SOME DIMENSIONS OF LEADERSHIP BEHAVIOR OF SCHOOL SUPERINTENDENTS IN SELECTED TEXAS SCHOOL DISTRICTS

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CHAPTER I

INTRODUCTION

With each passing year the responsibilities of school superintendents grow greater. The amount and effectiveness of what the superintendent does depends, to a great extent, on how effectively he can gain the cooperation of different groups such as the school board, the staff, the students, and various community groups. Of all of these groups the staff is the one to which the superintendent turns most often for help in carrying out his responsibilities.

The school superintendent's behavior varies from situation to situation, but in any situation where he depends upon help from the staff his behavior which motivates the group and his behavior indicative of his consideration for the group has an influence upon what the staff accomplishes. Of similar influence is the behavior of a school superintendent while he actively exercises a leadership role and at the same time allows his followers to exercise initiative, to make decisions, and to be generally active.

Statement of the Problem

The problem of this study was an investigation of some dimensions of leadership behavior of Texas school superintendents as perceived by themselves and as perceived by their staffs.

Purposes of the Study

The specific purposes of this study were (1) to measure the leader behavior of selected Texas school superintendents as perceived by each superintendent and as perceived by each staff, as the leadership pertains (a) to the dimensions of Production Emphasis and Consideration, (b) to the dimensions of Role Assumption and Tolerance of Freedom; (2) to compare this measured leader behavior between superintendents in districts of larger average daily attendance (ADA) and superintendents in districts of smaller ADA; and (3) to consider the implications of these measurements upon the selection and training of potential school administrators and upon the improvement of the leader behavior of school administrators currently in service.

Definitions of Terms

For the purposes of this study the following definitions or concepts were formulated:

Role Assumption is used in the sense that the leader actively exercises the leadership role rather than surrendering leadership to others (4).

Tolerance of Freedom refers to the extent the leader allows followers scope for initiative, decision, and action (4).

Production Emphasis refers to a manner of motivating a group to a greater activity by emphasizing the mission or job to be done (4).

Consideration refers to behavior indicative of friendship, mutual trust, respect, and warmth in the relationship between the leader and the members of his staff (4).

The Staff, in this study, means all of the members of the organization who report directly to the superintendent of schools and who are in a position to describe his leadership behavior (4).

Leadership is conceived principally as an inherent capacity or potentiality so central to the leaders personality that there is little justification for educators to devote time to train it (1).

Leader Behavior focuses upon observed behavior of leadership acts, and can presumably be induced through appropriate training (1).

Group I Districts are school districts of 5,000 or more in average daily attendance (ADA).

Group II Districts are school districts of fewer than 5,000 and more than 1,000 in average daily attendance (ADA).

Hypotheses

To carry out the purposes of this study the following hypotheses were formulated:

1. Concerning the superintendents' perception of their own leader behavior:

   (a) There will be no significant difference in the superintendents' perception of their own

behavior concerning tolerance of freedom between Group I districts and Group II districts;

(b) there will be no significant difference in the superintendents' perception of their own behavior concerning role assumption between Group I districts and Group II districts;

(c) there will be no significant difference in the superintendents' perception of their own behavior concerning consideration between Group I districts and Group II districts;

(d) there will be no significant difference in the superintendents' perception of their own behavior concerning production emphasis between Group I districts and Group II districts.

2. Concerning the staffs' perception of the superintendents leader behavior:

(a) there will be no significant difference in the staffs' perception of the superintendents' behavior concerning tolerance of freedom between Group I districts and Group II districts;

(b) there will be no significant difference in the staffs' perception of the superintendents' behavior concerning role assumption between Group I districts and Group II districts;

(c) there will be no significant difference in the staffs' perception of the superintendents'

behavior concerning consideration between Group I districts and Group II districts;

(d) there will be no significant difference in the staffs' perception of the superintendents' behavior concerning production emphasis between Group I districts and Group II districts.

3. Concerning the superintendents' and the staffs' perception of the superintendents' leader behavior in all size districts:

(a) there will be no significant difference between the superintendents' own perception of their behavior concerning tolerance of freedom and the staffs' perception of the superintendents' behavior concerning tolerance of freedom;

(b) there will be no significant difference between the superintendents' own perception of their behavior concerning role assumption and the staffs' perception of the superintendents' behavior concerning role assumption;

(c) there will be no significant difference between the superintendents' own perception of their behavior concerning consideration and the staffs' perception of the superintendents' behavior concerning consideration;

(d) there will be no significant difference between the superintendents' own perception of their behavior concerning production emphasis and the staffs' perception of the superintendents' behavior concerning production emphasis.

4. Concerning correlation of the superintendents' own perception of their leader behavior in all size districts:

(a) the correlation between the superintendents' own perceived behavior concerning tolerance of freedom and their own perceived behavior concerning role assumption will not vary significantly from zero;

(b) the correlation between the superintendents' perceived behavior concerning tolerance of freedom and their perceived behavior concerning consideration will not vary significantly from zero;

(c) the correlation between the superintendents' perceived behavior concerning tolerance of freedom and their perceived behavior concerning production emphasis will not vary significantly from zero;

(d) the correlation between the superintendents' perceived behavior concerning role assumption and their perceived behavior concerning consideration will not vary significantly from zero;

(e) the correlation between the superintendents' perceived behavior concerning role assumption and their perceived behavior concerning production emphasis will not vary significantly from zero;

(f) the correlation between the superintendents' perceived behavior concerning consideration and their perceived behavior concerning production emphasis will not vary significantly from zero.

5. Concerning correlation of the staffs' perception of the superintendents' leader behavior in all size districts:

(a) the correlation between the staffs' perception of the superintendents' behavior concerning tolerance of freedom and their behavior concerning role assumption will not vary significantly from zero;

(b) the correlation between the staffs' perception of the superintendents' behavior concerning tolerance of freedom and their behavior concerning consideration will not vary significantly from zero;

(c) the correlation between the staffs' perception of the superintendents' behavior concerning tolerance of freedom and their behavior

concerning production emphasis will not vary significantly from zero;

(d) the correlation between the staffs' perception of the superintendents' behavior concerning role assumption and their behavior concerning consideration will not vary significantly from zero;

(e) the correlation between the staffs' perception of the superintendents' behavior concerning role assumption and their behavior concerning production emphasis will not vary significantly from zero;

(f) the correlation between the staffs' perception of the superintendents' behavior concerning consideration and their behavior concerning production emphasis will not vary significantly from zero.

6. Concerning correlation of superintendents' and staffs' perception of the superintendents' leader behavior in all size districts:

(a) the correlation between the superintendents' perception of their own behavior concerning tolerance of freedom and the staffs' perception of their behavior concerning tolerance of freedom will not vary significantly from zero;

(b) the correlation between the superintendents' own perception of their behavior concerning role assumption and the staffs' perception of their behavior concerning consideration will not vary significantly from zero;

(c) the correlation between the superintendents' own perception of their behavior concerning consideration and the staffs' perception of their behavior concerning consideration will not vary significantly from zero;

(d) the correlation of the superintendents' own perception of their behavior concerning production emphasis and the staffs' perception of their behavior concerning production emphasis will not vary significantly from zero.

Background and Significance of the Study

In the studies of school administrators and the job they perform, many of the studies and explanations of job performance are based on the behavioral sciences. The term "behavior" moved into educational administration literature largely--though not exclusively--during the course of the Cooperative Program in Educational Administraion (CPEA) (2, p. 28). The studies of "personality traits" of administrators gave way under the impact of the

"behavior" approach to situational aspects of the job. In other words, CPEA investigators became convinced that the only way to arrive at a definition of the role of educational administrators was to do so by observing them in an actual situation and to describe them in situational terms, not according to traits (2, p. 28).

In distinguishing between "leader behavior" and "leadership," Halpin says:

> . . .to ask "what is leadership," presupposes the existence of a specified capacity in regard to "leading." This question predicates within the individual an attribute or inherenet characteristic of behavior, and implies further that this attribute. . .functions with equal force in a variety of situations. A question so phrased also suggests that individuals differ in their capacity, or potential, for "leadership" and that this potential is probably determined by intrinsic factors in the person. It is an easy step from this position to the inference that this potential is identifiable and hence measurable--that some individuals possess it in a high degree and others in lesser degree; and that if we can only discover how to measure it, we shall be able to screen the "leaders" from the "non-leaders." Those who hold this view tend to set little store by the prospect of training individuals in leader-behavior skills, for when leadership is conceived principally as an inherent capacity or potentiality, there is meager justification for devoting time to training for it. The chief personnel task becomes one of discovering the proper formula for identifying and measuring leadership "ability."
>
> In contrast, consider the concept of "leader-behavior" and what it implies. First of all, it focuses upon observed behavior rather than upon a posited capacity inferred from this behavior. No presuppositions are made about a one-to-one relationship between leader behavior and an underlying capacity or potentiality presumably determinative of this behavior. By the same token, no a priori assumptions are made that the leader behavior

> which a leader exhibits in one group situation will be manifested in other group situations. . . . Nor does the term "leader behavior" suggest that this behavior is determined either innately or situationally. Either determinant is possible, as is any combination of the two, but the concept of leader behavior does not itself predispose us to accept one in opposition to the other. With attention focused upon behavior rather than capacity, there is greater promise of the possibility of training individuals in specified forms of leader behavior. Changes in behavior can presumably be induced through appropriate training, but the concept of capacity, by definition, implies a fixed level of ability and hence thrusts the burden of personnel determination upon selection, not training (1, pp. 11, 12).

The school superintendent, to be effective, must assume a role of leadership and at the same time he must tolerate the freedom and initiative of his staff. Likewise, the effective school superintendent must motivate his staff to get jobs done and at the same time he must consider their feelings and personal interests. With a description of such specific dimensions of the superintendent's leadership behavior the extent each of these dimensions contribute to favorable evaluation may be ascertained. What the leader does also involves another inquiry: "as described by whom?" The answer to these questions of what the school superintendent does in regard to these four important dimensions of his job as described by himself and by his staff obviously have important implications toward the possible improvement of the training of potential school administrators and the improvement of the leader behavior of school administrators already in service.

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CHAPTER II

RELATED STUDIES

Most of the developmental work on the Leader Behavior Description Questionnaire was done in a series of studies of aircraft commanders. Related studies were done with the Army division, highway patrol, ministers, community leaders, corporation presidents, labor union presidents, college presidents, senators, and educators. Those most relevant to this study will be summarized in this chapter. Included will be four of the Air Force studies, one study of corporation presidents, one study of senators, and seven educational studies. Most of these studies pertained to the two dimensions of leadership: consideration and initiating structure. Initiating structure, was defined to mean the leader's tendency to clearly define his own role and let followers know what was expected. Consideration was defined to mean the leader's recognition of the comfort, well being, status, and contributions of followers.

Air Crew Studies

LBDQ scores were obtained on 52 B-29 commanders during traning in the fall of 1950, and 33 of these commanders were subsequently rated on their combat performance in flying over Korea during the summer of 1951. Twenty-nine of these 33 commanders were described again in the LBDQ by their combat crews. For 27 of the crews a crew satisfaction index

was computed on the basis of the members' answer to the question: "If you could make up a crew from among the crew members in your squadron, whom would you choose for each position?" The ratio between the number of nominations the incumbent commander received and the number of nominations made for the aircraft commander position was used as an index of the crew's satisfaction with the incumbent's leadership. The LBDQ scores in training were correlated with this index and with superiors' ratings of the commander's combat performance. The LBDQ scores in the Far East Air Force were correlated with both the index and the ratings. In each situation--training and combat--partial correlations were computed for the relationship between each dimension and the ratings with the effect of the other dimension partialed out.

In both the training and combat situations a trend was found toward negative correlations between the superiors' ratings and the consideration scores, and positive correlations between these ratings and the initiating structure scores. The correlations between the crew satisfaction index and the consideration scores were positive and high. The partial correlations served to accentuate this trend, which was more pronounced in combat than in training. Superiors and subordinates were inclined to evaluate positively the contribution of the leader behavior dimensions to the effectiveness of leadership. This difference in evaluation appeared to confront the leader with conflicting role expectations (4).

Eighty-seven B-29 aircraft commanders flying combat missions over Korea were the subjects of a study with a design similar to the one reported. The commanders were rated by their superiors on seven characteristics (e. g., effectiveness in working with others, attitude and motication, over-all effectiveness), and by their crews on three: confidence and proficiency, friendship and cooperation, and morale. As in the earlier study, a crew satisfaction index was computed. The consideration and the initiating structure scores were correlated with the ratings by superiors and by crew members, and with the crew satisfactions index.

The ratings by superiors yielded significant correlations with the initiating structure scores whereas none of the corresponding consideration correlations were significant. The crew ratings, including the index, correlated significantly with both leader behavior dimensions but tended to be higher for the consideration scores.

A further hypothesis was tested in this study: that the commanders rated highest by their superiors would score above the means on both leader behavior dimensions whereas those commanders rated lowest by their superiors would score below the mean on both dimensions. The commanders had been

rated on Over-all Effectiveness in Combat. Two groups of commanders were identified: 13 men in the upper 15 per cent of this rating distribution and 12 in the lower 15 per cent. For each group taken separately, the consideration and the initiating structure scores were plotted into the four quadrants defined by co-ordinates corresponding to the means of the two leader behavior dimensions. The commanders who scored above the average on both leader behavior dimensions were evaluated by their superiors as high in over-all effectiveness, whereas those who scored below the average on both dimensions were rated low on the criterion. The successful leader was the man who furthered both group maintenance and group achievement or was not only effective in getting the job done but was efficient in satisfying the motives of the individual group members (6).

The members of 52 newly assembled B-29 crews at Combat Crew Training School described their commanders on the Leader Behavior Description Questionnaire and rated each other and the crews as units on such items as crew morale, friendship, proficiency, and willingness to go to combat with each other. These measures of crew attitudes were obtained twice--at the beginning of the training period and toward the end of training. An average period of ten days intervened between two administrations of the questionnaire. Correlations were computed between changes in attitude and the initiating structure and consideration scores on the LBDQ.

The members of crews whose commanders were described as high on consideration increased their ratings of each other on such attitude items as mutual confidence, and willingness to go to combat together, and the members of crews whose commanders were described as high on initiating structure increased their ratings of each other on friendship and confidence. It was concluded that during this initial period of crew assembly, the members of crews whose commanders scored high on both consideration and initiating structure developed more favorable crew attitudes than the members of those crews led by commanders who scored low on both leader behavior dimensions. These findings indicated the influence of leadership style upon early group-learning experience (2).

In a study of 132 B-29 and B-50 commanders, a comparison was made between commanders' ideologies of leadership behavior and their crews' descriptions of their actual behavior in relation to the two leader behavior dimensions. The ideology scores were computed from the commanders' own responses to the LBDQ ideal. In expressing their leadership ideology, the commanders recognized the desirability of scoring high on both dimensions of leader behavior, but the correspondence between their statements of how they should behave and their behavior as described by their crews was negligible. In the case of the initiating structure dimension, the correlation did not differ significantly from zero;

and the corresponding correlation of .14 for the consideration dimension was significant at the .05 level of confidence. This represented a low degree of association. The evidence suggested that the aircraft commander's knowledge of how he should behave as a leader had little bearing upon how he was perceived as behaving by the members of his crew (5).

Other Non-Educational Studies

Two copies of the Leader Behavior Description Questionnaire were mailed to each senator in the United States Senate, with the request that the questionnaires be given to "two persons who know you well enough to describe you accurately as a political leader in the state that you represent." The describer was asked to identify neither himself nor the senator whom he described. No follow up was used to increase the number of replies.

Forty-four usable questionnaires were returned. This number represented 44 descriptions, not necessarily 44 senators. In regard to political party, 15 questionnaires were checked as descriptions of Republicans, and 29 as descriptions of Democrats.

It was hypothesized that high-ranking political leaders, such as United States Senators, would be described as high in persuasiveness and representation of followers. The revised LBDQ used in this study consisted of 65 items, divided among nine subscales, as follows:

1. Representation.--speaks and acts as the representative of the follower group (5 items).

2. Tolerance of Uncertainty.--tolerates postponement and uncertainty of outcome without anxiety (8 items).

3. Persuasiveness.--presents point of view with conviction, and influences by convincing argument (10 items).

4. Initiation of Structure.--clarifies own role and lets follower group know what is expected (10 items).

5. Tolerance of Freedom of Action.--allows follower group scope for initiative in decision and action (5 items).

6. Role Assumption.--assumes the leadership role; does not surrender leadership to other persons (7 items).

7. Production Emphasis.--pushes for production and emphasizes results (5 items).

8. Consideration.--is considerate of the well-being of the follower group (10 items).

9. Demand Reconciliation.--effectively reconciles conflicting demands (5 items).

It was found as hypothesized, that United States Senators were described as high in persuasiveness and next highest in representation. It was not anticipated that role assumption and demand reconciliation would score equally as high as representation but they did. The lowest average score was on tolerance of uncertainty. The means did not differ to a statistically significant degree (13).

A questionnaire was mailed to 140 corporation presidents selected in such a manner as to spread the sample proportionately through the different types of product and service represented by the companies listed in the Manual of Excellent Managements (American Institute of Management, 1959). Each president was requested to give the questionnaire to a member of his staff who "knows you well enough to describe you accurately as a leader of your organization." The describer was instructed to identify neither himself nor the president whom he described. Fifty-five usable questionnaires were returned.

The questionnaire was a modification of the Leader Behavior Description Questionnaire in that 11 subscales were developed for the description of leader behavior. The results indicated that the leader behavior of corporation presidents could be described in terms of several clearly differentiated factors and each factor was defined to a high degree by a separate subscale (14).

Educational Studies

The members of 18 departments in a liberal arts college described their department heads and indicated on the LBDQ-Ideal how they believed a department head should behave. They also ranked the five departments in the college that had the general reputation on the campus of being best led or best administered and the five departments that were

least well led or least well administered. Each respondent excluded his own department. The correlation between the reputation scores and the LBDQ-Ideal scores were .36 for consideration and .48 for initiating structure, with .47 required for significance at the .05 level. The discrepancy scores--measuring the absolute difference between the real and the ideal scores on each of the leader behavior dimensions--were correlated with the reputation scores. The coefficients of -.52 and -.55 respectively were both statistically significant. The greater the departure of the actual behavior of the department head (on either leader behavior dimension) was from the norm of how ideal behavior on this dimension was conceived by the members of his department, the poorer was the administrative reputation of the department. The departments with high reputation were those whose chairman scored high on both leader behavior dimensions (8).

Sixty-four superintendents of Ohio schools were compared with 132 aircraft commanders on both the LBDQ-Real and the LBDQ-Ideal (7). The two groups of leaders were found to differ significantly from each other both in leader behavior and leadership ideology. The commanders placed a greater emphasis upon initiating structure and the superintendents placed greater emphasis upon consideration.

For each dimension, the mean of the pooled samples--superintendents and commanders--was used as a co-ordinate,

and the cases from each sample were distributed into the four quadrants defined by these two co-ordinates. The principal differences were found in the "off-quadrants." The superintendents who scored in neither the highly effective nor the highly ineffective quadrant charted in the lower right-hand quadrant and were characterized by high consideration but low initiation of structure. The commanders who scored in neither the highly effective nor the highly ineffective quadrant were characterized by high initiation of structure and low consideration. These findings indicated that the leaders in these two groups who were not effective differed systematically in their shortcomings. The aircraft commanders showed less consideration than was desirable and the superintendents were remiss in not initiating structure sufficiently. These differences, reflected in both leader behavior and leadership ideology, were attributed to differences in the institutional settings within which the two groups of leaders operated (7).

