THE RELATIONSHIPS BETWEEN SELF-RATINGS
AND PEER RATINGS ON A LEADERSHIP
BEHAVIOR SCALE

DISSERTATION

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

By

CLAUDE JACKSON BARTLETT, B. S., M. A.

The Ohio State University
1958

Approved by

Chairman
Department of Psychology

ACKNOWLEDGEMENTS

The writer would like to express his appreciation to Dr. Robert J. Wherry for serving as an adviser and friend during his graduate career. Thanks are also expressed to Dr. John E. Horrocks for all of the help he has given and for the opportunity of teaching under his supervision. Appreciation is also expressed for the help given by the Psychology 407 instructors and students in the collection of data. Most of all, the writer appreciates the contributions of his three helpers, Glor, Andy, and Scotty.

CONTENTS

<u>Chapter</u>	<u>Page</u>
I. INTRODUCTION	1
Problem	3
Review of the Literature	3
II. PROCEDURE	5
Subjects	5
Construction of the Rating Instrument	5
Administration of the Self-Ratings	14
Administration of the Peer Ratings	15
Scoring the Leadership Scale	15
Rating of Others	16
Peer Nominations	16
III. RESULTS AND DISCUSSION	17
Analysis of Data	17
The Over-all Leadership Scale	19
Factor A: Ideas and Information	21
Factor B: Friendly Atmosphere	22
Factor C: Labor and Effort	22
Factor D: Policy and Decisions	22
Overview of Peer and Self-Ratings	23
Implications and Suggestions for Research	25
IV. SUMMARY	28
Problem	28
Procedure	28
Results	29
APPENDIX A, LEADERSHIP DESCRIPTION CHECK LIST	30
APPENDIX B, ORTHOGONAL FACTOR LOADINGS, PI'S AND DI'S FOR THE 300 PHRASES	39
APPENDIX C, THE LEADERSHIP BEHAVIOR SCALE	46
APPENDIX D, THE PEER NOMINATION FORM	52
APPENDIX E, MEANS AND STANDARD DEVIATIONS ON THE LEADERSHIP SCALE	54
BIBLIOGRAPHY	55

LIST OF TABLES

<u>Table</u>	<u>Page</u>
I. EXPERT AGREEMENT BY CATEGORY	7
II. INTERCORRELATIONS OF CATEGORY SCORES	8
III. SUMMARY OF THE OUTCOME OF MATCHING ITEMS	14
IV. INTERCORRELATIONS AND RESIDUALS FOR RATINGS AND NOMINATIONS	18
V. FACTOR LOADINGS FOR SELF-RATINGS, PEER RATINGS, AND NOMINATIONS	20
VI. INTER-RATER RELIABILITY	21

CHAPTER I

INTRODUCTION

For a half century, psychologists have been using aptitude tests to predict human behavior. Tests were first used to predict school success of children. Later tests were used to predict a great many other things, such as success at a job in industry.

Although much progress has been made in test construction and validation, only about 50 per cent of the variance of any common criterion is explainable by our present tests of ability. The question seems to be, "What is the other 50 per cent of our criterion variance?" The answer to this question may lie in variables other than those of aptitude, such as motivation or interpersonal relationships. There have been many personality inventories and tests that claim to measure these variables, but they have been shown to have little predictive power toward any outside criterion (4)(5). Probably the method in most common use for evaluating the personality variables is the interview.

Meehl (12) has cited several studies which indicate that the interview adds little, if anything, to the predictive power of aptitude tests. This seems to be true even when the interviewing is done by experienced clinicians. One of these studies, by Sarbin (13), showed a tendency for interviewers to make a constant error of over-estimation

when trying to predict college student grades. This error of over-estimation suggests one possible reason for the lack of predictive power of an interview. This error of over-estimation may reduce the validity of the interview. It has already been stated that the interviewer tends to overrate the interviewee. If this is true, even though the interviewer has nothing to gain, it seems even more likely that a person evaluating himself might also tend to overestimate his own characteristics. Since most personality inventories do not satisfactorily control for this, their predictive validity may be reduced.

Much work has been done in the last ten years in creating a method of controlling bias in ratings by the use of the forced-choice method (18)(19)(20). Gordon (9) did a study using the forced-choice method with tests of personality. He found that the forced-choice method was more valid than the questionnaire method for predicting the criterion of peer nominations. He also found that combining forced-choice with a questionnaire failed to raise the validity. Ghiselli (8) and Denton (3) also have done studies demonstrating the validity of a forced-choice self-description technique.

Although studies on the use of the forced-choice technique in self-description are few in number, the studies that are available seem to indicate that validity can be increased by the attempt to control bias in that manner.

The Problem

The purpose of this study is to predict individual leadership in a group discussion situation and to discover the relationships between self-ratings and peer ratings. A leader in a group is defined as a person whom others in the group perceive as a leader. A forced-choice rating scale was built for the purpose of identifying the persons whom the group members perceive as leaders. This rating scale, built to be used as a peer rating scale, was then used as a self-description instrument for the purpose of predicting the criterion of leadership. The major hypothesis of this study is that a person's rating of himself on a leadership scale built for peer rating will be a good predictor of leadership since the bias of the rater will be controlled.

Review of Literature

There are very few empirical studies of the relationship of self-ratings to peer ratings. The studies that have been done show conflicting results.

In a study of rating on traits of Guilford's STDGR, Carroll (2) found that self-ratings showed a higher degree of relationship with these traits than did peer ratings. He found a moderate relationship (.29 to .56) between self-ratings and peer ratings.

Webb (17) studied the relationship between self-ratings and peer ratings and found correlations ranging from .22 to .60. He calls these correlations low and suggests there is more than one self (objective, self-evaluated, and social). The ratings consisted of rating five traits, which were only briefly defined, on a seven-point scale. Because of the shortcomings of a scale of this type, the generalizations which Webb makes may not be justified.

In a study made of leaderless group discussions, Gebel (7) found that emerged leaders of these discussion groups had a different perception of themselves than persons who did not attain high leadership status. In other words, by measuring a person's perception of himself, we should be able to predict whether or not he will emerge as a leader.

Although some of the correlations between self-ratings and peer ratings have been low, it should be noted that in none of the above studies was bias well controlled. As was mentioned earlier, it would be expected that a person rating himself would be more likely to attempt to bias the rating than a person who is rating his peers. Although bias would be present in both ratings, the bias in a self-rating would probably be greater. This would tend to lower the relationship between peer ratings and self-ratings. By controlling bias through the use of a forced-choice technique, it is expected that the correlation between self-ratings and peer ratings will be raised.

CHAPTER II

PROCEDURE

Subjects

The subjects used for this study were students in an introductory course in Educational Psychology during the spring and autumn quarters of 1957 and the winter quarter of 1958. This course uses the small group discussion technique as a method of instruction. At the beginning of the quarter, each class is divided into several groups of four to six students each. Each group works separately on various topic questions and projects. The class procedure affords an opportunity for the students to become acquainted with other members of the group in a discussion situation. Thus, they are able to rate the behavior of one of the other group members with respect to group leadership qualifications.

Construction of the Rating Instrument

Since leadership was defined as being perceived as a leader by one's peers, the logical place to obtain items to measure leadership is directly from the persons to be rated. Thus, toward the end of the spring quarter of 1957 the students in the introductory course in Educational Psychology were asked to write essays. The directions for these essays were as follows:

In this course during your group discussions, you have probably noted that one or more persons in the group have been outstanding in organizing or directing your discussions. Think of the person in your group whom you would consider the most outstanding leader of your group. As concretely and precisely as possible, describe that person below. Try to give as many examples of his behavior as you possibly can.

About seventy-five essays were collected from three different classes. These essays were examined to find short descriptions of the behavior of group leaders which could be used as items in the rating scale. Three hundred items were obtained from the essays.

The items were then grouped into the following tentative categories:

- I. Intelligence
- II. Personal acceptability
- III. Motivation
- IV. Group organization
- V. Democratic-autocratic
- VI. Self-organization

Five experts, all of whom were advanced graduate students in psychology, were asked to sort the items into the above categories. The results of the sorting were tabulated for each item. Then, items were selected to represent the above categories on the basis of the expert agreement.

The three hundred items were then formed into a description check list. The first 147 of the items are those that were used to define the six categories.

