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DISSETATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
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The Ohio State University
1971

Approved by
Department of Speech
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CHAPTER I

SOME BACKGROUND LITERATURE

A Definition of Perception

Social scientists have long been interested in the process by which we form judgments about other people's character, personality, motives, and intentions. Interest in this area developed from early research on the nature of physical perception under a number of terms including social perception, person perception, sensitivity, social sensitivity, empathy, insight, and understanding. As Warr and Knapper\(^1\) point out, psychologists have studied the area for a long time but have yet to establish a formal definition for the process. Not only has research been conducted under a number of names, but, in many cases, researchers have also employed different definitions of the same term. These differences in terminology and definition of terms tend to reflect differences in the background, goals, and approaches of the researchers. Cantril\(^2\) considers social perception to be a part of the process of physical perception. The distinctive feature of social perception is


perception was the influence of the stimulus on the subject's motives or behavior. The National Training Laboratory defines sensitivity as "the ability accurately to sense what others think and feel." Smith defines social sensitivity as the ability to predict what an individual will feel, say, and do about you, himself, and others. In contrast, he described empathy as the tendency of a perceiver to assume that another person's feelings, thoughts, and behavior are similar to his own. Bell and Hall, on the other hand, define empathy as the ability to perceive the needs of others. A person's ability to assume another's position, to establish rapport, and to anticipate reactions, feelings, and behaviors of others constituted empathy according to Van Zeist. Marchetti defined understanding as sensitivity to the values, motives, attitudes, and sentiments of group members.

The various approaches to social perception will be examined in further detail in Chapter III. The examples cited above should be sufficient to illustrate the wide diversity in this area.

For the purpose of the present study, the term social perception will be used synonymously with social sensitivity, empathy, insight, or

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other terms used by researchers to refer to the process by which we
(1) perceive verbal and non-verbal cues; (2) organize these per­
ceptions; and (3) form a judgment concerning the character, personality,
motives, or expected behavior of another person. The term sensitivity
will be employed in a specialized manner by this writer to distinguish
the methodological approach of this study from that of other studies
of social perception. An operational definition of the term sensi­
tivity, as it is used in this study will be found on page 23.

Mention might also be made of a relatively new and rapidly growing
area of interest quite distinct from the traditional study of social
perception or group dynamics, sensitivity training. This term and
other related terms such as sensitivity training groups, sensitivity
laboratories, laboratory training, laboratory groups, T-groups, and
encounter groups, refer to a broad area concerned with utilizing small
group techniques to stimulate individual growth and development. These
training groups differ greatly in goals and approaches to training, and
some confusion in terminology exists in this area just as it does in
the area of social perception. Schutz,7 for example, considers the
terms sensitivity training group, T-group, and encounter group to be
synonymous; whereas Egan8 considers sensitivity training to be a spe­
cialized kind of laboratory learning. Although the differences in
goals, approaches, and terminology pose problems in the definition of

7William C. Schutz, Joy: Expanding Human Awareness (New York:

8Gerard Egan, Encounter: Group Processes for Interpersonal Growth
sensitivity training, there are, nevertheless, basic features which
distinguish it from the study of social perception. Researchers in
social perception are concerned with the development of theories
explaining the nature of perception and its influence on behavior.
Workers in the area of sensitivity training focus on the development
and application of techniques which change a subject's customary per­
ception of behavior. Group trainers attempt to effect greater self-
awareness, self-understanding, and interpersonal growth to increase
sensitivity to others. Researchers in social perception frequently
use groups and organizations to study the nature of perception; in
contrast, sensitivity training uses the small group as a means for
interpersonal growth and self-actualization.

Research on Social Perception

Early researchers on social perception were primarily concerned
with the question of accuracy. Research in this area can be divided
into two types, work on the recognition of emotional expressions and
work on the perception of personality characteristics. Researchers
were interested in the accuracy of perceptions of emotional expressions
in others, the factors involved in recognition of particular emotions,
the characteristics of good and poor judges, the difference in ease of
judging a subject's expressions of emotions, and the reliability of
measuring instruments.

Factors Influencing the Accuracy of Social Perceptions

Researchers on the recognition of the emotions generally presented
judges with a series of emotional expressions to be identified, usually
utilizing photographs as the stimulus material. Some criticisms of
this approach have been made by various researchers, including Bruner
and Tagiuri,9 and Hastorf, Schneider, and Polefka.10 Bruner and
Tagiuri argue that a judge may require more information than a photo­
graph provides since interpretation of emotional expressions may depend
on knowledge of the situation and on information conveyed by other
stimuli. They felt that facial expression was part of a total sequence.
Hastorf, Schneider, and Polefka noted, also, that a variety of non­
verbal cues not present in a photograph were available to the judge in
everyday situations.

Research on the recognition of the emotions is marked by con­
flicting findings. Some studies found high accuracy in recognizing
emotional expressions from photographs; others obtained only chance
relationships. An examination of the technical problems involved will
explain some of the difficulties confronting researchers in the area.
One major factor influencing results is the degree of difficulty
involved in making a discrimination. A judge would have more difficulty
in distinguishing the expression of love from happiness, for example,
than he would have distinguishing love from disgust. In an examination
of the Feleky data, Woodworth11 found that judges' discriminations

10Albert H. Hastorf, David J. Schneider, Judith Polefka, Person
between some expressions—love, happiness, and mirth, for example, were at a chance level, but discriminations between other expressions were much more accurate. Woodworth reduced the number of emotional expressions used in the study by combining the data for expressions which had been significant only by chance and produced a six-category scale. When the data from the Feleky, Ruckmick, Gates, and Kanner studies were re-examined using this scale, he obtained a much higher percentage of agreement. Two of Woodworth's conclusions are of particular interest to the present investigation; judges did quite well in recognizing emotions from photographs; and accurate distinctions could be made among broad categories of different emotional states if not among highly specific and related emotions. In 1952, Schlosberg expanded on the work of Woodworth and suggested that the emotional states of Woodworth's continuum could be arranged in a circle along two dimensions: pleasant-unpleasant and attention-rejection.

Another factor influencing the results of studies of the emotions has been the labels used to identify the emotions. Munn obtained a higher percentage of agreement among judges when they were allowed to use their own identifying labels.

The objections raised to the use of photographs were dealt with

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by Dusenbury and Knower in an investigation of whether the intent of emotional expressions could be accurately perceived. This study investigated the effect of the tone code in conveying meaning. The Non-Verbal Sensitivity Test, also referred to as the Non-Verbal People Reading Test, was developed by Dr. Knower from the measuring instruments during the investigation period. Since the present study uses the Non-Verbal Sensitivity Test as one of three sensitivity measures, the research of Dusenbury and Knower provides data on the validity and reliability of the instrument in addition to contributing knowledge to the area of social perception.

Dusenbury and Knower began by showing 100 subjects the complete set of photographs used by Rudolph, Felsky, and Ruckmick. The subjects labelled the emotional state in each photograph; and, from this data, eleven emotional states and thirty-three descriptive terms were selected. The experimenters used three related terms for each emotional state. Next, a motion picture was prepared with male and female performers expressing each of eleven emotional states. Individual frames of the film were used as still photographs. Comparisons were made between subjects who had observed the film and those who observed the still photographs. The percentage of correct answers for

those watching the film was .89; for those observing the photographs, .62. The percentage of correct identifications was higher than expected by chance. Dusenbury and Knowler concluded that it is possible to interpret facial expressions reliably and that there are significant differences among groups and individuals in ability to interpret facial expressions correctly. Recordings of male and female performers expressing emotional states reciting letters of the alphabet were made. At a later date, this was repeated for whispered speech and reversed speech. Knowler found that emotional states could be conveyed by tonal quality and that subjects would identify them with a high degree of accuracy. Whispered speech was correctly recognized four times more often than chance, and even reversed whispered speech was recognized over twice as often as could be expected by chance alone.

Further proof for the validity of the visual portion of this instrument was provided by Dickey and Knowler, who used the photographs, in the form of flash cards, to study cultural differences between Mexican and American school children. Dickey and Knowler concluded that "a rank order correlation of .83 between the percentages of recognition of the several moods indicates a comparative consistency in the degree of specificity in the expressions of the pictures."

An adaptation of the Non-Verbal Sensitivity test was also made by


Knower for the study of speaker performance and group comprehension. Each subject pantomimed the eleven emotional states and recited letters of the alphabet while expressing these emotional states. The students attempted to match the speaker's presentation with the key words on the answer sheet. Using the scores of seven judges correlated by the split half technique with seven additional judges' scores, Knower obtained, after corrections for the split half technique, a correlation of .93 for behavioral symbolism and .87 for tonal symbolism. Knower concluded that individual performances were reliably interpreted by the judges. He obtained correlational indices of validity ranging from moderate to marked. Knower's extensive research on the intelligibility of nonverbal expressions of emotions indicates that earlier objections to the procedure are unwarranted and establishes the point that the Non-Verbal Sensitivity Test has sufficient reliability and validity for the purpose of this study.

The Perception of Personality

Early research on social perception was concerned with the accuracy of recognition of emotional expressions. This trend was followed by a shift of emphasis to the accuracy of the perception of personality characteristics. According to Gage, social perceptions can be

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considered to consist of four elements—the perceiver or judge; the person, group, or stimulus being perceived; the information or stimuli available to the perceiver; and the judgment or perception of the perceiver. Research on the perception of personality has been concerned with all these elements. In general, researchers presented judges with some form of stimulus and compared the judgments against some criterion of accuracy. This explanation is highly oversimplified. Researchers have employed a wide variety of approaches, techniques, and stimuli. In some cases, researchers were concerned with variations in the age, sex, intelligence, background, training, or personality of the judges. Judges evaluated live subjects, photographs, character descriptions, handwriting, test scores, films, voice recordings, and, in some cases, each other. Researchers have obtained data from analysis by means of check lists, matching procedures, ratings, rankings, and free descriptions. Criteria for comparison included self descriptions by stimulus-subjects, self-rankings, psychometric scores, subject's responses to questionnaires, opinions of judges, and diagnosis by psychiatrists and psychologists.

Research on the perception of personality has also revealed a number of technical problems which can confound experimental findings. Two major problem areas involve the criterion for evaluating judgments and the factors which influence a judge's perception.

A number of objections have been raised to criteria used in evaluating the accuracy of perceptions of personality. Hastorf,
Schneider, and Polefka\textsuperscript{19} question the accuracy of clinician's evaluations. "To use the judgments of trained clinicians is merely to ask how well untrained persons can guess the nature of clinician's judgments; it may tell us nothing about a judge's ability to infer actual characteristics of the person from limited information." Mischel\textsuperscript{20} has offered criticisms of standard tests and measures; furthermore, an experiment by Forer\textsuperscript{21} tends to raise serious doubts about the validity of self-descriptions by stimulus-subjects.

Hastorf and Bender\textsuperscript{22} felt that the "empathy score" derived by taking the difference between the judge's prediction of a subject's score and the subject's actual score on questionnaires or predictions of other's judgments may reflect factors other than a judge's accuracy. The apparent accuracy may result from projection by the judge of his own attitudes or from assumed similarity between judge and stimulus-subjects. If the subject and judge were similar, the judge could gain accuracy by projecting his own responses. The authors divided empathy scores into four components: projection, the difference between the judge's response and his prediction; similarity, the difference between

\textsuperscript{19}Hastorf, Schneider, and Polefka, Person Perception, p. 30.


the response of the judge and the subject's response; raw empathy, the
difference between the judge's prediction and the subject's response;
and refined empathy, the score obtained by subtracting the raw empathy
score from the projection score.

Later, Cronbach provided a mathematical basis for the analysis
of accuracy scores, dividing them into four components—elevation,
differential elevation, stereotype accuracy, and differential accuracy.
Elevation, the tendency to rate high or low, questions whether the
judge and the subject use the same area of the scale for their
responses. If the judge has a tendency to use the high end of the
scale and the subject the low end, the responses of the judge may
actually be closer to those of the subject than the scores indicate.
Differential elevation refers to the tendency of the judge to spread or
not to spread his ratings. Stereotype accuracy is the ability to rank
order traits; and differential accuracy is the ability to differentiate
between individual subjects. Much of the original work in the area of
social perception cannot be interpreted by Cronbach's system of
analysis since the basis for the researcher's accuracy scores is not
always clearly indicated.

Researchers have cited various factors which influence the
accuracy of judgments—the relationship between judge and subject, the
characteristics of the subject, and the type of judgment. These
factors tend to interact. Although the degree of similarity between

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23Lee J. Cronbach, "Processes Affecting Scores on 'Understanding
of Others' and 'Assumed Similarity,'" Psychological Bulletin, 52
(1955), 177-193.
judge and subject could increase accuracy of rating, it could also increase the tendency for favorable ratings. Length of association or a knowledge of the subject, particularly if accompanied by positive feelings, may increase accuracy or otherwise influence evaluation. Open expressive types of subjects are easier to rate accurately than concealed types. Some traits are more easily recognized and identified than others. The type of judgment required may influence the accuracy of judgment since global or intuitive judgments and analytical judgments are believed to be different abilities. For an analytic judgment, the judge quantifies specific characteristics of the subject. For a global judgment, the judge matches descriptions with persons or predicts behavior. Analytic judgments tend to have a higher correlation with intelligence than do global judgments. Taft concludes that accurate global judgments are more a function of good perceptual and judgmental attitudes than of abstract intelligence. Global judgments are believed to be a form of empathic judgment.

Researchers in the area of accuracy of perception considered the possibility of a generalized ability to judge others. Early researchers assumed the existence of a generalized trait and concentrated on the characteristics of the judges; later, researchers began to question the assumption. Due to the technical problems involved in measuring perception accurately, researchers have had difficulty in reaching a conclusion. It would be a greater error to consider the ability completely

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specific than to consider it completely general, according to Allport in 1937. Taft, in 1955, concurred with Allport's conclusion. Taft stated that: "...if the judge is motivated to make accurate judgments about his subject and if he feels himself free to be objective, then he has a good chance of achieving his aim, provided, of course, that he has the requisite ability and can use the appropriate judgmental norms."

Cline and Richards concluded that there is a general ability to judge the emotions but that it is factorially complex, composed of several independent components. It is possible to develop tests that have generality if researchers are careful to ensure generality.

