived agreement, or the similarity between A's orientation toward X and A's perception of B's orientation toward X. The same situation holds for Person B only with regard to B's orientation toward X and B's perception of A's orientation toward X. Since the focus of this study is on dyadic interactions, congruence was not adopted as one of the outcomes of supervisor/subordinate relationships.

Accuracy

The importance of accuracy in organizations in commonly accepted. For example, Roberts and O'Reilly (1974) state:

> The extent to which accurate information is passed during supervisor/subordinate interactions has implications not only for the attitude and satisfaction of sender and receiver, but also for organizational decision-making, performance, etc.

Schein (1965) also addresses the issue:

> ...every manager makes assumptions about people. Whether he is aware of these assumptions or not, they operate as a theory in terms of how he decides to deal with his superiors, peers, and subordinates. His effectiveness as a manager will depend upon the degree to which his assumptions fit empirical reality. (emphasis by the author)

Wexley et al. (1980) cited several studies which demonstrate that subordinates who were more accurate in their perceptions (more "perceptually aware") of their supervisor's work-related attitudes received higher job performance evaluations, and were more satisfied with their jobs and their supervisors. From their own research, Wexley et al. (1980) conclude that accuracy is related to feelings of interpersonal satisfaction.

Agreement

The extent to which agreement between supervisors and subordinates affects their relationship has been of interest to several researchers in recent years. Using the vertical linkage model (based on the strength of the link between the supervisor and the subordinate) Graen and Schiemann (1978) found that agreement between supervisors and subordinates about job problems varies as a positive function of the quality of their dyadic exchanges. They define quality as a continuum of relationships ranging from a partnership, characterized by trust, liking, and reciprocal influence, to overseer, characterized by downward influence, and role-confined behaviors. They conclude that only higher quality relationships (those that are more characteristic of the partnership type) are positively related to both agreement and to the amount of accurate information that is exchanged.

In the area of role ambiguity, Baird and Diebolt (1976) found that when supervisors and subordinates were in agreement on the subordinate's job requirements there was greater job satisfaction for the subordinate. Their findings are consistent with Kahn et al. (1964) who found that role ambiguity was correlated with low job satisfaction and low confidence in the organization.

In the area of job performance Wexley et al.(1980) found that agreement (their "perceptual congruence") between supervisors and subordinates leads to higher performance evaluations of the subordinate and greater job satisfaction for the subordinate.

In order to apply the coorientation model to the study of supervisor/subordinate communication it was necessary to define an object of orientation. Although there were several options from which

to choose, it was decided to focus on the communication process itself. The next section looks at this in more detail.

The Object of Coorientation: Communication Rules

"All organizations inevitably will develop a set of norms and rules about who will have responsibility for various activities, who will report to whom, who will coordinate and control other's performance, and so on" (Russell, 1972b, p. 10). Organizational members enact these rules by communicating, a process which is also governed by rules. Communication rules deal specifically with how people interact and what they talk about. Cushman and Whiting (1972) distinguish between these two functions by identifying procedural rules, those which govern the ways people interact, and content rules, the subject matter of the communication. Procedural rules influence such activities as how frequently supervisors and subordinates communicate, and who initiates or ends meetings. Content rules on the other hand, regulate such things as the appropriateness of discussing personal matters with one's supervisor or subordinate. Because communication rules regulate most interactions among people (Cushman and Whiting, 1972), they should be particularly evident to supervisors and subordinates who typically communicate on a regular and frequent basis.

Some communication rules are formally sanctioned by the organization as written policies and procedures, but there are many others which develop out of the interactions of the individuals as they perform their jobs. These less formal rules are often thought of as "learning the ropes" about what are acceptable communication behaviors within particular role expectations. Both types of rules should be

salient to organizational members. Communication rules have been used as the object of orientation (Russell, 1972a) which lends support to the plausibility of their use in this study.

Furthermore, accuracy and agreement about communication rules has practical importance to organizations because they can be the source of serious problems. For example, if a supervisor expects the subordinate to report potential problems and the subordinate is waiting for the supervisor to ask, the relationship is likely to be quite dysfunctional. Given this context, it is proposed that procedural and content aspects of communication are relevant and appropriate foci for supervisor/subordinate orientation.

Determinants of Communication Accuracy and Agreement

In this section two communication variables will be examined as predictors of accuracy and agreement in supervisor/subordinate dyads. These variables are the predisposition to communicate and communicative competence. Definitions are offered and the relevant literature reviewed.

Predisposition to Communicate

People who like to engage in conversations frequently and actively participate in maintaining those conversations can be described as predisposed to communicate. They like to talk and do so frequently.

Much of the earlier research on the predisposition to communicate or talkativeness looked at its effect on small group behavior. Talkativeness was generally thought of as a personality variable which

was found to have a strong influence on the perceptions of other individual characteristics. For example, Norfleet (1948) reported that the more a person participated in group discussions, the more productive he/she was perceived to be by others. French (1950) found that the amount of talkativeness was positively related to perceptions of leadership. Talkative people are also seen as more likeable (Bales, 1956; Bavelas, Hastorf, Gross and Kite, 1965), and more socially adept (Phillips, 1965; 1968). Riecken (1958) reported talkative people were more successful at having their ideas adopted in group situations. More recently, Daly, McCroskey, and Falcione (1976) found that subordinates did not like supervisors who were apprehensive about communicating. These studies indicate the potential impact that being predisposed to communicate can have on the perceptions of others.

A basic premise in the prediction of accuracy and agreement is that the more often people talk, the more opportunity they will have to reach perceptual accuracy and agreement about various communication rules. Chaffee and McLeod (1968) state:

> The more two people coorient by communicating their values to one another, the more accurate their perceptions of one another's values should become (p. 663).

In Newcomb's (1961) oft-cited dormitory studies, it was observed that higher frequencies of communication resulted in greater accuracy (Newcomb used the term understanding). Other investigators (Pavitt and Cappella, 1979; Powell and O'Neil, 1976; Wackman, 1973) reported similar findings. Stamm and Pearce (1974) found that when people realized they were inaccurate in their perceptions, they increased their communication in order to reduce the inaccuracy. These findings suggest that the more the supervisor and the subordinate realize their

differences, the more they will communicate in hope of increasing their level of accuracy.

Focusing on the frequency of communication, Baird and Diebolt (1976) found that frequency of communication was positively correlated to job satisfaction, satisfaction with supervisor, and satisfaction with the organization. These findings are consistent with others who have found that satisfaction is positively related to frequency of communication in small groups (Cohen, 1961; Bavelas, Hastorf, Gross and Kite, 1965).