TABLE I

EXPERT AGREEMENT BY CATEGORY

	5 for 5	4 for 5	Total
I	22	3	25
II	25	0	25
III	20	5	25
IV	7	18	25
V	13	12	25
VI	8	14	22
Total	95	52	147

During the autumn quarter of 1957 the descriptive check list was administered to one hundred students of the introductory Educational Psychology class. This descriptive check list, with the directions for administration, appears in Appendix A. The students were asked to rate a group member on an over-all scale of 1, poorest leader, to 20, best leader, among a typical group of 20 group members. These over-all ratings were divided into three groups. The members of the first group were asked to call to mind an individual to whom they would give an over-all rating between 1 and 10 on the twenty-point scale. The members of the second group were asked to call to mind an individual whom they would rate from 11 to 20. The members of the third group selected an individual whom they would rate from 6 to 15. This procedure was followed to maximize the probability of the group members receiving a normal distribution of over-all ratings.

After the student had called to mind a particular group member, he was asked to consider the three hundred phrases, one at a time, as they applied to this individual. If a phrase applied very poorly, it was to be rated 1 in terms of applicability. If a phrase described the individual very well, it was to be rated 5. A rating of 2, 3, or 4 was used for intermediate degrees of applicability. This check list provided all of the data necessary for the construction of the rating scale.

Category scores were then obtained for each individual who was rated. The scoring was done by summing the applicability ratings accorded each item within a category, as established by the original sorting by experts.

Pearson product-moment correlation coefficients were computed between all categories. They appear in Table II.

TABLE II

INTERCORRELATIONS OF CATEGORY SCORES

	I	II	III	IV	V	VI
I	xx	.590	.751	.884	.771	.925
II		xx	.582	.554	.548	.593
III			xx	.799	.702	.736
IV				xx	.764	.848
V					xx	.811
VI						xx

The categories were checked for linear independence. This was done by a method suggested by Wherry and Winer (22).

The Z portion of the Wherry test selection procedure (14) was used. The first category to be entered was that with the lowest average intercorrelation with all the rest. This was followed by progressively adding categories whose variance indicated least overlap with those already selected. Four categories were selected by this method. They were: I, intelligence; II, personal acceptability, III, motivation, and V, democratic-autocratic.

Each of the three hundred items was correlated with the categories. As suggested by Wherry and Winer (22), these categories may be assumed to be good estimates of the centroids that would be defined by the corresponding inter-item correlations. Thus, the correlations between the categories and the three hundred items may be considered as the oblique factor loadings as defined by these categories. These estimates of the oblique loadings were then transformed to the orthogonal factor loadings, which appear in Appendix B.

Also shown in Appendix B are two indices which were used in building the rating scale. They are the discrimination index (DI) and the preference index (PI). The DI is a measure of the degree of relationship (Pearson product-moment correlations) between the applicability values given to the group member being rated. The PI is a measure of the willingness of a rater to apply a phrase to the behavior of a group member. In a study done under the direction of

Wherry (19), the PI was found to be the best measure of the factor "positive emotional tone."

Five orthogonal factors were found. The first factor, Factor G, was a general factor and might be interpreted as an over-all leadership factor. In addition to the general factor there were four group factors. They are interpreted in terms of how a person can make contributions to a group.

Factor A is interpreted as a contribution of Ideas and Information to the group.

Factor B seems to be a contribution of Friendly Atmosphere.

Factor C describes the hard worker of the group. Thus, it seems to be a contribution of Labor and Effort.

The items of Factor D describe the person who is able to get his opinions accepted by a group and thus seems to be a contribution of Policy and Decisions to the group activities.

The following items were used in the final form of the scale to define each of the group factors:

Factor A

- *(13) can outwit others
- (42) well-informed
- (44) has much self-confidence
- (75) contributes ideas and suggestions when needed
- (90) gives better arguments than others

*item numbers from Leadership Descriptive check list

- (106) does not make quick judgments
- (110) knows more than others in the group
- (123) gets best test grades in the class
- (140) says nothing unless it is of importance
- (150) interested in the way things are presented

Factor B

- (6) is everybody's friend
- (70) pleasant to talk to
- (86) calm common-sense approach to all problems
- (87) opinions based on experience
- (100) best-liked in the group
- (102) always wants opinions of other group members
- (201) tactful
- (203) ready for criticism
- (205) smoothes over problems without hurting anyone's feelings
- (269) never exploits own ideas

Factor C

- (38) organizes group report
- (47) can depend on to do dirty work
- (62) interested in lively group participation
- (115) wants to be the best at everything he attempts
- (141) always ready to serve
- (151) more interested in what is learned rather than grade
- (185) helps group out of class as well as in class
- (224) gets after group when a lack of co-operation is present

- (263) willing to give time for group work
- (300) accepts responsibility without objection

Factor D

- (23) argues his point until he convinces others
- (91) comments arouse controversy
- (158) has a solution for every problem
- (189) always states opinions on a subject
- (200) argues his point until convinced he is wrong
- (210) sticks to his own ideas until another is shown more practical
- (252) expresses point of view
- (267) always willing to add an extra word
- (291) always gives an opinion
- (293) seldom changes his opinion

The final form of the rating instrument was made up of two different kinds of sets of items. There were sets which were designed to discriminate between different levels of leadership and sets which could be scored to indicate what kind of leadership was being displayed. Each set was composed of four items.

In the discriminating sets, all items were matched, as nearly as possible, on the Preference Index (PI). Two of the four items were high on the Discrimination Index (DI), and the other two items were low on the DI. Fourteen of these four-item sets were used on the discriminating portion of the scale.

For the profile or diagnostic portion of the scale all items were matched, as nearly as possible, on the PI. In addition to this, an attempt was made to match all items on the magnitude of the general factor loading and the DI. Thus, all items within a set were approximately equal on positive emotional tone (PI), the amount of bias or general leadership impression indicated by a rater (general factor loading), and the discriminative power of each item for an over-all rating of leadership (DI). The items differed only in that there was only one item from each of the four factors per set. Ten sets were used in the diagnostic portion of the scale.

For both kinds of sets, the items were arranged in alphabetical order within each set. The discriminating sets were alternated with the diagnostic sets in the final form of the scale. This was done to help reduce any attempt by the rater to figure out which were the discriminating items. Since all items within each diagnostic set were matched on the DI, it would be impossible to figure out differences in the discrimination value of these items. Thus, it was assumed this would discourage the rater from trying to figure out the differences in DI's of the items within the discriminating sets.

Table III gives the means of the PI (M_{PI}), DI (M_{DI}), general factor loading (M_G), magnitude of the group factor loading (M_S), and magnitude of the loadings on the other group factors (M_{DS}) for all of the items in the diagnostic

TABLE III

SUMMARY OF THE OUTCOME OF MATCHING ITEMS

Factors or Half	M _{PI}	M _{DI}	M _G	M _S	M _{OS}
A	3.22	.511	.686	.261	-.002
B	3.52	.426	.552	.346	-.069
C	3.32	.461	.558	.334	-.001
D	3.21	.367	.328	.271	-.001
OA _H	3.63	.667	---	---	---
OA _L	3.63	.278	---	---	---

portion of the scale. Also shown in Table III are the mean PI and mean DI for the high DI (OA_H) and the low DI (OA_L) items in the discriminating portion of the scale. This information indicates how well the items were matched within each set.

Administration of the Self-Ratings

The scale was administered to a group of ninety-six Educational Psychology students during the first week of the winter quarter, 1958. Each of the students was asked to rate himself. The directions for the self-ratings are shown in the first part of Appendix C. The scale was identified as a Group Participation Ranking Form in order to minimize any

effort by the subjects to connect any of the items with their perception of leadership.

At the beginning of the sixth week of the quarter all subjects were again asked to rate themselves on the scale. This was done at the same time the peer ratings were collected.

Administration of the Peer Ratings

The scale was given to the ninety-six Educational Psychology students at the beginning of the sixth week of the quarter. They were asked to rate the two persons at their table who were sitting immediately to their left. Thus, each person was rated by two other members of the group. The directions for this administration are shown in the second part of Appendix C.

Scoring the Leadership Scale

Five different scores were obtained for each rating on the scale. First was the over-all rating (OA). This was obtained from the fourteen sets of the discriminating portion of the scale. On these sets one point was given for each phrase of high DI that was ranked 1 or 2. Ranks of 3 or 4 were given a score of zero. Thus, the highest possible OA score would be 28. The scoring was done by counting the number of high DI items that received a rank of 1 or 2. The score for each factor in the diagnostic portion of the scale was determined by summing up the ranks which were given to

each phrase representing a given factor. For example, to determine the score for Factor A, one would sum up the ranks given to all of the items (one from each diagnostic set) that represent Factor A. Thus, the best possible score for each factor would be 10; the poorest would be 40.