A study by Halpin, under sponsorship of the Ohio School Community Development Study, classified administrators' behavior according to initiating structure and consideration. The two dimensions were the basis for a leader behavior description questionnaire. It consisted of a number of short statements which described how leaders might behave.

Fifteen items appeared under each dimension. Each of the 15 items was scored on a scale that ran from four to zero. The possible ranges of scores for each of the two dimensions was from zero to 60. Each of the items was scored by checking one of five description words: always, often, occasionally, seldom, and never.

Halpin used the questionnaire with a sample of 50 Ohio school superintendents. The questionnaire was filled in by each superintendent, members of his administrative staff, and members of his board of education. These respondents also filled in a second copy of the questionnaire to indicate how they thought an ideal superintendent should behave. The results of the study showed that effective or desirable leader behavior was characterized by high scores on both initiating structure and consideration. Ineffective or undesirable leader behavior was marked by low scores on both dimensions. The effective leader was one who delineated clearly the relationship between himself and the members of the group, and established well-defined patterns of organization, channels of communication, and ways of getting the job done, and whose behavior at the same time reflected friendship, mutual trust, respect, and warmth in the relationships between himself and the members of the group (3)

Hills (9) made an empirical test of the thesis that an adequate concept of leadership must include the performance of the leader in representing the interests of the group to

higher organizational levels and to the organization's clientele. Two indexes were developed and incorporated into a Leader Behavior Description Questionnaire. Data from 872 elementary school teachers described the behavior of 53 elementary school principals provided tentative support for the hypotheses.

Herrold and Hertz concerned themselves with the dimension of "the Man" in the three-sided dimension of the school administrator referred to so often by the Middle Atlantic Region of CPEA as the man, the job, the social setting, The authors assumed that there were four processes of administration: gathering information, drawing references relating to people, predicting and deciding, and implementing choices and decisions. Each of these were analyzed in terms of a man's physical capacity, intellectual capacity, and emotional capacity.

Following each one of the five processes, implications for graduate training were reviewed. These were of a rather general nature. The main theme of the findings was that the administrators should be people who are sensitive, flexible, adaptable, and emotionally and intellectually mature. The assumption was not that these people were "discovered" but rather that they were "developed." The authors insisted that independent judgment and co-operative decision-making were two factors which were not done well by people who were either

highly authoritative or highly dependent. Considerably more guidance of the individual person was considered necessary as an important phase of the preparation program (10).

It was not surprising to those who studied the results of analyses of problems that the challenge of building harmonious human relationships emerged as a crucial one. Many times superintendents saw the problem of "personnel relations" as the most crucial area of their job. The extensive program of interviews with New England superintendents revealed how pressures were directly related to feelings and to a degree of acceptance from staff members, community patrons, and members of the school board (11).

Gibb (1) and Stogdill (15) indicated that leadership was a complex social phenomenon that could not be treated meaningfully when conceived as an isolated trait or entity viewed apart from situational factors.

Sanford summarized the situation:

> From all these studies of the leader we can conclude, with reasonable certainty that:
> (a) there are either no general leadership traits or, if they do exist, they are not to be described in any of our familiar psychological or common sense terms,
> (b) in a specific situation, leaders do have traits which set them apart from followers, but what traits set what leaders apart from what followers will vary from situation to situation (12, p. 51).

The behavior of leaders seems to vary widely from one leadership situation to another. In this connection Hemphill (8) studied approximately 500 assorted groups and

determined empirically that variance in leader behavior was significantly associated with situational variance. Hemphill analyzed the relation between the leader behavior and the size of the group and concluded that, as compared with small groups, large groups made more and different demands upon the leader. The leader in a large group was more impersonal and was inclined to enforce rules and regulations firmly and impartially. In small groups the leader played a more personal role. He was more willing to make exceptions to rules and to treat each group member as an individual (16).

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CHAPTER III

PROCEDURES FOR COLLECTING AND PROCESSING THE DATA

Procedurally, the testing phase of the study had one purpose: to secure descriptions of the leader behavior of the superintendents from the superintendent and from members of his staff.

The Instrument

The Leader Behavior Description Questionnaire (LBDQ) used in this study was developed for use in obtaining descriptions of a supervisor by the group members whom he supervises. It could be used to describe the behavior of the leader in any type of group or organization, provided the followers have had an opportunity to observe the person in action as a leader of their group (7).

Halpin (1) reports that

> . . . in several studies where the agreement among respondents in describing their respective leaders has been checked by a "between-group vs. within-group" analysis of variance, all the F ratios have been found significant at the .01 level. Followers tend to agree in describing the same leader, and the descriptions of different leaders differ significantly.

The form used in this study was the fourth and latest revision, LBDQ-Form XII. The questionnaire was composed of a series of short, descriptive statements of ways in which leaders might behave. The members of a leader's group indicated the frequency with which he engaged in each form of behavior by checking one of five adverbs: always, often, occasionally, seldom, or never. Each questionnaire contained 100 items of which only forty were to be scored although each respondent answered all of the items. Each of the keys to the dimensions considered in this study contained ten items, and each item was scored on a scale from 5 to 1. Consequently, the theoretical range of scores on each dimension was from 10 to 50. The same form was used by the superintendent to indicate the frequency of his own behavior. No reference whatsoever was made to the role assumption and tolerance of freedom or the production emphasis and consideration dimensions of leader behavior. Although it was clearly stated that data on the behavior of the superintendents as a leader was sought, it was not indicated what specific aspect of the behavior was sought to be measured. Neither was any of the 40 items used arranged in successive order. The four dimensions measured by the LBDQ and used in this study are discussed in the following list.

Tolerance of Freedom

1. He allows the members complete freedom in their work.

2. He permits the members to use their own judgment in solving problems.

3. He encourages initiative in the group members.

4. He lets the members do their work the way they think best.

5. He assigns a task, then lets the members handle it.

6. He turns the members loose on a job, and lets them go to it.

7. He is reluctant to allow the members any freedom of action.*

8. He allows the group a high degree of initiative.

9. He trusts the members to exercise good judgment.

10. He permits the group to set its own pace.

*Scored negatively

Role Assumption

1. He is hesitant about taking initiative in the group.*

2. He fails to take necessary action.*

3. He lets other persons take away his leadership in the group.*

4. He lets some members take advantage of him.*

5. He is the leader of the group in name only.*

6. He backs down when he ought to stand firm.*

7. He lets some members have authority that he should keep.*

8. He takes full charge when emergencies arise.

9. He overcomes attempts made to challenge his leadership.

10. He is easily recognized as the leader of the group.

*Scored negatively.

Consideration

1. He is friendly and approachable.

2. He does little things to make it pleasant to be a member of the group.

3. He puts suggestions made by the group into operation.

4. He treats all group members as his equals.

5. He gives advance notice of changes.

6. He keeps to himself.*

7. He looks out for the personal welfare of group members.

8. He is willing to make changes.

9. He refuses to explain his actions.*

10. He acts without consulting the group.*

*Scored negatively.

Production Emphasis

1. He encourages overtime work.

2. He stresses being ahead of competing groups.

3. He needles members for greater effort.

4. He keeps the work moving at a rapid pace.

5. He pushes for increased production.

6. He asks the members to work harder.

7. He permits the members to take it easy in their work.*

8. He drives hard when there is a job to be done.

9. He keeps the group working up to capacity.

10. He urges the group to beat its previous record.

*Scored negatively.

The Sample

The sample sought included fifty Texas school superintendents in school districts of more than 1,000 students in ADA. Since it was anticipated that some superintendents, for one reason or another, might not participate after they had indicated that they would, an initial effort was made to get sixty superintendents to agree to participate.

A stratified sample was obtained by inviting equal numbers of superintendents to participate from school districts with ADA classification designated as follows:

IA.--Districts of more than 10,000 in ADA.

IB.--Districts of more than 5,000 and fewer than 10,000 in ADA.

IIC.--Districts of more than 2,500 and fewer than 5,000 in ADA.

IID.--Districts of more than 1,000 and fewer than 2,500 in ADA.

Since there were only 43 districts in Group IA and only 36 districts in Group IB, all superintendents in Groups IA and IB districts were invited to participate. By a table of random numbers 45 superintendents from Group IIC and 45 superintendents from Group IID were selected. To participate in the study the superintendent made the following decisions and commitments: (1) to expose himself to the risk involved in inviting the focus of his staff's attention upon his own leadership behavior, (2) to make this decision before he saw the Leader Behavior Description Questionnaire, and hence without knowledge of the specific content of the questionnaire items, and (3) to commit not less than ten hours of central office staff time to the study. Considering these facts,it was judged that sixty acceptances of a possible 169 would be an excellent response. Letters were sent to these 169 selected superintendents, inviting them to participate. Each letter was accompanied by a brief description of the study and its purposes (Appendix B). In order to keep some balance between the four ADA classification of districts; nine second requests were sent to IA districts, three to IB districts, and five to IIC districts.

Technically, the sample of 53 superintendents is fortuitous rather than planned. However, the following facts need to be considered: thirty-one per cent of the superintendents who did not accept the invitation to participate expressed a genuine desire to have participated and gave the following

reasons for not doing so: (a) could not spare the staff time so late in the school year, (b) procrastinated too long (three of those accepting actually returned the filled-out superintendent and staff questionnaires too late to be included in the study), (c) did not have as many as eight staff members directly accountable to the superintendent, (d) was in his first year of experience, (e) was in semi-retirement this year, (f) was too ill to be in his office, and (g) was on a world tour.

However, since participation in the project did demand that the superintendent stand in the glare of the spotlight, the possibility that some form of self-selection may have operated in the composition of the sample cannot be rejected. Neither can it be arbitrarily assumed that this self-selection operated systematically in one direction to bias the sample by the inclusion solely of those superintendents who believed that they were basking in the favor of their staffs. In more than a single instance* the superintendent already had been asked to submit his resignation. Despite their own equi-vocal status in their schools at this time, these super-intendents agreed to cooperate for the sake of the

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*Obviously, these cases are not identified or their exact number indicated.

research itself. Also, if one assumes that those superintendents who did not readily agree to participate in the study were superintendents who were in ill favor with their staffs, then we must recognize that some such superintendents were included in the study, because ten of the 17 superintendents who were issued a second invitation did accept and were included in the study.

There is one other cue that argues against systematic bias in the sample. The comparison of the distribution of superintendent's LBDQ scores with distributions obtained from other occupational samples reveals no marked constriction of variance on either of the leader behavior dimensions. Despite the fortuity of the sample and the inability to demonstrate its representativeness in a strict statistical sense, it was felt justifiable to assume that it may be treated, for all practical purposes, as representative of Texas school superintendents. Whatever bias may have been introduced by self-selection does not appear to be systematic. In short, a fortuitous sample is being dealt with and treated as if it were representative.

Selection of Respondents

Along with the original letter soliciting cooperation in the study, an acceptance form (Appendix C) was sent. On this form each superintendent, in order to avoid the possible temptation "to stack the deck," was asked to list the names

of all members of the staff directly accountable to him, to indicate the name of one staff member who would agree to administer the questionnaires, and to provide that staff member's school mailing address and school telephone number.

By a table of random numbers eight staff members from each superintendent's list were selected to answer the LBDQ. Each superintendent was notified as to whom these eight staff members were and how they were selected. The notification also went to the staff member designated to administer the questionnaires (hereafter referred to as the examiner).

Each examiner received ten copies of a letter of instructions for administering the questionnaires (Appendix D).

It was evident that the respondents generally received copies of the instructions because in almost every set of returned questionnaires at least one respondent enclosed the letter of instructions in the sealed envelope with his questionnaire. It was important that the letter of instructions accompany the questionnaire to each responding staff member in order that he might know that he was protected with complete anonymity by the following procedure:

1. He was not to write his name on the questionnaire.

2. No record of his individual assessments would be reported (only the average score of the collective assessments).

3. By a table of random numbers one of each of the eight respondent's questionnaires would be discarded. Thus,

the superintendent would not have any individual respondent's assessment and, furthermore, he would not know which seven of the eight staff members contributed to the average score.

4. He would return his completed questionnaire to the examiner in a sealed envelope.

Likewise, the copy of the letter of instructions explained the necessity for the superintendent to place his name on his questionnaire and assured him anonimity by further explaining that in treatment of the data and in reporting the study, his questionnaire would be given a number known only to him. This letter also explained to the superintendent that this code number would enable him, when he received a report of the findings, to compare his ratings with those of the other participating superintendents, but no particular other superintendent.

After the questionnaires were filled out and sealed in separate envelopes the examiner in each school district collected the nine sealed envelopes (eight from staff members and one from the superintendent) and mailed them to the researcher in a single larger envelope.

Scoring of the Questionnaires

Each questionnaire contained 100 items, of which only forty were to be scored. The ten items scored on each of the four dimensions are listed on pages 29 to 32. For

positively scored and negatively scored items the scores assigned to each of the five possible responses are given in Table I.

TABLE I

SCORING OF LBDQ RESPONSES

Responses	Positively Scored	Negatively Scored
Always	5	1
Often	4	2
Occasionally	3	3
Seldom	2	4
Never	1	5

A total of 60 acceptances were received, exactly equalling the number sought. Seventeen were from ADA Group IA, thirteen from ADA Group IB, eighteen from ADA Group IIC, and thirteen were from ADA Group IID. One set of questionnaires was not returned from each of the three ADA Groups IA, IIC, and IID. One set of questionnaires from ADA Group IA and one set from ADA Group IB were not received in time to be included in the study. Two sets of questionnaires from ADA Group IA were not usable because in one instance the superintendent's questionnaire was returned without being filled out, and in the other instance the superintendent's questionnaire was returned only partially filled out. In each of these cases all eight of the staff member's questionnaires were completely filled out and their assessments indicated above-average consistency.

The raw data were completed from the responses of 424 questionnaires, divided as shown in Table II.

TABLE II

NUMBER OF RESPONDENTS TO LBDQ, BY SOURCE

Source	LBDQ				
	IA	IB	IIC	IID	Total
Superintendents	12	12	17	12	53
Staff Members	84	84	119	84	371
Total					424

To read the instructions and fill out the questionnaire required a minimum of one hour for each respondent. Counting the time of the examiners and the time of the 53 respondents whose questionnaires were discarded and the time of the staff members of the four schools not included in the findings--this represented a minimum of 570 hours (more than 71 eight-hour days) of time of central office staff personnel of 57 school districts.

The names of the 53 superintendents who constituted the sample, and the location of their schools, are listed alphabetically in Appendix E. The order of this listing does not correspond to the order in which the findings are reported elsewhere in this report. This arrangement is deliberate--to prevent the identification of the scores of individual superintendents. In the listing of data in the next chapter

a code number (from 1 to 53) is assigned to each participant. He, and he alone, was informed of his code number. This permitted each superintendent to identify his own scores, in order to compare them with the scores of the group as a whole, but prevented him (or anyone else) from knowing to whom any other score belonged.

Procedure for Treating the Data

With ten items per dimension and a maximum score of five and a minimum score of one on each item, the maximum dimension score obtainable was 50. Conversely, the minimum was 10. The staff mean score for each dimension for each of the 53 superintendents was determined.

The staff mean score and the superintendent's self-description score for each dimension for each of the 53 superintendents were punched into IBM cards and identified by the superintendent's code number and by ADA group. By computer, for each dimension for staff and superintendent descriptions, a *t*-test was made and the mean, standard deviation, and range were determined for each of the four basic ADA groups, and ADA Groups I, II, and I and II and set in a table such as Table III. Also, by computer, for the total sample the correlations for each of the six pairs of dimensions for the staff descriptions and for the superintendent self-descriptions were determined. Also, by computer, the correlations of the staff and superintendent descriptions were determined for each of the four dimensions.

TABLE III

LBDQ, MEAN ASCRIBED SCORES FOR STAFF AND SELF-DESCRIPTION SCORES FOR SUPERINTENDENTS FOR EACH OF FOUR LEADER-BEHAVIOR DIMENSIONS AND THE MEAN, STANDARD DEVIATION, AND RANGE, FOR EACH OF FOUR DIMENSIONS OF LEADER-BEHAVIOR BY ADA GROUPS

ADA Group	Supt. Number	Staff: Tolerance of Freedom $\bar{X}$	Staff: Role Assumption $\bar{X}$	Staff: Consideration $\bar{X}$	Staff: Production Emphasis $\bar{X}$	Superintendent: Tolerance of Freedom X	Superintendent: Role Assumption X	Superintendent: Consideration X	Superintendent: Production Emphasis X
IA	1	—	—	—	—	—	—	—	—
	12	—	—	—	—	—	—	—	—
IA N = 12	Mean	—	—	—	—	—	—	—	—
	S	—	—	—	—	—	—	—	—
	Range	—	—	—	—	—	—	—	—
IB	13	—	—	—	—	—	—	—	—
	24	—	—	—	—	—	—	—	—
IB N = 12	Mean	—	—	—	—	—	—	—	—
	S	—	—	—	—	—	—	—	—
	Range	—	—	—	—	—	—	—	—
I N = 24	Mean	—	—	—	—	—	—	—	—
	S	—	—	—	—	—	—	—	—
	Range	—	—	—	—	—	—	—	—
IIC	25	—	—	—	—	—	—	—	—
	41	—	—	—	—	—	—	—	—
IIC N = 17	Mean	—	—	—	—	—	—	—	—
	S	—	—	—	—	—	—	—	—
	Range	—	—	—	—	—	—	—	—
IID	42	—	—	—	—	—	—	—	—
	53	—	—	—	—	—	—	—	—
IID N = 12	Mean	—	—	—	—	—	—	—	—
	S	—	—	—	—	—	—	—	—
	Range	—	—	—	—	—	—	—	—
II N = 29	Mean	—	—	—	—	—	—	—	—
	S	—	—	—	—	—	—	—	—
	Range	—	—	—	—	—	—	—	—
I & II N = 53	Mean	—	—	—	—	—	—	—	—
	S	—	—	—	—	—	—	—	—
	Range	—	—	—	—	—	—	—	—

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CHAPTER IV

ANALYSIS AND FINDINGS

In reporting the findings of this study of 53 Texas superintendents, three closely related purposes are observed. First, the results are described in terms of the particular superintendents who participated in the study. The knowledge these returns yielded should be of immediate, practical value to the superintendents concerned, and may suggest to them ways in which they can profitably modify their leadership behavior. Second, the relationship among the various scores for the sample as a whole are analyzed in an effort to generalize beyond the confines of the present sample. The question here is what are the implications, both theoretical and practical, of these findings for educational administration. Third, there is a concern about research methodology. The data are presented in sufficient detail to permit other investigators to duplicate the study. Obviously, the details of statistical procedure will be of greater interest to research workers than to practitioners. Since these three strands of purposes cannot be readily separated, no attempt will be made to enforce an arbitrary division. Those readers inclined to skip some of the statistical details will be reminded of the second-grader who, when asking his father

a question, was told to ask his mother, and the lad quickly replied, "I don't want to know that much about it."

The concern has been with description, inference, and methodology. The findings on these 53 superintendents are described in such a fashion that each of those participating may be able to compare his own scores with the scores of the other members of his ADA classification group and also with the other members of the total sample. Each superintendent may then determine his relative standing in either sample on Tolerance of Freedom behavior and on Role Assumption, and on Consideration behavior and on Production Emphasis, and may note, for example, whether his staff agreed in its perception of his behavior on each of these dimensions. He also may be interested in the extent to which his staff members agreed in their perception of his behavior on either or both of the dimensions of each of the two sets of dimensions. In short, the immediate purpose is to provide the participants in the study with feedback in the hope that this kind of knowledge about how their staffs perceived their leadership behavior as superintendents may have immediate practical implications for the improvement of their leadership behavior.