In summary, people who are predisposed to communicate will likely be perceived as leaders, productive, and well-liked. As supervisors, these people will probably have a positive effect on their subordinates' job satisfaction and satisfaction with their supervisor. Furthermore, the more the supervisor and subordinate communicate the more opportunity they will have to reach agreement and predictive accuracy.

Communicative Competence

The other predictor variable was communicative competence. Communicative competence is the ability of an individual to speak effectively and to listen attentively.

Although small group research laid the groundwork for looking at predisposition to communicate as an organizational communication variable, much less is available about communicative competence in the workplace. At best, there have been studies which have asked if a particular person was an "effective" or a "good" communicator. Even using such limited approaches, several researchers have found that

communicative competence is an important factor in formal organizations (Level and Johnson, 1978; Ponder, 1959; Webber, 1970; White, 1972).

Far more research on competence has been done in the area of social psychology where the emphasis was on identifying those behaviors which would be important in developing interpersonal and social relationships. In the 1960s and 1970s several definitions were developed. Most of them stressed a common theme: competent people are those who are successful at achieving their goals by controlling the situation or affecting the behavior of others (Parks, 1977). For example, Weinstein (1969) stated that competent behavior was the ability to manipulate the responses of others, and White (1959) called it the ability to produce the intended effect. Bochner and Kelly (1974), on the other hand, took an interaction approach to competent behavior by defining it as not only the ability to formulate and achieve objectives, but the ability to be behaviorally flexible in terms of collaborating effectively with others and adapting appropriately to the situation. In contrast to the control approaches, Argyris (1965) presented an empathetic definition by identifying the following characteristics of an interpersonally competent individual: being open, concerned for others, trusting, owning up to one's behavior, and willing to take risks.

Attempts at defining communicative competence bear close resemblance to the social and interpersonal definitions of competence. For example, Feingold's (1976) model is a set of five behaviors which are characteristic of an effective communicator: saying the right thing at the right time, being easy to talk to, adapting one's communication to others, being aware of the effects of one's

communication on others, and revealing something about one's feelings. Wiemann's (1977) model of communicative competence identified similar behaviors: behavioral flexibility, empathy, affiliation/support, social relaxation, and interaction management.

An exception to the interpersonal and social approach to competence is the work of Cushman and Craig (1976). They conceptualized competence in terms of specific communication behaviors. They are: (a) listening, the ability to recognize different types of statements and the respective self-object relationships which they designate; (b) cueing, the ability to translate our own relationship to objects into the vocabularies of others; and (c) negotiating, the ability to recognize positions of others, cue others to our position and develop appropriate strategies for reconciling differences in our expectations toward situations.

For the work environment, Farace, Taylor, and Stewart (1978) defined communicative competence as:

> ...a collection of specific skills dealing with an individual's ability to encode and decode, seek information and otherwise engage in communication activities within an organization.... At an operational level competence involves writing skills, speaking skills, listening skills, information acquisition skills, the ability to organize information, etc. (p. 13).

In line with this reasoning, Monge, Bachman, Dillard, and Eisenberg (1981) developed a measure of communicative competence for the work environment which focuses on the encoding (writing and speaking) and the decoding (listening) skills of the communicator. It is this scale that was used in the project.

It is predicted that communicative competence will be causally related to the levels of accuracy and agreement in

supervisor/subordinate relationships. Although there have been no direct empirical tests of this relationship, there are several related studies which lend support. Wexley et al. (1980) for example, conclude that accuracy of perceptions "is a function of the sensitivity of the receiver and the consistency and openness of the sender, all of which contribute to interpersonal satisfaction." This sending and receiving of messages is similar to the concepts of encoding and decoding of Cushman and Craig (1976), and Farace et al. (1978). In addition, Wexley et al. (1980) argue that agreement (their "mutual congruence") can be considered a form (or outcome) of accurate communication which is dependent upon the skills of the sender and receiver as described above.

Level and Johnson (1978) suggest that one factor in reducing distortion of upward communication (from the subordinate to the supervisor) is to increase the accuracy with which supervisors transmit information downward to their subordinates. This implies that the supervisor needs to be a competent communicator in order to be an effective manager. Likewise, Ponder (1959), Heizer (1972), Sank (1974), and White (1972) have found that supervisors are more effective if they are good communicators.

Based on a review of the research on leadership behavior (specifically the Ohio State University studies, [Fleishman, 1957; Fleishman, Harris and Burtt, 1957; Halpin, 1957] on "initiating structure" and "consideration"), Jablin (1979) proposes that good communicators can be more autocratic and demanding than poor communicators and still be effective leaders.

The above research suggests that the more competent a person is at communicating, the greater the likelihood of achieving both their own and the organization's goals because of increased accuracy and agreement.

Hypotheses

The previous discussion forms the basis for the following hypotheses. It is predicted that both the predisposition to communicate and communicative competence are causally related to accuracy and agreement in supervisor/subordinate relationships. Specifically the following hypothesis is made:

H_1: For both supervisors and subordinates, accuracy and agreement about communication rules will be positively related to the communicative commpetence and predisposition to communicate of one another.

If both communication variables are expected to increase the levels of accuracy and agreement in supervisor/subordinate dyads, then it would be expected that an even stronger relationship would be found with accuracy and agreement if an individual possessed both characteristics. This reasoning provides the basis for the second hypothesis in this study.

H_2: For both supervisors and subordinates, accuracy and agreement about communication rules will be greater when either of the actors are both communicatively competent and predisposed to communicate.

CHAPTER II

RESEARCH METHODOLOGY

Sample

The data described were collected in conjunction with a larger study (Monge, Bachman, Dillard, Eisenberg, in preparation). The sample consisted of 220 personnel from the production department of a large midwestern manufacturing plant. This sample was the entire salaried staff of the department from all three shifts of the 24-hour work cycle. From the 220 persons surveyed, 198 supervisor-subordinate dyads were formed, 107 were used for this study.[1] All the supervisors in the study had at least two and some as many as seven subordinates.

Data Collection

The data were collected over a three day period during March 1980. In order to pair the responses of supervisors and subordinates while maintaining their anonymity, the participants selected a random number from a box of numbers as they entered the data collection room. Each

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[1]The coorientation section of the questionnaire contained four misworded items. In the section of the questionnaire where supervisors predicted subordinates' behavior, questions 11, 12, and 17 contained the word supervisor instead of the word subordinate. In the section where subordinates predicted supervisors' behavior, question 17 contained the word subordinate instead of the word supervisor. This created a loss of 91 cases from the sample.

person recorded both their number and their dyadic partner's number on their own questionnaire and then moved to different areas of the room to complete the questionnaire. The completed questionnaire could then be matched by matching the numbers. Since entire units could not be removed from the work areas for surveying at one time, supervisors with more than one subordinate were usually required to return a second or third time to the data collection room.