The Good and Poor Judges of Persons

The earliest study on the characteristics of judges was by Adams, who found that the accurate judge tends to be introverted, unsociable, egotistical, cold blooded, and exploitive. Allport and Vernon also found good judges to be somewhat introverted. In general, the findings

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of Adams have been confirmed by Taft\textsuperscript{30} and Vernon.\textsuperscript{31} Vernon identified three types of judges, accurate raters of themselves, of friends, and of strangers. Good judges of self seem to possess a sense of humor, high abstract intelligence, and moderate artistic ability. Good judges of friends were more artistic, less intelligent, and somewhat introverted. Good judges of strangers were intelligent, artistic, and somewhat introverted.

The relationship of these three variables—sociability, intelligence and artistic ability—to accuracy in the perception of persons is a complex one. The research of Adams, Allport, Vernon, and Taft supported the conclusion that good judges are slightly introverted; others, for example, Hanks\textsuperscript{32} find no relationship between social adjustment and accuracy in perception. Travers,\textsuperscript{33} and Cotrell and Dymond\textsuperscript{34} find social adjustment and accuracy in judgment positively correlated. The non-analytic judgments involved in many of these


\textsuperscript{32}L. M. Hanks, Jr., "Prediction from Case Material to Personality Test Data: A Methodological Study of Types," \textit{Archives of Psychology}, No. 207 (1936), 29.


In the area of esthetic sensitivity, researchers have obtained correlations between tests which measure ability to follow traditional artistic rules and accuracy in analytic judgments; however, these tests did not correlate with non-analytic judgments. It is possible that the high correlations obtained are a function of intelligence rather than of artistic ability.

Studies of self-adjustment and accuracy and of self-insight and accuracy have also yielded inconsistent findings. Positive correlations have been obtained for analytical judgment and self-judgment and for analytical judgment and self-insight but not for non-analytical judgments. Researchers have also obtained positive correlations between consensual measures of insight in which insight was defined as agreement of self ratings with ratings of others but did not obtain definitive results when independent measures of insight were employed.

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Although studies of young children\(^3\) support the conclusion that empathy increases with age, studies dealing with adult subjects did not find increase in empathy with age, according to Taft\(^3\). Findings tend to support the conclusion that there is no difference between the sexes in accuracy of perception, or, at best, that women may be slightly superior to men in this ability. Detachment contributes to accuracy of perception. Little evidence is available to draw conclusions concerning the effects of experience or family background on accuracy of perception of personality.

Smith\(^3\) has summarized a number of studies dealing with the effects of training on sensitivity. The general conclusion of these studies is that training does not increase sensitivity.

The last area reported in this survey of research concerns the relationship of leadership to social perception, an area which is the concern of the present study. Research in this area will be covered in Chapter III but can be summarized briefly to state that many studies suggested positive relationships between social perception and leadership, but others obtained negative findings. In 1948, Stogdill\(^4\)


\(^3\)Taft, "Ability to Judge," p. 6.

\(^3\)Henry Clay Smith, Sensitivity to People, pp. 7-8.

surveyed research studies dealing with leadership variables and con-
cluded that: "... alertness to the surrounding environment and
understanding of social situations are intimately associated with
leadership ability, yet very little is understood regarding the nature
of these processes." In 1960, Bass\(^1\) concurred. No studies to date
provide a definitive answer to the problem. There are several expla-
nations for conflicting data. First, discrepancies may be accounted
for by some technical problem such as projection and similarity
between subject and judge. Campbell\(^2\) suggests that some of the
correlations between leadership and perception may be accounted for
by statistical artifacts resulting from methods of deriving measures
of leadership and insight. Talland\(^3\) suggests that the superior
sensitivity of the leader may be accounted for by his ability to
influence group opinion. The leader's greater interaction with members
of the group may provide him with greater knowledge of group-relevant
issues. Finally, the leader may, in fact, have a higher degree of sensi-
tivity to group members. The design of the present study which proposes
to investigate sensitivity and leadership is presented in Chapter II.

\(^1\)Bernard M. Bass, *Leadership, Psychology, and Organizational

\(^2\)Donald T. Campbell, "An Error in Some Demonstrations of the
Superior Social Perceptiveness of Leaders," *Journal of Abnormal and

\(^3\)George A. Talland, "The Assessment of Group Opinion by Leaders
and Their Influence on its Formation," *Journal of Abnormal and Social
Psychology*, 49 (1954), 431-434.
CHAPTER II

THE DESIGN OF THE STUDY

The Purpose of the Study

The purpose of the present study is to investigate the relationship between subject's scores on three measures of social sensitivity and rankings of subject's performance in a discussion group, in order to determine the relationship between social sensitivity, as defined in this study, and leadership in discussion. The three measuring scales in this study were the Knower Non-Verbal Sensitivity Test, discussed in Chapter I, and two scales developed by this writer, the Social Concern Scale and the Feeling Scale. Three types of rankings are used in the study, self rankings, peer rankings, and instructor rankings. The subjects were 140 students from basic speech and discussion sections at The Ohio State University and State University College at Brockport, New York.

The basic approach of the study was (a) to test subjects on social sensitivity, (b) to identify leaders and non-leaders, and (c) to analyze the data. This approach involved the problems of identifying leaders and non-leaders, measuring sensitivity, conducting the investigation, and analyzing the data. These problems are discussed in the remainder of this chapter.

Findings on leadership are to some degree influenced by the
method of measurement and evaluation used by the researcher according to Bass. It was, therefore, considered advisable to employ several methods of measurement in order to explore the relationship between sensitivity and leadership in depth and to compensate for any limitation in one type of measurement. The following criteria were applied in selecting methods for identifying leaders and non-leaders:

1. Methods should possess some degree of reliability and validity or have been accepted as reliable instruments by other researchers.
2. Methods should be simple to administer and easy to interpret.
3. Methods should be inexpensive to administer.

A number of methods have been developed for identifying leaders, including lists of leadership traits, job placement ratings, projective techniques, such as the Thematic Apperception Test, and systems for categorizing interaction such as those of Bales or Bennie and Sheats. The methods described do not clearly meet the criteria established in the preceding paragraph. Attempts to identify leadership traits have not proved too successful; projective tests are time-consuming and may pose difficulties in interpretation; job placements would not be applicable; and systems for categorizing interaction would require a large number of judges for recording interaction.

Other methods of identifying leadership include the use of leaderless group discussion, sociometric ratings, self ratings, and nominations by outside observers. These methods fulfilled the selected

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criteria. The decision was made to utilize leaderless group discussions to provide a situation in which leaders could emerge and be identified by peer ratings, self ratings, and instructor ratings. Bass examined twelve studies of leaderless group discussion and concluded that it is a valid means of measuring successful leadership. Carter and his associates noted that leaders who emerge in leaderless discussion groups tend to behave in a more authoritarian manner than do appointed leaders. However, the past experience of this writer has shown that appointed leaders do not always possess the necessary qualifications for leadership. The present study requires that leadership be accurately identified; therefore, the decision was made to utilize the leaderless group, with the assumption that the findings relate to one particular style of leadership, that of the authoritarian leader.

Sociometric ratings are designed to provide efficient and reliable estimates for the direct assessment of leadership. Hollander and Webb analyzed the peer ratings of Naval Aviation Cadets and concluded that peer ratings were primarily evaluations of the subject's potential for leadership and were largely independent of friendship choices of group members. This researcher has experienced some student reluctance to

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evaluate peers and has observed a tendency to assign equal ratings to members of their group. Therefore, it was decided to use a rank order scale with a forced distribution of ranks ranging from "contributed most" to "contributed least" to the discussion. Although occasional students were unable or unwilling to rank their peers, this problem was minimized by the rank order scale.

Green, in a study of insight and group adjustment, found only slight differences between self-estimates of subjects' position on a leadership scale and peer estimates. Therefore, one might expect that self rankings would tend to corroborate peer rankings.

For this study, measurements of observable behavior fall into three types, peer evaluations, self evaluations, and observations of judges. For the sake of thoroughness, it was decided to include instructor rankings as an additional method of assessing leadership. The training and experience of the instructor and his familiarity with the students in his class should enable him to make useful assessments of leadership in the discussion group.

**The Measurement of Sensitivity**

Research on social perception and leadership has been concerned with the ability of the subjects to predict group opinion or responses of group members to questionnaires. The present study, however, takes a different approach to the measurement of sensitivity. Although the Knower Non-Verbal Sensitivity Test was developed as a measure of the

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5George H. Green, "Insight and Group Adjustment," *Journal of Abnormal and Social Psychology, 43* (1948), 49-61.
accuracy of perception, it was employed in this study as a measure of the degree of sensitivity of subjects. The assumption was that those who accurately identify more emotional expressions were more sensitive than others who scored lower. The test was included to determine whether the person who is more sensitive to external expressions of emotions is more successful as a leader. The Social Concern Scale was designed to measure the degree to which the subject tended to respond, either favorably or unfavorably, to social issues. The test investigated whether leaders were more sensitive than followers to social issues. The Feeling Scale was designed to measure the intensity of subject's affective reactions in evaluating others and to determine the relationship of this evaluative tendency to success in leadership. It is hoped that this approach to the measurement of sensitivity will contribute to greater understanding in this area.

Definition of Terms

Terms used in the study were defined in the following manner:

Social Sensitivity was considered a general tendency to respond to specific stimuli measured by the three scales employed in this study, the Social Concern Scale, the Knower Non-Verbal Sensitivity Test, and the Feeling Scale. Social sensitivity was operationally defined as the subject's scores on these three instruments.

The Social Concern Scale was designed to measure the subject's sensitivity to social issues. Social concern was operationally defined as the subject's tendency to move to extreme positions on the scale.

The Knower Non-Verbal Sensitivity Test measured the subject's ability
to perceive the intent of expressed emotions as they are conveyed by visible and audible cues. Sensitivity was operationally defined as the number of correct answers for the test. A high score was interpreted as indicating a high degree of sensitivity. The Feeling Scale was designed to measure the intensity of the subject's attitude toward concepts which describe the characteristics of discussion participants. Sensitivity on this scale was operationally defined as the subject's tendency to move to extreme positions on the scale. A high score on the Feeling Scale was interpreted as indicating a high degree of sensitivity to concepts appropriate to discussion participants and the strength of evaluative reaction to other participants.

Rank in discussion is the subject's position in the social structure of the group. Groups were ranked from one for the top person in the group to five, six, or seven for the bottom person in the group, depending on the size of the group. A basic assumption of the study was that the rank received indicated the subject's leadership, influence, or contributions to the task of the group. The leader was operationally defined as a subject receiving a rank in the upper half of the group on the discussion evaluation form. A non-leader was operationally defined as a subject receiving a rank in the bottom half of the group on the discussion evaluation form.

Hypotheses for Testing

If leaders are more sensitive than followers, one could reasonably expect that sensitivity scores would correlate with rankings of
the subject's position in the group. It is also possible that acceptance as a leader is a function of sensitivity plus other leadership variables such as linguistic ability, skill in communication, judgment, originality, flexibility. Such a relationship might be represented by the following model: \( L = S + LV \). This model assumes that a leader must have sensitivity and other necessary leadership qualities not defined in the present study. A lack of sensitivity or of these leadership variables would result in the subject's rejection as a leader should he attempt leadership. If this model accurately represents the relationship between leadership and sensitivity as it is defined in this study, leaders would consistently score higher on sensitivity than non-leaders. One should, therefore, expect a significant difference between the correlations of scores with ranks for high scoring and low scoring subjects. The sex of the subject may also be a factor which can effect the relationship between sensitivity and leadership.

Two major hypotheses were established to test this model.

**Hypothesis I:** Subject's scores on sensitivity scales would not correlate significantly with rankings of performance in discussion. This hypothesis was divided into four sub-hypotheses as follows:

**Hypothesis I-A:** The total sample of subject's scores would not correlate significantly with rankings of performance in discussion.

**Hypothesis I-B:** The scores of male subjects would not correlate significantly with rankings of performance in discussion.

**Hypothesis I-C:** The scores of female subjects would not correlate significantly with rankings of performance in discussion.
The sub-hypotheses, I-A, I-B, and I-C, required testing each of the three sensitivity scales and the three methods of ranking.

Hypothesis I-D: Multiple correlations of subject's scores would not correlate significantly with rankings of performance in discussion.

Hypothesis II is designed to test the significance of the difference between scores.

Hypothesis II: There would be no significant difference between sensitivity scores of subjects. Hypothesis II was divided into three sub-hypotheses.

Hypothesis II-A: There would be no significant difference between the three sets of sensitivity scores.

Hypothesis II-B: There would be no significant difference between the scores of male and female subjects.

Hypothesis II-C: There would be no significant difference in the size of correlations between scores and ranks for high scoring subjects and for low scoring subjects.

The Development of the Measuring Instrument

The design of the experiment included measuring subjects on three sensitivity scales and a form for evaluating discussion. Two of these scales and the evaluation form were developed for the present study. The Non-Verbal Sensitivity Test was developed and subjected to extensive testing by Dr. Franklin H. Knower of the Ohio State University and has been reported in Chapter I.

The Social Concern Scale: The Social Concern Scale, a four-page booklet, consists of sixty-six statements on current social issues.
The subject evaluates each issue by marking an accompanying IBM-type answer sheet with five choices ranging from "strongly agree" to "strongly disagree." The terms used in evaluating the issues are a standard type widely used in Likert scales and subjected to extensive testing by other researchers. During the development and testing of the scale, subjects experienced no difficulty in understanding the directions for the scale or the statements contained in the scale.

The scale was scored in the following manner: items which the respondent marks "strongly agree" or "strongly disagree" received a value of 2. Items which the respondent marked "agree" or "disagree" received a value of 1. Items which the respondent marked "undecided" received a value of 0. The values were arranged thus: 2, 1, 0, 1, 2. Sensitivity was defined in terms of the subject's tendency to move to extreme positions on the scale. The subject's score was obtained by adding the value of the response on each item. A high score on the scale was tentatively interpreted as indicating a high degree of sensitivity to social issues subject to verification in the actual study. For the purpose of the present investigation, no distinction was made between strong positive responses and strong negative ones.