The inquiry pertained to the relationship between the perceptions of the superintendent's leader behavior reported by his staff and by himself. Either leader behavior dimension

score on the LBDQ for a given respondent was designated as (X). The mean ascribed score ($\overline{X}$) was computed for the staff descriptions of each dimension. These were the mean scores of the 53 subgroups. The ascribed scores ($\overline{X}$) by the staffs along with the self-description scores ($\overline{X}$) by the superintendents themselves will be presented in Table IV. For the purpose of presentation, these mean ascribed scores were rounded to whole numbers. At the base of the table for each of the four basic ADA groups and for ADA groups I, II, and for I and II, the means (M) of the ($\overline{X}$) columns ($\frac{\Sigma X}{53}$), their respective standard deviations (S), and the range of scores; and in the case of the self-descriptions, the mean of the 53 X's ($\overline{X}$), the standard deviation (S), and the range of each of these four distributions are given.

It was noted by inspection of the $\overline{X}$ and X columns in Table IV that the range of scores on the four dimensions and from both sources, i.e., staff and superintendents, was approximately the same and was broad enough to permit differentiation. It will be recalled that the theoretical range of scores on each dimension was from 10 to 50. The obtained range thus fell in the upper 70 per cent of the theoretical range.

There was no significant difference above the .05 level of confidence in the way the staffs or the superintendents in schools above 5,000 ADA perceived the leader behavior of

TABLE IV

LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE, MEAN ASCRIBED SCORES,[a] BY STAFF; AND SELF-DESCRIPTION SCORES, BY SUPERINTENDENTS; AND THE MEAN, STANDARD DEVIATION, AND RANGE BY ADA GROUPS (N = 53)

ADA Group	Supts. Number	Staff: Tolerance of Freedom $\bar{X}$	Staff: Role Assumption[b] $\bar{X}$	Staff: Consideration $\bar{X}$	Staff: Production Emphasis[c] $\bar{X}$	Superintendents: Tolerance of Freedom X	Superintendents: Role Assumption[d] X	Superintendents: Consideration X	Superintendents: Production Emphasis[e] X
IA	1	36	35	34	30	43	33	39	44
	2	32	41	40	35	35	43	46	37
	3	45	41	39	33	32	35	31	31
	4	31	42	36	34	39	38	43	31
	5	41	43	36	39	40	38	37	34
	6	43	42	42	33	41	41	42	32
	7	39	45	40	40	39	39	38	39
	8	40	39	41	33	41	32	44	33
	9	40	29	29	23	39	43	41	38
	10	41	40	41	35	46	32	42	46
	11	42	43	39	39	40	39	39	45
	12	42	45	44	35	43	35	45	41
IA N = 12	Mean	40.6	40.5	38.5	34.2	40.7	37.3	40.6	36.8
	S	3.4	4.3	3.9	4.3	3.5	3.8	4.0	5.0
	Range	31-45	29-45	28-48	23-40	32-46	32-43	31-46	31-46
IB	13	42	45	41	40	41	40	38	32
	14	44	44	37	36	41	33	38	35
	15	32	40	36	37	40	35	35	30
	16	40	43	38	39	41	41	41	43
	17	42	42	43	35	45	35	40	37
	18	43	39	44	34	43	42	41	42
	19	42	42	40	36	38	34	38	38
	20	43	44	41	38	43	43	44	34
	21	41	40	40	37	45	35	42	36
	22	42	33	40	39	48	38	45	31
	23	35	36	34	32	40	32	36	38
	24	42	44	43	41	40	37	36	39

TABLE IV--Continued

ADA Group	Supts. Number	Staff: Tolerance of Freedom $\bar{X}$ [b]	Staff: Role Assumption $\bar{X}$	Staff: Consideration $\bar{X}$ [c]	Staff: Production Emphasis $\bar{X}$	Superintendents: Tolerance of Freedom X [d]	Superintendents: Role Assumption X	Superintendents: Consideration X [e]	Superintendents: Production Emphasis X
IB N = 12	Mean	40.6	41.0	39.8	37.0	42.1	37.1	39.5	36.3
	S	3.5	3.5	2.9	2.5	2.7	3.5	3.1	3.9
	Range	32-44	33-45	34-44	32-40	38-48	33-43	35-45	30-43
I N = 24	Mean	40.4	40.8	39.1	35.6	41.4	37.2	40.0	36.5
	S	3.4	3.9	3.5	3.8	3.2	3.7	3.6	4.5
	Range	31-45	29-45	28-44	23-40	32-48	32-43	31-46	30-46
IIC	25	42	44	40	36	40	36	38	38
	26	38	42	37	31	45	37	42	36
	27	38	35	38	35	39	32	38	37
	28	43	32	42	39	43	37	44	40
	29	44	44	44	32	48	43	46	42
	30	41	38	39	34	45	50	47	49
	31	40	40	29	34	38	35	38	31
	32	41	46	40	39	48	44	41	46
	33	41	36	39	32	40	38	36	35
	34	38	38	38	37	36	39	40	42
	35	38	39	38	32	44	36	37	41
	36	40	45	41	36	42	46	42	33
	37	45	44	44	34	40	34	39	34
	38	37	38	36	34	41	35	36	37
	39	45	46	44	33	46	47	42	38
	40	45	45	44	38	42	45	41	38
	41	42	46	44	39	47	40	47	38
IIC N = 17	Mean	41.1	41.6	40.3	35.0	42.6	39.7	40.8	38.5
	S	2.6	3.6	2.6	2.6	3.5	5.1	3.5	4.4
	Range	37-45	35-46	36-44	31-39	36-48	32-50	36-47	41-49
IID	42	43	47	40	35	43	36	41	37
	43	40	41	42	34	40	39	39	32
	44	40	43	37	34	44	48	43	38
	45	34	42	38	37	43	41	43	38
	46	33	42	36	37	39	38	37	31
	47	42	42	42	33	42	39	36	39

TABLE IV--Continued

ADA Group	Supts. Number	Staff: Tolerance of Freedom $\bar{X}$	Staff: Role Assumption[b] $\bar{X}$	Staff: Consideration $\bar{X}$	Staff: Production Emphasis[c] $\bar{X}$	Superintendents: Tolerance of Freedom X	Superintendents: Role Assumption[d] X	Superintendents: Consideration X	Superintendents: Production Emphasis[e] X
IID	48	37	46	41	40	39	44	41	41
	49	41	40	41	36	45	36	43	39
	50	39	43	37	41	47	35	41	48
	51	43	45	44	34	46	40	45	38
	52	39	34	37	29	40	37	41	35
	53	37	46	37	38	40	37	39	38
IID N = 12	Mean	39.1	42.7	39.4	35.7	42.3	39.2	40.8	37.8
	S	3.1	3.4	2.5	3.0	2.7	3.6	2.5	4.1
	Range	33-43	34-47	36-44	29-41	39-47	35-48	36-45	31-48
II N = 29	Mean	40.2	42.1	39.9	35.3	42.5	39.5	40.8	38.2
	S	3.0	3.6	2.6	2.8	3.2	4.5	3.1	4.3
	Range	33-45	34-47	36-44	29-41	36-48	32-50	36-47	31-49
I & II N = 53	Mean	40.3	41.5	39.6	35.4	42.0	38.4	40.5	37.5
	S	3.2	3.8	3.1	3.3	3.2	4.3	3.4	4.5
	Range	31-45	29-47	28-44	23-41	32-48	32-50	31-47	30-49

[a] $\bar{X}$ scores rounded to integers.

[b] The correlation between the two dimension scores is .28, which is significant at the .05 level of confidence.

[c] The correlation between the two dimension scores is .34, which is significant at the .02 level of confidence.

[d] The correlation between the two dimension scores is .27, which does not differ significantly from zero.

[e] The correlation between the two dimension scores is .29, which is significant at the .05 level of confidence.

superintendents on any of the four dimensions of leader behavior, from the perception of the staffs or superintendents in districts under 5,000 ADA regarding leader behavior of superintendents on any of the four dimensions, as shown in Table V. The closest approach to a significant difference is the way the superintendents in these two ADA groups perceived the leader behavior of role assumption. The Fisher t for this difference was 1.92 where 2.01 was required for significance at the .05 level of confidence.

TABLE V

THE DIFFERENCE BETWEEN ADA GROUP I AND ADA GROUP II IN THE PERCEPTION OF EACH OF FOUR DIMENSIONS OF LEADER BEHAVIOR AS PERCEIVED BY STAFF AND SUPERINTENDENT

Dimension	Group I (N=24)		Group II(N=29)		Fisher
	Mean	S	Mean	S	t
Tolerance of Freedom	40.41	3.43	40.24	2.96	.18
Role Assumption	40.77	3.90	42.07	3.55	-1.24
Consideration	39.11	3.52	39.94	2.59	- .97
Production Emphasis	35.59	3.77	35.29	2.78	.32
Tolerance of Freedom	41.38	3.17	42.48	3.16	-1.24
Role Assumption	37.21	3.65	39.45	4.52	-1.92
Consideration	40.04	3.58	40.79	3.12	- .80
Production Emphasis	36.50	4.48	38.24	4.31	-1.41

A Fisher t of 2.011 is required for significance at the .05 level of confidence.

The difference in the way the staffs in all size districts and the superintendents in all size districts perceived each of the four dimensions of leader behavior was a different story.

There was a significant difference at the .05 level of confidence in the way the staffs and superintendents perceived the leader behavior dimension of Consideration, as shown in Table VI. The superintendents perceived their leader behavior dimension of Consideration as higher than did their staffs.

TABLE VI

DIFFERENCE BETWEEN STAFF AND SUPERINTENDENTS PERCEPTION OF EACH OF FOUR DIMENSIONS OF LEADER BEHAVIOR (N=53)

Dimension	Staff		Superintendents		Mean Diff	St. Dev. Diff	Fisher t
	Mean	St. Dev.	Mean	St.Dev.			
Tolerance of Freedom	40.32	3.18	41.98	3.21	-1.66	3.98	-3.01**
Role Assumption	41.48	3.77	38.43	4.30	3.05	4.96	4.43***
Consideration	39.57	3.07	40.45	3.36	- .89	3.77	-1.69*
Production Emphasis	35.43	3.27	37.45	4.47	-2.03	5.05	-2.89**

*Significant at the .05 level of confidence.
**Significant at the .01 level of confidence.
***Significant at the .001 level of confidence.

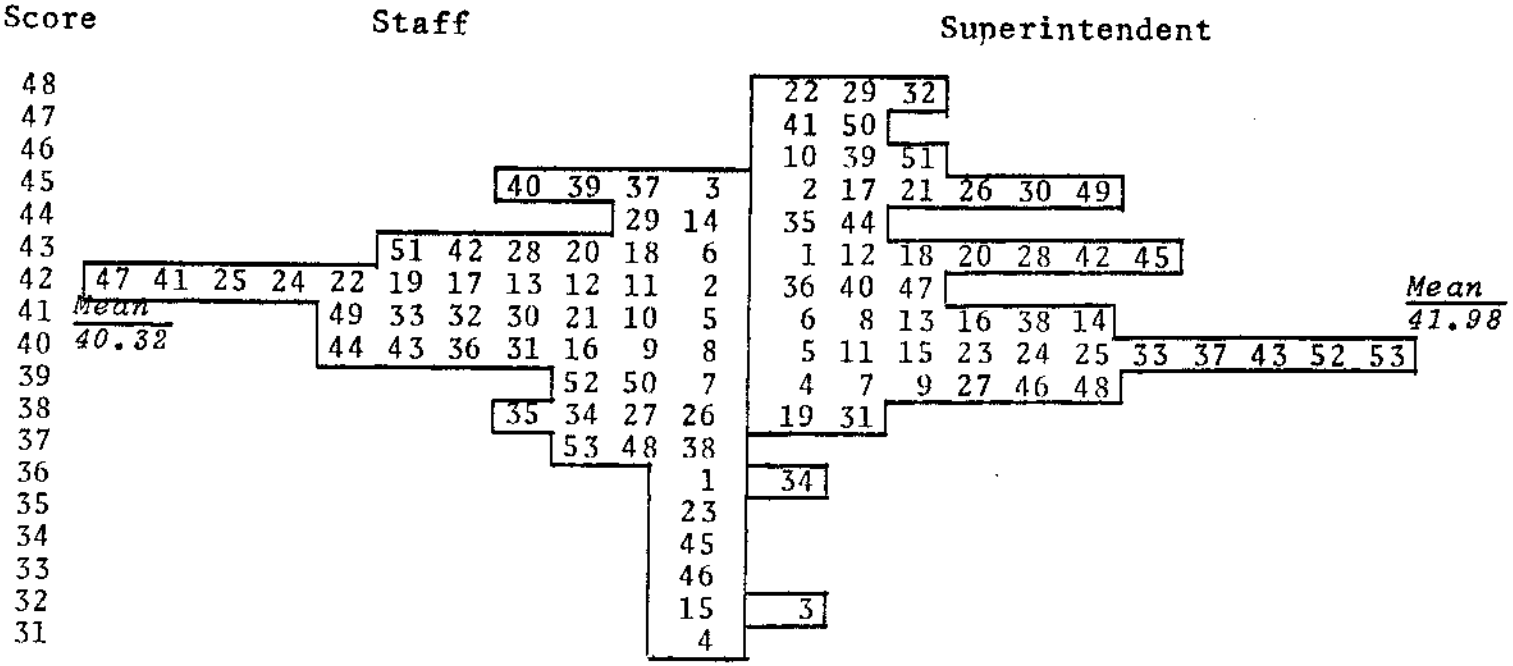
There was a significant difference at the .01 level of confidence in the way the staffs and superintendents perceived the leader behavior dimensions of Tolerance of Freedom and Production Emphasis as shown in Table VI. Again in each

dimension the superintendents perceived their leader behavior to be higher than did their staffs.

Finally it was noted that there was a significant difference at the .001 level of confidence in the way the staffs and superintendents perceived the leader behavior dimension of Role Assumption which is also shown in Table VI. Here the staffs perceived that the superintendents assumed their role considerably more than the superintendents claimed they did.

Before attention was given to the correlations, some figures were prepared for additional feedback for the participating superintendents.

First, the lack of general relationship between scores from the two sources was portrayed graphically for Tolerance of Freedom (Figure 1), Role Assumption (Figure 2), Consideration (Figure 3), and Production Emphasis (Figure 4). In these four histograms the code numbers of the 53 superintendents were inserted in the individual cells. Thus in Figure 1, it was noted that Superintendent Number 1 perceived himself to be above both the superintendent mean and the staff mean in Tolerance of Freedom, and his staff perceived him to be considerably below both means in this leader behavior dimension. The staff of Superintendent Number 34 described his leader behavior in the dimension of Tolerance of Freedom below both the staffs' and superintendents' means, yet he described himself in this dimension as even lower than



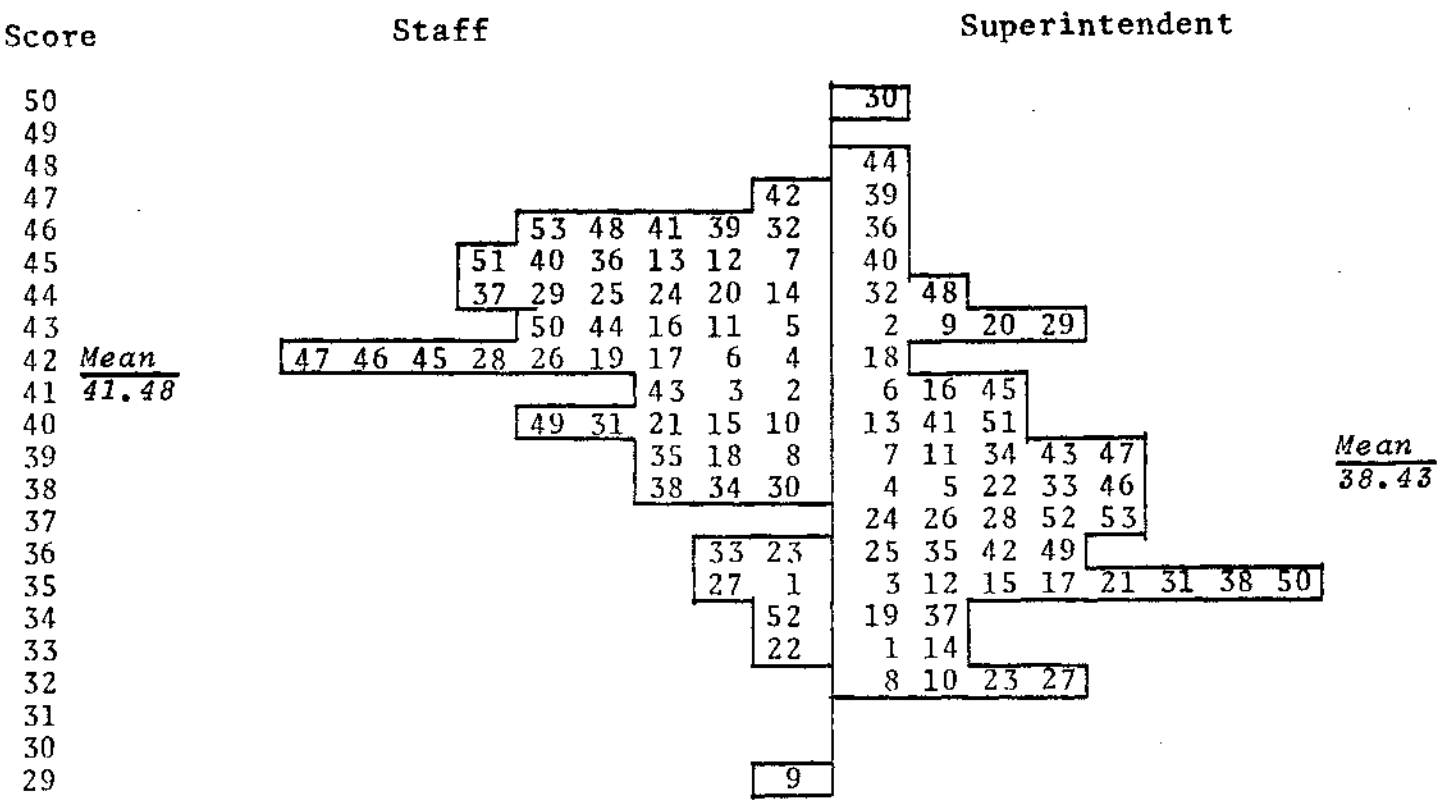
*The figures in the histogram cells are the identification numbers of the individual superintendents

Fig. 1--Histogram of LBDQ, Tolerance of Freedom Scores: Staff, and Superintendent (N = 53).

did his staff. Superintendent Number 3 described himself to be less KTolerant of Freedom than all of the other 52 superintendents, and yet his staff described him to be as Tolerant of Freedom as did any of the staffs who described their superintendents, and more so than 49 of the staffs. Obviously Superintendent Number 3 was overly modest. Yet it was also observed that superintendents in general described thri Tolerance of Freedom to be higher than the staffs' description of this leader behavior dimension. As previously observed, this difference was significant at the .01 level of confidence.