Variables

The dependent variables for this study are measures of similarity of orientation towards procedural communication rules. These measures are the level of agreement between supervisors and their subordinates, the supervisor's accuracy in predicting his or her subordinate's attitude or views, and the subordinate's accuracy in predicting his or her supervisor's attitude or views.

The independent variables are the individual's self-report of his or her own predisposition to communicate, the supervisor's perception of the subordinate's communicative competence, and the subordinate's perception of the supervisor's communicative competence.

Operationalization of Variables

Coorientation

The coorientation items were adapted from the set of procedural communication rules presented in Farace, Monge, and Russell (1977). The authors describe a set of procedural rules which were likely to

govern the interaction behaviors of supervisors and their subordinates. The nine communication rules selected were:

1. Who initiates meetings.
2. Who ends discussions.
3. Who changes the topic of conversation.
4. When meetings are interrupted, for whom are they looking.
5. Who decides what topics will be discussed.
6. Who dominates the conversation in terms of amount of talk.
7. Are personal matters discussed and how often.
8. Are new ideas discussed and how often.
9. Are work related matters discussed and how often.

The nine rules were the basis for the coorientation items used in this study.

Description and prediction. The first nine items were descriptive questions asking the respondent to provide his/her view of the situation. There was one question about each of the nine rules listed above. The second set of coorientation items were prediction questions, requiring the respondent to predict how his/her supervisor or subordinate would respond to the question posed. Again, there was one question about each of the nine rules listed above. The two sets of questions differed in only one respect. In the second group of questions the phrase "would he or she say" was included to solicit the prediction of the partner's response. An example of the differences between the first nine items and the last nine items follows. One of the questions from the first set read "What percentage of the meetings that you have had with your supervisor (subordinate) have you initiated?" In the second set the same question read "What percentage

of the meetings that you have had with your supervisor (subordinate) would he or she say that you have initiated?"

Focus of orientation. The next concern in constructing the questionnaire was to avoid a response set bias toward one object of orientation. A balance was created between an orientation of self, other, and object by wording three of the nine items in each set to correspond with each of the three foci. The first three items were focused on the respondent's own behavior (see the example in the previous paragraph). The next three items focused on the partner's behavior. For example, "What percentage of the time did your supervisor (subordinate) decide what topics would be discussed?" The last three questions were oriented toward the object. They asked for views on the interaction between the supervisor and subordinate rather than on either of their individual behaviors.

The questionnaire is provided in Appendix A.[2] The actual calculation of accuracy and agreement is presented later.

Predisposition to Communicate

The predisposition to communicate was measured by adopting three items from the Predisposition toward Verbal Behavior (PVB) instrument (Mortensen and Arntson, 1974; Mortensen, Arntson, and Lustig, 1977). This instrument was selected because it has been shown to have a high correspondence between self-reports of verbal behavior and reports of

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[2]The questionnaire that appears in Appendix A is for a person who is responding as a supervisor. The subordinate questionnaire had exactly the same format except that the word supervisor was used instead of subordinate in each of the items.

actual behavior. They found a significant main effect for each of the variables measured: duration, number of words perceived, understanding, and perceived participation. It also has the advantage of being a self-report measure, thereby avoiding the effects of liking or disliking the person being evaluated. As Hayes and Meltzer (1972) point out, people tend to underestimate the amount of vocalization from people they like and exaggerate the amount for those they dislike.

Mortensen and Arntson (1974) reported a Hoyt Reliability Coefficient of .90 for the PVB instrument and a test-retest Pearson correlation coefficient of .91. In the study by Mortensen et al. (1977), the Hoyt Reliability Coefficient was .89 and the test-retest Pearson correlation coefficient was .91. Five factors emerged when a principal component factor analysis with varimax rotation was done. The factors and the amount of explained variance (in parentheses) are as follows: dominating communication situation (15.3%), initiating and maintaining communication (13.5%), amount of communication (9.6%), general disinclination to communicate (9.4%), and perceived fluency or speech anxiety (8.5%). The five factors accounted for 56.2% of the total variance.

The PVB instrument consists of 25 Likert-type questions. Since the predisposition to communicate focuses on the frequency of engaging in conversations with others and actively maintaining those conversations, only three items were selected from the scale. These items all came from the second strongest factor, initiating and maintaining communication. Each of the three items selected had the highest factor loadings on this factor, ranging from .59 to .75, with

less than .25 loadings on all other factors. The questionnaire that was used in the study appears in Appendix B.

Communicative Competence

Most measures of communicative competence are intended for social and interpersonal situations. One scale, developed by Monge, Bachman, Dillard, and Eisenberg (1981), was designed specifically for the work environment. It is this scale that was used in the study.

Monge et al. (1981) tested the scale by using a confirmatory factor analysis procedure with the statistical program LISREL IV (Joreskog and Sorbom, 1977). The hypothesized, highly correlated, two factor structure of encoding and decoding was confirmed according to the criteria for determining best-fitting models (Wheaton, Muthen, Alwin and Summers, 1977). Internal consistency measures produced Cronbach alphas of .87 for encoding and .85 for decoding for one group in the study, and .85 and .81 for the other group. Considering that encoding factor consisted of five items and the decoding factor was seven items, these reliabilities are good.

Since the present study was interested in the overall communicative ability of the participants, the scale was used as one factor. This is an acceptable procedure because of the high intercorrelations between the factors ($r = .77$ and $r = .51$).

Computation of Accuracy and Agreement

In this section the procedures for computing accuracy and agreement are described. The procedure used for calculating these

scores was the difference score method developed by Cronbach and Glesser (1953). The difference score, D, is the square root of the sum of squared difference scores. This method has been used by others who have been interested in perceptual comparisons in organizational settings (Parkington and Schneider, 1979; Wexley, et al., 1980).

Computation of Accuracy

The scores for subordinate accuracy were calculated by comparing subordinate's prediction of the supervisor's response to the supervisor's actual response. For example, subordinates were asked "What percentage of the meetings that you have had with your supervisor would he or she say that you have initiated?" This response was then compared to the supervisor's question: "What percentage of the meetings that you have had with your subordinate have you initiated?" Perfect accuracy exists when the supervisor's description and the subordinate's prediction sum to 100. For example, if the supervisor response is 40, the prediction by the subordinate for perfect accuracy would be 60.