Rating of Others

In addition to the peer ratings and self-ratings, the scales were scored as to how each person rated others in his group. Each person received the rating on over-all leadership and the four category scores which he gave the two members of his group as his score on this variable.

Peer Nominations

In order to obtain a criterion against which to validate the scale, peer nominations from all members of the class were collected in the five areas which the scale attempts to measure: over-all leadership, Factors A, B, C, and D. The instrument used to collect these nominations is shown in Appendix D.

Each person was given a score in each of the five areas according to how many nominations he received. He received plus one point for each best nomination and minus one point for each least nomination.

CHAPTER III

RESULTS AND DISCUSSION

Analysis of the Data

Intercorrelations were computed between five variables in each of the areas of the rating scale. In the over-all portion of the scale the following variables were used: the self-ratings at the beginning of the quarter (pre-self), the self-ratings at the middle of the quarter (post-self), the peer ratings, the ratings made of others in the group, and the nomination of over-all leadership. For the four factor portions of the scale the pre-self, post-self, peer, and rating of others were also used; however, the nominations on each of the four factors were not used. Since there was no control of bias in the collection of these nominations, it was necessary to partial out bias from these nominations. The over-all leadership nomination was used as a measure of bias.

The over-all leadership nomination was partialled out of the factor nominations by using the part correlation coefficient (6). It was unnecessary to partial out the over-all nominations from the measures based on the rating instrument, since bias had already been controlled. The original correlations between the ratings and the nominations are shown in Table IV. Also appearing in Table IV are the

TABLE IV

INTERCORRELATIONS AND RESIDUALS FOR RATINGS AND NOMINATIONS

	PRE- SELF	POST- SELF	PEER	RATING OF OTHERS	PART NOM.	OVER- ALL NOM.	FAC- TOR NOM.
<u>OVER-ALL LEADERSHIP</u>							
pre-self	--	*43	-07	-09	--	09	--
post-self	-03	--	11	-13	--	12	--
peer	-01	05	--	-20	--	49	--
rating of others	01	00	-05	--	--	-07	--
nomination (OA)	04	-02	00	06	--	--	--
<u>IDEAS AND INFORMATION</u>							
pre-self	--	42	13	12	34	-25	-02
post-self	-04	--	17	08	18	05	14
peer	00	00	--	-07	09	11	14
rating of others	-04	04	00	--	-06	-01	-04
part nomination	07	-05	-06	-05	--	--	--
nomination (A)	--	--	--	--	--	83	--
<u>FRIENDLY ATMOSPHERE</u>							
pre-self	--	32	03	20	-11	44	-05
post-self	-04	--	26	-01	01	-21	-02
peer	00	-03	--	-10	10	-34	05
rating of others	04	-03	00	--	03	26	07
part nomination	-05	00	04	08	--	--	--
nomination (B)	--	--	--	--	--	14	--
<u>LABOR AND EFFORT</u>							
pre-self	--	48	18	09	14	-01	11
post-self	06	--	31	16	32	11	33
peer	-06	-05	--	-12	44	05	40
rating of others	-08	02	07	--	-34	17	-20
part nomination	-03	03	00	04	--	--	--
nomination (C)	--	--	--	--	--	52	--
<u>POLICY AND DECISIONS</u>							
pre-self	--	62	17	19	-09	-01	-07
post-self	02	--	24	30	-13	00	-09
peer	02	00	--	09	07	11	13
rating of others	01	01	01	--	-08	-28	-25
part nomination	-03	-04	06	-06	--	--	--
nomination (D)	--	--	--	--	--	70	--

*Decimal points are omitted

intercorrelations of the ratings and the nominations (or part nominations) for the over-all leadership and the four factor portions of the scale.

Five separate factor analyses were done for each portion of the scale. The orthogonal factor loadings are shown in Table V. The residuals appear in Table IV.

Inter-rater correlations were computed for each portion of the scale. These correlations were then stepped up by using the Spearman-Brown Reliability Formula to give an indication of the reliability of the scales, using two and four raters. All reliabilities are shown in Table VI. Since two raters were used in the present study, the column showing the reliability for two raters would be appropriate.

The Over-all Leadership Scale

Factor I (OA) for the over-all leadership scale appears to be a factor of self-rating since the two largest factor loadings are on the pre-self ratings and post-self ratings. However, since rating of others shows a small negative loading ($-.15$), it might be interpreted as a rating set. If a person perceived himself as being the leader of a group, then he perceived others as being something other than leaders.

Factor II (OA) seems to be the factor of general over-all leadership, since it received a loading on all of the measures except the pre-self ratings. The peer rating has

TABLE V

**FACTOR LOADINGS FOR SELF-RATINGS, PEER RATINGS, AND
NOMINATIONS**

	I	II	R ²
<u>OVER-ALL LEADERSHIP</u>			
pre-self	.68	.00	.46
post-self	.67	.15	.47
peer	-.09	.82	.68
rating of others	-.15	-.20	.06
nomination	.07	.61	.38
<u>IDEAS AND INFORMATION</u>			
pre-self	.70	.50	.74
post-self	.30	.50	.34
peer	-.10	.40	.17
rating of others	.30	-.10	.10
part nomination	.10	.40	.17
<u>FRIENDLY ATMOSPHERE</u>			
pre-self	.55	.13	.32
post-self	.36	.66	.57
peer	-.06	.50	.25
rating of others	.32	-.12	.12
part nomination	-.11	.08	.02
<u>LABOR AND EFFORT</u>			
pre-self	.49	.30	.33
post-self	.57	.47	.55
peer	.12	.61	.39
rating of others	.60	-.43	.54
part nomination	-.11	.74	.56
<u>POLICY AND DECISIONS</u>			
pre-self	.56	.24	.37
post-self	.89	.42	.97
peer	.14	.28	.10
rating of others	.24	.18	.09
part nomination	-.16	.12	.04

TABLE VI

INTER-RATER RELIABILITY

	r_{11}	2 raters	4 raters
Over-all Leadership	.35	.52	.68
Ideas and Information	.25	.40	.57
Friendly Atmosphere	.29	.45	.62
Labor and Effort	.24	.39	.56
Policy and Decisions	.38	.55	.71

the highest loading (.82) on this factor. Thus, it appears that this is probably the best measure of over-all leadership.

Factor A: Ideas and Information

The two self-ratings and the rating of others received sizable loadings on Factor I (A). If a rater perceived one of the four factors on the scale as being more preferred, it would have affected these three measures. Thus, an interpretation of rating set seems appropriate for Factor I (A).

Factor II (A) received highest loadings from the two self-ratings (.50). The peer ratings and the part nominations also loaded on this factor (.40). Factor II (A) is probably interpreted best as a general measure of the contribution of ideas and information to the group. Since the contribution of ideas and information to the group is probably

closely related to intelligence, it seems reasonable that the self-ratings should load high on this factor.

Factor B: Friendly Atmosphere

Factor I (B) has loadings on the two self-ratings and on the rating of others. Thus, it can also be interpreted as rating set.

Factor II (B) has loadings on only the post-self rating and the peer rating. This indicates that a person who perceived himself as contributing toward a friendly atmosphere of a group was also perceived by his peers as contributing toward friendly atmosphere. This may be a mutual feeling within a group at a specific time, since the peer nominations on friendly atmosphere at the end of the quarter did not load significantly on this factor.

Factor C: Labor and Effort

Factor I (C) can also be interpreted as rating set.

Factor II (C) has sizable loadings on all five measures. The largest (.74) is on the part nomination. Thus, it seems that this is the best measure of a general contribution of labor and effort.

Factor D: Policy and Decision

The rating set factor, Factor I (D), is also present in ratings of policy and decision-making.

Factor II (D) has loadings on both the self-ratings and the peer ratings. Small positive loadings are present on rating of others and the part nominations. This seems to indicate a general factor of policy and decision-making. The second self-ratings seem to be the best measure of this factor.

Overview of Peer and Self-Ratings

Looking at the factor loadings for all parts of the scale together, it can be noted that Factor I seems to be the same factor on all four factors of the diagnostic portion of the scale. Even on the over-all leadership part of the scale this factor has a similar pattern. Thus, the best possible interpretation, including all parts of the leadership scale, seems to be that Factor I is rating set.