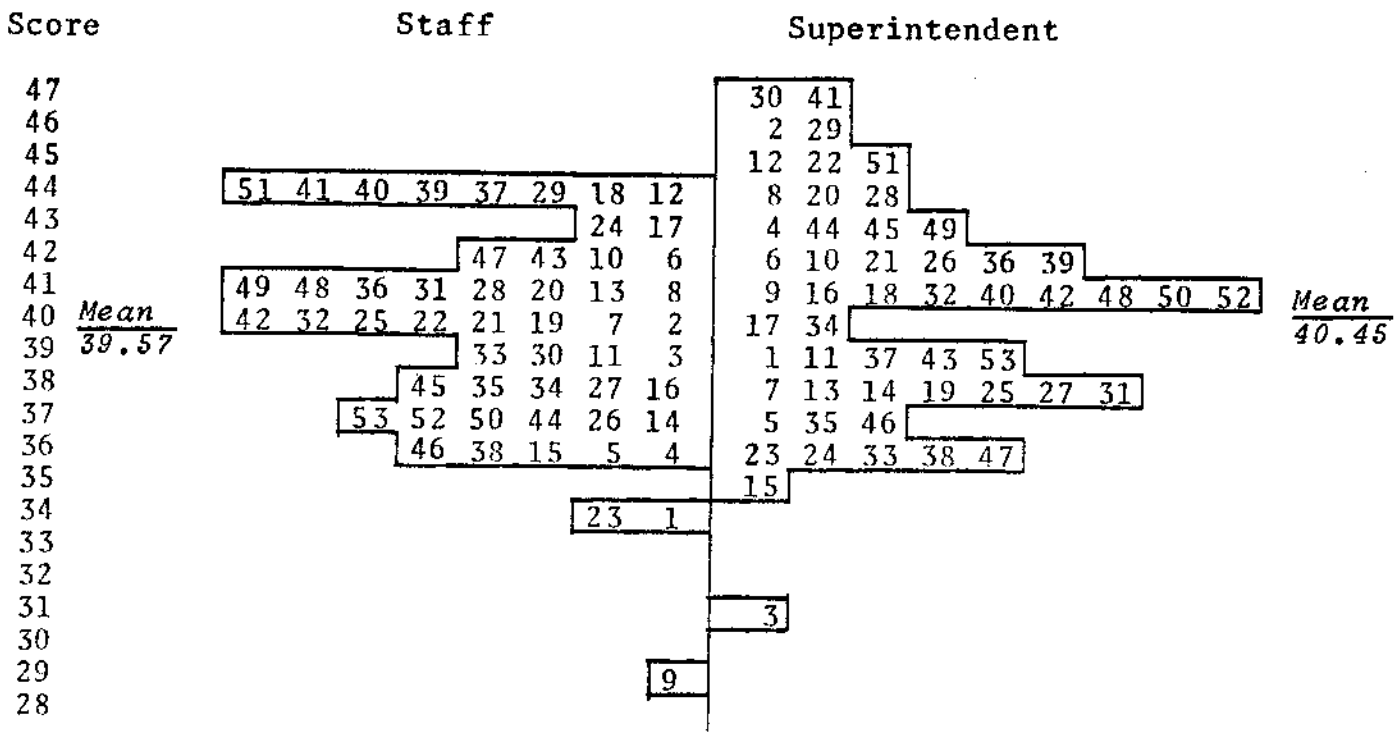
It was observed that Superintendent Number 30 described himself as assuming his role more than any of the other 52 superintendents, while his staff described him as assuming his role slightly under the superintendent mean and considerably under the staff mean. This was lower than 45 of descriptions of superintendents by their staffs on this leader behavior dimension (Figure 2). In general, the staffs perceived that the superintendents assumed their role considerably more than did the superintendents. As previously pointed out, this difference was significant at the .001 level of confidence.

It was observed that while Superintendent Number 9 described himself above the superintendent mean of Consideration, his staff described him as less considerate than any of the other staffs described their superintendents on this leader



*The figures in the histogram cells are the identification numbers of the individual superintendents

Fig. 2--Histogram of LBDQ, Role Assumption Scores: Staff, and Superintendent (N = 53).



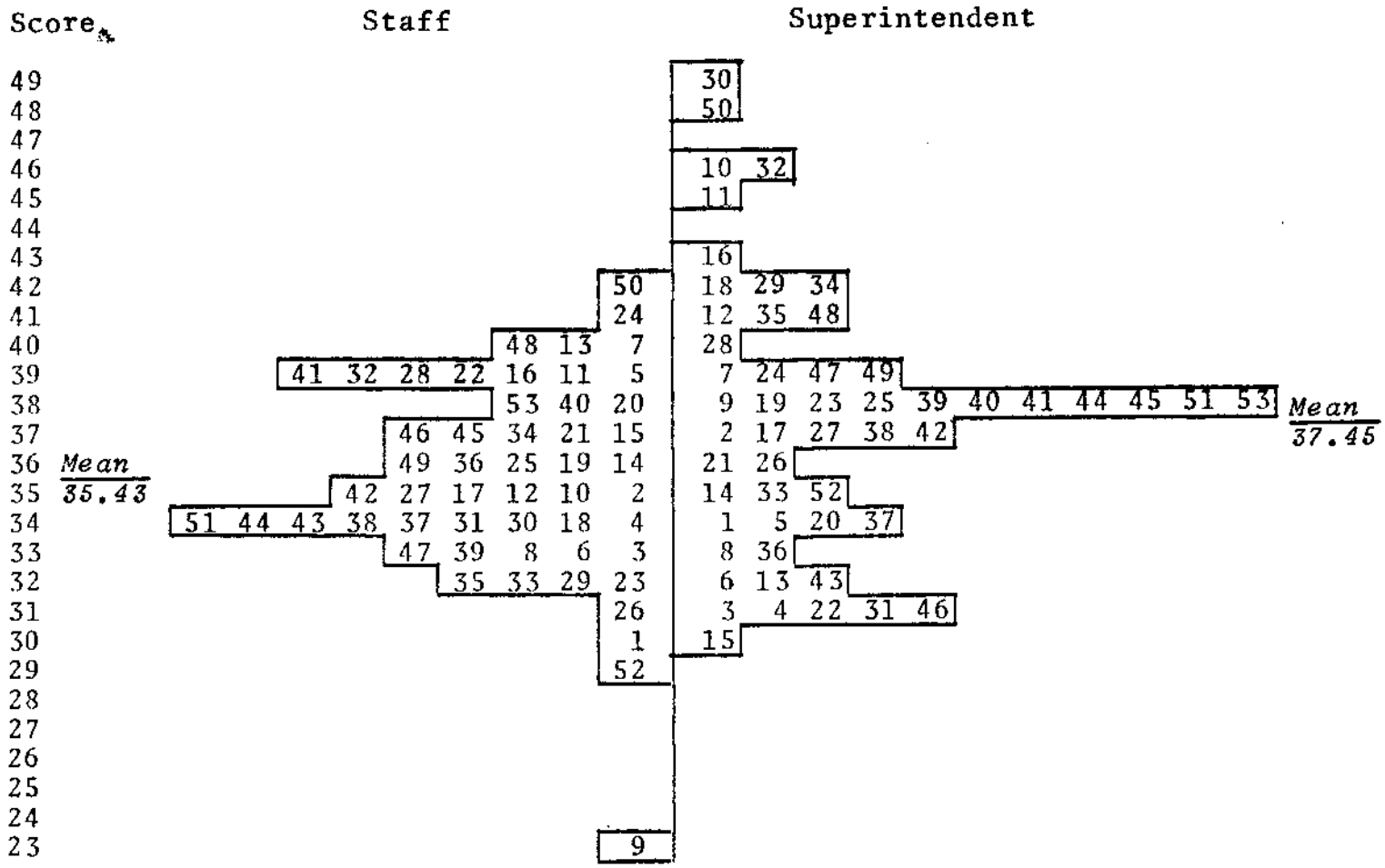
*The figures in the histogram cells are the identification numbers of the individual superintendents.

Fig. 3--Histogram of LBDQ, Consideration Scores: Staff, and Superintendent (N = 53).

behavior dimension (Figure 3). Superintendent Number 41 rated himself at a higher Consideration level than 51 of the other superintendents. Although his staff described him to be less considerate than he described himself, they rated him on an equal level of Consideration with seven other superintendents who were highly rated by their staffs on this leader behavior dimension (Figure 3).

These cited instances represent extreme cases that were chosen for illustration. Countless observations could be made from these Figures, and it was hoped that each participating superintendent would make observations and conclusions in his own case that would either give him confidence to continue the course he was currently following or to see a need for some improvement.

Some general observations from Tables 3 and 4 may permit a conclusion to be drawn concerning the effect of the superintendent's high and low rating of Consideration by his staff on his rating of Production Emphasis. Eleven of the 14 superintendents described as highest on Consideration by his staffs (Figure 3) were described by the staffs as below the mean on Production Emphasis (Figure 4). Twelve of the 16 superintendents described as slightly above the mean on Consideration by the staffs (Figure 3) were described by the staffs as above the mean on Production Emphasis (Figure 4). Only three of the eight



*The figures in the histogram cells are the identification numbers of the individual superintendents.

Fig. 4--Histogram of LBDQ, Production Emphasis Scores: Staff, and Superintendents (N = 53).

superintendents described by the staffs as lowest in Consideration (Figure 3) were described by the staffs as being above the mean on Production Emphasis (Figure 4).

Leader Behavior Dimension Quadrants

Superintendents vary considerably in their leadership style. Some emphasize Tolerance of Freedom to the point of surrendering their own roles. Others follow an opposite pattern and assume their role to such a degree that they do not allow their followers scope for initiative, decision, and action. Likewise, some superintendents are so considerate of their staffs that they do not motivate the group to greater activity by emphasizing the job to be done. Others are so lacking in Consideration for their staff that the group will not be receptive to their efforts to motivate them to greater action. These styles obviously do not fall into a neat dichotomy. Various combinations occur. Accordingly, the two pair of leader-behavior dimensions may be conceptualized best as a pair of coordinates with reference to which any leader's behavior may be described (Figures 5 and 6).

The coordinates define four quadrants which, reading clockwise from twelve o'clock as in Figure 5, are

1. High Role Assumption and High Tolerance of Freedom
2. Low Role Assumption and High Tolerance of Freedom
3. Low Role Assumption and Low Tolerance of Freedom
4. High Role Assumption and Low Tolerance of Freedom.

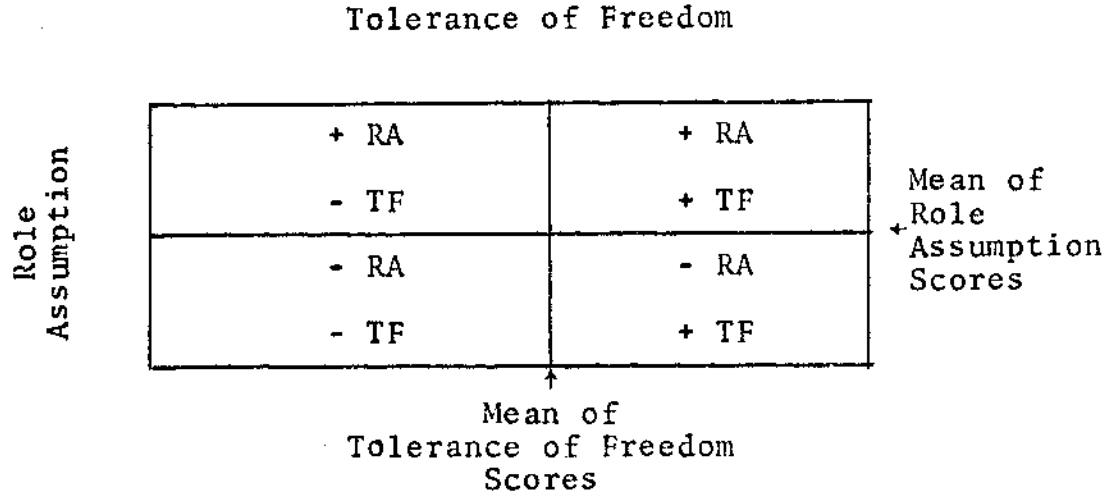


Fig. 5--Role Assumption and Tolerance of Freedom as Co-ordinates Dimensions of Leader Behavior.

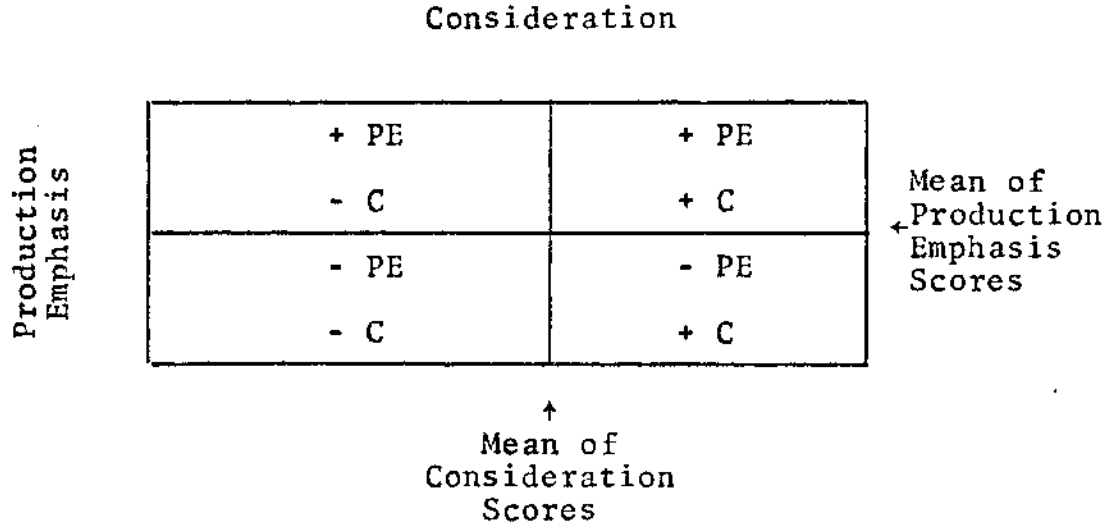


Fig. 6--Production Emphasis and Consideration as Co-ordinates Dimensions of Leader Behavior.

In Figure 6, the four quadrants reading from twelve o'clock, are

1. High Production Emphasis and High Consideration
2. Low Production Emphasis and High Consideration
3. Low Production Emphasis and Low Consideration
4. High Production Emphasis and Low Consideration.

The quadrants are defined in each instance by the mean LBDQ scores for the particular group of respondents.

Previous research has indicated that effective leaders are those who score highly on each pair of dimensions (1). The odd numbers of Figures 7 through 22, show the quadrant classification for each of the two pairs of dimensions of leader behavior for each of the four basic ADA groups as perceived by the staffs. The even numbers of Figures 7 through 22 show similar information as perceived by the superintendents. Figures 23, 24, 25, and 26 show similar information for all groups, or the sample of 53 superintendents.

The figures in parentheses--the superintendent's code numbers--enable the superintendents who participated to identify themselves in this quadrant classification for their particular ADA group and for the total sample. The percent of superintendents in each quadrant is shown and the single figure in brackets indicate the number of superintendents in that quadrant.

Leaders who are high in the two given dimensions are considered to be most effective and leaders who are low in

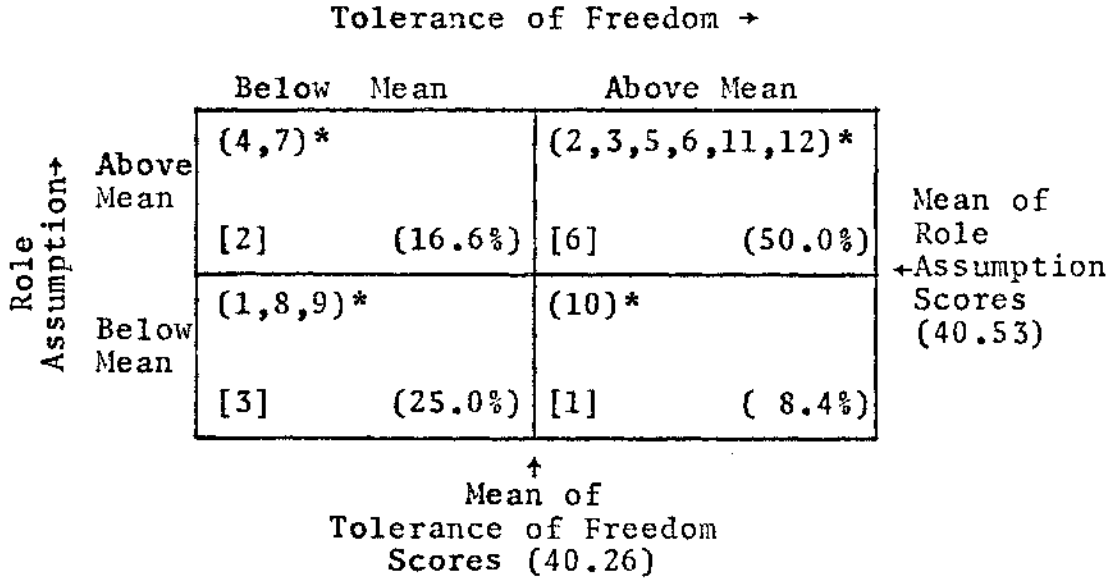


Fig. 7--Number and Per Cent of School Superintendents in ADA Group IA (N = 12) with LBDQ-Scores Above and Below the Mean on Tolerance of Freedom and Role Assumption as Described by their Staff Members.

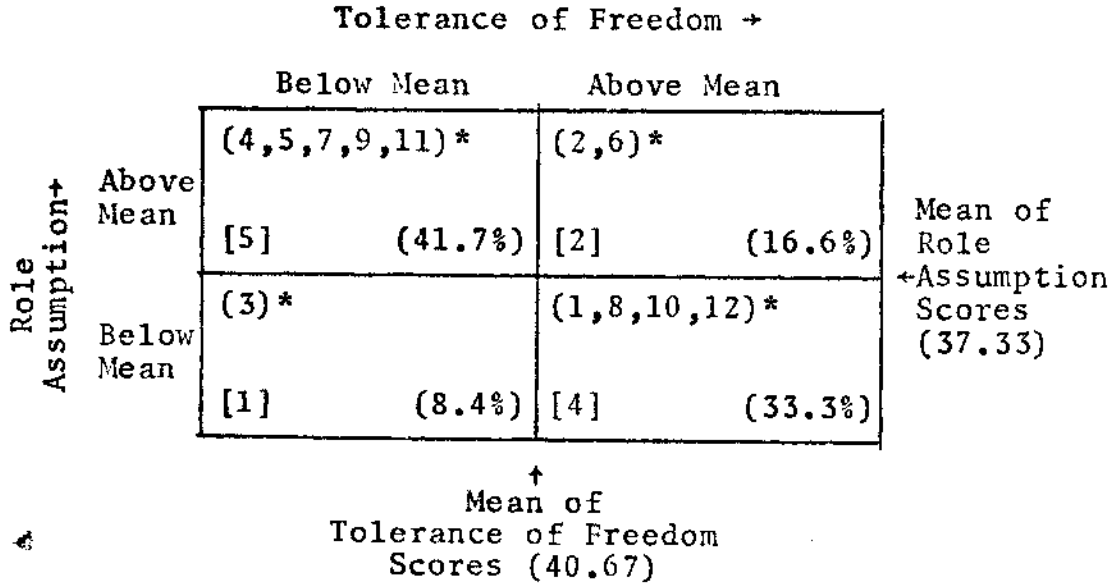


Fig. 8--Number and Per Cent of School Superintendents in ADA Group IA (N = 12) with LBDQ-Scores Above and Below the Mean on Tolerance of Freedom and Role Assumption as Described by Themselves.