In the initial development of the scale, half the items were worded positively and half negatively to compensate for any tendency of the respondent to favor either positively or negatively worded items. With the present method of scoring, this distinction became less important. The division into positively and negatively worded items has been retained in the scale for the following reasons: first, because the discrimination power of the items had been established on
an acceptable level and any revision of the item would have necessitated further testing. Limitations of time and the availability of fresh subjects posed difficulties. Second, it was felt that positive and negative wording of the scale would serve to mask the true purpose of the scale; and third, subjects who felt tempted to complete the scale hurriedly by agreeing with every statement might be discouraged.

The scale was constructed during the fall, 1969, and the spring, 1970. Subjects used in the development of the scale were students in the basic speech and discussion sections at State University College, Brockport, New York.

Once the preliminary design of the scale had been developed, work began on the collection and phrasing of items for the scale. These were obtained from a number of sources, including suggestions by Dr. Knowler, friends, relatives, and newspaper items. In addition, sixty students in basic speech and discussion sections at State University College submitted items which they felt were important. A composite list was compiled from these suggestions and a tally made of the frequency with which each item was mentioned. Items suggested by five or more students were retained on the list. The initial version of the scale contained 120 items. The scale underwent three revisions. Each revision was tested on State University College students and an item analysis was performed on the data. For the final version of the test, sixty-six items with a minimum discrimination power of at least .20 were retained. The discrimination power of items in the test ranged from .21 to .77. This version of the scale was tested in a
lecture section of 95 students who had no previous exposure to the scale. A split-half correlation on the data obtained an $r$ of .77, which was corrected to .87 using the Spearman-Brown formula. The scale was judged to have sufficient reliability for use in the present study.

The Knower Non-Verbal Sensitivity Test: This test, which is also known as the Non-Verbal People Reading Test, measures the ability of a subject to identify eleven emotional states as expressed by a male and a female performer. The test consists of twenty-two 35 mm. slides, a tape recording, and answer sheets. It requires a slide projector and a tape recorder and can be administered in thirty minutes.

The test consisted of three parts. Part one—the twenty-two slides—tested the ability of the subject to identify visual expressions of meaning. Part two and part three—the tape recording—tested the ability to identify audible expressions of meaning. In Part two, a male performer and a female performer express the same eleven emotional states tested in Part one by reciting alphabet letters. Verbal meaning has been eliminated by this procedure. In Part three, meaning conveyed by vocal tone has been eliminated by the use of whispered speech. The order of presentation of the eleven emotional states has been varied for male and female performers and for each part of the test.

The answer sheet for the test consists of a heading at the top of the page and a column on the left hand side with lists of grouped descriptive terms. Each group consists of three terms which are synonymous for one of the emotional states; for example, laughter, glee, merriment. Opposite this list of descriptive terms are six columns, one for each area tested—man's picture, woman's picture,
man's voice, woman's voice, man's whisper, and woman's whisper.

The test is administered in the following manner: The slides are arranged in a predetermined order. The person administering the test calls out the number of the slide about to be shown. The slide is shown for ten seconds and subjects are then allowed twenty seconds to mark their answer sheet. The same basic procedure is repeated in the tape-recorded sections of the test. A neutral voice on the tape announces the number of the test item; this is followed by about ten seconds of recorded material and twenty seconds of silence. Subjects are asked to match the number of the item with one of the groups of terms describing emotional states. The procedure is repeated for each of the six columns.

The test is scored by matching the subject's answers with the known intent of the performers who made the pictures and tapes. The subject received one point for each correct answer, with a possible score ranging from 0 to 66.

The Feeling Scale: The Feeling Scale was constructed using the Semantic Differential method of Osgood, Suci, and Tannenbaum. The Feeling Scale consists of one page of directions and two pages containing twenty-two terms describing the characteristics of discussion participants. Subjects evaluate each concept by placing an X on one of seven spaces located between a pair of polar opposites. Three pairs of polar opposites, bad-good, valuable-worthless, and successful-unsuccessful, are used to evaluate each of the twenty-two concepts, a total of sixty-six items in the scale. Values are assigned to the seven spaces on the scales in this manner: 3, 2, 1, 0, 1, 2, 3.
The scale is scored by summing the value of the responses. This follows a standard scoring procedure for the semantic differential with the exception that no distinction is made between positive and negative ends of the scale. Subject to further validation, it is assumed that a high score on the Feeling Scale is an indication of a high degree of sensitivity.

Construction of the Feeling Scale began in the fall, 1969, and was completed in July, 1970. The first step in the construction of the scale was to obtain descriptive terms for use in the scale. Approximately 100 terms were collected from 110 students in basic speech and discussion sections and from nine faculty members in the Speech Department. Once the preliminary version of the scale had been constructed, it was tested and revised during the fall and spring semesters. The directions for the scale were revised and tested until it met certain internal test standards. Concepts receiving predominantly neutral responses were eliminated from the scale. The choice of polar opposites was determined by a process of trial and error testing. The polar opposites bad-good were used as a basis for evaluation.

Intercorrelation between the pairs of polar opposites ranges from .40 to .60. As the scale approached its final form, it was tested for reliability. The original version of the scale contained both positive and negative concepts, but the inclusion of negative terms tended to reduce the internal consistency of the scale. Therefore, the negative terms were dropped from the scale.

The scale was administered to eighteen State University College students and tested for internal consistency using a split-half
correlation. A Pearson product-moment correlation of .98 was obtained. The same version of the scale was tested on sixty Ohio State students and a Pearson product-moment correlation of .85 was obtained which was corrected for length to .91. The scale was judged to have sufficient reliability for use in the present investigation.

The Discussion Evaluation Form: During the time that the two scales were being developed and tested, a discussion evaluation form was also being developed and tested on students in this writer's discussion sections. The basic problem encountered in the development of the form occurred in writing a clear set of directions. Three versions of the form were tested on students and the final version produced no misinterpretations. It was, therefore, found to be satisfactory.

In completing the discussion evaluation form, subjects listed the name of the participant who had contributed the most to the discussion. Next, they listed the name of the participant who had contributed least to the discussion and filled in the names of the remaining participants in the order of their contributions to the discussion.

Peer rankings were determined by assigning numbers to the ranked list of participants with the number 1 designating the participant listed as having contributed most to the discussion; the number 2, to the participant ranked second in total contributions, and so forth. All the rankings received by each participant from the group, with the exception of self rankings, were summated and arranged in order from the lowest score to the highest score. The participant receiving the lowest sum would be assigned the rank of 1; the next lowest, the rank of 2. In the event that two participants were tied for the same
rank, the decision concerning the assignment of a rank would be determined by a coin flip in order to eliminate any systematic bias in selection. However, this contingency did not become necessary.

The Discussion Case Problem: As an aid in standardizing the conditions under which the experiment was conducted, a one-page discussion case problem was used during the experiment. The problem involves a male executive's promotion and later demotion of a female employee. Past experience has shown that this problem never failed to produce involvement in the discussion by participants of both sexes. All necessary information is provided in the problem. Since the subjects in the experiment were college freshmen and juniors, it seemed unlikely that this industry-related situation would be within the experience of many of the subjects. The problem was used at Ohio State University while the author was a teaching assistant in discussion but had not been used at Ohio State University or State University College since that time, and subjects would have had no prior exposure to the problem.

The Discussion Pattern: A discussion pattern was included with the case problem as a means of standardizing the approach of discussion groups and reducing variables within the situation. The pattern used was Larson's modification of the ideal solution pattern.

A copy of the Social Concern Scale, the Feeling Scale, the Discussion Evaluation Form, and the Discussion Case Problem is to be found in the appendix.

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Procedures Followed in the Study

The general approach used in the study had been worked out prior to the development of the measuring instruments. After completion of the development and testing of the measuring instruments, a detailed design was worked out for conducting the study.

The experiment required two fifty-minute class periods. During the first period, the Knower Non-Verbal Sensitivity Test and the Social Concern Scale were administered. During the second class period, subjects participated in a twenty-five minute discussion, ranked participants in the discussion, and completed the Feeling Scale.

The First Hour: Materials needed included:

1 slide projector (35 mm.)
1 tape recorder
1 reel
1 projector screen, if needed
1 set of slides for the Knower Test
1 tape for the Knower Test
Answer sheet for the Knower Test for each subject
1 set of Social Concern Scale for each subject
Answer sheet for Social Concern for each subject
1 duplicate set of slides for the Knower Test for emergency use
1 duplicate tape for emergency use
1 extension cord, if needed
Preparations prior to the experiment: Trial runs have demonstrated that it is possible to administer both the Non-Verbal Sensitivity Test and the Social Concern Scale in one class period if the following preparations have been made in advance:

1. Check the classroom:
   a. Check layout of room and determine placement of equipment.
   b. Check the location of the electrical outlet and its condition.
   c. Determine whether a projector screen or extension cord will be needed.

2. Meet with instructors in the class sections used in the experiment and explain procedures.

3. Prepare materials for each section to be tested.
   a. Count out Social Concern Scales, one scale for each student enrolled in the section.
   b. Check each scale to insure that it is readable and has the correct number of pages in proper order.
   c. Insert one Know er Non-Verbal Sensitivity Test answer sheet and one Social Concern answer sheet in each Social Concern Scale booklet.
   d. Check the slides for the Know er Non-Verbal Sensitivity Test.
      Place in the proper order. Check duplicate set.
   e. If using a drum-type slide projector, insert the slides in the drum in the proper order and check.
   f. Test the slide projector
   g. Test the tape recorder.
h. Set up the tape recorder in the classroom and cue up the tape to the first test item.

Conducting the Experiment

1. Give a brief introduction to the experiment.
2. Hand out test booklets and ask subjects to sign both answer sheets.
3. Explain the procedures for taking the Knower Non-Verbal Sensitivity Test.
4. Administer the Knower Non-Verbal Sensitivity Test.
5. When the Knower Test has been completed, instruct subjects to take the Social Concern Scale.

The Second Class Hour: Materials needed included:

- 1 dittoed discussion problem for each subject
- 1 Feeling Scale for each subject
- 1 discussion ranking form for each subject

Preparations prior to the experiment:

1. Count out one Feeling Scale for each subject enrolled in the section.
2. Check each scale to insure that it is readable and has the correct number of pages in the proper order.
3. Staple a discussion ranking form to each Feeling Scale.
4. Count out one discussion problem for each subject.

Conducting the experiment:

1. At the beginning of the class period, hand out the discussion problem and ask subjects to read it. (5 minutes.)
2. While the subjects are reading the problem, ask the instructor to
divide the subjects present into groups and to assign one person to each group whom he would consider to be an effective leader; also, to assign one person to each group whom he would consider to be an ineffective participant. Instructors may wish to prepare this in advance, but the final assignments depend on the subjects present at the time of the experiment.

3. Allow the group twenty-five minutes to discuss the problem.

4. At the end of the time, hand out the Discussion Ranking Form with the attached Feeling Scale.

5. Ask subjects to rank the members of the group in which they have just participated and then to complete the Feeling Scale. Allow five minutes for the ranking and ten minutes to complete the Feeling Scale.

6. Ask instructors to rank students in their sections using the same form.

Analysis of the Data

The statistical treatment of the data obtained by the experiment will be presented in Chapter IV. The findings and conclusions based on the statistical analysis will be presented in Chapter V.
CHAPTER III

RELATED STUDIES

Researchers have long considered the possibility that a leader may possess a greater degree of social sensitivity than other group members and that this may have some effect on group functioning. Research findings in this area, however, tend to be confused and sometimes contradictory. In 1948, Stogdill surveyed twenty-eight studies dealing with the relationship between sensitivity and leadership and concluded that, although very little is understood regarding the nature of the relationship between understanding or perception and leadership, such a relationship does exist. In 1960, Bass reached a similar conclusion in his survey of research on leadership. Campbell suggested that the supposed superior sensitivity of the leader may be due to a statistical artifact resulting from methods of deriving measures of leadership and insight.


An examination of the literature reveals that research studies of empathy, insight, understanding, sensitivity, and social perception have investigated the relationship of leadership and sensitivity, the nature of the trait, and the effects of sensitivity in leadership on the situation. Methods for the measurement of leadership and of sensitivity are numerous, including projective techniques, questionnaires, sociometric choices, observations, rankings, self rankings, and situational tests. Researchers also utilized different approaches for identifying leaders in groups. The research reported in this chapter deals with various aspects of the relationship of leadership and sensitivity. The conclusions derived are sometimes contradictory.

Hites and Campbell\(^1\) used a "percentage estimate" technique to test the ability of fraternity leaders to estimate group opinion on topics of direct concern to fraternity members. The measuring instrument consisted of a nineteen-item questionnaire which tested the attitude of the group toward its leaders and the attitude of individuals toward the fraternity and the physical environment. Two forms of the questionnaire were administered, an unsigned form and a signed form. The signed form contained five additional items from national public opinion polls. In addition, the subjects estimated the percentage of subjects who answered yes to each item. Subjects were eight fraternities at The Ohio State University. Fraternity

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opinion was computed for each item and an error score was computed for each subject by finding the difference in percentage between the subject's and the group's estimates. A single classification analysis of variance was computed between the error scores of elected leaders, appointed leaders, and non-leaders in each fraternity. Hites and Campbell found no level of leadership consistently better than the other levels in estimating group opinion. These findings may be attributed to the homogeneous nature of fraternity groups and the high rate of interaction among members.

Marchetti\(^5\) studied five stores in a supermarket chain to determine whether "understanding" was a factor in the manager's effectiveness as a leader. Understanding was defined as sensitivity to the values, motives, attitudes, and sentiments of group members. Two subordinates of each store manager ranked manager effectiveness and efficiency of operation. These predictions were compared with the self-ranks of the managers. Marchetti obtained a negative correlation which was not statistically significant.

Van Zeist,\(^6\) on the other hand, concluded that there was a relationship between scores on an empathy test and measures of leadership. Subjects were sixty-four business agents for A. F. of L. building trades unions in the Chicago area. In Part one of the


empathy test, subjects ranked various types of music according to popularity among non-office factory workers; in Part two, subjects ranked fifteen well-known magazines by total circulation; and in Part three, subjects ranked ten common annoying experiences in order of annoyance to the general population. The data for the test was verified by record sales, circulation figures, and research studies. Measures of leadership were derived from rankings by union officials, votes received by the individual in union elections, scores on the File-Readers "How Supervise?" test, and success in organizing and recruiting new members, settling grievances and enforcing rules and regulations. A multiple correlation of .76 was obtained between the scores on the empathy test and the leadership criteria. Van Zelst concluded that the empathy test may be profitably employed in the prediction and selection of potential union leaders.