The formula for computing accuracy scores for the subordinate was:

$$D^2 = ((100-Y) - X)^2$$

where: X = supervisor's response

Y = subordinate's response

In the above example the accuracy for the subordinate would be:

$$D^2 = ((100-Y) - X)^2$$

$$D^2 = ((100-60) - 40)^2$$

$$D^2 = (40 - 40)^2$$

$$D^2 = 0$$

$$D = 0$$

The above formula was used to calculate the first six coorientation items where Person A (or B) is asked to predict how Person B (or A) will describe either his or her own behavior, or the behavior of the other. The last three coorientation items were descriptions about the amount of time spent discussing various topics. This required a different computational formula because for perfect accuracy to exist the responses should be the same. The formula for these items is:

$$D^2 = (Y-X)^2$$

where: X = supervisor's response

Y = subordinate's response

Perfect accuracy exists when both persons respond the same. An example of a perfect accuracy response exists when each responds "40".

$$D^2 = (Y-X)^2$$

$$D^2 = (40 - 40)^2$$

$$D^2 = 0$$

$$D = 0$$

The scores for each item were then summed (sum of square differences) and then for ease of handling, the square root was taken. The resultant D-score is the subordinate's accuracy score.

Supervisor's accuracy was calculated in the same way using the same questions except that the supervisor's prediction of subordinate's

response was compared to subordinate's actual response. The formula for the first six items was:

$$D^2 = (X - (100 - Y))^2$$

where: X = supervisor's prediction

Y = subordinate's response

The last three items in the scale were calculated as follows:

$$D^2 = (X - Y)^2$$

where: X = supervisor's response

Y = subordinate's response

Computation of Agreement

To calculate agreement, the supervisor's response to each item was compared to his or her subordinate's response to the corresponding item. For example, supervisors were asked "What percentage of the time will your subordinate say that he or she decided what topics would be discussed?" Their subordinates were asked the same question in the following way: "What percentage of the time did your supervisor decide what topics would be discussed?" Perfect agreement would exist if the responses were complimentary. In other words, if the supervisor said 20%, then the subordinate would have to say 80% for perfect agreement to exist.

Agreement scores for each of the first six coorientation items were calculated according to the following formula:

$$D^2 = ((100 - X) - Y)^2$$

where: X = supervisor's response

Y = subordinate's response

In perfect agreement D is equal to zero. Calculating the above example:

$$D^2 = ((100 - X) - Y)^2$$

$$D^2 = ((100 - 20) - 80)^2$$

$$D^2 = (80 - 80)^2$$

$$D^2 = 0$$

$$D = 0$$

The last three items in the scale were calculated as follows:

$$D^2 = (X - Y)^2$$

where: X = supervisor's response

Y = subordinate's response

In order for perfect agreement to exist both persons would have to give the same response.

Using these formulae, agreement and accuracy scores were determined for each of the following:

1. agreement on communication rules,
2. supervisor accuracy in predicting subordinate's response to communication rules,
3. subordinate's accuracy in predicting supervisor's response to communication rules.

Statistical Analysis

Multiple regression was used to analyze the data using step-wise (forward) inclusion of the predictor variables so that they entered according to their respective contributions to the amount of explained variance. The direction and magnitude of the relationships between the

variables can be determined from the regression coefficients. The interaction effects were tested by entering each of the interaction terms into the equation as another variable. The interaction terms were constrained to enter last according to the procedures outlined by Cohen and Cohen (1975).

Preliminary regression analyses were performed so that scatterplots of the residuals for each equation could be analyzed. The importance of studying residual scatterplots is explained by Anscombe (1973):

> If an observation with an outlying x-value were affected by some special circumstances not common to other observations, our fitted regressions might be misleading. Often the y-value responding to an outlying x-value could be altered considerably without much effect on the goodness of the fit of the regression relation but with marked effect on the estimation itself. We are usually happier about asserting a regression relation if the relationship is still apparent after a few observations have been deleted--that is, we are happier if the regression relation seems to permeate all the observations and does not derive largely from one or two (p. 18).

Positive relationships were predicted between the predictor and criterion variables. Such relationships will be supported if the regression coefficients are negative. This situation exists because higher levels of accuracy and agreement are characterized by decreasing scores, where perfect accuracy and agreement have scores of zero. An alpha level of .05 was established as the decision rule for statistical significance.

CHAPTER III

RESULTS

Characteristics of the Sample

All the respondents except one were male. The average age from the 198 dyads was 42, and the average years of education was 13.5. These employees had been with the plant on the average of 19 years, and in their present job eight years. Supervisors and subordinates reported knowing each other an average of 11 years. They had been in a supervisor/subordinate relationship with each other about three years.

Preliminary Analyses

Reliabilities

Before the regression analyses were performed, reliabilities were calculated for each of the variables. Since supervisors' and subordinates' data were analyzed separately for the predictor variables, coefficient alphas (Cronbach, 1951) were calculated for both groups. The reliability of predisposition to communicate for supervisors was $\alpha = .69$, and for subordinates $\alpha = .71$. Since the scale contained only three items these reliabilities are acceptable although not as high as would be desired for a strong predictor. The

communicative competence scale was reliable at α = .92 for supervisors and α = .89 for subordinates.

Although the accuracy and agreement measures represented nine situations to which the participants would orient, these measures were also tested for internal consistency. Coefficient alphas were: agreement α = .42, supervisor accuracy α = .46, and subordinate accuracy α = .36. These reliabilities are low and are evidence that the nine situations do not form a unidimensional scale.

Regression Analyses

The following is the general regression equation used for all three analyses. The standard errors of the estimates are presented in the parentheses below each of the regression coefficients.

$$\hat{Y}_i = \hat{\alpha} + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6$$
$$(s_{\hat{\alpha}})\ (s_{\beta_1})\ (s_{\beta_2})\ (s_{\beta_3})\ (s_{\beta_4})\ (s_{\beta_5})\ (s_{\beta_6})$$

where: $\hat{Y}_i$ = a specific criterion variable

$\hat{Y}_1$ = supervisors' accuracy

$\hat{Y}_2$ = subordinates' accuracy

$\hat{Y}_3$ = agreement

$X_1 - X_6$ = the predictor variables

X_1 = supervisor's communicative competence

X_2 = subordinates' communicative competence

X_3 = supervisors' predisposition to communicate

X_4 = subordinates' predisposition to communicate

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$$\hat{Y}_i = \hat{\alpha} + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6$$
$$(s_{\hat{\alpha}})\ (s_{\beta_1})\ (s_{\beta_2})\ (s_{\beta_3})\ (s_{\beta_4})\ (s_{\beta_5})\ (s_{\beta_6})$$

where: $\hat{Y}_i$ = a specific criterion variable

$\hat{Y}_1$ = supervisors' accuracy

$\hat{Y}_2$ = subordinates' accuracy

$\hat{Y}_3$ = agreement

$X_1 - X_6$ = the predictor variables

X_1 = supervisor's communicative competence

X_2 = subordinates' communicative competence

X_3 = supervisors' predisposition to communicate

X_4 = subordinates' predisposition to communicate

X_5 = interaction term: supervisors' competence with predisposition

X_6 = interaction term: subordinates' competence with predisposition

Supervisors' Accuracy

The six predictors of supervisors' accuracy produced a significant overall F statistic for the equation, F (6,100) = 2.95, p < .011.