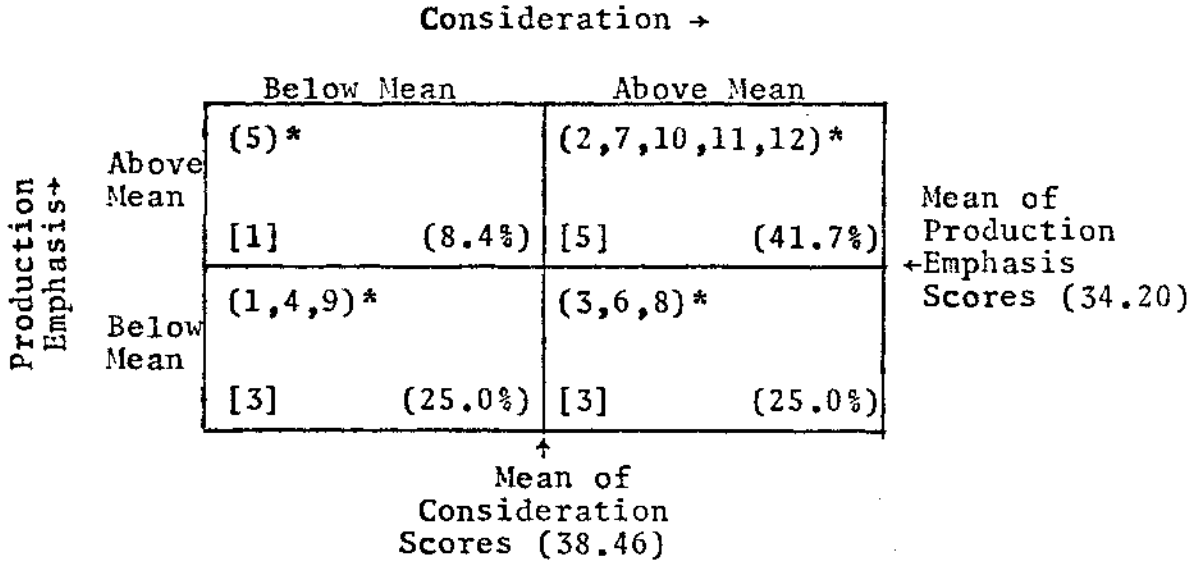


Fig. 9--Number and per cent of school superintendents in ADA Group IA (N = 12) with LBDQ scores above and below the mean on Consideration and Production Emphasis as described by their staff members.

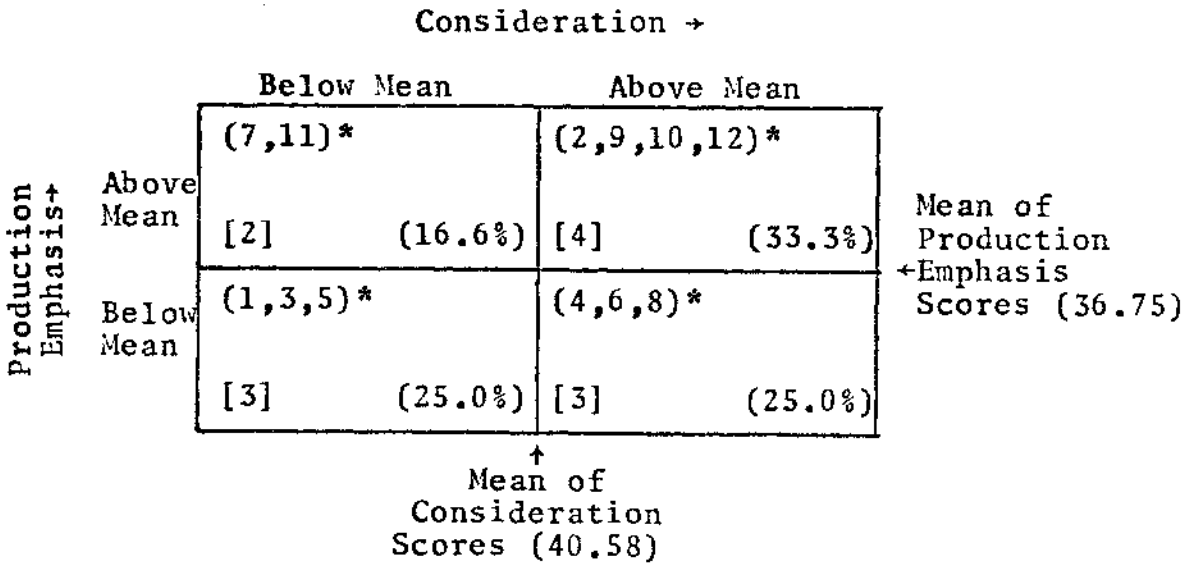


Fig. 10--Number and per cent of school superintendents in ADA Group IA (N = 12) with LBDQ scores above and below the mean on Consideration and Production Emphasis as described by themselves.

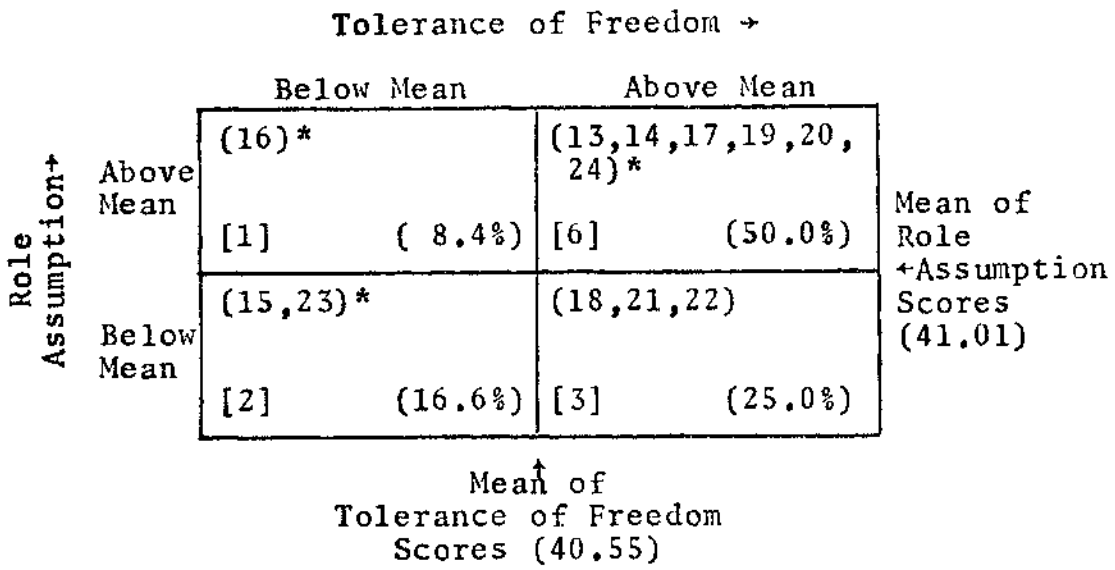


Fig. 11--Number and Per Cent of School Superintendents in ADA Group IB (N = 12) with LBDQ Scores Above and Below the Mean on Tolerance of Freedom and Role Assumption as Described by their Staff Members.

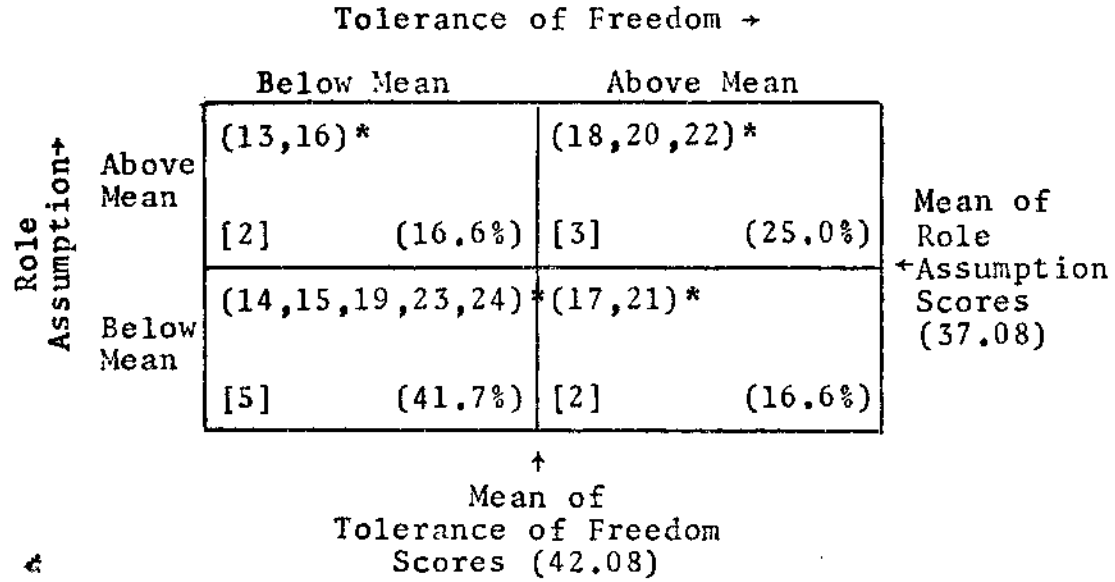


Fig. 12--Number and Per Cent of School Superintendents in ADA Group IB (N = 12) with LBDQ Scores Above and Below the Mean on Tolerance of Freedom and Role Assumption as Described by Themselves

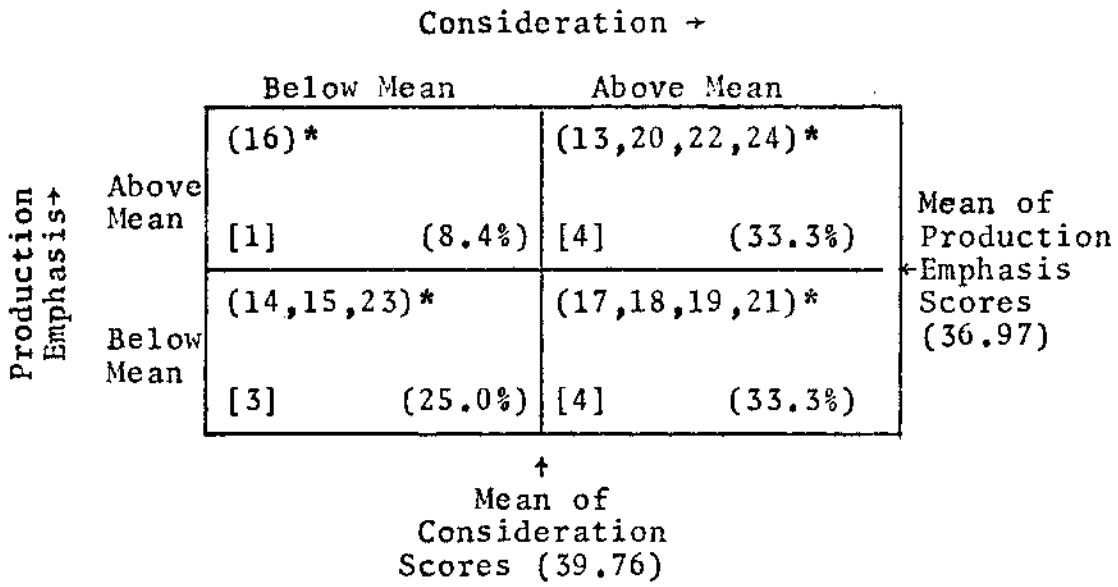


Fig. 13--Number and Per Cent of School Superintendents in ADA Group IB (N = 12) with LBDQ Scores Above and Below the Mean on Consideration and Production Emphasis as Described by their Staff Members.

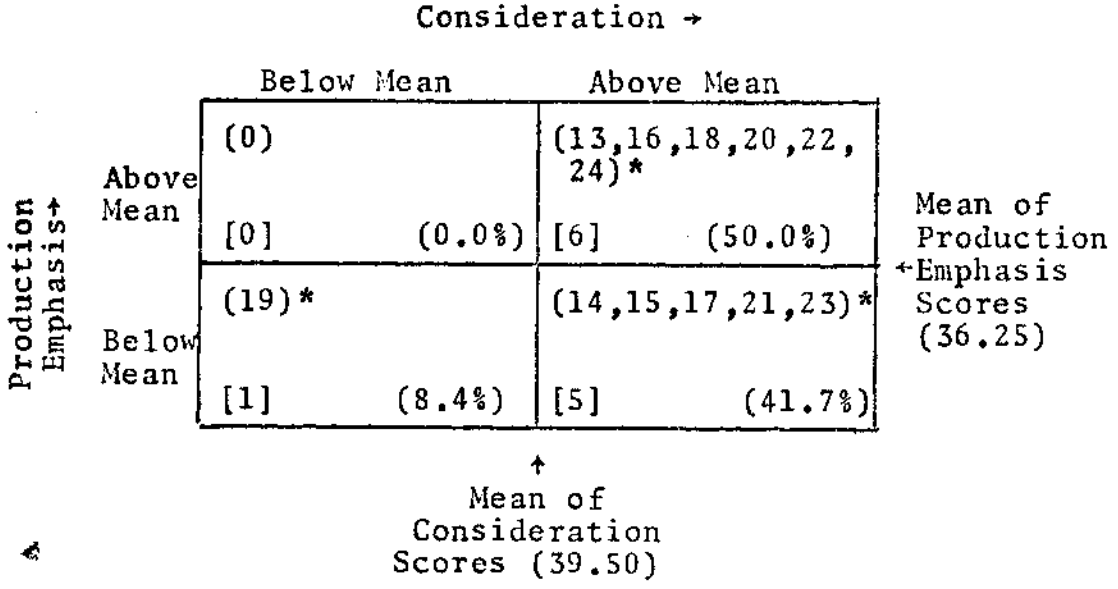


Fig. 14--Number and Per Cent of School Superintendents in ADA Group IB (N = 12) with LBDQ Scores Above and Below the Mean on Consideration and Production Emphasis as Described by Themselves.

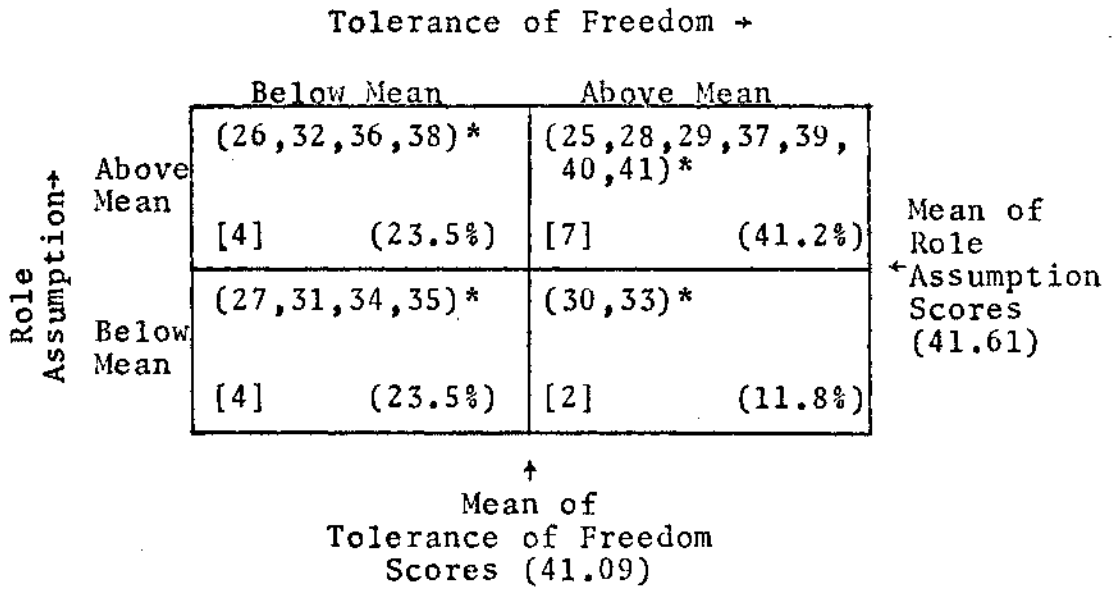


Fig. 15--Number and Per Cent of School Superintendents in ADA Group IIC (N = 17) with LBDQ Scores Above and Below the Mean on Tolerance of Freedom and Role Assumption as Described by their Staff Members.

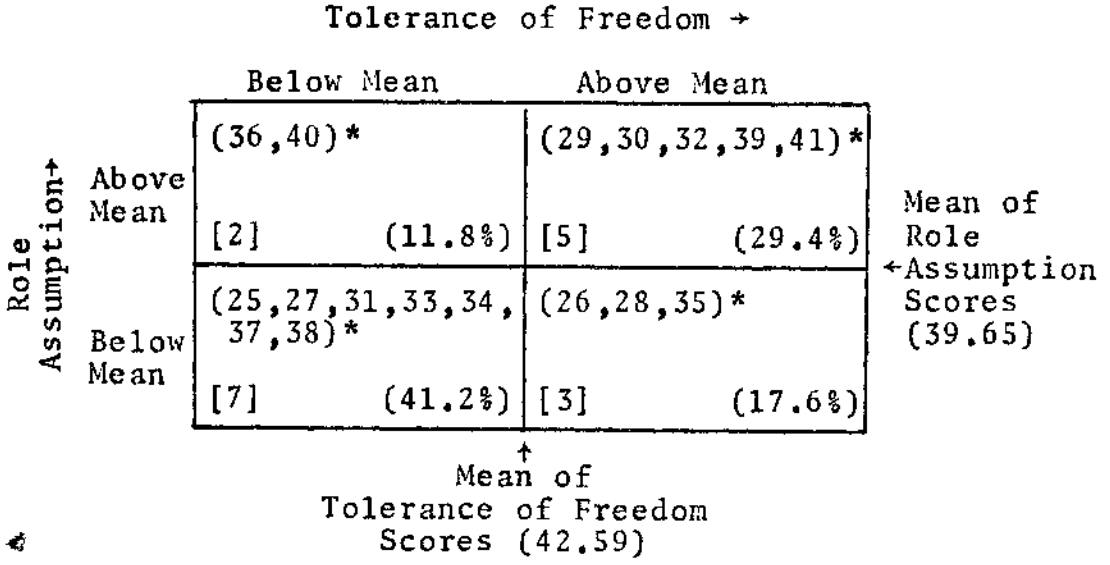


Fig. 16--Number and Per Cent of School Superintendents in ADA Group IIC (N = 17) with LBDQ Scores Above and Below the Mean on Tolerance of Freedom and Role Assumption as Described by Themselves.