The only measures that load high consistently on all parts of the scale for Factor II are the peer ratings from the leadership behavior scale. The post-self ratings load .28 or above on all of the diagnostic categories and have a small (.15) loading on over-all leadership. The pre-self rating has positive loadings on all of the diagnostic categories but fails to load on over-all leadership. The nomination variable loads positively on all parts of the scale, but the loadings on Friendly Atmosphere and Policy and Decisions are small. How a person rates others is slightly related to all factors but is high only on Labor and Effort.

Factor II, for all of the sub-areas, appears to be a fairly general representation of the measures of leadership and its four diagnostic categories studied in the present research. If only one measure is to be used to measure leadership, the peer ratings on the leadership scale would probably be the best measure. If one were interested only in the diagnostic categories of leadership, then self-rating by persons who were experienced in group activity would also be adequate. One could also get a fair prediction of the diagnostic categories from self-ratings by inexperienced persons, such as entering students in Educational Psychology at Ohio State University.

The purpose of this study was to compare the relationships of self-ratings and peer ratings on a leadership behavior scale. For the prediction of over-all leadership, the self-ratings appear to be of little value. The self-ratings made by persons inexperienced in group activity correlates zero with the over-all leadership factor. The self-ratings done after five weeks of experience in group work correlate .15.

For the diagnostic categories, however, the self-ratings seemed to be a fairly good measure. In all categories, except Labor and Effort, the post-self ratings have a higher loading than the peer ratings, although peer ratings have substantial loadings on all four of the categories. Thus, the original hypothesis of the study, that

self-ratings would be a good predictor of leadership, seems to be supported for the diagnostic part of the leadership behavior scale.

Implications and Suggestions for Research

The present study was done for the purpose of investigating the possibility of replacing peer ratings with self-ratings without seriously affecting validity. If this were possible, then it was conceivable that a person with no experience in the activity which was to be rated might rate himself so that eventual performance on the activity might be predicted. For the discriminating part of the scale, it does not appear that the substitution of self-ratings for peer ratings would be advisable. For the diagnostic scale, the self-ratings may even be superior to the peer ratings. At least a substitution of self-ratings for peer ratings seems feasible for the diagnostic part of the scale.

It is possible to make the generalization that it is inadvisable to substitute self-ratings for peer ratings from a discriminating forced-choice type of scale but possible to make the substitution for a diagnostic descriptive ranking type scale. This generalization may be applied when it is not possible to do research to validate the technique to the situation. However, it is recommended that before this generalization is adopted, further research be carried on to test the validity of this technique in other situations.

Another interesting implication that emerged as a by-product of the study is found in the correlation between the over-all leadership nominations and the nominations on the four factors. These correlations appear in Table IV. All of the correlations between the over-all nominations and the category nominations are high except one. The nomination on contribution of friendly atmosphere is only .14. The lack of correlation between over-all leadership and friendship nominations adds support to the research (10)(21) that buddy nominations measure something other than popularity.

A look at the correlations between the self-ratings and the over-all nominations reveals another possible implication. The correlations between the over-all self-ratings and the over-all nominations are low, but the correlations between the self-ratings on Ideas and Information and Friendly Atmosphere show some higher correlations.

On the Ideas and Information category the pre-self ratings correlate $-.25$ with over-all leadership. The pre-self ratings of the Friendly Atmosphere correlate $-.21$, and the post-self ratings correlate $-.34$. These correlations occurred even though the scale was set up by matching all items on DI as well as PI. Since all items were matched on DI, one would expect that this would rule out the possibility that these sub-areas would discriminate between nominations of leaders and non-leaders. In the over-all

leadership scale the DI's were deliberately made unequal in the hope of forcing a discrimination.

These findings suggest that a descriptive ranking diagnostic rating scale may yield measurements that have more predictive validity than the usual discriminating forced-choice scale has. Gordon (9) has already obtained more valid results by using this kind of self-rating scale than was obtained with the questionnaire method.

The data presented in the present study do not give any conclusive evidence for the above implication, but a possible value of this kind of assessment is suggested. The writer feels that the descriptive ranking method of personality assessment may provide a more valid measure than the traditional methods of assessment. At least it appears to be a method worthy of more extensive research.

CHAPTER IV

SUMMARY

Problem

The purpose of this study was to examine the relationships between self-ratings and peer ratings on a leadership behavior scale. The major hypothesis of the study was that a person's rating of himself on a leadership scale built for peer ratings would be a good predictor of leadership if the bias of the rater were controlled.

Procedure

A rating scale was constructed for the purpose of measuring group leadership qualities. The subjects used were from an introductory course in Educational Psychology. The final form of the leadership scale was made up of two parts. The first part was a discriminating forced-choice scale for rating over-all leadership. The second part was a diagnostic scale for rating the type of contribution to the group activity. It was made up of four factors: Ideas and Information, Friendly Atmosphere, Labor and Effort, and Policy and Decisions.

The scale was administered to a group of educational psychology students during the first week of the course as a self-rating instrument. After a five-week period, the

scale was again administered as a self-rating and a peer rating instrument. The scales were scored for self-rating, peer rating, and rating of others in his group. Peer nominations were collected on the five areas that the scale measured, over-all leadership and the four factors. The two self-ratings, the peer ratings, the ratings of others, and the nominations were then intercorrelated and factor analyzed for each of the five areas of leadership.

Results

Two orthogonal factors were extracted from each area of the leadership scale. One of the factors on each area was interpreted as a rating set factor. The second factor was interpreted as a general measure of each area. The peer ratings were a good measure of each of the five areas and were the best measure of over-all leadership. The second self-ratings were the best measure of all of the diagnostic categories. Neither of the self-ratings was a good measure of over-all leadership.

The major hypothesis of the study, that self-ratings would be a good predictor of leadership, was supported for the diagnostic part of the scale, but was not supported for the discriminating forced-choice scale.

APPENDIX A
LEADERSHIP DESCRIPTION CHECK LIST

Leadership Description Check List

On the pages that follow you will find a list of 300 phrases which Psychology 407 students have applied to leaders in their discussion groups.

Any group member might be compared on various leadership qualities with a typical group of 20 other group members. Thus, a group member could be ranked from 1 (the poorest) to 20 (the best). A person who showed average leadership qualities would be ranked about 10 or 11, and so on.

Please select a group member whom you know--any group member who has worked with you in a group discussion, such as in Psychology 407, whom you would rank between ___ and ___ within an over-all scale of 1 (poorest) to 20 (best). Put the specific rank number you assign to this person in the name blank of the accompanying answer sheet. Remember, that a person you rank 1 has practically no leadership qualities, and the person you would rank 20 has almost all of the qualities desirable in a good leader. You are asked to mark the phrases with only this one person in mind. No further identification of you or this person is required.

Each phrase on the following pages should be marked from 1 to 5 according to how well it applies to the particular group member you have in mind. For each phrase, ask yourself this question: this phrase applies to the person I am describing:

1	2	3	4	5
very poorly?	poorly?	moderately well?	well?	very well?

Make no effort to give only high responses for a person estimated as high on the 20-point scale, or only low responses for a person estimated low on the 20-point scale. Merely consider each phrase, by itself, as it applies to this person. Many phrases are quite specific and may not be pertinent to the over-all evaluation you have made of this group member. Always mark an item 5 if it is an excellent description of this person, or 1 if it is a very poor description, using numbers in between (2, 3, 4) to indicate the various degrees of description.

The phrases should be marked only on the answer sheet you have been given. Simply blacken the space between the dotted vertical lines corresponding to your choice on each phrase. Each phrase has its corresponding number on the answer sheet. There are 300 phrases. Thus, you are to make one mark in each of the 300 numbered positions on the answer sheet. Mark every phrase. If you do not know how to mark a particular phrase, estimate how you think this group member would have acted had the occasion presented itself.