Bell and Hall7 studied the relationship between the individual's ability to perceive the needs of other group members (empathy) and his leadership position. Subjects were divided into five-member, initially leaderless groups. Two measures of empathy were used, Dymond's based on each five-man group, and Kerr's, which were independent of groupings. Leadership was measured by peer ratings of group members. Bell and Hall obtained high correlations between the measures of empathy and peer ratings.

Lansing\textsuperscript{8} found that performance of leadership is related positively to status and to the accuracy of self perception and social perception. Leadership was dependent on the interrelationship of personality and social factors.

Several researchers have investigated the relationship between the leader's sensitivity and its effect on group productivity and effectiveness. Nagle\textsuperscript{9} investigated the relationship between supervisor's sensitivity to employee attitudes and production ratings of supervisors. Productivity ratings of fourteen departments were made by six executives in a large industrial plant. Employee attitudes were measured by a questionnaire which tested the employee's attitude toward his supervisor, the company and plant management, and work-related areas. Correlations between average attitude in these areas and productivity supported the hypothesis that productivity is related to employee attitude. The fourteen supervisors predicted how their employees would respond to the attitude questionnaire. The three measures of sensitivity tested by the questionnaire were found to be highly interrelated. A supervisor who was sensitive to employee attitude in one area tended to be sensitive in other areas, although the degree of sensitivity varied. Favorable employee


attitudes were related to greater sensitivity on the part of supervisors. Sensitivity and productivity were also correlated. The degree of sensitivity seemed to be negatively related to the supervisor’s degree of ego involvement.

Fiedler conducted extensive research with a variety of groups, using Assumed Similarity of Opposites (ASo) scores and Least Preferred Co-worker scores (LPC) to determine whether the leader’s perception of co-workers influences the effectiveness of the group. LPC and ASo are measures of interpersonal attitudes which reflect the differences in the ways different types of leaders perceive their followers. The assumed similarity between opposites score (ASo) is obtained by having a subject predict the responses to a personality questionnaire of a person with whom he prefers to work, and then, the responses of a person with whom he least prefers to work. A person who perceives his most and least preferred work companions as similar has a high ASo and tends to seek closer emotional relations with others, to promote member satisfaction, to be more compliant, and more nondirective. The low ASo person is a person who perceives marked differences between the most preferred and least preferred co-worker; he tends to be more task oriented, to give more suggestions leading to solutions and to be less tolerant and more controlling in conducting group interaction. The LPC score is one component of ASo and is obtained by summing the item scores for the least preferred

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coworker. Low LFC leaders are less concerned with pleasant group relations and more with demanding group participation in completing the task. Fiedler's investigation was conducted with various groups. The informal groups included fourteen high school basketball teams. The leader of the team was identified by means of sociometric questions. Team functioning correlated negatively with the leader's ASo score. A study of 22 student surveying parties cross-validated these findings. He extended his studies to groups with appointed leaders to determine whether effective teams chose low ASo leaders or whether low ASo leaders made their teams effective. His studies dealt first with fifty-three bomber crews and then with eleven army tank crews. In these studies, significance between leader's ASo score and performance occurred only if the leader was sociometrically the most chosen member of the crew. Under these conditions, the correlation was negative for crews in which the leader endorsed his keyman and positive when the leader rejected his keyman. The relationship seemed to be contingent on sociometric choice within the group. This result was upheld in a study of farm supply cooperatives in which he tested members of the board and the general and assistant manager. Thus, ASo or LFC scores predicted leadership effectiveness to the degree to which good relationships existed between group members and their leader; the direction of the relationship depended on the leader's relations with key group members and on the group task. A further series of studies conducted by Fiedler in 1962, demonstrated that high LFC leaders performed better in stress-free, creative situations; low LFC leaders, in
less pleasant, more tension-producing situations. Since different types of groups operated best with different types of leaders, Fiedler felt that prediction of leadership effectiveness by means of LFC scores was contingent on classification of group situations. His classification was based on three dimensions of the group-task situation: leader-member relations, task structure, and leader position power. The leader must diagnose the group-task situation to capitalize on his own particular style of leadership.

A number of researchers have used Fiedler's LFC or ASO scores in their study of the relationship of leadership and sensitivity to the group situation. The LFC and ASO scores have provided these researchers with reliable measures of the leader's perception of his co-workers. Gruenfeld, Rance, and Weissenberg11 studied 24 male students, 12 with the highest LFC scores in a group of 126 students and 12 with lowest LFC. Their study provides evidence for the validity of Fiedler's LFC measure as a predictor of the group leader's behavior. Varying leader-group relations by using three induced group conditions—group support, group medium support, and group deprivation, they found that the more tolerant raters (high LFC) were less dominant, less stress-producing, more accepting, and more tension releasing than intolerant raters (low LFC). Differences between high and low LFC's behavior were not accentuated with

decreased favorability of the group atmosphere. The major effect of group atmosphere differences was an increase of attempts at dominance by low LFC's and an increase of tension release behavior by high LFC's. Like Fiedler's contingency model, the study predicts that high LPC leaders will be more effective, produce significantly more problem solutions and feel more satisfied with group experience. Gruenfeld and his associates conclude that affective leader-member relations is an important situational determinant of leadership behavior.

Hill\textsuperscript{12} also worked with Fiedler's Contingency Theory of leadership effectiveness. He studied interacting groups in an electronics firm and coacting groups in a teaching hospital. Supervisors were classified as task-oriented or relations-oriented on the basis of Fiedler's LPC score. Leader-member relations were classified according to leaders' perceptions of group atmosphere; three judges classified structured and unstructured tasks and strong or weak position power. Supervisors rated leadership effectiveness. The correlations obtained in the study fit into the results reported by Fiedler. Hill concluded that moderately poor leader-member relations increased the anxiety of the high LPC leader and his attempts to improve relationship actually interfered with the performance of a well-structured task. A low LPC leader continues task performance improvement for greater effectiveness under conditions of moderately poor group relations.

When leader-member relations are moderately poor, the task unstructured and position power strong, high LPC leaders are more effective than low LPC leaders.

Maas examined the hypothesis that personal and group factors are jointly related to modifications in leaders' social perception. He studied 22 liberal arts juniors who were counselors of various types of youth groups throughout the community. Changes in leader's perception were measured through a content analysis of the first 2 and last 2 entries in the leader's diary of group meetings. Maas categorized leader's perceptions as J-reactions, perceptions distorted by judgments and biases which prevented the leader from understanding behavior, and C-reactions, perception with causal inferences which led to appropriate action. A leader should increase his C-reactions and decrease his J-reactions to increase his effectiveness in the group. Maas categorized leader's personality traits by an analysis of their autobiographies. The x-type (projective), characterized by high superficial self confidence, had less inclination to adjust to others and functioned best in open groups where they could feel significant in the group interaction. Y-type (introjective) leaders were more submissive in nature and functioned with less anxiety in closed groups where demands were lighter and they could participate without feeling threatened. Y-type leaders in closed groups and x-type leaders in open groups showed the desired change. The

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opposite arrangement of leader's personality and type of group led to an undesirable increase in J-reactions. Maas felt that these combinations of personal and group factors were apparently related to leader's modification of social perceptions with reference to judgmental and causal inferences about other's behavior.

Chowdhry and Newcomb investigated the question of whether leadership characteristics are more or less specific to particular group situations or whether leadership is a function of a general capacity to judge associates' attitudes. Four existing groups were used in the investigation: a religious group, a political group, a medical fraternity, and a medical sorority. Leaders were determined by sociometric ratings. In addition, subjects answered a three-part questionnaire designed to measure three levels of relevance. Subjects gave their opinions to the statements and estimated the percentage of group members who would agree with the statement. The subject's sensitivity to group opinion was determined by subtracting his estimate of group opinion from the actual group opinion on each issue. Comparisons were made between leaders, non-leaders, and isolates on their ability to estimate group opinion. The findings support the hypothesis that chosen leaders would be superior to non-leaders in judging group opinion on familiar and relevant issues but not on unfamiliar issues. Chowdhry and Newcomb also found that

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differences in age, length of membership, and academic status were not related to leadership, isolation, or an individual's ability to estimate group opinion.

Gage and Exline\textsuperscript{15} used a similar approach to study the relationship between social perception and effectiveness in discussion groups. Subjects in the experiment were delegates to the National Training Laboratory for Group Development. Subjects estimated group opinion on 50 items, group members' satisfaction with the meeting, and then predicted the five most productive members as chosen by group vote. Subjects indicated those group members they would like as companions in their spare time and those most sensitive to the feelings of others. The subject's accuracy of prediction of group opinions, satisfaction, and productivity did not correlate highly or positively with sociometric choice, sensitivity, and ratings of productivity.

Greer, Galanter, and Nordlie\textsuperscript{16} compared the social perception scores of leaders and non-leaders in infantry squads with high performance scores on a field problem. These scores were also contrasted with those of squads receiving low scores on the field problem. Social perception was measured in terms of the subject's perception of the preference hierarchy structure within the squad. Each subject listed squad members in the order in which he liked

\begin{footnotesize}
\textsuperscript{15}Nathaniel L. Gage and Ralph V. Exline, "Social Perception and Effectiveness in Discussion Groups," \textit{Human Relations}, 6 (1953), 381-396.

\end{footnotesize}
them, and in the order in which they were liked by the squad. Data from the first listing established the preference hierarchy. Data from the second listing was used to obtain a discrepancy score for each subject. A high discrepancy score was assumed to indicate less accuracy in perception. Subjects were also divided into two groups, the "Sociometrically popular" and the "Sociometrically less popular" on the basis of a sociometric test. The findings of Greer, Galanter and Nordlie corroborate those of Chowdhry and Newcomb. Appointed leaders were more accurate in their estimate of the hierarchy structure than were non-leaders; popular individuals were more accurate in their estimates than were less popular individuals; and members of effective squads were more accurate in their perceptions than were members of ineffective squads.

Talland, in response to the Chowdhry and Newcomb study, advanced the argument that the leader's superior knowledge of group opinion could be accounted for to some extent by his ability to influence group opinion during the course of a discussion. Talland studied subjects participating in ten therapeutic groups whose membership span ranged from two to eighteen months. Leadership was determined by sociometric rankings on three criterion: dominance, popularity, and leadership role. As a measure of group opinion, subjects ranked fifteen topics in the order of their usefulness to the group. The subject's accuracy in evaluating group opinion was

determined by correlating his rankings with the summated rankings of the group. After group opinion had been measured, the groups discussed the relative usefulness of the topics and presented a collective ranking of the topics. Talland compared the estimates of group opinion by leaders and followers both before and after the discussion. Leaders were no more accurate than followers prior to the discussion; however, after the topics had been discussed, group opinion was closer to the leader's opinions than to that of other group members. Talland concluded that the greater accuracy of the leader in assessing group opinion need not be attributed primarily to greater sensitivity in perception or to greater opportunities for communication.

Ronald Smith\(^\text{18}\) investigated the relationships between interpersonal sensitivity and communication attitudes, behavior, and effectiveness. He studied 282 subjects at a U. S. automobile-manufacturing plant, including foremen, general foremen, shift superintendents, and department superintendents. Within-work-group supervisors ranked their peers on general communication effectiveness. Smith administered an Industrial Communication Questionnaire measuring attitudes toward job communication and self-descriptions of communication behavior. Two observers in two successive periods interviewed 60 subjects to obtain a record of frequency of utterances and eye contact, as well as ratings of basic communication skills and sensitivity as an interviewee. A General Information Questionnaire yielded global self

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\(\text{18}\)Ronald Lee Smith, "Communication Correlates of Interpersonal Sensitivity Among Industrial Supervisors" (unpublished Ph. D. dissertation, Purdue University, 1967).
descriptions. A sensitivity measure composed of forced-choice items was administered to 120 subjects. The subject responded in terms of one or two of his peers. Smith found no stable relationship between interpersonal sensitivity and communication; the mean sensitivity score was only slightly above chance. Neither the total sensitivity test, nor any item-type segment of it, approached internal reliability. The sensitivity measures were intercorrelated, with significant correlations in 13 cases involving biographical items. In the Industrial-Communication Questionnaire, 15 statements correlated significantly with rated communication effectiveness but the correlations were low. 6 statements produced a significant correlation with rated sensitivity, only one more than chance, and the correlations were low.

Gage and his associates made several studies of the relationship between sensitivity and effectiveness. Gage's first study used 60 fifth- and sixth-grade teachers and their pupils. His findings, which were higher in validity than the low reliability warranted, were marred by an artifact which occurs when the trait to be predicted—the opinions of pupils about their school—is either the same as, or correlated with, their opinions about their teacher. In a later study by Gage and Suci teachers in a small high school


predicted the responses of pupils to 60 school-related questions; these were correlated with the means of pupils' ratings of teacher effectiveness. Next, Gage, Leavitt, and Stone\textsuperscript{21} investigated the relationships between three kinds of teacher's understanding of pupils and three corresponding kinds of teacher behavior. The first accuracy measure was the teacher's prediction of pupil's ability to judge which of a pair of test questions from fifth-grade achievement tests was more difficult for fifth-grade pupils in general. The second accuracy measure was the prediction of sociometric choices for each pupil. The third score was for the teacher's accuracy in perceiving emotional adjustment. These accuracy scores were correlated with behavioral descriptions of teachers made by their pupils. The correlations between the accuracy measures and pupil ratings of teacher effectiveness were not significant. The results might indicate that individual differences in teacher's understanding are not great enough to make discernible differences in their effectiveness.

The studies reviewed in the preceding section reflect researcher's interest in determining the degree of sensitivity of group members, particularly of high status group members. The investigators attempted to determine the presence of a greater degree of sensitivity in the leader and the effect of the leader's perception on

group productivity, accuracy, or effectiveness. Chowdhry and Newcomb, Bell and Hall found leaders to be more perceptive than others; Marchetti, Hites and Campbell felt they were not. Nagle, Greer, Galanter, and Nordlie found sensitivity and productivity to be correlated. Talland, Gage and Exline, and Ronald Smith found no relationship between sensitivity and productivity, accuracy, or communication in group activity. However, Fiedler, Hill, Maas, and Gruenfeld, Rance and Weissenberg felt that the leader's perception influenced the effectiveness of the group but that this effect was dependent on the group situation. In the light of these contradictory findings, it is difficult to make conclusions about the relationship of sensitivity and leadership.