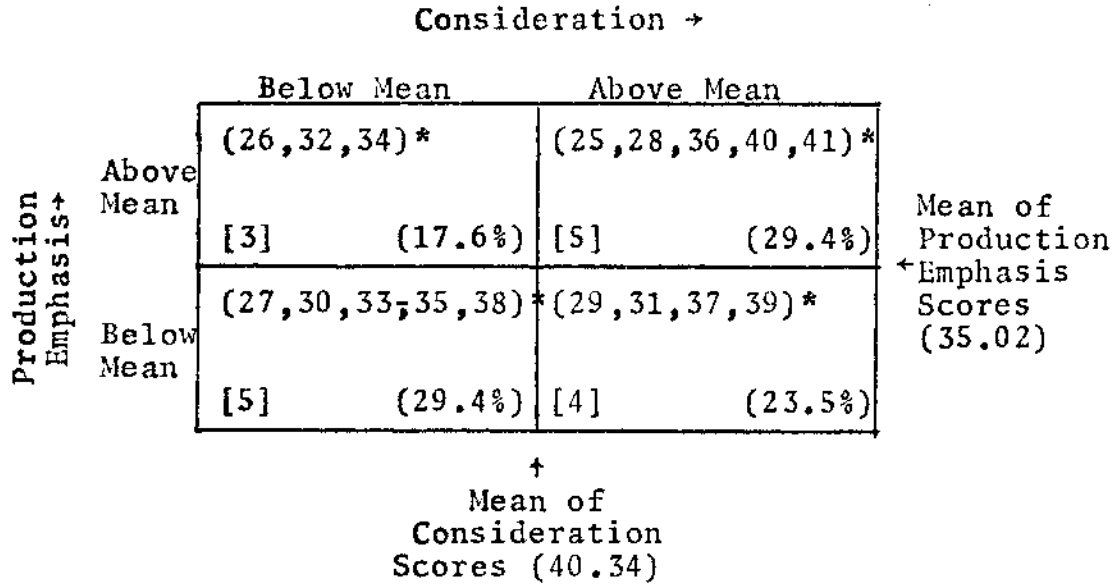


Fig. 17--Number and Per Cent of School Superintendent in ADA Group IIC (N = 17) with LBDQ Scores Above and Below the Mean on Consideration and Production Emphasis as Described by Their Staff Members.

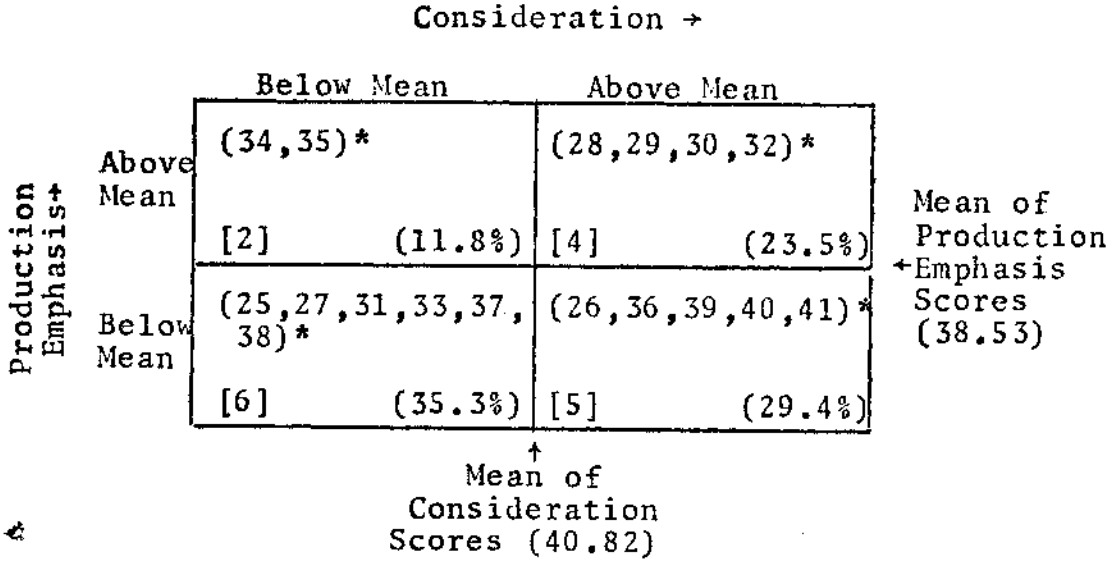


Fig. 18--Number and Per Cent of School Superintendent in ADA Group IIC (N = 17) with LBDQ Scores Above and Below the Mean on Consideration and Production Emphasis as Described by Themselves.

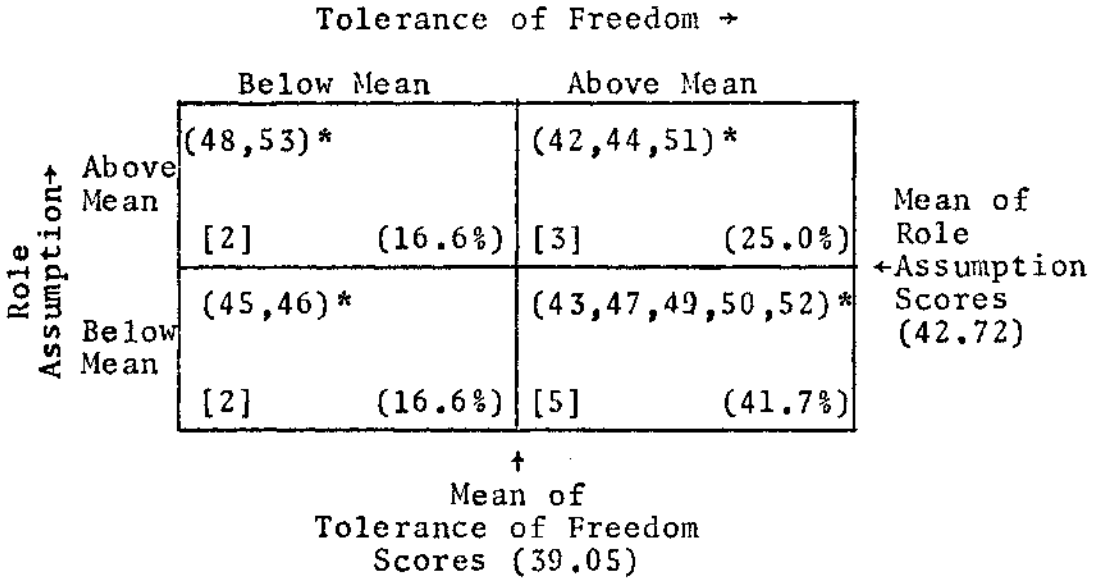


Fig. 19--Number and Per Cent of School Superintendents in ADA Group IID (N = 12) with LBDQ Scores Above and Below the Mean on Tolerance of Freedom and Role Assumption as Described by their Staff Members.

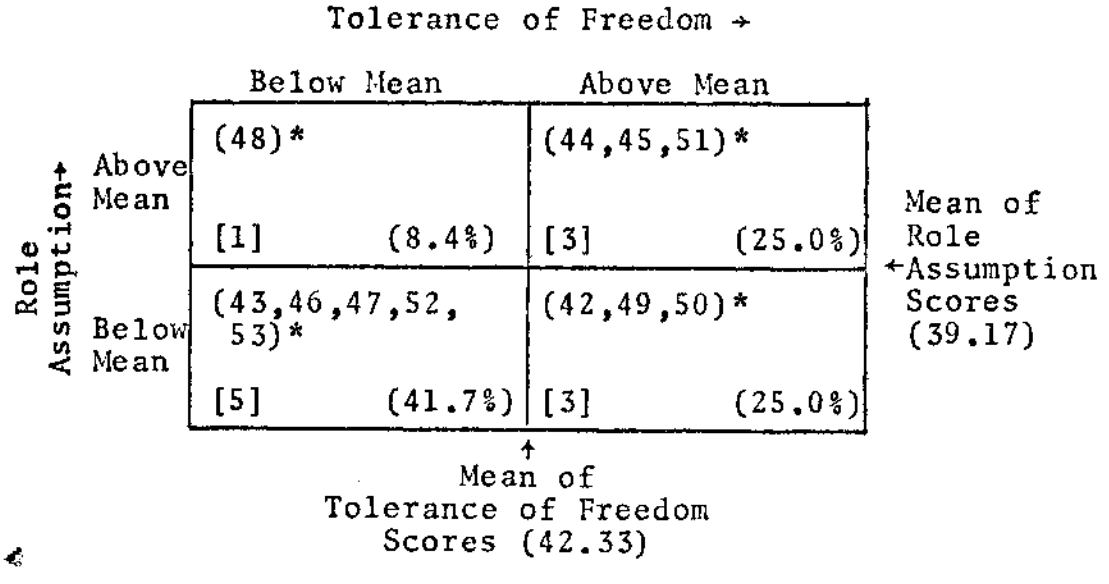


Fig. 20--Number and Per Cent of School Superintendents in ADA Group IID (N = 12) with LBDQ Scores Above and Below the Mean on Tolerance of Freedom and Role Assumption as Described by Themselves.

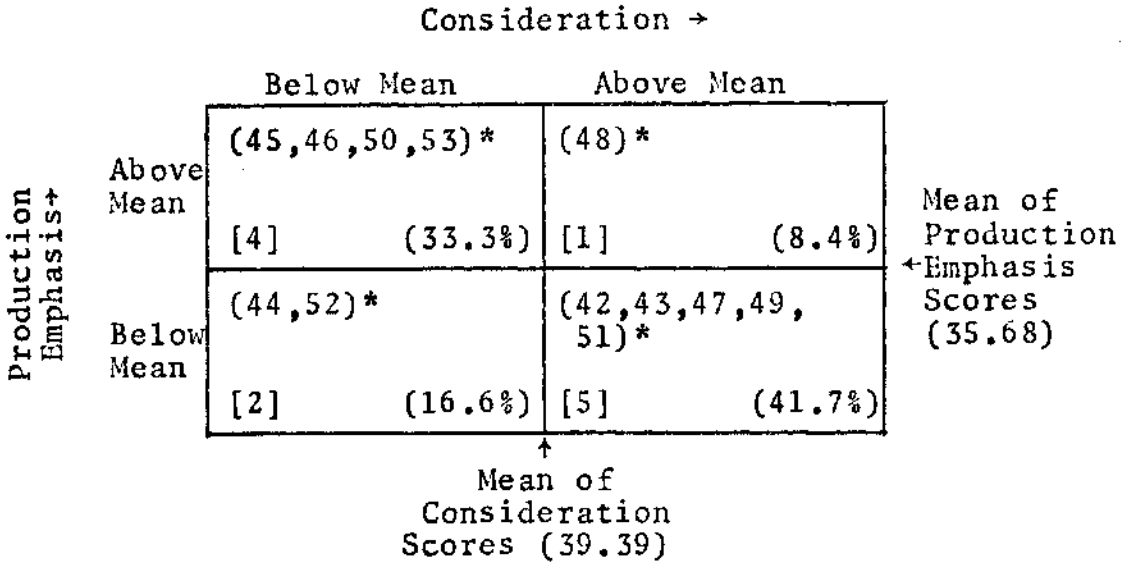


Fig. 21--Number and Per Cent of School Superintendents in ADA Group IID (N = 12) with LBDQ Scores Above and Below the Mean on Consideration and Production Emphasis as Described by Their Staff Members.

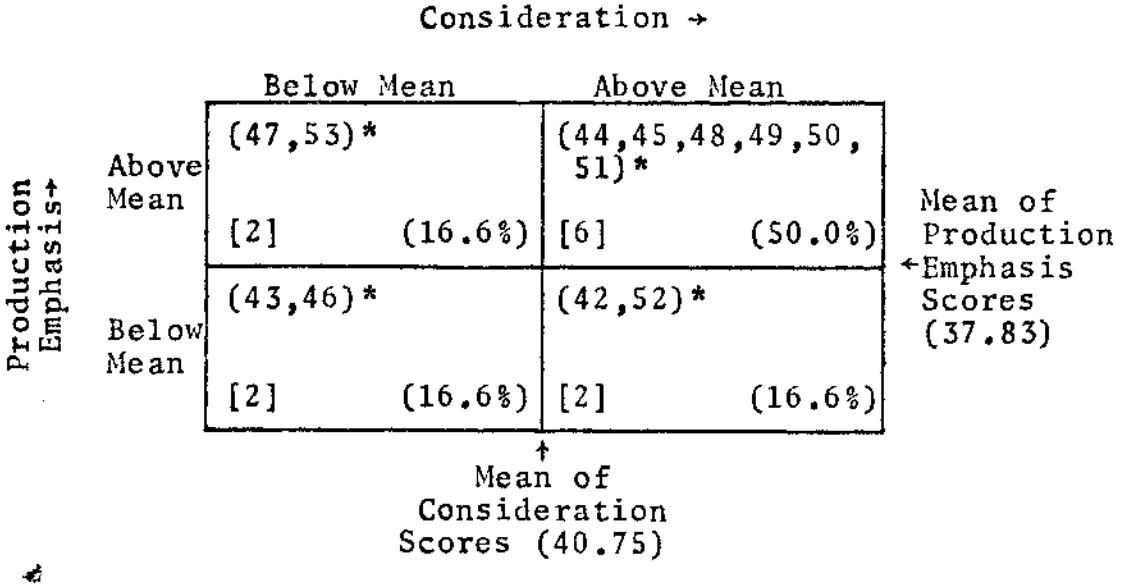


Fig. 22--Number and Per Cent of School Superintendents in ADA Group IID (N = 12) with LBDQ Scores Above and Below the Mean on Consideration and Production Emphasis as Described by Themselves.

Tolerance of Freedom →

Role Assumption →	Below Mean	Above Mean	
Above Mean	(4,7,16,26,36, 44,45,46,48,50, 53) [11] (20.8%)	(5,6,11,12,13,14 17,19,20,24,25, 28,29,32,37,39, 40,41,42,47,51)* [21] (39.6%)	← Mean of Role Assumption Scores (41.48)
Below Mean	(1,8,9,15,23,29, 31,34,35,38,43, 52)* [12] (22.6%)	(2,3,10,18,21,22, 30,33,49)* [9] (17.0%)	

↑
Mean of
Tolerance of Freedom
Scores (40.32)

Fig. 23--Number and Per Cent of School Superintendents in All ADA Group (N = 53) with LBDQ Scores Above and Below the Mean on Tolerance of Freedom and Role Assumption as Described by their Staff Members.

Tolerance of Freedom →

Role Assumption →	Below Mean	Above Mean	
Above Mean	(6,7,9,11,16,34, 43,48)* [8] (15.1%)	(2,18,20,29,30,32, 36,39,40,41,44, 45,47,51)* [14] (26.4%)	← Mean of Role Assumption Scores (38.43)
Below Mean	(3,4,5,8,13,14, 15,19,23,24,25, 27,31,33,37,38, 46,52,53)* [19] (34.7%)	(1,10,12,17,21, 22,26,28,35,42, 49,50)* [12] (22.6%)	

↑
Mean of
Tolerance of Freedom
Scores (41.98)

Fig. 24--Number and Per Cent of School Superintendents in All ADA Group (N = 53) with LBDQ Scores Above and Below the Mean on Tolerance of Freedom and Role Assumption as Described by Themselves.

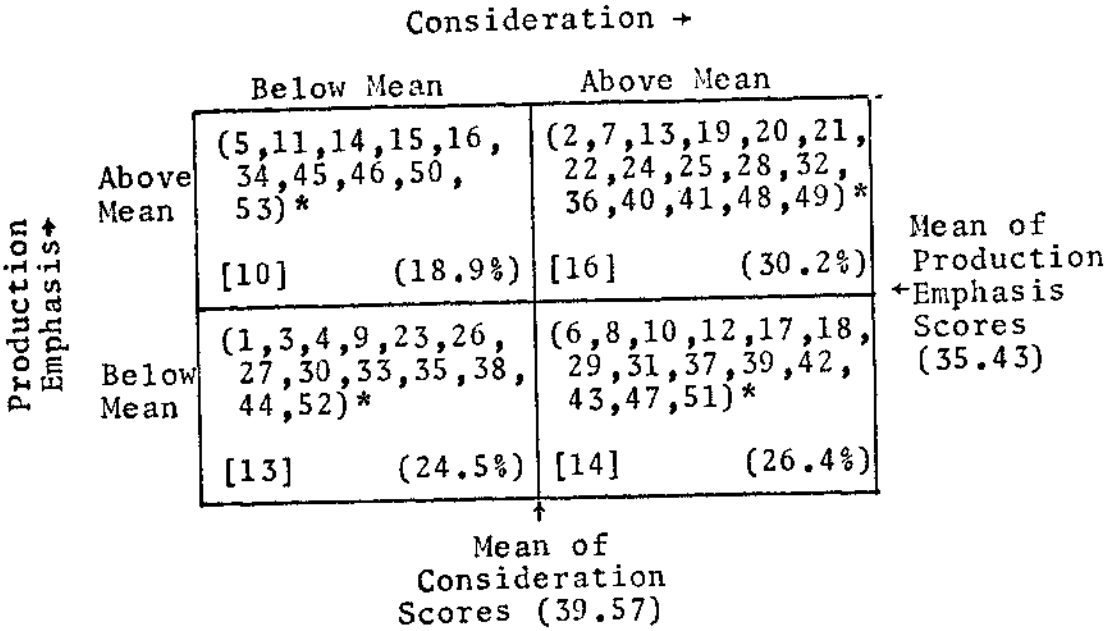


Fig. 25--Number and Per Cent of School Superintendents in All ADA Groups (N = 53) with LBDQ Scores Above and Below the Mean on Consideration and Production Emphasis as Described by Their Staff Members.

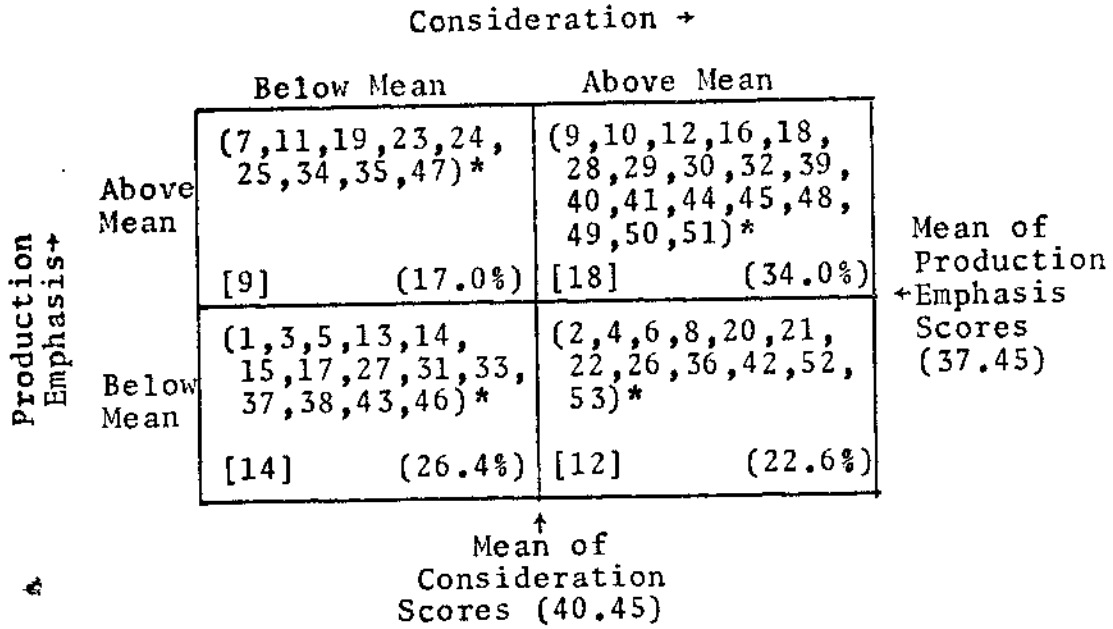


Fig. 26--Number and Per Cent of School Superintendents in All ADA Groups (N = 53) with LBDQ Scores Above and Below the Mean on Consideration and Production Emphasis as Described by Themselves.

the same two given dimensions are considered to be least effective. The first quadrant, then, represents the most effective leaders and the third quadrant represents the least effective leaders. The "off quadrants" represent the leaders who are low in one dimension and high in the other.