REMEMBER: a phrase applies to the group member I am describing

1. very poorly
2. poorly
3. moderately well
4. well
5. very well

1. Makes others feel friendly
2. Knows how to organize groups
3. A good listener
4. Takes an active interest in things
5. Tries to get things started
6. Is everybody's friend
7. Earnest about work
8. Shows a persistent effort
9. Quite dominant
10. Not always democratic
11. Always has a plan in mind
12. Keeps group together
13. Can outwit others
14. Seems to have a likable personality
15. Doesn't push others' opinions off for his own
16. Sees that everything runs smoothly
17. Can grasp essentials of situation
18. Well-liked by others
19. Backs up what he thinks is right
20. Is a good organizer
21. Has evidence to back up his opinions
22. Willing to accept others' opinions
23. Argues his point until he convinces others
24. Has high academic standing
25. Always willing to listen to the other side of an argument
26. Leaves out unnecessary details
27. Believes you get out of a course what you put into it
28. Willing to do extra things
29. Clear-thinking

30. Steers group on course
31. Prevents group from wandering
32. Gets right to the point
33. Guides group toward goal
34. Seems to enjoy work
35. Takes more than his share of work home
36. More than willing to do his share
37. Often seems to dominate group discussions
38. Organizes group report
39. Often inclined to think he is the only one right
40. Keeps group proceedings systematic
41. Not disturbed by problems
42. Well-informed
43. Nice-looking
44. Has much self-confidence
45. Willingly conforms to reasonable decisions of group
46. Does not bad-mouth others
47. Can depend on him to do the dirty work
48. He knows his stuff
49. Willing to work
50. Answers wisely
51. Listens to what everyone has to say
52. Makes group return to subject at hand
53. Very friendly
54. Doesn't go about things aimlessly
55. Does not over-exercise power as a leader
56. Extremely polite and courteous
57. Is a real brain
58. Insists on his way
59. Throws new light on a problem
60. Well-liked by all
61. Keeps at a project until it is done
62. Interested in lively group participation
63. Takes charge of group discussions
64. Prefers to do entire project by himself
65. Adds new ideas to a subject
66. Ready for suggestions
67. Has a good sense of humor
68. Holds group together
69. Always very pleasant
70. Pleasant to talk to
71. Moves to the heart of a problem with quiet authority
72. Does not just go along with the group
73. Motivates individuals who would normally do nothing
74. Willing to do what rest of group wants
75. Contributes ideas and suggestions when needed
76. Never makes a snap judgment
77. Interested in what is going on
78. Ideas are reasonable
79. Has thoughts organized
80. Always attends classes
81. Doesn't monopolize the group

82. Offers constructive criticism
83. Congenial to work with
84. Trys to define problem before trying to find solution
85. Not selfish
86. Calm common-sense approach to all problems
87. Opinions based on experience
88. Shows signs of ambition
89. Keeps group from going astray in thought patterns
90. Gives better arguements than others
91. Comments arouse controversy
92. Ideas are excellent
93. Has initiative
94. Doesn't listen to others' opinions
95. Always completes assignments on time
96. Able to evaluate suggestions of others
97. Says things that make alot of sense
98. Manner is pleasant
99. Does not talk continually in a group
100. Best-liked in the group
101. Quiet and reserved
102. Always wants opinions of other group members
103. Has confidence to express self
104. Doesn't offer irrelevant comments
105. Gets the group to meet
106. Does not make quick judgments
107. Realizes there is a time for seriousness
108. Devotes much time to work
109. Has an agreeable disposition
110. Knows more than others in the group
111. Easy to get along with
112. Pleasant and soft-spoken
113. Shows enthusiasm in all projects
114. Not domineering
115. Wants to be the best at everything he attempts
116. Not afraid to do more than his share
117. Has many intelligent ideas
118. Makes plans methodically
119. Summarizes when helpful
120. Expresses ideas well
121. Brings up the right things at the right times
122. Friendly
123. Gets best test grades in the class
124. Is a good worker
125. Has many friends
126. Does work outside of class
127. A hard worker
128. Thinking is original
129. Ideas are clever
130. Sums up group discussion
131. Serves as guide to rest of group
132. Suggestions are worthwhile
133. Has good ideas

134. Makes arrangements for group
135. Has good judgment
136. Takes over group
137. Keeps group on topic at hand
138. Brings up things that should be considered
139. Does more than his share
140. Says nothing unless it is of importance
141. Always ready to serve
142. Thinks out problem before answering
143. Very intelligent person
144. Knows what he is talking about
145. Always has a smile
146. Organizes group projects
147. Very agreeable
148. Has logical ideas
149. Seldom late to class
150. Interested in the way things are presented
151. More interested in what is learned rather than grade
152. Usually has a method for solving all problems
153. Makes precise judgments
154. Does not appear bored with rest of group's ideas
155. Sees to it that others do their share
156. Has a real interest in the class
157. Older than rest of group
158. Has a solution for every problem
159. Is a good thinker
160. Contributes to class discussion
161. Is attentive
162. Thoughtful of others
163. Re-states suggestions to make them more meaningful
164. A good follower
165. Reasoning is based on facts
166. Keeps others at their jobs
167. Organizes with efficiency
168. Always seems to know what to say
169. His suggestions heavily weighted by group
170. Quietly listens to other members of the group
171. Keeps discussion in line
172. Very sensible person
173. Keeps people from going astray tactfully
174. Has many different ideas
175. Remarks are always pertinent
176. Takes pride in work
177. Says things that are constructive
178. Open-minded
179. Opinion is respected
180. Ideas and comments are practical
181. Takes an active interest in discussions
182. Makes many worthwhile comments
183. Does favors for others
184. Outwardly independent
185. Helps group out of class as well as in class

186. Speaks for the group
187. Doesn't waste time
188. Wants to get things done as they should be done
189. Always states opinions on a subject
190. Actively participates in group discussions
191. Willing to express ideas
192. Knows what to do
193. Knows how to do what needs to be done
194. Listens to others' opinions
195. Willing to offer possible solutions to problems
196. Forever involved in a discussion
197. Knows how to get things done
198. Leaves more "timid souls" of group behind
199. Shows desire to help others
200. Argues his point until convinced he is wrong
201. Tactful
202. Has sincere interest in profession of teaching
203. Ready for criticism
204. Ideas show good judgment
205. Smoothes over problems without hurting anyone's feelings
206. Starts the ball rolling
207. Presents a neat appearance
208. Readily agrees with what he thinks is right
209. Takes responsibility very seriously
210. Sticks to own ideas until another is shown more practical
211. Enters group discussions with enthusiasm
212. Contributes ideas that others can understand
213. Enjoys working in a group
214. Keeps discussion going
215. Co-operates with group
216. Gets deadwood moving
217. Has a great deal of information to add to discussion
218. Keeps group interest alive by enthusiasm
219. Makes sure others in group contribute to discussion
220. Is interesting to talk to
221. Makes pertinent contributions to group discussions
222. Has efficient mannerisms
223. States why when disagreeing
224. Gets after group when a lack of co-operation is present
225. Makes sure that all possible solutions to a problem are considered
226. Always looking for a good solution to every problem
227. Enters discussion
228. Never makes sarcastic remarks about another's ideas
229. Respected for judgment
230. Knows his stuff
231. Brings up different ideas
232. Inspires others to work hard
233. Has ability to stimulate interest
234. Always starts discussion
235. Does not back down when opposition is met
236. Very interesting to observe

237. Exceptionally good speaker
238. Others like to work with him
239. Fulfills duty as group member
240. Knows what he is talking about
241. Has a voice of depth and resonance
242. Well-adjusted academically
243. Conducts the discussion
244. Leader in discussions
245. Does important things well
246. Makes his group the best one
247. Tries to help the entire group
248. Helps others in group work to capacity
249. Offers both good and bad criticism
250. Establishes goal at beginning of discussion
251. Does not sit by and let others do the work
252. Expresses point of view
253. More mature than others in group
254. Can develop another person's ideas
255. Works for the good of the whole group
256. Attends all meetings
257. Ideas are feasible
258. Does not acquire resentment of others in group
259. Acts as moderator
260. Has something to contribute to any subject
261. Always co-operative
262. Goes along with majority
263. Willing to give time for group work
264. Starts the discussion
265. Decisions are generally correct
266. Backs up what he says with good reasoning
267. Always willing to add an extra word
268. Uses common sense
269. Never exploits own ideas
270. Gets things done efficiently
271. Does not talk to hear himself talk
272. Gives own opinion in class
273. Guides group back to discussion
274. Always has suggestions to offer
275. Makes own ideas seem like the group's ideas
276. Has an answer for every problem
277. Understands other viewpoints
278. Always reads assignments
279. Understanding
280. Always ready to do his part
281. Doesn't mind being corrected when wrong
282. A good speaker
283. Is on the ball
284. Always willing to listen to a more experienced person
285. Follows discussion well
286. Takes an active part in discussions
287. Easy to talk to
288. Sees to it that discussion is orderly

- 289. Listens carefully when a problem is presented
- 290. Not discouraged easily
- 291. Always gives an opinion
- 292. Makes suggestions that answer problems
- 293. Seldom changes his opinion
- 294. Always has something pertinent to say
- 295. Points out importance of ideas
- 296. Tries to keep things moving
- 297. Dependable
- 298. Gives well thought out answers
- 299. Is a good talker
- 300. Accepts responsibility without objection