Several researchers attempted to demonstrate that part of the problem could be attributed to difficulties in interpreting the data collected by the measuring instruments. Steiner and McDiarmid demonstrated that Fiedler's ASO scores, obtained by summing the squares of the distance separating ratings given to good and poor co-workers, should be broken into two component parts to account for the individual's tendency to regard one co-worker as more desirable than the other. The ASO score is, therefore, a gross measure which combines two logically independent measures. The study consisted of 42 subjects using the Fiedler rating scale administered three times. The first

time the subject was instructed to make realistic self ratings; the second time, optimistic self ratings; and the third time, pessimistic self ratings. A month later the California F scale was administered. Steiner and McDiarmid found that the two components of ASo scores correlated differently. They determined that Fiedler’s ASo scores tended to mask the different personality qualities. A more complex assumption concerning the relationships between ASo and personality variables would seem to be necessary.

Shima also felt that Fiedler’s ASo score should include other factors. He examined the effects of the leader’s perception upon the appropriateness of his actions and upon the group performance. His subjects were high school males. His study supported the validity of Fiedler’s ASo scores, but he suggested the inclusion of a factor which would account for the variability of a leader’s perception. He concluded that the amount of variability of leader’s perception had positive effects on discrimination and prediction and on appropriateness of leadership attempts.

Hollander and Webb studied military groups to determine the validity of peer nominations on leadership in predicting future performance and to define the interrelationship among sociometric


measures of leadership, followership, and friendship. Their sample was 187 Naval Aviation Cadets in a 15-week pre-flight training course. The study employed sociometric nominations—two on leadership and followership, one on friendship. The intercorrelation of the three sociometric variables were significant, with the coefficient between leadership and followership .92 and between leadership and friendship .47. The difference between the three paired correlations was significant beyond .01 and indicated that friendship contributed less to leadership than to followership. A partial r calculated between leadership and followership yielded a coefficient of .90; therefore, friendship appears to have only a negligible effect on the leadership-followership relationship. Hollander and Webb concluded that peer nominations were not "popularity contests;" on the contrary, they were evaluations of leadership potential largely independent of friendship. Peer nominations were also a measure of followership; characteristics of followership seem to be functional components of good leadership.

Berkowitz25 examined the possibility that an individual's social status, determined by peer ratings, plus frequent influence attempts, may be the determining factor in the selection of leaders, regardless of how early in acquaintance they are made. His subjects were the entire USAF Officer Candidate Class, 1954. The group task, to assemble

a foothridge, was observed and leadership attempts recorded. Three sociometric items yielded the number of group members who tried to direct activity, the leadership nomination, and the social desirability measure. The criterion data of effectiveness, collected at the middle and end of the course, was obtained from peer ratings of paired comparisons from which cadets chose the better officer. Those high in leadership status had a high percentage of leading behavior and group participation and were central in group activity, that is, received many remarks from group members. Leadership nominations obtained from a three-day acquaintance were significantly related to the midcourse peer ratings and to the ratings at the end of the course. A multiple correlation between peer nominations, sociability and attempted leadership measures produced an R of .61, significant beyond the .001 level, supporting Berkowitz's hypothesis that subjects nominated as leaders would attempt leadership more frequently and would be rated as desirable social companions.

Steiner and Dodge26 explored the difference between two techniques for obtaining data on interpersonal perception, one measuring perception of another person's real qualities; the other measuring perception of another person's self-percept. The subjects were 60 female volunteers in groups of three performing a group task of building one of four designs, while communicating only by signals. 10 groups were

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frustrated by having the signals scrambled. After completing the
design, subjects named the partner they would retain in a competition
and chose to replace one or both partners in that event. Subjects
made self ratings on nine scales and rated each partner twice on the
same scale, indicating the true answers for the partner and the answer
the partner actually gave. The discrepancies for subjects in the
unfrustrated group were about the same size when rating a chosen or
an unchosen partner. For the frustrated group, discrepancies were
significantly smaller when rating a chosen partner. The mean of all
the discrepancy scores was 7.5, a difference large enough to suggest
that the two techniques were not interchangeable. Because only about
30% of the variance in one set of assumed similarity scores could be
explained as due to the variance in the other set, the two techni­
ques do not appear to be interchangeable. Steiner and Dodge con­
cluded that the two techniques were maximally different when the
group experience is frustrating. In both the frustrated and the
unfrustrated condition, the ratings of the unchosen were most
systematically affected. Steiner and Dodge felt this difference
explained seemingly contradictory findings of different researchers.
Because an individual's perception of another's real qualities need
not coincide with his perception of that person's reported self­
percept, inconsistent findings from the two techniques are not
genuine contradictions.

The following studies are concerned with the nature of empathy
or social perception and its relationship to group status.
Dymond, Hughes, and Raabe\textsuperscript{27} studied second and sixth-grade school children to determine whether empathy changes with age. Empathy was defined as "the ability of transposing oneself into the thoughts, feeling and action of others." Two measures of empathy were used, a projective test based on the Thematic Apperception Test and a Social Insight Measure based on the degree of correspondence between sociometric ratings and self-evaluations of social status. The researchers found that sociometric scores were more highly correlated with social insight than with the projective test scores. A low positive correlation was obtained between the two empathy scores. One conclusion which the authors feel is suggested by the data is that group status is as dependent upon social skills as it is on role-taking ability.

Showel\textsuperscript{28} expanded the concept of social perception to include knowledge of factual data concerning fellow trainees. Subjects were 28 infantry trainees. He compared knowledge of trainees by leaders and non-leaders with ratings of leadership potential. Accuracy of social perception was measured by an Interpersonal Knowledge questionnaire on fellow trainees. Subjects provided information concerning themselves, trainee squad leaders, and non-leaders. These reports on leaders and non-leaders were compared with self reports to determine


\textsuperscript{28}Morris Showel, "Interpersonal Knowledge and Rated Leader Potential," \textit{Journal of Abnormal and Social Psychology}, 61 (1960), 87-92.
the amount of interpersonal knowledge of the subject. The leadership potential was measured by peer ranks; ranks of trainee sergeants and guides, platoon sergeants and guides, and a total superiors' rating. Subjects completed a leader reaction test used by the Army to evaluate the leader's performance in tactical situations, participated in a leaderless discussion, and exercised leadership in a squad drill. Subject's scores on verbal intelligence and arithmetical reasoning were also obtained. Positive correlations between interpersonal knowledge and measures of leadership potential were largely accounted for by intelligence. After controlling for intelligence, a correlation of .31 was obtained between interpersonal knowledge scores and ratings by trainee sergeants and guides.

Many researchers considered it important to distinguish between the leadership-empathy relationship and the leadership-popularity relationship. Singer attempted to determine the relationships among an individual's position in a social group, his awareness of position, and his empathic ability. His subjects were twelve graduate students in psychology acquainted with each other for a year. On a forced-choice ranking, subjects indicated their social preferences among their associates and then estimated how the others would respond. Singer calculated each person's popularity, his accuracy in perceiving his own status, his accuracy in perceiving preferences of peers for

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each other, and the difference in his ability to perceive the preferences of others and his own status. Singer found a positive but not significant association between popularity and a greater accuracy in perceiving the choice of preferred persons than those of less preferred. There was a significant negative association between a subject's accuracy in perceiving his own status and his tendency for greater accuracy in perceiving preferences of those he preferred most than those he preferred least. The more closely a person tended to empathize (as defined operationally) with those he preferred, the less he was aware of his position in the group as a whole.

Trapp explored two hypotheses: the leadership hypothesis, that leaders would estimate each group member's predictions to a list of test situations more accurately than non-leaders. The popularity hypothesis, that popular leaders would estimate other's predictions to a list of test situations more successfully than unpopular leaders, was also explored. The subjects were 15 members randomly selected from a college sorority. A sociometric rating chart, consisting of concentric circles labelled popularity or leadership, provided the criterion data. A social prediction test, consisting of 5 test situations and a list of 5 multiple choice responses for each situation yielded the self-prediction data, the subject's self-estimate of reactions to the test situations, the social prediction data, subject's prediction of other's responses, the expectancy prediction data, and subject's

estimate of others' predictions on her. The leadership ratings revealed 2 leaders, one more popular than the other. The popular leader was significantly more accurate in his predictions than the unpopular leader. Findings supported the leadership and the popularity hypotheses for the group analyzed, not for other groups. Leaders could have been more successful because their behavior was most representative of the total group reaction. However, the average deviation scores of leaders and non-leaders were not significantly different. To determine whether the popular leader's success might have resulted from a selection of the most socially acceptable choice rather than from accurate predictions, Trapp conducted an experiment on a control group testing social desirability of choices for each test situation. Since test situations were judged to be of approximately equal social desirability, Trapp felt that this factor did not influence the results of his experiment. Therefore, leaders who were popular with their groups were more able to predict the other's responses.

Bugental and Lehner studied the relationship between leadership and popularity as measured by peer rankings on a sociometric scale. Their subjects were 48 members of a co-educational sociology class. The top seven leaders and five popular members were compared for accuracy of perception of group status relationships. Popular members were more accurate in perceiving popularity and significant group

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dimensions than were leaders. Leaders and popular group members did not differ in the accuracy of their perception of the leadership status of others. There was no difference between popularity choices and leadership choices in accuracy of self perception.

Borgatta and Bales\(^3\) explored the relationship of some sociometric measures of status to behavior in interaction. Their sample was 125 male Air Force personnel. The sociometric scores and interaction scores were sums of the subject's participation in four different three-man groups. Their four sociometric measures were leadership rating, leadership self rating, popularity, and confidence. Interaction was scored using the Bales' Interaction Process Analysis. The sociometric variables were all positively and significantly related to each other. The findings enabled Borgatta and Bales to make behavioral descriptions of the various types of leaders, their rate of interaction, their sensitivity to others and how it affected their behavior in the group.

Schiff\(^3\) explored the possibility that constant errors in under or overestimating in the perception of one's own and others' status may influence accuracy of perception and in turn may influence the sociometric status of the individual. His subjects were 141 high school juniors and seniors. The students rated each other on a sociometric


perception scale naming friendship choices and anticipated ratings from others. Subjects rated the popularity of each classmate. Schiff believed his measures to be representative of generalized personality trends within the individual. The second portion of his study consisted of behavioral descriptions of various errors in perception and their effects on the individual's personality and his status in the group. For example, self-underestimators were neither accepting nor acceptable. They tend to be better, i.e., more realistic than self-overestimators who saw themselves as popular.

Some researchers sought to determine the relationship between group status and perception. Gronlund attempted to determine the relationship between sociometric status and accuracy of sociometric perception. He studied four classes of seniors ranging in size from 21 to 30 students who had observed each other extensively in daily group discussions. On a sociometric form, students named five classmates they would choose as teaching companions and five they would reject. They then ranked their choice and included themselves. There was more consensus regarding which students were least preferred. Accuracy of sociometric perception was expressed in terms of the discrepancy between actual status in the group and predicted rank. In general, the range of accuracy scores indicated a wide variation of ability to perceive relative sociometric status. Sociometric perception accuracy scores were correlated with the total sociometric

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status scores of the members in each group. All the correlations were positive, with three significant beyond .05. The fourth lacked significance because of the restricted range of sociometric status scores for the group. There appears to be a relationship between sociometric status and accuracy of sociometric perception with the direction of the relationship indicating less accurate perceptions by least accepted students. The accuracy scores of five students with highest sociometric status were compared to the scores of the five lowest; the difference was significant beyond .01. Individuals who were least accepted by the group had a tendency to be less accurate in perceiving their own and others' status. The relatively small correlations obtained indicated that the relationship may have been influenced by factors such as desire and ability of individuals to react appropriately in interpersonal contact. Improving accuracy would, Gronlund theorized, improve sociometric status.

French and Mosh investigated the relation of sociometric status with the group's rating on several personality characteristics, ratings by individuals of varying sociometric status and self ratings. The subjects were 34 sorority girls who rated themselves and the others on punctuality, sociability, fairmindedness, intelligence, self-confidence, and sense of humor. Raw scores were converted to standard scores and compared directly for raters on any trait. A sociometric criterion—choice or rejection of roommates—was employed.

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This produced three status groups: those with no rejections, those with some rejections, those isolated. Statistically significant values of F were obtained for sociability, fairmindedness, and sense of humor with group 1 significantly superior to group 2 in all three and to group 3 in all but sociability. The groups were consistent in their ratings of others. Group 3 rated itself higher and groups 1 and 2 lower in humor. On intelligence, group 2 individuals rated other members of the group lower than the other groups. In fairmindedness, ratings of group 2 differ significantly; those of group 3 approach significance. Sociometric status, although not directly related to self-ratings, were a factor in some self-ratings when the effects of differences in ratings received from the group were eliminated statistically. The data suggest that the social structure of a group must be considered in evaluating its judgments of particular individuals. Persons in different status levels of the group will perceive certain factors more accurately than they will other factors, particularly humor, and perhaps also punctuality and intelligence.

Lemann and Soloman investigated group status characteristics by analyzing data from sociometric tests and rating scales. They studied girls' college dormitory residents. A pretest suggested presence of two rating scales in social desirability—the Alpha scale, "good" to "bad" and the Beta scale, "bad" to "good" to "bad"—yielding

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consistently different results. Ratings received on Alpha scales were associated with sociometric status in the group. Ratings on Beta scales were associated with extent of noticeability by the group. Insight was quantified as a discrepancy between self ratings and the consensus of associates. No significant relationship appeared between insight and group status; small but significant correlations were found between insight (self-deprecation) and high rating standards. Individuals of every status tended to choose or reject similarly; top and bottom status groups showed significant self-preferences—choosing themselves more often and rejecting themselves less. Top and bottom groups rejected each other more than they did the middle group.