It was noted (Figure 23) that the staffs described 39.6 per cent of the 53 superintendents as being the most effective on the dimensions of Tolerance of Freedom and Role Assumption, and described 22.6 per cent to be least effective on these two dimensions. In the case of the superintendents (Figure 24), 26.4 per cent were described as most effective on the same two leader behavior dimensions, while 34.7 per cent were described as being least effective. It was previously noted that the staffs described the Tolerance of Freedom dimension lower than did the superintendents, and the staffs described the Role Assumption dimension higher than did the superintendents.

It was noted (Figure 25) that the staffs described 39.6 per cent of the superintendents as most effective concerning the leader behavior dimensions of Consideration and Production Emphasis, and 24.5 per cent as least effective on these same two dimensions.

It was observed (Figure 26) that 34.0 per cent of the superintendents described themselves as being most effective concerning the dimensions of Consideration and Production Emphasis and 26.4 per cent described themselves as least

effective. Previously it was noted that the superintendents described themselves higher on each of these two dimensions than did their staffs.

In interpreting the data in Figures 23, 24, 25, and 26, two facts were kept in mind. First, the designation of effective versus non-effective leader behavior in terms of this quadrant scheme was based upon findings from other studies. It was assumed that these findings could be generalized to apply to the present sample. The LBDQ scores from the staffs and superintendents appeared to support this assumption. However, it remains an assumption until evidence is produced to demonstrate the ability to generalize the earlier findings to a sample of superintendents. To demonstrate this empirically, it would be necessary to show the relationship between the LBDQ scores by which the superintendents were described and one or more independent criteria of effectiveness. It was surmised that the findings of such a study would support the assumption made, but the study remains to be done. In the present context the categorization of scores by quadrant as an internal criterion of leadership of effectiveness was used. It must be emphasized that this categorization was tentative and suggestive but it was not definitive.

The second fact noted in interpreting the findings in Figures 23, 24, 25, and 26 was that the quadrants were defined in each instance by the mean LBDQ scores for the

particular group of respondents. No attempt was made to adjust these means so as to make the allocation by quadrant strictly comparable for the data in all four figures. Instead, the scores for each respondent group, staff and self, were analyzed in respect to their own coordinates.

With these warnings in mind, an examination was made of the quadrant allocation of particular superintendents according to the description of their behavior given by both their staffs and themselves, and the observations were confined to the two quadrants on the principal diagonal. Five of the 53 superintendents, or 10 per cent of the sample, were described by both their staffs and themselves as scoring high on both Consideration and Production Emphasis. The five were Superintendents Numbers 32, 40, 41, 48, and 49. Five of the 53 superintendents were also described by both their staffs and themselves as scoring low on both Consideration and Production Emphasis. These were Superintendents Numbers 1, 3, 27, 33, and 38. It was interesting to note that three superintendents whose staffs scored them to be low on both Consideration and Production Emphasis, scored themselves in the upper-right quadrant, evidently perceiving themselves as effective leaders in both dimensions. These were Superintendents Numbers 9, 30, and 44.

Correlations

The correlations of the two pairs of leader behavior dimensions that were studied in this project as determined by the staffs' and superintendents' scores were first noted in Table VII. The correlation of the staffs' scores on the dimension of Tolerance of Freedom and Role Assumption was

TABLE VII

SIMPLE CORRELATIONS OF EACH PAIR OF VARIABLES OF FOUR DIMENSIONS OF LEADER BEHAVIOR BY STAFFS AND SUPERINTENDENTS

Variable	Coefficient	
	Staff	Superintendent
Tolerance of Freedom and Role Assumption	.28[a]	.27
Tolerance of Freedom and Consideration	.64[c]	.68[d]
Tolerance of Freedom and Production Emphasis	.04	.39[c]
Role Assumption and Consideration	.52[c]	.44[c]
Role Assumption and Production Emphasis	.58[c]	.24
Consideration and Production Emphasis	.34[b]	.29[a]

[a]Significant at the .05 level of confidence.

[b]Significant at the .02 level of confidence.

[c]Significant at the .01 level of confidence.

[d]Significant at the .001 level of confidence.

.28, which is significant at the .05 level of confidence. The correlation of the superintendents' scores on these same two dimensions was .27, which does not differ significantly from zero.

The correlation of the staffs' scores on the dimensions of Consideration and Production Emphasis was .34, which is significant at the .02 level of confidence. The correlation of the superintendents' scores on these same two dimensions was .29, which is significant at the .05 level of confidence.

The correlations of the other four combinations of pairs of these four dimensions of leader behavior as determined by the staffs' and superintendents' scores and the significance of each pair of correlations were also noted from Table VII.

Finally, the correlations of the staffs' and superintendents' scores on each of the four dimensions of leader behavior are observed in Table VIII.

TABLE VIII

CORRELATIONS OF STAFFS' SCORES AND SUPERINTENDENTS' SCORES ON EACH OF FOUR DIMENSIONS OF LEADER BEHAVIOR

Dimension	Coefficient
Tolerance of Freedom.	.22
Role Assumption	.25
Consideration	.32*
Production Emphasis	.18

*Significant at the .05 level of confidence.

The only significant correlation is the dimension of Consideration which is .32 and significant at the .05 level of confidence.

Summary of Findings in Terms of Hypotheses

The null hypotheses numberes 1a,b, c, and d, that there would be no significant difference of the superintendents' perception of their behavior on any of the four dimensions of leadership between Group I districts and Group II districts, were not rejected.

The null hypotheses numbers 2a, b, c, and d, that there would be no significant difference of the staffs' perception of the superintendents' behavior on any of the four dimensions of leadership between Group I districts and Group II districts, were not rejected.

The null hypotheses numbers 3a, and d, that in all size districts there would be no significant difference between the superintendents' perception of their behavior concerning Tolerance of Freedom and Production Emphasis and the staffs' perception of the superintendents' behavior concerning Tolerance of Freedom and Production Emphasis, were rejected at the .01 level of confidence.

The null hypothesis number 3b, that in all size districts there would be no significant difference between the superintendents' perception of their behavior concerning Role Assumption and the staffs' perception of the superintendents' behavior concerning Role Assumption, was rejected at the .001 level of confidence.

The null hypothesis number 3c, that in all size districts there would be no significant difference in the superintendents

perception of their behavior concerning Consideration and the staffs' perception of the superintendents' behavior concerning Consideration, was rejected at the .05 level of confidence.

In the fourth category of hypotheses concerning the correlations of the superintendents' perceptions of their leader behavior in all size districts.

The null hypothesis numbers 4a and e, that the correlation between the leader behavior dimensions of Tolerance of Freedom and Role Assumption and between Role Assumption and Production Emphasis would not vary significantly from zero, was not rejected.

The coefficient of correlation between the leader behavior dimensions of Consideration and Production Emphasis was .29 which was significant at the .05 level of confidence and null hypothesis number 4f was rejected.

The coefficients of correlation between the leader behavior dimensions of Tolerance of Freedom and Production Emphasis and between the dimensions of Role Assumption and Consideration were .39 and .44 respectively which were significant at the .01 level of confidence and null hypotheses numbers 4c and d were rejected.

The coefficient of correlation between the leader behavior dimension of Tolerance of Freedom and Consideration was .68 which was significant at the .001 level of confidence and null hypothesis number 4b was rejected.

In the fifth category of hypotheses concerning the correlations of the staffs' perceptions of the superintendents' leader behavior in all size districts,

The null hypothesis number 5c, that the correlation between the leader behavior dimensions of Tolerance of Freedom and Production Emphasis would not vary significantly from zero, was not rejected.

The coefficient of correlation between the leader behavior dimensions of Tolerance of Freedom and Role Assumption was .28 which was significant at the .05 level of confidence and null hypothesis number 5a was rejected.

The coefficient of correlation between the leader behavior dimensions of Consideration and Production Emphasis was .34 which was significant at the .02 level of confidence and null hypothesis number 5f was rejected.

The coefficients of correlation between the leader behavior dimensions of Tolerance of Freedom and Consideration, between Role Assumption and Consideration and between Role Assumption and Production Emphasis were .64, .52, and .58 respectively, which were significant at the .01 level of significance, and null hypotheses numbers 5b, d, and e were rejected.

In the sixth category of hypotheses concerning correlations of superintendents' and staffs' perception of the superintendents' leader behavior in all size districts,

The null hypotheses numbers 6a, b, and d, that the correlations between the two groups for Tolerance of Freedom, Role Assumption, and Production Emphasis, would not vary significantly from zero, were not rejected.

The coefficient of correlation between the two groups for Consideration was .32, which was significant at the .05 level of confidence, and null hypothesis number 6c was rejected.

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CHAPTER V

SUMMARY, COMPARISONS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Summary

This study of the leadership behavior of 53 Texas school superintendents dealt with two specific sets of dimensions of leader behavior: (1) Tolerance of Freedom and Role Assumption and (2) Consideration and Production Emphasis. Tolerance of Freedom refers to the extent the leader allowed followers scope for initiative, decision, and action. Role Assumption is used in the sense that the leader actively exercised the leadership role rather than surrendering leadership to others. Consideration refers to behavior indicative of friendship, mutual trust, respect, and warmth in the relationship between the leader and the members of his staff. Production Emphasis refers to a manner of motivating a group to a greater activity by emphasizing the mission or job to be done. The superintendents' behavior in respect to these two sets of dimensions of leadership behavior was measured by means of a Leader Behavior Description Questionnaire on which the staffs and the superintendents themselves indicated the frequency with which the superintendents engaged in specific forms of leader behavior.

The LBDQ's were administered in each school system by a staff member. Although the general purpose of the study was explained to all participants, no reference was made to the concepts of Tolerance of Freedom and Role Assumption or Consideration and Production Emphasis.

The raw data consisted of the responses on 424 questionnaires divided almost equally between districts with an average daily attendance (ADA) of from 1,000 to more than 70,000. Each questionnaire was scored on the Tolerance of Freedom, Role Assumption, Consideration and Production Emphasis dimensions. The LBDQ-Self scores were secured from the superintendents themselves. Each of the 53 superintendents received a score on each of the four dimensions of leader behavior that expressed his description of his own behavior in respect to these dimensions. The staff scores were obtained by having seven members of each superintendent's staff (members of the work-group that reported directly to him) describe his leader behavior. The average of the seven scores by which his staff members described his behavior on each dimension was designated as his LBDQ-staff score on that dimension of leader behavior.

Summary of Findings

The data were analyzed in respect to these scores. The findings are summarized as follows:

1. On each leader behavior dimension, the staff respondents tended to agree in the description of their respective superintendents.

2. No statistically significant difference between districts of less than 5,000 in ADA and districts of more than 5,000 in ADA was found in the way either the staffs or the superintendents perceived the superintendent's behavior on any of the four leader behavior dimensions that were measured.

3. The superintendents described themselves significantly higher than the staffs did on the leader behavior dimensions of Tolerance of Freedom, Consideration, and Production Emphasis.

4. The staffs described the superintendent's behavior dimension of Role Assumption significantly higher (.001 level of confidence) than the superintendents described this dimension of their behavior.

5. The staffs and the superintendents tended to score the superintendent's behavior dimension of Consideration most alike with a coefficient of correlation of .32, which was significant at the .05 level of confidence.

6. The correlation on the set of behavior dimensions of Tolerance of Freedom and Role Assumption by the staffs was statistically significant, whereas the correlation of these same dimensions by the superintendents were not.

7. The correlation on the set of behavior dimensions of Consideration and Production Emphasis by both the staffs

8. Histograms were made for each of the four behavior dimension scores of the staffs and the superintendents, with the identification numbers of the individual superintendents in the histogram cells. This technique not only enabled each superintendent participant to observe his own position and to compare his position with that of the other superintendent participants, but it also pointed out the finding that eleven of the 14 superintendents (79 per cent) whom the staffs scored highest on the dimension of Consideration and five of the eight superintendents (63 per cent) whom the staffs scored lowest on the dimension of Consideration were scored below the mean on Production Emphasis by the staffs.

9. An analysis was made of the number of superintendents classified in the two quadrants on the main diagonal according to the descriptions of their behavior given by both their staffs and themselves. Eight of the 53 superintendents (15 per cent of the sample)--described as effective leaders by both their staffs and themselves--were described as scoring high on both Tolerance of Freedom and Role Assumption. Seven of the 53 superintendents (13 per cent) were described by both their staffs and themselves as non-effective leaders--low on both dimensions. This quadrant analysis technique provided a useful way of evaluating the leadership effectiveness of superintendents and seemed applicable in those instances where the description of the superintendent's leadership behavior by both his staff and

himself indicated that he could be classified in either the "high-high" or the "low-low" quadrant.

Comparisons

The means (for the same four leader behavior dimensions used in this study) for the leaders in eight other groups in which the LBDQ was used provides an opportunity to make some comparisons with the findings of this study (Table IX). It was noted that Texas superintendents were described by

TABLE IX

A COMPARISON OF THE MEANS AND STANDARD DEVIATIONS OF THIS STUDY WITH OTHER STUDIES AS DESCRIBED BY STAFF MEMBERS OF VARIOUS TYPES OF LEADERS[a]

Type of Leader	Number of Cases	Tolerance of Freedom		Role Assumption		Consideration		Production Emphasis	
		Mean	S	Mean	S	Mean	S	Mean	S
Army Division	235	35.9	6.5	42.7	6.1	37.1	5.6	36.3	5.1
Hwy. Patrol	185	36.3	5.3	42.7	5.3	36.9	6.5	35.8	5.7
Aircraft	165	38.0	5.9	40.9	5.6	37.1	5.8	36.1	5.6
Ministers	103	37.5	6.0	41.5	5.4	42.5	5.8	34.9	5.1
Community Leaders	57	36.4	5.0	39.8	5.6	41.1	4.7	35.4	6.8
Corp. Presidents	55	38.9	4.9	42.7	3.5	41.5	4.0	38.9	4.4
Labor Union Presidents	44	38.0	4.0	43.3	5.5	42.3	5.5	36.0	5.0
College Pres.	55	39.6	3.9	43.5	4.5	41.3	4.1	36.2	5.0
Ohio Supts.[b]	50					39.0	5.7		
Texas Supts.[c]	53	40.3	3.2	41.5	3.8	39.6	3.1	3.54	3.3

[a]Stogdill, Ralph M., Manual for the Leader Behavior Description Questionnaire--Form XII, Mimeograph, Columbus, The Ohio State University, Bureau of Business Research, 1963.

[b]Halpin, Andrew W., The Leadership Behavior of School Superintendents, School-Community Development Study Monograph, No. 4, Columbus, The Ohio State University Press, 1956.

[c]This study.

their staffs as higher on the leader behavior dimension of Tolerance of Freedom than the staffs of the leaders of the other eight groups described their leaders. On the dimension of Role Assumption the staffs of Texas superintendents scored them higher than on any other dimension measured and yet, in comparison with leaders of other groups, the Texas superintendents only scored higher than Aircraft leaders and as high as ministers. On the leader dimension of Consideration the Texas superintendents were described by their staffs as higher only than leaders of three of the groups (Arm Division, Highway Patrol, and Aircraft) and as high as ministers were described by their staffs. The dimension of Consideration was the only dimension in common with the study of Ohio superintendents. The Texas superintendents scored slightly higher than the Ohio superintendents on the dimension of consideration. Finally, it is noted that Texas superintendents were scored, on the dimension of Production Emphasis, higher only than Ministers and as high as Community leaders.

Conclusions

The findings of this study seem to permit the following conclusions:

1. The size of a school district has little, if any, influence on the behavior of the school superintendents as far as the leader behavior dimensions of Tolerance of Freedom, Role Assumption, Consideration, and Production Emphasis are concerned.

2. A staff's average description of the behavior of a school superintendent is more accurate than the superintendent's description of his own behavior.

3. Superintendents who are excessively considerate or are very lacking in consideration are less likely to motivate the work-group to greater activity and job performance.

4. This study supports the theory of earlier studies that the more effective superintendent is the one who is high on both dimensions of Tolerance of Freedom and Role Assumption or Consideration and Production Emphasis rather than very high on one at the expense of the other. However, as pointed out in Chapter IV, this remains an assumption until criteria of effectiveness have been established.

5. Perhaps school superintendents are pretending not to assume their role when actually they do. Since school superintendent's staffs think they are best at the dimension of leadership behavior, while staffs of leaders in most other fields think their leaders are better than the Texas superintendents were rated, perhaps school superintendents would be more effective by recognizing that they are assuming their role and perhaps should do so more.

6. It may be that school superintendents should place a major emphasis on Production Emphasis since their staffs rated this leader behavior dimension lowest of the four

dimensions studied; and, of other groups studied, only the staff of Ministers rated its leader slightly lower.

7. The histogram with individual superintendent's numbers in the cells and the quadrant treatment of data are effective ways for a leader to understand his position and to compare it with his counterparts in other systems.

Implications

The findings of this study have some implications for the training of educational administrators. These forms of leader behavior which the staff members and the superintendents themselves consider most desirable and the most "effective" can be described. The character of the role differentiation used by the superintendents vis-à-vis their staffs can be specified. About all that can be said to the trainee or to the superintendent in service is, "This is how we believe you should behave." The shortcoming with this is that exhortation is a poor training method. Little is accomplished by merely telling trainees how they should behave. The training situation that will be conducive to behavioral change must also be established. Training in administrative skill is a complex process. The required leadership must be learned, and, as with all learning, ample opportunity for practice must be provided. It cannot be assumed on faith that the training conducted will achieve

the purposes in mind. Nor can the good intentions which trainees profess measure the effectiveness of training. The ultimate test of the success or failure of training lies in the changes that take place in the trainees' behavior.

What a man says about himself is not the most defendable measure of changes that have taken place in his behavior. Changes which his direct associates perceive in his behavior would appear to constitute a suitable index of the results of training. The evidence of this study indicates that the LBDQ is well adapted to this purpose and can provide a reliable gauge of the superintendent's leadership behavior in respect to the Tolerance of Freedom and Role Assumption dimensions and to the dimensions of Consideration and Production Emphasis. It should be possible to conduct training experiments in which the difference between the LBDQ pre-training scores and the LBDQ post-training scores is used as an indicator of change by which the effectiveness of the training program can be evaluated. This technique cannot be used for pre-service training of school administrators because a dependable pre-training LBDQ measure is unobtainable. But for the inservice training of men currently employed as administrators, such a method of evaluating training should prove quite valuable. It could even provide a means for comparing the relative effectiveness of various training procedures.

Recommendations

In the light of the findings of this study and of other related studies, the following recommendations are made:

1. Many other dimensions of leadership behavior of school administrators should be made. Some of these leader behavior dimensions could be

   a. Representation, or the degree to which the leader speaks and acts as the representative of the group.

   b. Persuasiveness, or the extent to which the leader uses persuasion and argument effectively and exhibits strong convictions.

   c. Predictive Accuracy, or the extent to which the leader exhibits foresight and ability to predict outcomes accurately.

   d. Integration, or the measure of the degree to which the leader maintains a closely knit organization and resolves inter-member conflict.s

   e. Demand Reconciliation, or the extent to which the leader reconciles conflicting demands and reduces disorder to system.

   f. Tolerance of Uncertainty, or the leader's ability to tolerate uncertainty and postponement without anxiety or upset.

g. Superior Orientation, or the extent to which the leader maintains cordial relations with superiors, has influence with them, is striving for higher status.

2. Future research should determine the relationship between the quadrant classification of superintendents' leadership behavior and independent "external" criteria of leadership effectiveness.