APPENDIX B

ORTHOGONAL FACTOR LOADINGS, PI'S, AND DI'S FOR THE 300 PHRASES

Item No.	G	A	B	C	D	PI	DI
1	52*	03	27	13	-28	3.79	56
2	67	26	-06	08	-04	3.10	67
3	45	12	16	02	-21	3.92	33
4	63	10	-03	30	-03	3.99	55
5	65	19	03	05	-01	3.37	67
6	43	-08	44	06	-34	3.74	37
7	60	06	-08	43	-03	3.76	40
8	57	06	-13	49	-06	3.48	47
9	29	16	-20	-11	35	2.61	26
10	-18	-08	-13	-11	39	2.62	-12
11	64	24	-18	25	-01	2.96	62
12	74	26	-09	12	01	3.16	72
13	58	22	-03	-07	10	2.61	57
14	49	00	51	-01	-49	4.18	40
15	44	06	17	-01	-08	3.80	24
16	69	26	-10	08	04	3.10	60
17	69	34	-14	06	-03	3.44	61
18	52	-07	52	06	-39	4.11	45
19-	47	22	-23	10	18	3.78	49
20	76	17	-10	27	05	3.19	71
21	68	21	-03	06	06	3.33	55
22	36	-01	45	-21	-21	3.83	22
23	25	03	-06	-06	30	2.68	37
24	55	26	-04	-07	02	3.46	41
25	54	-03	47	-12	-16	3.93	28
26	42	08	10	00	-02	3.16	26
27	46	-03	04	30	00	3.58	30
28	65	-08	02	53	02	3.68	55
29	79	27	10	-08	-04	3.60	66
30	75	25	-02	05	02	3.16	70
31	70	20	-05	21	-05	2.91	63
32	61	19	02	06	-05	3.08	58
33	72	18	01	13	-01	3.26	72
34	66	-03	08	46	-10	3.74	60
35	66	00	-04	52	-03	3.41	60
36	68	01	-07	59	-08	3.70	62
37	37	01	-04	-10	44	2.65	47
38	54	08	-01	23	-01	3.05	56
39	-09	-22	01	-15	56	2.21	-10
40	66	14	-04	15	06	2.87	68
41	31	-02	17	-18	21	3.18	17
42	68	31	-10	10	-08	3.49	58
43	26	11	27	-21	-23	3.92	17

*Decimal points are omitted before the factor loadings and DI's

Item No.	A	B	C	D	PI	DI
44	24	-04	-04	-05	3.64	49
45	02	29	-19	-01	4.04	18
46	-07	37	-07	-09	4.11	22
47	-14	13	33	03	2.96	17
48	36	-11	09	-13	3.43	66
49	04	02	50	-15	3.82	60
50	22	12	-01	-04	3.63	68
51	01	41	-06	-23	4.02	33
52	15	10	03	04	3.08	62
53	-06	52	03	-38	4.12	48
54	19	-03	19	-03	3.47	59
55	-08	46	-21	-09	3.90	18
56	03	42	06	-43	3.85	36
57	30	-18	11	-03	2.95	50
58	-07	-21	-06	56	2.24	00
59	27	-07	01	07	3.19	60
60	-05	57	-05	-41	4.06	41
61	06	-02	34	05	3.60	60
62	10	-04	34	-07	3.53	64
63	18	-02	11	09	3.20	69
64	-14	-06	05	49	2.21	11
65	28	02	03	-05	3.41	60
66	02	35	-05	-11	3.87	39
67	09	41	-08	-33	3.94	59
68	14	05	20	-01	3.16	70
69	-05	54	04	-46	4.06	43
70	-01	46	11	-46	3.99	49
71	22	-02	06	05	2.99	58
72	12	06	-11	17	3.31	56
73	15	10	05	01	2.94	71
74	-02	39	-38	09	2.68	06
75	24	07	-06	-04	3.74	58
76	11	10	-07	03	3.07	35
77	09	05	34	-16	3.79	53
78	13	17	06	-09	3.75	54
79	27	-04	03	01	3.40	58
80	-22	24	08	07	4.25	00
81	-07	37	-11	-12	3.76	09
82	21	17	-16	-03	3.38	61
83	02	46	-01	-35	4.04	40
84	18	13	01	-05	3.55	64
85	-07	42	01	-24	4.03	28
86	16	28	-16	-08	3.54	48
87	00	27	-03	00	3.41	35
88	10	05	24	-03	3.80	64
89	16	00	09	12	3.11	65
90	28	-08	10	03	2.94	71
91	-01	01	01	25	2.87	34
92	28	05	00	-05	3.32	65
93	09	-01	29	01	3.49	58

Item No.	G	A	B	C	D	PI	DI
94	-09	-05	-12	-13	40	2.13	-05
95	44	-03	10	13	08	3.55	29
96	74	30	-02	-05	03	3.49	63
97	77	27	00	05	-06	3.62	65
98	54	-01	54	-01	-46	4.20	41
99	33	00	28	-21	05	3.61	15
100	60	04	30	15	-31	3.35	58
101	-08	-05	14	-07	-11	2.89	-27
102	58	-03	41	-10	-05	3.73	35
103	58	16	01	00	08	3.90	58
104	57	17	13	-20	11	3.35	40
105	68	15	-07	20	08	3.12	77
106	64	23	07	-02	-08	3.33	46
107	60	09	16	04	-06	4.03	36
108	71	04	01	37	01	3.57	46
109	54	-06	50	06	-38	4.06	47
110	66	29	-15	01	14	3.04	49
111	51	02	55	-07	-48	4.11	34
112	40	02	39	02	-42	3.77	19
113	59	03	-03	41	-04	3.36	49
114	36	-09	41	-14	-05	3.79	06
115	39	11	-22	35	03	3.22	33
116	67	-02	01	49	-04	3.71	51
117	81	30	-07	12	-02	3.49	72
118	73	28	-14	13	05	3.19	59
119	76	22	05	05	-02	3.23	70
120	72	33	08	-21	-04	3.54	66
121	75	28	06	-07	-05	3.32	61
122	49	04	55	-11	-51	4.22	36
123	60	34	-18	07	-05	2.96	50
124	77	02	02	48	-05	3.82	67
125	67	08	38	02	-31	3.94	64
126	67	05	-05	41	02	3.60	57
127	69	01	-16	65	01	3.70	58
128	75	32	-02	07	-07	3.43	62
129	74	28	05	03	-14	3.24	66
130	73	21	04	03	03	3.14	63
131	80	22	02	05	05	3.14	72
132	81	32	06	-02	-14	3.58	64
133	81	30	11	-03	-17	3.60	65
134	69	19	-01	14	-03	3.12	69
135	82	26	04	08	-09	3.58	64
136	62	10	-11	18	24	3.06	64
137	73	19	-02	13	04	3.15	63
138	78	16	05	11	05	3.37	72
139	65	03	-07	40	07	3.42	48
140	48	20	-06	01	04	2.93	29
141	62	-05	05	51	-11	3.60	36
142	67	20	17	-13	-05	3.44	50
143	69	36	-10	02	-09	3.42	59

Item No.	G	A	B	C	D	PI	DI
144	75	36	04	-02	-24	3.53	61
145	37	00	47	-06	-42	3.37	35
146	75	16	01	18	01	3.14	73
147	48	-04	47	10	-46	3.89	34
148	77	24	18	-09	-11	3.65	65
149	14	-15	20	06	03	4.08	03
150	65	26	02	06	-16	3.56	43
151	56	09	-01	32	-13	3.01	47
152	63	26	-17	18	01	3.02	54
153	69	26	-05	06	-01	3.17	51
154	64	14	18	07	-20	3.64	53
155	68	11	10	12	-02	3.06	72
156	63	05	02	40	-14	3.43	50
157	15	-04	06	09	-01	2.53	20
158	52	09	-12	10	31	2.85	43
159	81	29	08	-07	-04	3.53	69
160	51	02	-04	20	19	3.62	38
161	65	09	01	25	00	3.88	52
162	61	05	36	05	-30	3.94	45
163	72	17	15	01	-07	3.14	66
164	27	-04	39	-12	-22	3.47	09
165	69	26	03	04	-11	3.37	44
166	71	14	00	27	-06	2.99	71
167	77	20	-04	18	02	3.13	70
168	77	25	-03	14	-06	3.22	70
169	60	11	06	14	-04	3.13	67
170	40	08	23	-10	-14	3.83	13
171	69	18	04	02	04	3.08	62
172	72	26	14	-01	-22	3.77	54
173	71	13	12	15	-10	3.08	66
174	70	23	-07	13	00	3.48	61
175	59	23	-11	12	01	3.21	47
176	67	07	-05	37	01	3.73	49
177	80	24	09	-02	-02	3.62	61
178	61	10	38	-09	-28	3.86	43
179	76	22	20	-04	-18	3.73	67
180	75	26	10	-03	-12	3.73	58
181	65	07	10	14	04	3.86	64
182	83	25	03	08	-04	3.42	73
183	63	-08	29	15	00	3.53	48
184	30	05	08	-12	11	3.65	17
185	52	03	-03	33	00	3.19	45
186	58	14	-09	21	07	3.12	55
187	61	08	05	19	-03	3.21	44
188	75	12	-04	28	04	3.57	60
189	53	07	-05	11	22	3.51	56
190	59	03	08	15	09	3.89	58
191	58	12	-04	12	11	3.97	60
192	76	27	-09	04	11	3.35	70