The interaction effect (X_5) for supervisors' communicative competence with supervisors' predisposition to communicate was significant, F (5,101) = 4.68, p < .033. The regression coefficient was in the predicted direction (inverse which indicates a positive relationship as explained earlier) which supports Hypothesis 2. The amount of unique variance accounted for by the interaction term was 4%. The standard error was approximately half the size of the regression coefficient.

Supervisors' communicative competence (X_1) was also significant F (1,105) = 10.06, p < .002. The amount of variance accounted for by this variable was 9%. The standard error was higher, about three-fourths the size of the coefficient. However, supervisors' communicative competence is one of the variables in the significant interaction term which prohibits any independent interpretation of supervisors' communicative competence as a predictor.

No other predictors were significant.

The residual scatterplots for supervisors' accuracy appeared to be randomly distributed about the mean of zero. Of the 107

cases plotted, 46 had positive values and 61 had negative values, a moderately even distribution of the errors. The Durbin-Watson test was 1.91, indicating no autocorrelation in the data. The results of this regression analysis were, therefore, accepted as the best possible for the data.

The regression equation for supervisors' accuracy was:

$$\hat{Y}_1 = -31.54 + 1.41X_1 - .0002X_2 + 10.59X_3 + 2.37X_4 - .15X_5 - .03X_6$$

$$(98.18)\quad (.98)\quad (1.31)\quad (4.97)\quad (5.54)\quad (.07)\quad (.09)$$

$$R^2 = .15\%$$

where: $\hat{Y}_1$ = supervisors' accuracy

X_1 = supervisors' communicative competence

X_2 = subordinates' communicative competence

X_3 = supervisors' predisposition to communicate

X_4 = subordinates' predisposition to communicate

X_5 = interaction: supervisors' competence with predisposition

X_6 = interaction: subordinates' competence with predisposition

Because only two of the predictors were significant and their standard errors were quite large, the equation was re-estimated excluding all non-significant variables. When non-significant variables are deleted from the regression equation, the variance of the non-significant variables is pooled with the error variance. This affects the size of the regression coefficients. Although it is best to do re-estimation on another data set, reanalyzing the same data when

several deletions are made can produce better estimates of the significant predictors (Monge, 1980).

Re-estimation of Supervisors' Accuracy. The results for supervisors' accuracy was re-estimated using the two significant predictors: supervisors' communicative competence, and supervisors' interaction term. Only supervisors' communicative competence (X_1) remained significant in the reanalysis, accounting for 9% of the variance Supervisor's interaction term failed to reach significance, $F(2,102) = 4.99$, $p < .906$, which vitiates prior support for Hypothesis 2.

The regression coefficient of the communicative competence variable and its standard error changed dramatically. The coefficient was +1.41 with a standard error of .98 in the original analysis. The re-estimated values were -.68 for the coefficient with a standard error of .25. The reduction in the error of the estimate from 70% to 35% the size of the coefficient indicates a more stable and hence better estimate of the coefficient. In addition, since the sign of the coefficient changed to the direction predicted by Hypothesis 1, this hypothesis is now supported.

The regression equation for the re-estimation of supervisors' accuracy was:

$$\hat{Y}_1 = 122.38 - .68X_1 + .001X_5 \qquad R^2 = 9\%$$
$$(14.08) \quad (.25) \quad (.01)$$

where: $\hat{Y}_1$ = supervisors' accuracy
X_1 = supervisors' communicative competence
X_5 = interaction: supervisors' competence with predisposition

Subordinates' Accuracy

The equation for subordinates' accuracy was not significant. Examination of the scatterplot of the residuals displayed five outliers with extreme values. The remaining values appeared to be randomly distributed about the mean of zero and lie within two standard deviations of the mean (raw score values ranged from -45 to +80). The outliers, however, had raw score values of no less than 900, placing them well beyond two standard deviations of the mean. Such differences are specific errors and as such warrant deletion (Anscombe, 1973; Barnett and Lewis, 1978). Barnett and Lewis (1978) argue that when outliers arise from specific errors, that their detection and rejection aid in the study of the basic model. "We can better assess its (the model's) fit; we may be better able to estimate relevant parameters."

To identify the cases, a second scatterplot was run by case order. One of the outliers was automatically removed by the listwise deletion for missing cases option in the regression analysis that produced the second scatterplot. The remaining four outliers were identified and specifically deleted from the regression analysis reported below.

The equation for subordinates' accuracy, excluding the five outliers, was significant, F (6,100) = 2.69, p < .019, with 14% of the variance explained by the six predictors.

Supervisors' competence (X_1) was significant, F (1,105) = 6.15, p < .015, accounting for 6% of the variance. The standard error of the estimate was very large, however, approximately three times larger than the coefficient. In addition, the sign of the coefficient was in the

opposite direction from that which was predicted. This result does not support Hypothesis 1.

Subordinates' communicative competence (X_2) was also significant, F (3,103) = 4.06, $p < .05$, adding an additional 4% to the variance explained. In this case, however, the direction of the relationship was as predicted, supporting Hypothesis 1. This finding is tempered by the fact that the standard error of the estimate was large, approximately equal in size to the coefficient.

The scatterplot of the residuals was scanned for possible patterns in the data. The plotted values appeared to be randomly distributed about the mean of zero with three values falling outside two standard deviations of the mean. Distribution of positive to negative values was fairly even, 48 to 55. The Durbin-Watson test was 1.78, indicating no significant autocorrelation in the data.