The relationship between leadership and empathic ability was thought, by the researchers cited in the preceding section, to be dependent on other factors in the individual and the situation. Dymond, Hughes and Raabe felt that leadership was dependent on social skills, among them empathy and role-taking ability. Shovel found that interpersonal knowledge of factual data was a necessary part of empathic ability. The relationship between popularity and ability to perceive group status was thought by Singer to be negative, by Borgatta and Bales to be positive, by Bugental and Lehner to be non-existent, and by Schiff to be dependent on constant errors in perception of self and others. Lemann and Solomon felt that perception of others is influenced by group status. Those with higher status were more accurate than those with lower status, according to
Gronlund. French and Mensh felt that persons in different status levels perceive some personality traits more accurately than others, particularly humor and, perhaps, punctuality and intelligence.

The confusion of results in the studies reported in this chapter demonstrates the need for more research in the area of social sensitivity and leadership to clarify the relationship which many of the researchers have attempted to define and identify. The research findings reported in Chapter IV will make a contribution to increased knowledge of the relationship between sensitivity and leadership.
Obtaining Data for the Study

After the development of the Social Concern Scale and the Feeling Scale, the data for the study was obtained from two basic speech sections and two discussion sections at the Ohio State University during the Summer Quarter, 1970. Basic speech sections were scheduled at 8 A.M. and 10 A.M. Discussion sections were scheduled at 11 A.M. and 12 P.M. Additional data was obtained from two basic speech sections and four discussion sections during the autumn, 1970, and spring, 1971 semesters at State University College, Brockport, New York. Basic speech sections were scheduled at 10 A.M. and discussion sections at 12 P.M. and 2 P.M. Instructor rankings were obtained from two male instructors at The Ohio State University and one male instructor at State University College, Brockport. The choice of instructors was determined by the availability of sections.

As a preliminary step in the investigation, Pearson product-moment correlations were calculated between the three sets of scores obtained from the Ohio State University data. Social Concern scores correlated with Non-Verbal Sensitivity scores and Feeling Scale scores. Later, as additional data became available from State University College
at Brockport, correlations were obtained for the data from the autumn and spring sections. The correlations were then tested by means of a t test of difference between independent correlations.¹ No significant difference was found between the correlations for the data from The Ohio State University sample and the State University College sample.

Eta correlation coefficients of the samples appeared higher than those obtained by Pearson product-moment correlations. It was, therefore, suspected that the relationship between the scales was curvilinear.

Several difficulties were encountered in obtaining the data. The design of the experiment called for setting up groups of equal size, preferably groups of five. However, in some cases, the actual number of students present for the discussion necessitated the creation of groups of six or seven members. Because the study required two class periods, some data was lost as a result of absenteeism. Also, several subjects failed to sign their names to all of the tests used in the study. One subject refused to take the Social Concern Scale because he did not want his political views to be known. Subjects also expressed reluctance to evaluate their peers as anticipated. In all, forty subjects were eliminated from the study for failure to complete some part of the experiment, leaving a total of 140 subjects. Of these, 27 failed to rank their own position in the group; thus the

data on self rankings is based on a smaller sample of subjects.

Once the last sample of data had been obtained, work sheets were
set up for each test, with the scores arranged from high to low and
with rankings summated and recorded opposite the subject's name.
Scores on the Social Concern Scale ranged from 33 to 124 for the total
sample with a possible range of 0 to 132. The range of male subjects' scores was 38 to 124 and of female subjects' scores, 33 to 109.
Scores on the Non-Verbal Sensitivity Test ranged from 4 to 37 for the
total sample with a possible range of 0 to 66. Males' scores also
ranged from 4 to 37; and female's scores, from 16 to 33. Scores on
the Feeling Scale ran from 35 to 198 for the total sample with a
possible range of 0 to 198. Scores for male subjects ran from 35 to
198; and scores for female subjects, from 68 to 195.

Reliability of the Measuring Instruments

Once the data was obtained, the three scales used in the study
were tested for internal consistency by means of split-half cor-
relations. Pearson product-moment correlations were used, and the
following results derived: the Social Concern Scale obtained a
correlation of .82, which was corrected for length by the Spearman-
Brown formula to .90. The Knower Non-Verbal Sensitivity Test
obtained a correlation of .52, corrected to .59, somewhat lower than
the usual reliability of .70 for this scale. The Feeling Scale
obtained a correlation of .83, which was corrected to .90. These

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2N. M. Downie and R. W. Heath, Basic Statistical Methods (New
correlations were tested for significance by means of a t test for correlated groups, and were significant at better than .01. Therefore, the tests were judged to have sufficient reliability for the study.

The Intercorrelations Between the Three Scales

After determining the reliability of the measuring instruments, the degree to which the tests measured the same dimension was determined by correlating the three scales with each other. On a scatter-plot of the data, the scales appeared curvilinear; therefore, correlation ratios were used instead of Pearson product-moment correlations. Nine correlations were made between the three scales for the total number of subjects and for male and female subjects separately. The Social Concern Scale was correlated with the Non-Verbal Sensitivity Test and with the Feeling Scale; the Feeling Scale, with the Non-Verbal Sensitivity Test. The correlation ratios were tested for significance by means of F ratios. The coefficients obtained will be found in Table 1.

The intercorrelation between the scales was tested by a multiple correlation of eta coefficients and for significance by a t test for multiple correlations. The results are given in Table 2.

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<th>Eta</th>
<th>F ratio</th>
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<td><strong>Total Sample (N=140)</strong></td>
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<tr>
<td>Social Concern Scale-Non-Verbal Sensitivity Test</td>
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<td>.37</td>
<td>1.88&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>Social Concern Scale-Non-Verbal Sensitivity Test</td>
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<td>.57</td>
<td>2.36&lt;sup&gt;a&lt;/sup&gt;</td>
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<td><strong>Female Subjects (N=73)</strong></td>
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<td>Feeling Scale-Non-Verbal Sensitivity Test</td>
<td>23.96</td>
<td>.27</td>
<td>.60</td>
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<sup>a</sup>Significant at .05
TABLE 2

MULTIPLE CORRELATION OF ETA CORRELATIONS OF SUBJECTS' SCORES ON THREE MEASURES OF SENSITIVITY

<table>
<thead>
<tr>
<th>Total Sample</th>
<th>t</th>
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<th>Female</th>
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<td>.14</td>
<td>1.23</td>
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<td>(N=73)</td>
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</table>

Signed at .05

There does appear to be a moderate correlation between the Feeling Scale and the other tests in the battery, the Social Concern Scale and the Non-Verbal Sensitivity Test tend to conform to the criterion of a low intercorrelation between the items of a test battery.

Hypothesis I

After completion of these preliminary details, the next step was to test the major hypotheses of the study. The decision was made to accept findings which were significant at the .05 level of confidence. Tables 3, 4, and 5 present the coefficients obtained for biserial r correlations of sensitivity scores and rankings of performance in discussion. These were tested for significance by z tests recommended by Peatman.

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<table>
<thead>
<tr>
<th></th>
<th>( r_b )</th>
<th>( z )</th>
<th>( \bar{X} )</th>
<th>S.D.</th>
<th>S.E.</th>
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<td>Social Concern Scale</td>
<td>.24</td>
<td>1.96 (^b)</td>
<td>71.31</td>
<td>16.21</td>
<td>.122</td>
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<td>Non-Verbal Sensitivity</td>
<td>.30</td>
<td>2.46 (^c)</td>
<td>22.82</td>
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<td>Feeling Scale</td>
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<td>.16</td>
<td>130.72</td>
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<td><strong>Male Subjects (N=49)</strong></td>
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<tr>
<td>Social Concern Scale</td>
<td>.32</td>
<td>1.77 (^a)</td>
<td>74.92</td>
<td>17.04</td>
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<tr>
<td>Non-Verbal Sensitivity</td>
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<td>2.00 (^b)</td>
<td>22.53</td>
<td>5.64</td>
<td>.180</td>
</tr>
<tr>
<td>Feeling Scale</td>
<td>.06</td>
<td>.31</td>
<td>123.93</td>
<td>32.43</td>
<td>.180</td>
</tr>
<tr>
<td><strong>Female Subjects (N=64)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Concern Scale</td>
<td>.14</td>
<td>.87</td>
<td>67.81</td>
<td>15.60</td>
<td>.160</td>
</tr>
<tr>
<td>Non-Verbal Sensitivity</td>
<td>.18</td>
<td>1.12</td>
<td>23.64</td>
<td>3.94</td>
<td>.160</td>
</tr>
<tr>
<td>Feeling Scale</td>
<td>-.12</td>
<td>.93</td>
<td>136.91</td>
<td>33.69</td>
<td>.160</td>
</tr>
</tbody>
</table>

\(^a\) Significant at .05  
\(^b\) Significant at .025  
\(^c\) Significant at .01
### TABLE 4

**CORRELATION OF SENSITIVITY SCORES WITH PEER RANKS FOR TOTAL SAMPLE, MALE SUBJECTS, AND FEMALE SUBJECTS USING BISERIAL R**

<table>
<thead>
<tr>
<th></th>
<th>rb</th>
<th>z</th>
<th>X</th>
<th>S.D.</th>
<th>S.E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Sample (N=140)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Concern Scale</td>
<td>.30</td>
<td>2.83d</td>
<td>71.42</td>
<td>16.23</td>
<td>.106</td>
</tr>
<tr>
<td>Non-Verbal Sensitivity</td>
<td>-.03</td>
<td>.28</td>
<td>23.45</td>
<td>4.76</td>
<td>.106</td>
</tr>
<tr>
<td>Feeling Scale</td>
<td>-.04</td>
<td>.38</td>
<td>129.34</td>
<td>34.95</td>
<td>.106</td>
</tr>
<tr>
<td><strong>Male Subjects (N=67)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Concern Scale</td>
<td>.26</td>
<td>1.66a</td>
<td>75.75</td>
<td>17.58</td>
<td>.156</td>
</tr>
<tr>
<td>Non-Verbal Sensitivity</td>
<td>-.18</td>
<td>1.17</td>
<td>23</td>
<td>5.40</td>
<td>.156</td>
</tr>
<tr>
<td>Feeling Scale</td>
<td>.15</td>
<td>.96</td>
<td>122.39</td>
<td>35.11</td>
<td>.156</td>
</tr>
<tr>
<td><strong>Female Subjects (N=73)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Concern Scale</td>
<td>.18</td>
<td>1.22</td>
<td>67.71</td>
<td>15.58</td>
<td>.117</td>
</tr>
<tr>
<td>Non-Verbal Sensitivity</td>
<td>.05</td>
<td>.33</td>
<td>23.96</td>
<td>3.98</td>
<td>.117</td>
</tr>
<tr>
<td>Feeling Scale</td>
<td>-.12</td>
<td>.81</td>
<td>136.84</td>
<td>33.06</td>
<td>.117</td>
</tr>
</tbody>
</table>

*Significant at .05
*d Significant at .005
Table 5 presents the coefficients obtained from multiple correlations of the biserial coefficients. These were tested by means of \( t \) tests for multiple correlations.
TABLE 6

MULTIPLE CORRELATION OF BISERIAL CORRELATIONS OF SUBJECT'S SENSITIVITY SCORES AND RANKINGS OF PERFORMANCE

<table>
<thead>
<tr>
<th>Type of Ranking</th>
<th>Total</th>
<th>t</th>
<th>Male</th>
<th>t</th>
<th>Female</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self</td>
<td>.26</td>
<td>1.63a</td>
<td>.33</td>
<td>1.17</td>
<td>.20</td>
<td>1.14</td>
</tr>
<tr>
<td>Peer</td>
<td>.30</td>
<td>2.06a</td>
<td>.33</td>
<td>.32</td>
<td>.22</td>
<td>1.32</td>
</tr>
<tr>
<td>Instructor</td>
<td>.07</td>
<td>.53</td>
<td>.17</td>
<td>.23</td>
<td>.05</td>
<td>.34</td>
</tr>
</tbody>
</table>

*aSignificant at .05

Hypothesis II

The question of whether there was a significant difference between scores on the three scales was tested by means of a one way analysis of variance. An F value of 783.32 was obtained with a df = 419. This value was found to be significant at better than .001. In addition, the test scores were tested for difference by means of a t test of significance for correlated measures. It can be noted in Table 7 that there is a significant difference between scores on the three scales. The significance of the difference between male and female scores was tested by means of t tests for independent means. The obtained values will be found in Table 8.

---

9 Downie and Heath, Basic Statistical Methods, pp. 160-163.
### TABLE 7

**TEST OF THE SIGNIFICANCE OF DIFFERENCE BETWEEN SCORES ON THREE MEASURES OF SOCIAL SENSITIVITY USING T TEST FOR RELATED MEASURES**

<table>
<thead>
<tr>
<th>Scales Tested (N=140)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Concern Scale and Non-Verbal Sensitivity Test</td>
<td>30.26&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Social Concern Scale and Feeling Scale</td>
<td>20.21&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Non-Verbal Sensitivity Test and Feeling Scale</td>
<td>39.48&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>d</sup>Significant at less than .005

### TABLE 8

**SIGNIFICANCE OF DIFFERENCE BETWEEN MALE AND FEMALE SCORES ON SOCIAL SENSITIVITY TESTS USING T TESTS FOR UNRELATED GROUPS**

<table>
<thead>
<tr>
<th></th>
<th>S.D.</th>
<th>Sum of Squares</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t</td>
<td>M</td>
</tr>
<tr>
<td>Social Concern Scale</td>
<td>.39</td>
<td>17.30</td>
</tr>
<tr>
<td>Non-Verbal Sensitivity</td>
<td>1.22</td>
<td>5.35</td>
</tr>
<tr>
<td>Feeling Scale</td>
<td>2.59&lt;sup&gt;a&lt;/sup&gt;</td>
<td>34.66</td>
</tr>
</tbody>
</table>

<sup>a</sup>Significant at .05

The final step in the analysis of data was to test for differences in the size of correlations between scores and ranks of high scoring
subjects and low scoring subjects. Tables 9, 10, and 11 report biserial correlation coefficients of the upper and lower fifty per cent of the distribution for each test and for each of the three types of rankings. The correlations were tested for significance by means of z tests. The significance of the difference between the correlations of the upper and lower fifty per cent of the distribution were tested by means of a test for difference between independent correlations; however, the difference was not significant in any case.