Item No.	G	A	B	C	D	PI	DI
193	76	28	-04	06	00	3.37	73
194	53	04	42	-14	-23	4.06	33
195	55	04	10	02	14	3.89	38
196	13	-10	-10	11	35	2.67	17
197	78	20	-03	19	01	3.35	72
198	-21	-06	-10	-16	33	2.38	-15
199	69	07	23	14	-16	3.62	63
200	16	06	-18	-03	33	2.85	24
201	63	09	32	01	-26	3.60	47
202	31	-05	19	17	-19	3.53	13
203	60	07	32	-02	-21	3.47	47
204	84	25	15	-04	-11	3.51	60
205	66	03	32	01	-10	3.43	56
206	69	06	01	20	17	3.29	70
207	45	01	29	07	-25	4.30	25
208	18	-10	24	-11	09	4.13	03
209	73	06	-05	44	00	3.70	54
210	34	10	-06	-07	23	3.67	37
211	63	07	-09	34	10	3.65	66
212	66	09	28	-16	03	3.74	58
213	57	-02	11	28	-04	3.75	54
214	65	06	-08	34	11	3.27	71
215	60	09	31	-06	-17	3.90	39
216	64	12	13	12	-12	2.97	64
217	72	28	-13	17	-01	3.29	68
218	74	11	08	24	-09	3.19	72
219	71	09	14	18	-10	3.09	70
220	69	20	27	-03	-31	3.87	67
221	77	19	15	01	-08	3.50	73
222	57	04	19	22	-21	3.64	47
223	66	13	05	10	02	3.77	49
224	66	10	-04	24	10	2.89	67
225	70	19	-07	16	05	3.25	67
226	75	14	02	20	01	3.56	57
227	60	09	04	08	12	4.00	59
228	38	03	32	-13	-15	3.90	09
229	76	18	12	12	-14	3.54	70
230	76	31	-09	12	-05	3.40	72
231	67	23	-12	11	11	3.54	60
232	70	17	01	23	-10	3.10	65
233	75	18	02	19	-07	3.32	72
234	54	06	-14	38	07	3.08	60
235	62	18	-16	24	07	3.64	57
236	56	12	-02	26	-10	3.59	63
237	65	22	00	06	-03	3.10	70
238	68	08	36	05	-31	3.76	61
239	73	06	12	29	-10	3.91	58
240	79	27	-04	17	-10	3.48	67
241	24	08	03	-05	01	3.17	31
242	63	19	06	06	-09	3.58	48

Item No.	G	A	B	C	D	PI	DI
243	67	10	-06	22	13	3.15	67
244	65	06	-07	26	18	3.17	67
245	81	19	01	18	01	3.56	68
246	68	19	-04	24	-09	3.04	67
247	70	09	17	20	-17	3.39	59
248	67	14	03	25	-14	3.05	67
249	48	08	08	-05	12	3.49	34
250	67	10	-02	17	13	2.94	62
251	66	06	-08	45	01	3.73	55
252	47	05	-07	12	22	3.91	49
253	63	23	03	07	-12	3.27	50
254	75	18	03	08	04	3.25	69
255	67	07	09	31	-15	3.70	60
256	22	-16	13	20	05	4.13	11
257	64	14	14	-07	06	3.67	47
258	43	03	46	-20	-27	3.97	32
259	67	15	-02	16	04	3.12	71
260	53	17	02	01	01	3.53	48
261	62	02	46	-11	-22	3.94	35
262	32	-06	31	-18	07	3.84	11
263	61	-09	06	36	14	3.74	48
264	59	06	-05	22	15	3.21	60
265	66	25	-04	-02	06	3.45	50
266	78	23	-04	09	08	3.59	62
267	31	05	-07	-01	27	3.24	38
268	66	14	19	-06	-03	3.79	48
269	26	00	34	-15	-19	3.93	14
270	78	29	-07	10	-02	3.43	73
271	55	13	29	-14	-18	3.80	37
272	47	16	-02	02	05	3.75	42
273	72	13	02	11	13	3.12	72
274	55	10	-08	18	13	3.54	48
275	39	23	-12	03	-03	2.97	38
276	40	20	-22	11	13	3.00	41
277	63	13	29	-15	-10	3.75	50
278	44	02	06	29	-13	3.67	28
279	59	00	41	-01	-22	3.88	44
280	72	-07	10	41	05	3.88	60
281	64	03	43	-17	-10	3.80	45
282	58	19	-02	00	08	3.41	58
283	80	22	05	17	-13	3.63	75
284	62	06	33	-08	-11	4.07	36
285	73	10	18	02	02	3.82	57
286	60	-01	09	17	12	3.78	60
287	64	10	37	-04	-29	4.10	61
288	74	15	01	12	11	3.21	71
289	66	05	19	00	07	3.84	45
290	57	11	04	09	04	3.81	46
291	37	05	-07	05	23	3.56	38
292	76	28	07	-12	03	3.45	55

Item No.	G	A	B	C	D	PI	DI
293	01	08	-31	02	35	2.95	10
294	69	20	-01	13	-03	3.25	64
295	73	19	-02	13	04	3.36	67
296	72	10	06	15	05	3.31	72
297	67	-08	14	31	08	4.06	53
298	82	24	07	03	-03	3.52	71
299	61	19	04	-06	07	3.54	65
300	61	01	03	33	02	3.92	47

APPENDIX C
THE LEADERSHIP BEHAVIOR SCALE

GROUP PARTICIPATION RANKING FORM

In Psychology 407 you are going to be working in a small discussion group. Your group will discuss problems and work on projects related to Educational Psychology. You probably have worked in some type of discussion group before, such as a fraternity, sorority, club meetings, or even a bull session.

This form contains 24 sets of phrases which are descriptive of persons who have participated in group discussions. You are requested to consider each of the 4 phrases within each set in terms of how descriptive you think they will be of you as you participate in a group discussion. Then rank the phrases in each set from 1 to 4. Give a rank of 1 to the phrase which describes you best. Give a rank of 2 to the phrase that describes you next, a rank of 3 to the phrase that describes you next, and a rank of 4 to the phrase that describes you least. Place the rank that you have given to each phrase in the appropriate place on your answer sheet.

Rank every phrase within each of the 24 sets. Remember, there can be NO TIE RANKS.

GROUP PARTICIPATION RANKING FORM

This form contains 24 sets of phrases which are descriptive of persons who have participated in group discussions. You are requested to consider each of the 4 phrases within each set in terms of how descriptive you think they are of the person you are rating who has been participating in your discussion group. Then rank the phrases in each set from 1 to 4. Give a rank of 1 to the phrase which describes the person you are rating best. Give a rank of 2 to the phrase that describes him next, a rank of 3 to the phrase that describes him next, and a rank of 4 to the phrase that describes him least. Place the rank that you have given to each phrase in the appropriate place on your answer sheet.

Rank every phrase within each of the 24 sets. Remember, there can be NO TIE RANKS.