The estimated regression equation for subordinates' accuracy was:

$$\hat{Y}_2 = 92.75 + .32X_1 + 4.87X_3 - 1.09X_2 - 1.99X_4 - .05X_5 + .05X_6$$
$$\quad (81.29) \quad (.83) \quad (4.21) \quad (1.10) \quad (4.64) \quad (.06) \quad (.07)$$
$$R^2 = 14\%$$

where: $\hat{Y}_2$ = estimated value of subordinates' accuracy

X_1 = supervisors' communicative competence

X_3 = supervisors' predisposition to communicate

X_2 = subordinates' communicative competence

X_4 = subordinates' predisposition to communicate

X_5 = interaction: supervisors' competence with predisposition

X_6 = interaction: subordinates' competence with predisposition

Because of the large standard errors of the estimated coefficients, and the non-significant variables, the equation was re-estimated using only those variables which were significant or approached significance. Therefore, supervisors' communicative competence, subordinates' communicative competence, and supervisors' predisposition to communicate were used as predictors in the re-estimation of subordinates' accuracy. The results are reported below.

Re-estimation of subordinates' accuracy. The results of the re-estimation were substantially different from the initial analysis. The significance levels of the three predictors remained the same, but the regression coefficients changed dramatically. The sign of the coefficient for supervisors' communicative competence changed to the direction predicted with the standard error dropping from almost three times larger than the coefficient to only one third the size of the coefficient. This drop in the size of the standard error produces a much more stable estimate of the relationship. Furthermore, Hypothesis 1 is now supported.

The sign of the regression coefficient for subordinates' communicative competence remained in the hypothesized direction while the standard error dropped substantially (from approximately equal in size with the coefficient to approximately one half). This change strengthens subordinates' communicative competence as a predictor of subordinates' accuracy which also supports Hypothesis 1.

The total amount of variance accounted for dropped to 12% due to the exclusion of the three other variables.

The equation for subordinates' accuracy was:

$$\hat{Y}_2 = 106.47 - .36X_1 + 1.34X_3 - .43X_2 \qquad R^2 = 12\%$$

(16.31) (.18) (.59) (.21)

where: $\hat{Y}_2$ = estimated value of subordinates' accuracy

X_1 = supervisors' communicative competence

X_3 = supervisors' predisposition to communicate

X_2 = subordinates' communicative competence

Agreement

The scatterplot for agreement identified one outlier. Again the majority of the residuals fell within the range of two standard deviations from the mean (raw score values ranging from about +75 to -45). There was one case that had a residual value greater than two standard deviations (raw score of about 100). To identify this case, a second scatterplot was made using a case order listing. This produced an interesting result. Three additional cases were identified as falling outside two standard deviations of the mean. A look at the original scatterplot revealed that these three additional cases formed a small cluster at -45. The next closest value was about 30. This difference was apparently sufficient to make them outliers.

Since the additional three cases were not very different from the majority of the values, the raw data for the four outliers were examined for extreme patterns. The scanning revealed that only one of the cases was consistently extreme in its scores. Specifically, on all but two of the 18 coorientation items, the respondent had answered 10, indicating a response set bias. As a result, only this one case was

considered a true outlier and it was deleted from the regression analysis that is reported below.

Agreement was tested for significance excluding the one outlier. The equation was significant, F (6,100) = 3.10, p < .019, accounting for 11% of the variance. There were two significant predictors in the equation. Supervisors' interaction (X_5) was significant, F (4,102) = 4.06, p < .05, adding 4% unique variance to the equation. The sign of the coefficient was in the direction predicted which supports Hypothesis 2. The standard error was acceptable at approximately half the size of the coefficient.

Supervisors' communicative competence (X_1) was significant, F (1,105) = 6.55, p < .012, accounting for 6% of the variance. The sign of the coefficient was, however, in the opposite direction from that predicted. The standard error of the estimate was approximately half the size of the coefficient. Again, since supervisors' communicative competence was one of the variables in the significant interaction term, no interpretation of its independent effects on the criterion can be made.

No other predictors were significant. In fact, two of the predictors, subordinates' communicative competence and subordinates' interaction term, failed to meet the minimum inclusion requirement of explaining .1% of the variance.

The residual scatterplot produced no discernable pattern, with the positive to negative values fairly evenly distributed, 49 to 54. The Durbin-Watson test was 2.17, showing no significant autocorrelation in the data.

The estimated regression equation for agreement was:

$$\hat{Y}_3 = -25.76 + 1.29X_1 + 10.06X_3 + .35X_4 - .14X_5 \qquad R^2 = 11\%$$
$$\quad (63.75)\ \ (.92)\quad\ (4.65)\quad\ (.71)\quad\ (.07)$$

where: $\hat{Y}_3$ = estimated value of agreement

X_1 = supervisors' communicative competence

X_3 = supervisors' predisposition to communicate

X_4 = subordinates' predisposition to communicate

X_5 = interaction: supervisors' competence with predisposition

Re-estimation of agreement. Agreement was re-estimated using the two significant predictors. Only supervisors' communicative competence was significant, F (1,101) = 6.55, $p < .012$, accounting for 6% of the variance. The sign of the coefficient changed to be in the direction predicted by Hypothesis 1. The standard error dropped drastically from three-fourths the size of the coefficient ($\beta = 1.29$, $\sigma_\varepsilon = .92$) to one third the size of the new coefficient, ($\beta = -.64$, $\sigma_\varepsilon = .24$). The results not only support Hypothesis 1 but the size of the standard error makes the prediction relatively stable.

The interaction term failed to be significant, which allows for the interpretation of supervisors' communicative competence as a predictor of agreement. The equation for agreement is:

$$\hat{Y}_3 = 110.89 - .64X_1 + .009X_5 \qquad R^2 = 7\%$$
$$\quad (13.45)\ \ (.24)\quad\ (.01)$$

where: $\hat{Y}_3$ = estimated value of agreement

X_1 = supervisors' communicative competence

X_5 = interaction: supervisors' competence with predisposition

Confidence Intervals

As a check on the stability of the estimated coefficients, 95% confidence intervals were calculated for each of the significant predictors using the procedure described in Cohen and Cohen (1975). In all cases the estimated values do not cross zero, which provides additional support for Hypothesis 1. The confidence intervals are presented in Table 1.

Table 2 contains the intercorrelation of the predictor and criterion variables for the 107 dyads used in the analyses.