TABLE 9

CORRELATION OF SENSITIVITY SCORES WITH SELF RANKS FOR UPPER 50% AND LOWER 50% OF DISTRIBUTION USING BISERIAL R

<table>
<thead>
<tr>
<th>Scale</th>
<th>Upper 50% (N=56)</th>
<th>Lower 50% (N=57)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Concern Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>rb</td>
<td>z</td>
</tr>
<tr>
<td>Upper 50% (N=56)</td>
<td>.16</td>
<td>.88</td>
</tr>
<tr>
<td>Lower 50% (N=57)</td>
<td>.0009</td>
<td>.005</td>
</tr>
<tr>
<td>Non-Verbal Sensitivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper 50%</td>
<td>-.11</td>
<td>.59</td>
</tr>
<tr>
<td>Lower 50%</td>
<td>.06</td>
<td>.36</td>
</tr>
<tr>
<td>Feeling Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper 50%</td>
<td>-.43</td>
<td>2.51c</td>
</tr>
<tr>
<td>Lower 50%</td>
<td>.32</td>
<td>1.83a</td>
</tr>
</tbody>
</table>

aSignificant at .05
bSignificant at .01
### TABLE 10

**CORRELATION OF SENSITIVITY SCORES WITH PEER RANKS FOR UPPER 50% AND LOWER 50% OF DISTRIBUTION USING BISERIAL R**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Percentile</th>
<th>$r_b$</th>
<th>$z$</th>
<th>$\bar{x}$</th>
<th>S.D.</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Concern Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper 50% (N=70)</td>
<td>.22</td>
<td>1.46</td>
<td>85.36</td>
<td>12.33</td>
<td>.150</td>
<td></td>
</tr>
<tr>
<td>Lower 50% (N=70)</td>
<td>.15</td>
<td>1.00</td>
<td>58.63</td>
<td>9.88</td>
<td>.149</td>
<td></td>
</tr>
<tr>
<td><strong>Non-Verbal Sensitivity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper 50%</td>
<td>.22</td>
<td>1.46</td>
<td>27.04</td>
<td>2.72</td>
<td>.150</td>
<td></td>
</tr>
<tr>
<td>Lower 50%</td>
<td>-.07</td>
<td>.46</td>
<td>20.30</td>
<td>3.12</td>
<td>.150</td>
<td></td>
</tr>
<tr>
<td><strong>Feeling Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper 50%</td>
<td>-.02</td>
<td>.13</td>
<td>153.15</td>
<td>18.00</td>
<td>.150</td>
<td></td>
</tr>
<tr>
<td>Lower 50%</td>
<td>.22</td>
<td>1.46</td>
<td>100.79</td>
<td>21.25</td>
<td>.150</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 11

CORRELATION OF SENSITIVITY SCORES WITH INSTRUCTOR RANKS FOR UPPER 50% AND LOWER 50% OF DISTRIBUTION USING BISERIAL R

<table>
<thead>
<tr>
<th></th>
<th>$r_b$</th>
<th>$z$</th>
<th>$X$</th>
<th>S.D.</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Concern Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper 50% (N=70)</td>
<td>.12</td>
<td>.78</td>
<td>85.36</td>
<td>12.33</td>
<td>.153</td>
</tr>
<tr>
<td>Lower 50% (N=70)</td>
<td>.18</td>
<td>.88</td>
<td>58.69</td>
<td>9.91</td>
<td>.150</td>
</tr>
<tr>
<td><strong>Non-Verbal Sensitivity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper 50%</td>
<td>.24</td>
<td>1.60</td>
<td>27.04</td>
<td>2.72</td>
<td>.150</td>
</tr>
<tr>
<td>Lower 50%</td>
<td>-.06</td>
<td>.39</td>
<td>20.30</td>
<td>3.12</td>
<td>.152</td>
</tr>
<tr>
<td><strong>Feeling Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper 50%</td>
<td>-.23</td>
<td>1.53</td>
<td>158.05</td>
<td>17.90</td>
<td>.150</td>
</tr>
<tr>
<td>Lower 50%</td>
<td>.04</td>
<td>.26</td>
<td>100.79</td>
<td>21.25</td>
<td>.150</td>
</tr>
</tbody>
</table>

TABLE 12

SIGNIFICANCE OF DIFFERENCE BETWEEN BISERIAL CORRELATION OF UPPER AND LOWER 50% OF DISTRIBUTION OF SCORES FOR SENSITIVITY SCALES

<table>
<thead>
<tr>
<th></th>
<th>Self Ranks</th>
<th>Peer Ranks</th>
<th>Instructor Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Concern Scale</strong></td>
<td>.83</td>
<td>.42</td>
<td>.34</td>
</tr>
<tr>
<td><strong>Non-Verbal Sensitivity</strong></td>
<td>.26</td>
<td>.89</td>
<td>1.07</td>
</tr>
<tr>
<td><strong>Feeling Scale</strong></td>
<td>.66</td>
<td>1.18</td>
<td>1.12</td>
</tr>
</tbody>
</table>
CHAPTER V

FINDINGS AND CONCLUSIONS

The purpose of this study was to investigate the relationship between social sensitivity as defined in this study and leadership in discussion groups. Subjects were tested on three measures of sensitivity and ranked on their performance in a group discussion. For the purposes of this study, social sensitivity was defined as a general tendency to respond to specific stimuli measured by the three scales. The three measures of social sensitivity used in the study consist of the Social Concern Scale, which was designed to measure sensitivity to social issues, the Non-Verbal Sensitivity Test, which was designed to measure the accuracy with which subject's perceive the intent of expressed emotions, and the Feeling Scale, which was designed to measure the degree to which subjects tend to evaluate others. Rankings of subjects' performance in discussion were obtained by three means, self rankings, peer rankings, and instructor rankings. Two major hypotheses were postulated. Hypothesis I states that subjects' scores on sensitivity scales will not correlate significantly with rankings of performance in discussion. Hypothesis II stated that there will be no significant difference between sensitivity scores of subjects.
Hypothesis I

Hypothesis I was divided into four sub-hypotheses. Hypothesis I-A, I-B, and I-C were tested by means of biserial correlations. Hypothesis I-D was tested by means of a multiple correlation.

Tables 3, 4, and 5 present the coefficients obtained from 27 biserial correlations between sensitivity scores and ranks used to test hypotheses I-A, I-B, and I-C.

With 27 correlations, the probability of a correlation being statistically significant at the .01 level by chance alone is 1; at the .05 level, the probability is 2. Thus, on the basis of chance alone, we can expect no more than one correlation to be significant at the .01 level and no more than two at the .05 level. Eight of the 27 correlations were significant. 4 were significant at .05; 1, at .025; 2 at .01; and 1 at .005. It would appear that the number of significant correlations is greater than that expected by chance.

The null hypothesis stated that subjects' scores will not correlate significantly with rankings of performance in discussion. Coefficients ranging from 0 to .20 have been interpreted as an indication of little or no correlation, while those in the .20 to .40 range have been interpreted as an indication of a low correlation between variables. 1 The statistically significant correlations reported in Tables 3, 4, and 5 ranged from .24 to .32,

---

within the low range of coefficients. Therefore, the findings must be considered tentative.

**Hypothesis I-A**

Hypothesis I-A stated that the total sample of subject's sensitivity scale scores will not correlate significantly with rankings of performance in discussion. The Social Concern Scale correlated .24 with self ranks and .30 with peer ranks. The correlation for self ranks was significant at .025; that for peer ranks at .005. The Non-Verbal Sensitivity test correlated .30 with self ranks and was significant at .01.

Low but statistically significant correlations were obtained between the total sample of scores for the Social Concern Scale and both self rankings and peer rankings. This would tend to provide justification for rejection of the null hypothesis; however note that correlations were significant for self and peer ranks of male subjects but not for female subjects. This suggests that the significance might be accounted for by the significance of male subjects' scores and not by the total sample of scores.

A low but statistically significant correlation was also obtained for the correlation of the total sample of scores for the Non-Verbal Sensitivity Test with self ranks. Correlations for peer and instructor ranks were not significant. A similar correlation was also obtained between male subjects' scores on the Non-Verbal Sensitivity Test and self ranks, suggesting that the significance might be accounted for by male scores. Correlations for the Feeling Scale were
not statistically significant. Therefore, null hypothesis I-A is not rejected.

**Hypothesis I-B**

Hypothesis I-B states that male subjects' scores will not correlate significantly with rankings of performance in discussion. The following statistically significant correlations were obtained:

Male subject's scores on the Social Concern Scale correlated .32 with self ranks, .26 with peer ranks, and .32 with instructor ranks. All of these coefficients were significant at .05. Therefore, the null hypothesis is rejected for the Social Concern Scale. Male subjects' scores on the Non-Verbal Sensitivity Test correlated .36 with self rankings but not with peer or instructor rankings. The correlation with self ranks was significant at .025. Therefore, the null hypothesis for the Non-Verbal Sensitivity Test is not rejected.

Correlation coefficients for the Feeling Scale were not statistically significant for any of the three types of ranks, and the null hypothesis for the Feeling Scale was not rejected.

**Hypothesis I-C**

Hypothesis I-C states that female subjects' scores will not correlate significantly with rankings of performance in discussion. The Social Concern Scale and the Feeling Scale did not yield any significant correlations with female performance rankings. Female scores on the Non-Verbal Sensitivity Test correlated .27 with instructor ranks and was significant at .05. Significance, in this case, may be due to chance since only one of the 9 correlations used
to test hypothesis I-C was statistically significant. The absence of any other significant correlations with female scores raises some doubts about the validity of the correlation. Therefore, the null hypothesis I-C is not rejected.

**Hypothesis I-D**

Hypothesis I-D stated that multiple correlations of subjects' sensitivity scores will not correlate significantly with rankings of performance in discussion. Multiple correlation coefficients, obtained by correlating the biserial coefficients presented in Tables 3, 4, and 5 were given in Table 6. Subject's scores on the three measures were correlated with self ranks, peer ranks, and instructor ranks. Multiple correlations were made for the total sample of subjects, and for male and female subjects separately. The coefficients of the 9 multiple correlations ranged from .05 to .33. Two were significant. These were for multiple correlations of the total sample of subjects for self and peer rankings. The significance of these correlations may be accounted for by the significant correlations of the biserial correlations reported in Tables 3, 4, and 5. Multiple correlations of the scores did not increase the correlations between scores and self and peer ranks. The null hypothesis I-D is not rejected.

Briefly, the findings for Hypothesis I can be summarized as follows: Sub-hypothesis I-A, I-C, and I-D were not rejected. Sub-hypothesis I-B was rejected. While there does not appear to be sufficient grounds to reject Hypothesis I, the findings for Hypothesis
Hypothesis II

Hypothesis II stated that there will be no significant difference between sensitivity scores of subjects. This hypothesis was divided into three sub-hypotheses.

Hypothesis II-A

Hypothesis II-A stated that there will be no significant difference between the three sets of sensitivity scores. An F test revealed a significant difference between the sensitivity scores. Differences between individual tests were then measured by means of t tests for related measures. The findings are presented in Table 7. All of the t tests were significant at less than .005. Therefore, null hypothesis II-A had been rejected.

Hypothesis II-B

Hypothesis II-B stated that there will be no significant difference between the scores of male and female subjects. This hypothesis was tested by means of t tests for unrelated groups, and the findings were presented in Table 8. Only the Feeling Scale produced a statistically significant difference between the scores of male and female subjects. Since the Feeling Scale did not correlate significantly with rankings of performance in discussion, this finding does not provide sufficient grounds for the rejection of the
null hypothesis. Therefore, null hypothesis II-B is not rejected.

Hypothesis II-C

Hypothesis II-C stated that there will be no significant difference in the size of correlations between scores and ranks of high scoring subjects and low scoring subjects. Scores for each scale were divided into upper and lower halves, and each half was tested by means of biserial correlations. These findings were presented in Tables 9, 10, and 11. Two of the 18 correlations were statistically significant. The upper 50% of the Feeling Scale correlated with self rankings produced a correlation of -.43 which was significant at .01, and the lower 50% of the scale produced a coefficient of .32 when correlated with self ranks, significant at the .05 level. The significance of the difference between the biserial correlations for the upper and lower halves of the distribution was tested by means of a test for difference between independent correlations and no significant difference was found between the biserial r coefficients, including those of the Feeling Scale. These findings are presented in Table 12. The lack of significance for the remaining coefficients and the general lack of significance for previous biserial correlations between ranks and Feeling Scale scores tends to raise doubt about the significance of these correlations. Therefore, there does not appear to be sufficient grounds for the rejection of the null hypothesis. Sub-hypothesis II-C is not rejected.

The findings can be summarized for Hypothesis II. Sub-hypothesis II-A was rejected. Sub-hypotheses II-B and II-C were not rejected.
Although there was a significant difference between scores on the three tests, this difference does not appear to be accounted for by differences between male and female scores or by differences between high scoring and low scoring subjects. Therefore, there does not appear to be sufficient grounds for the rejection of Hypothesis II.

**Evaluation of the Findings**

In Chapter II, two possible explanations of the relationship between sensitivity and leadership were postulated. If there is a relationship between sensitivity and leadership, leaders would be expected to score higher on sensitivity than followers. An alternate explanation was suggested in which leadership might be considered a function of sensitivity plus leadership variables. If this were the case, the absence of either sufficient amounts of sensitivity or of other traits associated with leadership would lead to the rejection of the subject's leadership attempts. Leader's sensitivity scores would be expected to correlate with rankings while those of non-leaders might not. Thus, there might be a significant difference between the correlations of leaders and non-leaders. Another possibility is that there is no relationship between social sensitivity and leadership rankings.

The findings of this study do not establish a strong relationship between sensitivity scores and leadership as it is measured by sensitivity scales and rankings for this experiment. Although the Social Concern Scale correlated significantly with self and peer rankings for the total sample, this significance might be accounted for by
the influence of male scores. The low but significant correlations of male scores with the three types of rankings suggests that the relationship is due to more than chance. The correlations were not statistically significant for female subjects. The lack of significance with female scores suggests that this is not a generalized tendency to respond. The lack of correlation with female scores might possibly be accounted for by differences in motivation. If so, the scale may actually be a measure of motivation or interest.