1.
 - a. always states opinions on a subject
 - b. calm common-sense approach to all problems
 - c. interested in lively group participation
 - d. well-informed
2.
 - a. actively participates in group discussions
 - b. a good listener
 - c. always ready to do his part
 - d. does not over-exercise power as a leader
3.
 - a. always willing to add an extra word
 - b. does not make quick judgments
 - c. opinions based on experience
 - d. wants to be the best at everything he attempts
4.
 - a. a good follower
 - b. has many intelligent ideas
 - c. makes pertinent contributions to group discussions
 - d. offers both good and bad criticism
5.
 - a. always completes assignments on time
 - b. gives well thought out answers
 - c. has sincere interest in profession of teaching
 - d. respected for judgment
6.
 - a. always gives an opinion
 - b. always ready to serve
 - c. interested in the way things are presented
 - d. tactful
7.
 - a. always seems to know what to say
 - b. doesn't waste time
 - c. keeps group interest alive by enthusiasm
 - d. remarks are always pertinent
8.
 - a. contributes ideas and suggestions when needed
 - b. is everybody's friend
 - c. sticks to own ideas until another is shown more practical
 - d. willing to give time for group work
9.
 - a. always willing to listen to the other side of an argument
 - b. has a good sense of humor

- c. has many friends
 - d. never makes sarcastic remarks about another's idea
10. a. answers wisely
 b. believes you get out of a course what you put into it
 c. contributes to class discussion
 d. is on the ball
11. a. accepts responsibility without objection
 b. expresses point of view
 c. has much self-confidence
 d. pleasant to talk to
12. a. attends all meetings
 b. easy to talk to
 c. readily agrees with what he thinks is right
 d. very friendly
13. a. brings up things that should be considered
 b. knows how to do what needs to be done
 c. reasoning is based on facts
 d. shows enthusiasm in all projects
14. a. can depend on to do the dirty work
 b. never exploits own ideas
 c. says nothing unless it is of importance
 d. seldom changes his opinion
15. a. does more than his share
 b. gets things done efficiently
 c. has a real interest in the class
 d. makes many worthwhile comments
16. a. argues his point until convinced he is wrong
 b. best-liked in the group
 c. helps group out of class as well as in class
 d. knows more than others in the group
17. a. doesn't monopolize the group
 b. earnest about work
 c. opinion is respected
 d. others like to work with him

18.
 - a. doesn't push others' opinions off for his own
 - b. makes others feel friendly
 - c. not domineering
 - d. shows signs of ambition

19.
 - a. gets after group when a lack of co-operation is present
 - b. gives better arguments than others
 - c. has a solution for every problem
 - d. smoothes over problems without hurting anyone's feelings

20.
 - a. enters group discussions with enthusiasm
 - b. has logical ideas
 - c. outwardly independent
 - d. willing to do what rest of group wants

21.
 - a. comments arouse controversy
 - b. gets best test grades in the class
 - c. more interested in what is learned rather than grade
 - d. ready for criticism

22.
 - a. extremely polite and courteous
 - b. is interesting to talk to
 - c. takes an active interest in discussions
 - d. willing to accept others' opinions

23.
 - a. always wants opinions of other group members
 - b. argues his point until he convinces others
 - c. can outwit others
 - d. organizes group report

24.
 - a. is a good organizer
 - b. keeps group together
 - c. leaves out unnecessary details
 - d. makes precise judgments

APPENDIX D
THE PEER NOMINATION FORM

You have all been given a list of names of all the students in your Psychology 407 class. Before each name there is a number. Below there are five phrases concerning group participation. You are asked to consider each person in the class as to how the phrases apply to them. Then write the NUMBERS of the two persons whom each phrase describes best in the space under the phrase marked BEST. Then write the NUMBERS of the two persons described least by each phrase in the blanks marked LEAST.

There are four things which a group member can contribute to a group:

I IDEAS AND INFORMATION

BEST _____ LEAST _____

BEST _____ LEAST _____

II FRIENDLY ATMOSPHERE

BEST _____ LEAST _____

BEST _____ LEAST _____

III LABOR AND EFFORT

BEST _____ LEAST _____

BEST _____ LEAST _____

IV POLICY AND DECISIONS

BEST _____ LEAST _____

BEST _____ LEAST _____

Now consider the four areas shown above plus any other information you may have. Then consider the following phrase:

V THE MOST OUTSTANDING LEADER IN THE CLASS

BEST _____ LEAST _____

BEST _____ LEAST _____

APPENDIX E

MEANS AND STANDARD DEVIATIONS ON THE LEADERSHIP SCALE

	MEAN	STANDARD DEVIATION
<u>OVER-ALL LEADERSHIP</u>		
pre-self	13.57	2.80
post-self	14.05	3.03
peer	14.62	2.87
rating of others	14.62	2.32
<u>IDEAS AND INFORMATION</u>		
pre-self	28.66	3.08
post-self	28.08	3.68
peer	26.85	2.75
rating of others	26.85	2.74
<u>FRIENDLY ATMOSPHERE</u>		
pre-self	23.15	2.69
post-self	24.35	3.79
peer	24.34	4.05
rating of others	24.34	3.54
<u>LABOR AND EFFORT</u>		
pre-self	21.42	4.13
post-self	22.12	4.65
peer	24.04	4.00
rating of others	24.04	3.20
<u>POLICY AND DECISIONS</u>		
pre-self	26.78	4.57
post-self	25.45	5.69
peer	24.92	5.58
rating of others	24.92	4.89

BIBLIOGRAPHY

1. Berkshire, J. R., and Highland, R. W. Forced-choice performance rating--a methodological study. Personnel Psychol., 1953, 6, 355-378.
2. Carroll, J. B. Rating on traits measured by a factored personality inventory. J. abnorm. soc. Psychol., 1952, 47, 626-632.
3. Denton, J. G. Building a forced-choice personality test. Personnel Psychol., 1954, 7, 449-459.
4. Ellis, A. The validity of personality questionnaires. Psychol. Bull., 1946, 43, 385-440.
5. Ellis, A., and Conrad, H. S. The validity of personality inventories in military practice. Psychol. Bull., 1948, 45, 385-426.
6. Ezekiel, M. Methods of correlational analysis. (2nd ed.) New York: J. Wiley & Sons, 1941.
7. Gebel, A. S. Self-perception and leaderless group discussion status. J. soc. Psychol., 1954, 40, 309-318.
8. Ghiselli, E. E. The forced-choice technique in self-description. Personnel Psychol., 1954, 7, 201-208.
9. Gordon, L. V. Validities of the forced-choice and questionnaire methods of personality measurement. J. app. Psychol., 1951, 35, 407-412.
10. Hollander, E. P. The friendship factor in peer nominations. Personnel Psychol., 1956, 9, 435-447.
11. Lanman, R. W., and Remmers, H. H. The preference and discrimination indices in forced-choice scales. Educ. Psychol. Measmnt., 1954, 14, 541-551.
12. Meehl, P. E. Clinical vs. statistical prediction. Minneapolis: Univer. of Minnesota Press, 1954.
13. Sarbin, T. R. A contribution to the study of actuarial and individual methods of prediction. Amer. J. Sociology, 1942, 48, 593-602.

14. Stead, W. H., and Shartle, C. L. Occupational counseling techniques. New York: American Book Co., 1940.
15. Stogdill, R. M. Personal factors associated with leadership; a survey of the literature. J. Psychol., 1948, 25, 35-71.
16. Taylor, E. K., Schneider, D. E., and Glay, H. Short forced-choice ratings work. Personnel Psychol., 1954, 7, 245-252.
17. Webb, W. B. Self-evaluation compared with group evaluations. J. consult. Psychol., 1952, 16, 305-307.
18. Wherry, R. J., P. R. B. Report No. 898, Control of bias in rating; survey of the literature. Final Report: Sub-project 1, 1950.
19. Wherry, R. J., P. R. B. Report No. 920, Control of bias in rating; construction of rating instruments. Final Report: Sub-projects 5, 6, 8, 1951.
20. Wherry, R. J., P. R. B. Report No. 922, Control of bias in rating; VII, a theory of rating. Final Report: Sub-project 9, 1952.
21. Wherry, R. J., and Fryer, D. H. Buddy ratings: popularity contest or leadership criteria? Personnel Psychol., 1949, 2, 147-160.
22. Wherry, R. J., and Winer, B. J. A method for factoring large numbers of items. Psychometrika, 1953, 18, 161-179.

AUTOBIOGRAPHY

I, Claude Jackson Bartlett, was born in Columbus, Ohio, October 1, 1931. I received my secondary education in the public schools of Bexley, Ohio. I attended Denison University in Granville, Ohio, for my undergraduate training, and was granted the degree Bachelor of Science in 1954. I received the degree Master of Arts from The Ohio State University in 1956, specializing in Educational Psychology. During the year 1956-57, I held the positions of Graduate Assistant and Research Assistant at The Ohio State University. In September of 1957, I was appointed to the position of Teaching Assistant, teaching a course in elementary Educational Psychology and a course in Educational Psychology for Medical Personnel. I held this position for one year while completing the requirements for the degree Doctor of Philosophy.