Table 1

Confidence Intervals for Each Significant Regression Coefficient

Supervisors' Accuracy	Supervisors' Communicative Competence	P{-.59±1.98(.21) = -1.01 to -.17
Subordinates' Accuracy	Supervisors' Communicative Competence	P{-.36±1.98(.18) = -.72 to 0
Subordinates' Accuracy	Subordinates' Communicative Competence	P{-.43±1.98(.21) = -.85 to -.01
Agreement	Supervisors' Communicatve Competence	P{-.64±1.98(.24) = -1.12 to -.16

Table 2

Correlation Matrix of Predictor and Criterion Variables

Supervisors' Predisposition to Communicate	--							
Subordinates' Predisposition to Communicate	.04473	--						
Supervisors' Accuracy	.02755	.06804	--					
Subordinates' Accuracy	.14099	.10665	.65795	--				
Supervisors' Communicative Competence	.03291	-.01298	-.29566	-.15132	---			
Subordinates' Communicative Competence	.23601	-.00060	-.18836	-.14427	.24406	---		
Subordinates' Interaction Term	.17288	.80299	-.07020	-.00172	.15997	.58454	---	
Supervisors' Interaction Term	.83737	.03995	-.15669	.03099	.56098	.31477	.23260	--
Agreement	.07727	.06183	.87619	.75453	-.24785	-.08345	-.00712	-.08851

CHAPTER IV
DISCUSSION

The purpose of this chapter is to discuss the results of the project, evaluate the procedures used, and suggest directions for future research.

Summary of Findings

This research examined two communication variables as determinants of coorientational accuracy and agreement. The predictor variables were the predisposition to communicate and communicative competence. The criterion variables were agreement, supervisor accuracy, and subordinate accuracy.

In general, the results of this research support only Hypothesis 1 which was:

> H_1: For both supervisors and subordinates, accuracy and agreement about communication rules will be positively related to the communicative competence and predisposition to communicate to one another.

Supervisors' communicative competence was a significant predictor in each equation with moderately small standard errors. In addition,

for subordinates' accuracy, subordinates' communicative competence was also a significant predictor, also with a moderately small standard error.

The predisposition to communicate was not a significant predictor in any of the equations. Neither were the interaction terms. Although the supervisors' interaction term was initially significant in two analyses, pooling the variance accounted for by the non-significant variables with the error term made the interaction terms non-significant in both cases.

Interpretation

In general, the results of this study indicate that supervisors' communicative competence is the predominant determinant of accuracy and agreement in supervisor/subordinate relationships. In each equation supervisors' communicative competence contributed no less than 6% of the explained variance in each of the criterion variables. This is consistent with the findings of Level and Johnson (1978) and is a logical extension of the role expectations model of Katz and Kahn (1978). Katz and Kahn (1978) describe typical supervisor communication as predominately production or task oriented. Supervisors are expected to communicate task information and are typically responsible for the performance of their subordinates. It is to the supervisor's advantage, therefore, to communicate so that the subordinate has both a high degree of accuracy and so that they reach agreement on certain organizational issues. It is to a supervisor's advantage to be a competent communicator for it can influence his or her own success as a manager.

In addition, the supervisor's position power may in fact allow him or her to simply impose preferences upon the subordinate. The better the supervisor is at communicating those preferences, the more certain the supervisor can be about the subordinate's response. This conclusion is supported by the strength of supervisors' communicative competence as a predictor of supervisor's accuracy, even with a moderate size sample.

A similar situation may exist with agreement: the more communicatively competent the supervisor, the more likely he/she is to be successful at conveying or imposing preference on the subordinate.

A slightly different condition was found for subordinates' accuracy. In addition to supervisor's communicative competence being a significant predictor, so was subordinate's communicative competence. The results indicate that for the subordinate to be able to predict the supervisor's response accurately, the subordinate must also have listening and speaking skills. This finding is similar to what Wexley et al. (1980) described as "the sensitivity of the receiver and the consistency and openness of the sender" in achieving accurate perceptions.

It would appear that if organizations wish to reduce the amount of inaccuracy and disagreement, supervisors should be trained to be good communicators. Organizations are dependent upon how well its members coordinate resources and people, and the role of communication in this process cannot be overemphasized, as the results of this research would suggest.

Problems in the Study

Although the re-estimations improved the study's results, many of the predicted relationships were not significant. In this section possible causes for the lack of significance will be discussed.

The adequacy of the coorientation model in the determination of accuracy and agreement is dependent upon the relevance of the object of orientation. One possible explanation of the lack of significant results could be the lack of salience of communication rules as an object of orientation. Although communication rules are pervasive, they may not be objects about which the participants are generally aware. Patterns of interaction may become less salient as the time the supervisors and subordinates have known each other increases. It would seem plausible that after several years, many interaction behaviors are "taken for granted." For the supervisors and subordinates in this study, the average length of time they had known each other was 11 years, which may have created a situation where the supervisors and subordinates were unsure about specific rules that govern their behaviors. Preliminary testings of the objects of orientation might have provided insight as to the possibility of this occurring.

Another possible explanation could be the length and complexity of the coorientation questions. As described earlier, participants were asked to focus on both descriptive and predictive questions and three different orientations: self, other, and object. Participants were asked to switch their train of thought repeatedly thorughout the 18 item questionnaire. The complexity of the questionnaire could have created confusion. In addition, many of the supervisors had multiple

subordinates, which meant completing the questionnaire several times, one for each subordinate. This may have created fatigue or even worse, apathy, for some participants, especially those with as many as seven subordinates.

The lack of significance for the predisposition to communicate variable may have been due to an inadequate sampling of the domain of questions. First, using three questions limits the extent to which high reliabilities can be obtained. Second, three questions may have been an inadequate representation of the behaviors that would distinguish a very talkative person from someone who speaks when the need arises. Another possible explanation could be that the supervisors were not in physical proximity to each other often enough to allow for frequent communication. The sample for this study came from a manufacturing plant where many of the supervisors were expected to be on the floor where there was a considerable amount of machine noise. Frequent communication may have been difficult if not impossible under such conditions.

The project was a cross-sectional study, which means that the data were collected at one point in time. Such data do not allow for the study of change over time, which limits the conclusions about causality that can be made. In addition, since only one plant was used in the study, there are limits to the study's generalizability to other organizational settings.

Misworded items in the questionnaires increased the amount of sampling error. The number of dyads that could be used in this study was 107, although 198 dyads were formed. This created a substantial loss of statistical power, making it harder to detect relationships

when in fact they exist. More support may have been found for the predicted relationships if the 198 dyads could have been used in the analyses. However, for those predictors that were significant, the small sample implies that rather strong relationships between variables do exist.

Future Research

The coorientation model provides a useful framework for the study of communication processes between supervisors and subordinates in organizational settings. However, the adequacy of the ocorientation model in the determination of accuracy and agreement is dependent upon the adequacy of the object of orientation. it is suggested, therefore, that other objects of orientation be tested, in order to identify those that are the most salient to the sample population.