The Non-Verbal Sensitivity Test correlated significantly with self ranks for total sample and for males. It was not significant for female self ranks. The significance for total sample may be attributable to the influence of male scores. Male subjects who are accurate judges of intent of emotional expressions are also fairly accurate in estimating their own position in the group. The findings also suggest that non-verbal sensitivity is not related to leadership as measured in this study. The correlation of female scores on the Non-Verbal Sensitivity Test with instructor ranks was significant, but since it occurred in only 1 case, it may be attributable to chance.

The Feeling Scale was designed to measure the subject's tendency to respond to evaluative concepts describing discussion participants. This scale did not correlate significantly with rankings of performance. Subjects' degree of response to concepts describing the favorable characteristics of discussion participants was not related to leadership as measured in this study.

A low but positive relationship may exist between the degree of
response to social issues as measured by the Social Concern Scale and rankings of performance in discussion of male subjects. The rankings are a measure of the subject's leadership or status within the group. In effect, the tendency to respond to social issues seems to play a small part in leadership as measured here.

The second hypothesis of no significant difference in the sensitivity of leaders and followers was not rejected. Correlation coefficients for scores and ranks were applicable to the upper and lower halves of the distribution for each scale. The method used to measure sensitivity and leadership did not establish significant differences between the upper and lower halves of the distribution.

Many investigations of social sensitivity have been concerned with the accuracy of leader's perceptions of attitudes and values of group members. The present study was concerned with the degree of response to stimuli by leaders and followers. The approach to the measurement of sensitivity followed in this study did not establish a strong relationship between degree of response and rankings of leadership.
APPENDICES
APPENDIX A

Social Concern Scale

The following is a list of statements regarding what should or should not be done concerning current national problems. There are no "right" or "wrong" answers to these statements.

Since this is a survey of personal opinions, your cooperation would be most helpful. Please indicate your personal opinions on these national issues, regardless of whether you think other people would agree with you or not. Fill out these forms independently.

Directions:
Mark your answers on the accompanying IBM sheet in the following way:
1 - strongly agree
2 - agree
3 - undecided
4 - disagree
5 - strongly disagree

Example: If you strongly agree with the issue in the statement below, you would mark the answer sheet as illustrated.

1. The President should have additional powers.

1 2 3 4 5
1. Air traffic controls should be modernized.
2. Attacks against American ships or planes should not be tolerated.
3. The government should not aid private or parochial schools.
4. Penalties for selling marijuana should be increased.
5. Physical fitness should be a national issue.
6. Homosexual behavior should not be tolerated.
7. Certain youth groups should not dress and act as they do.
8. State governments should allow discriminatory practices in their schools.
9. The nation's wealth should be more evenly distributed to all citizens.
10. The United States should not continue the development of satellites containing offensive weapons.
11. Employers should not stress college education for their employees.
12. The need for economic stability should take precedence over individual freedom.
13. The Federal government should administer welfare programs.
14. Good grades should not be the prime measurement of educational progress.
15. University administrators should not cooperate with demonstrators.
16. The schools should do more to instill patriotism in the nation's youth.
17. Politicians should be more responsive to the wishes of the people.
18. Revolutionary groups should not exist in our society.
19. Workers should not be denied the right to strike.
20. The public should be given a greater voice in the nomination of political candidates.
21. School administrators should be responsive to the wishes of parents.
22. The Federal government should not consider adopting a guaranteed annual income.

23. Evidence obtained by wiretapping should not be permitted in court.

24. Funds should be allocated for the development of mass transportation.

25. Restoring the values of honesty, hard-work, and clean living should be a primary goal for society.

26. Divorce laws should not be liberalized.

27. Abortion should not be legalized.

28. Legal procedures should be simplified.

29. During inflationary periods, the Federal government should be empowered to exercise emergency economic control.

30. State and federal governments should not increase public services beyond their present level.

31. The problem of pollution should not be exaggerated.

32. There should be more stringent governmental control of new chemical products.

33. More money should be spent for medical research.

34. States should not ban cars powered by internal combustion engines.

35. Parents should not be held criminally liable for the anti-social behavior of their minor children.

36. The Peace Corps should be discontinued.

37. Our prison systems should be reformed.

38. Draft dodgers and deserters from the Armed Forces should not be allowed to retain their citizenship.

39. The United States should not consider Russia an enemy.

40. Sex education should be compulsory in all schools.

41. The United States should replace the present welfare system.

42. State's rights should not take precedence over those of the federal government.
43. Industries should not be allowed to set safety standards for products sold to the public.

44. Government should do more to aid the poor.

45. World citizenship rather than nationalism should be our goal.

46. Women should not be granted special privileges because of sex.

47. Manufacturers should not be hampered by consumer protection laws.

48. Federal construction contracts should be publicly scrutinized.

49. There should be a halt to irresponsible government spending for urban renewal.

50. Antibalistic missiles should not be deployed by our government.

51. Censorship of the press and news media should not be considered part of the democratic way of life.

52. Our income tax system should be completely revised.

53. The U.S. should cooperate with Russia in space exploration.

54. Minority groups should not receive special treatment from the federal government.

55. The Fifth Amendment should no longer be a shield for criminals.

56. Protective legislation should set quotas on foreign imports.

57. More money should be spent on education to emphasize the danger of drug abuse.

58. Cigarettes should not be sold in government buildings.

59. The U.S. should not grant diplomatic recognition to Red China.

60. Judges should be subject to greater public scrutiny.

61. Our customs and traditions have withstood the test of time and should be preserved.

62. The United States should not provide arms for Israel.

63. Physically or mentally defective persons should not be relieved of life.
64. The schools should impose stricter discipline on students.

65. Church properties should be taxed.

66. The United States should not continue to make such large financial contributions to the United Nations.
Non-Verbal Sensitivity Test Answer Sheet

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<th>Stimulus Type</th>
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APPENDIX C

Discussion Evaluation Form

Name

Number of Participants

This form is to be used in evaluating members of the discussion group in which you have just participated. Please rank the members of the group, including yourself, in terms of total contribution to the discussion.

This information will be used for research in discussion and will not be a basis for grading any of the participants in the discussion, including you. All the information will be kept confidential. Please try to be as objective in your evaluation as possible.

1. List the first and last name of the person whom you feel has contributed the most to the discussion.

2. List the name of the person whom you feel has contributed the least to the discussion.

3. In the spaces below, fill in the names of the remaining participant in the order of their total contribution to the discussion. Place the name of the participant who has made a large contribution to the discussion at the top of the list and those making smaller contributions on the bottom lines. If you feel that two people have made approximately the same contribution, then make a random choice in placing one higher on the list than the other. DO NOT PUT TWO NAMES ON ONE LINE.

Large Contribution to the Discussion

Smaller Contribution to the Discussion
Discussion Case Problem

Background information: Mr. Wilson is the manager of a distribution center for a large bakery. Under his supervision are route men and warehouse men who are union members, and office staff and salesmen who are not. The Distribution Center has been noted for turnover of personnel, particularly among office girls with average employment, 4 mo.

The Situation: 5 months ago, Mr. Wilson hired Miss Jones as clerk in the office; she proved to be very capable. Shortly afterward, the office supervisor announced her intention to resign and recommended Miss Jones as her replacement. Wilson received authorization from the main office, and the office supervisor trained Miss Jones.

As a result of a top-level management decision to make use of comptometers, Miss Jones was sent to comptometer school for a two-week course at company expense. Upon completion of the course, Miss Jones was officially promoted and received a salary increase.

Mr. Wilson was experiencing difficulty in obtaining a permanent clerk to fill the vacancy left by Miss Jones' promotion. After several girls were tried and found unsatisfactory, Mr. Wilson hired Mr. Smith, a graduate of the comptometer school's full-time course. However, Mr. Smith would only take the job on condition he be made office supervisor. Wilson received authorization to hire Smith and to demote Miss Jones, giving her an incentive raise of $10 to compensate for demotion.

The Problem: Mr. Wilson has become somewhat alarmed by Miss Jones' reaction; she seemed particularly angry when he asked her to train Smith in the duties of the office supervisor. Wilson noticed her studying the help wanted section.

Mr. Wilson has become uneasy about the situation, especially since he realizes that Miss Jones is the only person who understands the records, billing, and coding procedures connected with the job. Wilson has had the feeling lately that his supervisors are not entirely pleased with his management of the distribution center.

How should Mr. Wilson handle the situation?

The following questions may help you solve the problem:

1. Are we agreed on the nature of the problem?
2. What would be the ideal solution from the point of view of all parties involved in the problem?
3. What conditions within the problem could be changed so that the ideal solution might be achieved?
4. Of solutions available, which best approximates ideal solution?
The purpose of this study is to investigate the meanings that people attach to certain words. Your response should reflect your feelings about the word’s meanings.

On the following pages, you will find words describing characteristics which you may have noticed in discussion participants. Below each word, you will find three pairs of descriptive terms to use in evaluation of the word. For example:

0. **CRUDE**

<table>
<thead>
<tr>
<th>good</th>
<th>val</th>
<th>successful</th>
<th>bad</th>
<th>worthless</th>
<th>unsuccessful</th>
</tr>
</thead>
</table>

If you were to describe a CRUDE discussion participant on the good-bad scale, which term closer describes your feelings? If you feel that a crude person is VERY BAD or VERY GOOD, mark an X in the box on one or other end of the scale. If you feel that a crude person is only SLIGHTLY BAD OR SLIGHTLY GOOD, mark as follows:

good __ X __ __ __ bad OR good __ __ __ __ X __ bad

If you are undecided or have no opinion, place your mark in the middle, neutral space.

good __ X __ __ __ bad

After you have completed your description of a crude discussion participant as either good or bad, describe him on the worthless-valuable scale and the successful-unsuccessful scales. Then go to next term.

Place your X marks within the box and not between the boxes.

This: __ __ __ X __ Not this: __ __ __ X __

For each item, make a separate and independent judgment. Work fast. Don’t worry about individual items because we want your first impression. Please do not be careless; we want your true impressions.
1. **PERCEPTIVE**
   - good _ _ _ _ _ _ _ bad
   - worthless _ _ _ _ _ _ _ valuable
   - successful _ _ _ _ _ _ _ unsuccessful

2. **CHEERFUL**
   - good _ _ _ _ _ _ _ bad
   - worthless _ _ _ _ _ _ _ valuable
   - successful _ _ _ _ _ _ _ unsuccessful

3. **DEPENDABLE**
   - good _ _ _ _ _ _ _ bad
   - worthless _ _ _ _ _ _ _ valuable
   - successful _ _ _ _ _ _ _ unsuccessful

4. **TACTFUL**
   - good _ _ _ _ _ _ _ bad
   - worthless _ _ _ _ _ _ _ valuable
   - successful _ _ _ _ _ _ _ unsuccessful

5. **WILLING**
   - good _ _ _ _ _ _ _ bad
   - worthless _ _ _ _ _ _ _ valuable
   - successful _ _ _ _ _ _ _ unsuccessful

6. **ADAPTABLE**
   - good _ _ _ _ _ _ _ bad
   - worthless _ _ _ _ _ _ _ valuable
   - successful _ _ _ _ _ _ _ unsuccessful
7. **ACTIVE**

good _ _ _ _ _ _ _ _ _ _ _ bad
worthless _ _ _ _ _ _ _ _ _ _ _ valuable
successful _ _ _ _ _ _ _ _ _ _ _ unsuccessful

8. **PRACTICAL**

good _ _ _ _ _ _ _ _ _ _ _ bad
worthless _ _ _ _ _ _ _ _ _ _ _ valuable
successful _ _ _ _ _ _ _ _ _ _ _ unsuccessful

9. **CREATIVE**

good _ _ _ _ _ _ _ _ _ _ _ bad
worthless _ _ _ _ _ _ _ _ _ _ _ valuable
successful _ _ _ _ _ _ _ _ _ _ _ unsuccessful

10. **COMPETENT**

good _ _ _ _ _ _ _ _ _ _ _ bad
worthless _ _ _ _ _ _ _ _ _ _ _ valuable
successful _ _ _ _ _ _ _ _ _ _ _ unsuccessful

11. **ENTHUSIASTIC**

good _ _ _ _ _ _ _ _ _ _ _ bad
worthless _ _ _ _ _ _ _ _ _ _ _ valuable
successful _ _ _ _ _ _ _ _ _ _ _ unsuccessful

12. **CAREFUL**

good _ _ _ _ _ _ _ _ _ _ _ bad
worthless _ _ _ _ _ _ _ _ _ _ _ valuable
successful _ _ _ _ _ _ _ _ _ _ _ unsuccessful
13. HARDWORKING

   good _ _ _ _ _ _ _ _ bad
   worthless _ _ _ _ _ _ _ valuable
   successful _ _ _ _ _ _ _ unsuccessful

14. PATIENT

   good _ _ _ _ _ _ _ _ bad
   worthless _ _ _ _ _ _ _ valuable
   successful _ _ _ _ _ _ _ unsuccessful

15. CALM

   good _ _ _ _ _ _ _ _ bad
   worthless _ _ _ _ _ _ _ valuable
   successful _ _ _ _ _ _ _ unsuccessful

16. DIRECT

   good _ _ _ _ _ _ _ _ bad
   worthless _ _ _ _ _ _ _ valuable
   successful _ _ _ _ _ _ _ unsuccessful

17. INTELLIGENT

   good _ _ _ _ _ _ _ _ bad
   worthless _ _ _ _ _ _ _ valuable
   successful _ _ _ _ _ _ _ unsuccessful

18. FAIR

   good _ _ _ _ _ _ _ _ bad
   worthless _ _ _ _ _ _ _ valuable
   successful _ _ _ _ _ _ _ unsuccessful
19. **ORGANIZED**

   good ___ ___ ___ ___ bad
   worthless ___ ___ ___ ___ valuable
   successful ___ ___ ___ ___ unsuccessful

20. **PERSISTENT**

   good ___ ___ ___ ___ bad
   worthless ___ ___ ___ ___ valuable
   successful ___ ___ ___ ___ unsuccessful

21. **ANALYTICAL**

   good ___ ___ ___ ___ bad
   worthless ___ ___ ___ ___ valuable
   successful ___ ___ ___ ___ unsuccessful

22. **FRIENDLY**

   good ___ ___ ___ ___ bad
   worthless ___ ___ ___ ___ valuable
   successful ___ ___ ___ ___ unsuccessful
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