In addition, it would be interesting to try to identify the process by which accuracy and agreement develop between supervisors and subordinates. A time-series design, for example, might make it possible to compare rates at which accuracy and agreement are established among newly formed supervisor/subordinate dyads. In addition, it would be beneficial to add selected personality variables which are likely to impact communicative behavior.

Other occupational settings, like service organizations that rely on oral communication for much of its task completion, may be more favorable sites for a study concerned with the communication behaviors that would lead to accuracy and agreement. The type of organization

used in this study may have restricted the role of oral communication in daily operations.

Summary

This study was undertaken to determine the impact of two communication variables on the accuracy and agreement on communication rules that exists between supervisors and subordinates. The two variables were the predisposition to communicate and communicative competence. Only communicative competence was a significant predictor. Supervisors' communicative competence was the most consistent predictor, reaching significance in each equation tested. Subordinates' communicative competence was significant in predicting subordinates' accuracy. It is concluded that strengthening the communication skills of organizational members, especially supervisors, can increase the level of agreement and accuracy among supervisor/subordinate dyads.

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APPENDICES

APPENDIX A

APPENDIX A

The statements in this section describe some typical aspects of supervisor/subordinate relationships. In Part A you are asked to think about how you and your subordinate communicate in various situations. In Part B you will be asked to predict how your subordinate will respond to the same set of questions. In both parts circle the percentage that most accurately reflects the communication that has taken place between you and your subordinate during the last month.

Write your subordinates number in the box below.

Part A

1. What percentage of the meetings that you have had with your subordinate have you initiated?

   0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

2. Considering all of the conversations or meetings you have had with your subordinate, what percentage of these discussions did you end?

   0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

3. Thinking back over all of your conversations or meetings with your subordinate what percentage of the time were you the one who changed the topic of conversation?

   0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

4. It is not unusual for conversations or meetings to be interrupted by phone calls, someone entering the room, etc. When interruptions have occurred while talking with your subordinate, what percentage of the time was it because someone was looking for him or her?

   0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

5. Thinking back over all of your discussions with your subordinate, what percentage of the time did your subordinate decide what topics would be discussed?

   0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

6. Considering all the conversations you have had with your subordinate, what percentage of the total time did your subordinate talk?

   0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

7. What percentage of the time that you have spent with your subordinate has been spent discussing personal matters?

   0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

8. What percentage of the time that you have spent with your subordinate has been spent discussing new ideas?

   0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

9. What percentage of the time that you have spent in conversations with your subordinate has been spent discussion work-related matters?

   0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Part B

In this section we are asking you to predict how your subordinate will respond to the questions in Part A. Again, limit yourself to communication that has occurred during the last month. Circle the percentage that you think most accurately reflects what your subordinate will say.

10. What percentage of the meetings that you have had with your subordinate would he or she say that you have initiated?

    0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

11. Considering all of the conversations or meetings you have had with your subordinate, what percentage of these discussions would your subordinate say that you have ended?

    0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

12. Thinking back over all of your conversations or meetings with your subordinate what percentage of the time would your subordinate say that you were the one who changed the topic of conversation?

    0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

13. It is not unusual for conversations or meetings to be interrupted by phone calls, someone entering the room, etc. When those kinds of interruptions have occurred while talking with your subordinate, what percentage of the time will your subordinate say it was because someone was looking for him or her?

    0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

14. Thinking back over all of your discussions with your subordinate, what percentage of the time will <u>your subordinate say</u> that <u>he or she decided</u> what topics would be discussed?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

15. In conversations with your subordinate, what percentage of the total time will <u>your subordinate</u> say that <u>he or she</u> is the one who does the talking?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

16. What percentage of time that you have spent in conversation with your subordinate will <u>he or she say</u> has been spent discussing personal matters?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

17. What percentage of the time that you have spent in conversation with your subordinate will <u>he or she say</u> has been spent discussing new ideas?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

18. During the last month, what percentage of the time that you have spent in conversation with your subordinate will <u>he or she say</u> has been spent discussing work-related matters?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

APPENDIX B

APPENDIX B

In the following items, we are asking you to describe the way you tend to express yourself to others. Concentrate on the larger picture you have of the way you communicate as you go about doing your work rather than what you might happen to say in a particular situation.

In responding to the statements below, please use the following scale:

YES! = very strong agreement	NO! = very strong disagreement
YES = strong agreement	NO = strong disagreement
yes = mild agreement	no = mild disagreement
? = neutral feelings or don't know	

1. I generally rely on others to keep conversations going.

   YES! YES yes ? no NO NO!

2. I am inclined to let other people start conversations.

   YES! YES yes ? no NO NO!

3. When I am with others it generally takes me quite a while to warm up enough to say very much.

   YES! YES yes ? no NO NO!

APPENDIX C

APPENDIX C

In this series of questions we would like you to describe how your subordinate communicates. Think about his/her behavior in general, rather than about specific situations.

In responding to the statements below, please use the following scale:

YES!	= very strong agreement	NO!	= very strong disagreement
YES	= strong agreement	NO	= strong disagreement
yes	= mild agreement	no	= mild disagreement
	? = neutral feelings or don't know		

1. My subordinate has a good command of the language.

   YES! YES yes ? no NO NO!

2. My subordinate is sensitive to other's needs of the moment.

   YES! YES yes ? no NO NO!

3. My subordinate typically gets right to the point.

   YES! YES yes ? no NO NO!

4. My subordinate pays attention to what other people say to him or her.

   YES! YES yes ? no NO NO!

5. My subordinate can deal with others effectively.

   YES! YES yes ? no NO NO!

6. My subordinate is a good listener.

   YES! YES yes ? no NO NO!

7. My subordinate's writing is difficult to understand.

   YES! YES yes ? no NO NO!

8. My subordinate expresses his or her ideas clearly.

   YES! YES yes ? no NO NO!

9. In general, my subordinate is a very effective communicator.

   YES! YES yes ? no NO NO!

10. My subordinate is difficult to understand when he or she speaks.

YES! YES yes ? no NO NO!

11. My subordinate generally says the right thing at the right time.

YES! YES yes ? no NO NO!

12. My subordinate is easy to talk to.

YES! YES yes ? no NO NO!

13. My subordinate usually responds to messages (memos, phone calls, reports, etc.) quickly.

YES! YES yes ? no NO NO!

14. Overall, my subordinate is a competent communicator.

YES! YES yes ? no NO NO!