3. Future research should consider the relationship of the superintendent's personality to his role perception.

4. Behavior of those superintendents considered successful and those unsuccessful should be studied by the interview method in an attempt to determine the characteristics, manners, habits, and environmental surroundings which influence success.

The dimensions of leader behavior delineated in this study obviously do not exhaust the field. It would be fatuous to imply that these dimensions constitute the criterion of leadership effectiveness. They do not. They probably do represent two criterion that should be taken into account in evaluating the leadership skills of superintendents. This study is only one approach to the study of the leadership behavior of school superintendents. Others are needed to supplement it. The researcher has drawn heavily upon the products of earlier investigators. Perhaps others, in turn, will explore further implications of the present study.

APPENDIX A

LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE--FORM XII

LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE—Form XII

Originated by staff members of
The Ohio State Leadership Studies
and revised by the
Bureau of Business Research

Purpose of the Questionnaire

On the following pages is a list of items that may be used to describe the behavior of your supervisor. Each item describes a specific kind of behavior, but does not ask you to judge whether the behavior is desirable or undesirable. Although some items may appear similar, they express differences that are important in the description of leadership. Each item should be considered as a separate description. This is not a test of ability or consistency in making answers. Its only purpose is to make it possible for you to describe, as accurately as you can, the behavior of your supervisor.

Note: The term, "*group*," as employed in the following items, refers to a department, division, or other unit of organization that is supervised by the person being described.

The term "*members*," refers to all the people in the unit of organization that is supervised by the person being described.

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DIRECTIONS:

a. READ each item carefully.

b. THINK about how frequently the leader engages in the behavior described by the item.

c. DECIDE whether he (A) *always*, (B) *often*, (C) *occasionally*, (D) *seldom* or (E) *never* acts as described by the item.

d. DRAW A CIRCLE around *one* of the five letters (A B C D E) following the item to show the answer you have selected.

A = Always
B = Often
C = Occasionally
D = Seldom
E = Never

e. MARK your answers as shown in the examples below.

Example: He often acts as described.....	A	(B)	C	D	E
Example: He never acts as described.....	A	B	C	D	(E)
Example: He occasionally acts as described.....	A	B	(C)	D	E

---

1. He acts as the spokesman of the group.....	A	B	C	D	E
2. He waits patiently for the results of a decision.....	A	B	C	D	E
3. He makes pep talks to stimulate the group.....	A	B	C	D	E
4. He lets group members know what is expected of them.....	A	B	C	D	E
5. He allows the members complete freedom in their work.....	A	B	C	D	E
6. He is hesitant about taking initiative in the group.....	A	B	C	D	E
7. He is friendly and approachable.....	A	B	C	D	E
8. He encourages overtime work.....	A	B	C	D	E
9. He makes accurate decisions.....	A	B	C	D	E
10. He gets along well with the people above him.....	A	B	C	D	E
11. He publicizes the activities of the group.....	A	B	C	D	E
12. He becomes anxious when he cannot find out what is coming next.....	A	B	C	D	E

A = Always
B = Often
C = Occasionally
D = Seldom
E = Never

13. His arguments are convincing.....	A	B	C	D	E
14. He encourages the use of uniform procedures.....	A	B	C	D	E
15. He permits the members to use their own judgment in solving problems.	A	B	C	D	E
16. He fails to take necessary action.....	A	B	C	D	E
17. He does little things to make it pleasant to be a member of the group...	A	B	C	D	E
18. He stresses being ahead of competing groups.....	A	B	C	D	E
19. He keeps the group working together as a team.....	A	B	C	D	E
20. He keeps the group in good standing with higher authority.....	A	B	C	D	E
21. He speaks as the representative of the group.....	A	B	C	D	E
22. He accepts defeat in stride.....	A	B	C	D	E
23. He argues persuasively for his point of view.....	A	B	C	D	E
24. He tries out his ideas in the group.....	A	B	C	D	E
25. He encourages initiative in the group members.....	A	B	C	D	E
26. He lets other persons take away his leadership in the group.....	A	B	C	D	E
27. He puts suggestions made by the group into operation.....	A	B	C	D	E
28. He needles members for greater effort.....	A	B	C	D	E
29. He seems able to predict what is coming next.....	A	B	C	D	E
30. He is working hard for a promotion.....	A	B	C	D	E
31. He speaks for the group when visitors are present.....	A	B	C	D	E
32. He accepts delays without becoming upset.....	A	B	C	D	E
33. He is a very persuasive talker.....	A	B	C	D	E
34. He makes his attitudes clear to the group.....	A	B	C	D	E
35. He lets the members do their work the way they think best.....	A	B	C	D	E
36. He lets some members take advantage of him.....	A	B	C	D	E

A = Always
B = Often
C = Occasionally
D = Seldom
E = Never

37. He treats all group members as his equals	A	B	C	D	E
38. He keeps the work moving at a rapid pace	A	B	C	D	E
39. He settles conflicts when they occur in the group	A	B	C	D	E
40. His superiors act favorably on most of his suggestions	A	B	C	D	E
41. He represents the group at outside meetings	A	B	C	D	E
42. He becomes anxious when waiting for new developments	A	B	C	D	E
43. He is very skillful in an argument	A	B	C	D	E
44. He decides what shall be done and how it shall be done	A	B	C	D	E
45. He assigns a task, then lets the members handle it	A	B	C	D	E
46. He is the leader of the group in name only	A	B	C	D	E
47. He gives advance notice of changes	A	B	C	D	E
48. He pushes for increased production	A	B	C	D	E
49. Things usually turn out as he predicts	A	B	C	D	E
50. He enjoys the privileges of his position	A	B	C	D	E
51. He handles complex problems efficiently	A	B	C	D	E
52. He is able to tolerate postponement and uncertainty	A	B	C	D	E
53. He is not a very convincing talker	A	B	C	D	E
54. He assigns group members to particular tasks	A	B	C	D	E
55. He turns the members loose on a job, and lets them go to it	A	B	C	D	E
56. He backs down when he ought to stand firm	A	B	C	D	E
57. He keeps to himself	A	B	C	D	E
58. He asks the members to work harder	A	B	C	D	E
59. He is accurate in predicting the trend of events	A	B	C	D	E
60. He gets his superiors to act for the welfare of the group members	A	B	C	D	E

A = Always
B = Often
C = Occasionally
D = Seldom
E = Never

61. He gets swamped by details	A	B	C	D	E
62. He can wait just so long, then blows up	A	B	C	D	E
63. He speaks from a strong inner conviction	A	B	C	D	E
64. He makes sure that his part in the group is understood by the group members	A	B	C	D	E
65. He is reluctant to allow the members any freedom of action	A	B	C	D	E
66. He lets some members have authority that he should keep	A	B	C	D	E
67. He looks out for the personal welfare of group members	A	B	C	D	E
68. He permits the members to take it easy in their work	A	B	C	D	E
69. He sees to it that the work of the group is coordinated	A	B	C	D	E
70. His word carries weight with his superiors	A	B	C	D	E
71. He gets things all tangled up	A	B	C	D	E
72. He remains calm when uncertain about coming events	A	B	C	D	E
73. Hs is an inspiring talker	A	B	C	D	E
74. He schedules the work to be done	A	B	C	D	E
75. He allows the group a high degree of initiative	A	B	C	D	E
76. He takes full charge when emergencies arise	A	B	C	D	E
77. He is willing to make changes	A	B	C	D	E
78. He drives hard when there is a job to be done	A	B	C	D	E
79. He helps group members settle their differences	A	B	C	D	E
80. He gets what he asks for from his superiors	A	B	C	D	E
81. He can reduce a madhouse to system and order	A	B	C	D	E
82. He is able to delay action until the proper time occurs	A	B	C	D	E
83. He persuades others that his ideas are to their advantage	A	B	C	D	E

A = Always
B = Often
C = Occasionally
D = Seldom
E = Never

84. He maintains definite standards of performance.....	A	B	C	D	E
85. He trusts the members to exercise good judgment.....	A	B	C	D	E
86. He overcomes attempts made to challenge his leadership.....	A	B	C	D	E
87. He refuses to explain his actions.....	A	B	C	D	E
88. He urges the group to beat its previous record.....	A	B	C	D	E
89. He anticipates problems and plans for them.....	A	B	C	D	E
90. He is working his way to the top.....	A	B	C	D	E
91. He gets confused when too many demands are made of him.....	A	B	C	D	E
92. He worries about the outcome of any new procedure.....	A	B	C	D	E
93. He can inspire enthusiasm for a project.....	A	B	C	D	E
94. He asks that group members follow standard rules and regulations.....	A	B	C	D	E
95. He permits the group to set its own pace.....	A	B	C	D	E
96. He is easily recognized as the leader of the group.....	A	B	C	D	E
97. He acts without consulting the group.....	A	B	C	D	E
98. He keeps the group working up to capacity.....	A	B	C	D	E
99. He maintains a closely knit group.....	A	B	C	D	E
100. He maintains cordial relations with superiors.....	A	B	C	D	E

APPENDIX B

LETTER TO POTENTIAL PARTICIPANTS AND ORIGINAL PROSPECTUS OF THE STUDY

LETTER TO POTENTIAL PARTICIPANTS

Dear

I should like to ask your cooperation in a research project to be conducted this Spring. This is a study of the "Leadership Behavior of School Superintendents."

I should like to apply some of the techniques developed by the Personnel Research Board, a part of the Ohio State University Leadership Studies, to a parallel study of the leadership behavior of educational administrators.

Enclosed are a description of the project and a statement of what is required of those who participate in it. I want to gather the data during the month of April, and intend to report the findings to you in the fall.

Yes, this is a partial fulfillment of the requirements for a doctoral degree. As a school superintendent in Texas, for more than twenty years, I am sure I have, like you, cooperated with more research projects than I will ever ask cooperation for. Some of these projects seemed good and some not-so-good. I hope, after reading the attached prospectus, you will feel that this project can accomplish more than just helping a former fellow school superintendent to earn a doctoral degree. I will sincerely appreciate your cooperation, and hope that you will find this one both challenging and useful. Please return the attached "Acceptance Form" at your earliest convenience indicating your willingness to participate.

Thank you very much.

Sincerely yours,

M. Dean Murphy
910 Eagle Drive
Denton, Texas 76201

PROSPECTUS OF THE STUDY

The Leadership Behavior of School Superintendents

The school superintendent is confronted with multi-leadership responsibilities. He is responsible to the school board, the staff, the students, and other community groups. Sometimes leaders forced with dual responsibilities are often in a position of potential role conflict. Some groups may be more important than others but the group upon which the school superintendent must rely the most often, in the discharge of his many duties, is the school staff. In order to, possibily improve in-service training programs for school administrators, to develop more effective techniques for selecting and training future school administrators, and for the self-improvement of school superintendents "in the harness" today, it would be highly desirable knowledge to know about the leadership behavior of school superintendents as perceived by themselves and as perceived by their staff. Everyone's behavior falls short of what it should be and the improvement of one's behavior, in any situation, must proceed from what it actually is to an approach to the ideal behavior, whatever that might be. Therefore the purpose of this study is concerned specifically with the following questions:

1. How does the school superintendent himself perceive that he behaves as a leader?

2. How does the staff perceive the behavior of the school superintendent as a leader?

3. Does the staff agree on how they perceive the behavior of the superintendent as a leader?

4. Does the superintendent and the staff agree on their perceptions of the behavior of the superintendent as a leader?

These questions will be investigated by means of a Leadership Behavior Description Questionnaire (LBDQ) which has been developed by the Personnel Research Board, Ohio State University. This questionnaire is in multiple choice format, and contains 100 items, each of which describes a specific characteristic of leader behavior. The following are illustrative:

1. He mentions definite standards of performance.

2. He is easy to understand.

3. He asks that group members follow standard rules and regulations.

The respondent describes the behavior of the superintendent by marking, for each item, one of five adverbs: always, often, occasionally, seldom, never.

Plan of the Study

I plan to study a sample of approximately sixty Texas school superintendents. The Leader Behavior Description Questionnaire (LBDQ) will be used.

I should like to secure the following information:

1. A description by each of eight members of the superintendent's staff of how the superintendent behaves.

2. A description by the superintendent of how he believes he behaves.

Procedure

What does your cooperation in this study entail?

1. How much time is involved?

2. What scheduling is required?

As you have noted, each respondent, including yourself, will be asked to fill out the questionnaire. No outsider will visit your schools to administer the questionnaires which would require a prearranged date which could prove to be inconvenient for some or all when that date arrived. To avoid this I ask that you please arrange for one of your immediate staff to agree to administer the questionnaires and, on the attached "Acceptance Form," notify me of such person's name, school address, and school telephone number. I will send the questionnaire forms and instructions to the designated staff member. Either you or the designated staff member will call these eight staff members together and the designated staff member will explain the project and administer the questionnaires, or the examining staff member may choose to send the questionnaires with a copy of the instructions to each of the eight staff members to be filled out in their respective offices or building. You, no doubt, will fill out your questionnaire in your own office. If at all possible, all of the questionnaires should, if not filled out at the same time, be filled out on the same day, and

returned, in a sealed envelope, to the designated examining staff member and mailed in the larger self-addressed and stamped envelope.

How are these eight staff members to be chosen? It is important that we receive descriptions of your leader behavior only from those staff members who are directly responsible to you, and who have day-to-day opportunities to interact with you in a professional relationship. In some cases these will be members of a central office staff; in others, principals and supervisors; and in others, members of the teaching staff itself. The number of individuals who are directly responsible to the superintendent will vary from one community to another. Accordingly we request that you indicate on the attached "Acceptance Sheet" the names of all members of your organization who report directly to you, and who are in a position to describe your leadership behavior. From the list that you provide we shall select eight names at random, and notify you of these names in order that you may invite these eight individuals to fill out the questionnaire as directed by the designated staff member. With allowance for time for explanations and questions, as well as for the questionnaire itself, it is doubtful that the time required will be more than forty-five minutes.

In your case, thirty minutes should suffice for filling out the questionnaire.

This, then, is what is required:

1. The name, school address, and school telephone number, of the staff member who has agreed to administer the questionnaires. (Top line of the attached "Acceptance Form" provides for this information.)

2. The names of all the staff members who are directly responsible to you. If you will jot down these names on the attached "Acceptance Form", I shall select eight names at random and notify you accordingly.

3. A 45 minute period of time for the eight staff members to fill out questionnaires at whatever time and place you may arrange.

4. Approximately 30 minutes of your own time for filling out the questionnaire at the same time, or at least the same day, that the eight staff members fill out the questionnaires.

5. Your designated staff member to collect all of the questionnaires (eight from the staff and one from you), each in a sealed envelope, and mail to me in a larger self-addressed envelope.

Feed-Back

You, yourself, are at the focus of this study. It concerns your behavior. It is therefore imperative that the findings be handled in the strictest professional confidence. How is this to be accomplished?

1. When completed, each respondent will place his questionnaire in an envelope and seal it. Thus, no member of your organization will see any completed questionnaire other than the one he fills out himself. This also applies to you.

2. The nine questionnaires will be collected by your designated staff member as they are completed and mailed to me the same day in a larger self-addressed envelope.

3. The data will be processed at the computer center at North Texas State University. Immediately upon receipt all information which pertains to you will be given a code number. Similarly, each superintendent who cooperates in the study will have his own code number. Therefore, the data will be analyzed entirely in terms of these code numbers, with absolutely no reference to the names of the individual respondents.

4. The results will be reported in terms of group trends and relationships, but each superintendent, by reference to his own code number, will be able to identify the scores which pertain to himself.

5. The scores by which the individual members of your staff describe your leader behavior will not be revealed. These scores will be averaged so that you will know how the staff, as a group, perceives your leader behavior. Furthermore, by random selection, one of the eight staff questionnaires will be discarded. Thus, you will not know which seven of the eight staff members determined the average for the group, and neither will any of the eight staff members.

IT IS IMPERATIVE THAT THIS POINT BE MADE CLEAR TO ALL MEMBERS OF YOUR STAFF WHO PARTICIPATE IN THE STUDY.

PLEASE EMPHASIZE, TOO, THAT ALL DATA, AND ESPECIALLY ALL REFERENCES TO YOU AS AN INDIVIDUAL, WILL BE TREATED IN ABSOLUTE PROFESSIONAL CONFIDENCE.

When the study has been completed and the data have been analyzed, you will be given a report on the findings. This report will describe fully the dimensions of leadership behavior upon which attention has been concentrated.

I shall be pleased to answer any further questions you may have about the plan and procedure for this study. I will appreciate your cooperation, and hope that you and the members of your staff will be able to participate in this study of the leadership behavior of school superintendents.

APPENDIX C

ACCEPTANCE FORM

ACCEPTANCE FORM

Please list the names of ALL the members of your staff who are directly responsible to you and who are in a position to describe your behavior. In some situations, this will be the members of a central office staff; in other cases, principals and supervisors; in others, members of the teaching staff itself. You may include the names of such individuals as your secretary, or any other non-instructional personnel who report directly to you. Please list on the first line the name of the staff member who has agreed to administer the questionnaires. In any case, please record a minimum of eight names in addition to the name at the top of the list.

Name of examiner	His or her school address	His or her school telephone number

(If more space is needed, please continue on the other side)

PLEASE return this form in the attached self-addressed envelope. A prompt reply will be appreciated.

Thank you very much.

Your name_____

School District_____

Date_____

APPENDIX D

INSTRUCTIONS FOR ADMINISTERING LEADERSHIP BEHAVIOR DESCRIPTION QUESTIONNAIRES

INSTRUCTIONS FOR ADMINISTERING LEADERSHIP

BEHAVIOR DESCRIPTION QUESTIONNAIRES

As you know, your superintendent has agreed to participate in a study of the leadership behavior of school superintendents. Thank you for agreeing to administer the questionnaires. No doubt your superintendent has acquainted you with the PROSPECTUS for the study. Attached are two copies of a list of the eight staff members of your school district who have been selected at random to fill out questionnaires. (Please give one copy of the list to your superintendent.)

After you and the superintendent have decided, the day to administer the questionnaires (hopefully as soon as convenient), and whether the group will be called to one place to fill out the questionnaires or whether they will fill them out in separate locations, please make the following explanations: (The nine extra copies of this letter are enclosed for you to give one each to the eight staff members and the superintendent, along with a copy of the questionnaire, in case you do not meet them as a group).

Explanations:

1. The group should know their participation has the approval of the superintendent.

2. The group should know why and how they have been selected.

3. The group should know they are protected with absolute anonimity in the following manner:

   a. They are requested NOT to place their name on the questionnaire.

   b. Their individual evaluations will not be used--only the average for the group.

   c. When the questionnaires have been filled out, each should place his in the provided envelope, seal it, and turn in to you to be mailed.

   d. After the questionnaires are received, by random selection, one will be discarded. By

this means the superintendent will not only know only the group average evaluations but he will not know which seven of the eight respondents made up the average.

e. The superintendent is also provided with complete anonimity.

f. The instructions for filling out the questionnaire are contained in the questionnaire itself.

4. The group should know that their effort and cooperation with this project is sincerely appreciated.

What the examiner should do. On the day decided for filling out the questionnaires, please do the following:

1. Distribute to each of the eight selected staff members and the superintendent, a copy of the questionnaire, a copy of this letter, and an envelope.

2. Collect the eight sealed envelopes containing the completed questionnaires from the eight staff members.

3. Collect the sealed envelope containing the completed questionnaire by the superintendent. (The superintendent's name will be on his questionnaire but, just in case of an oversight, please write his name on his envelope since this is the key to the entire procedure).

4. Place all nine of the sealed envelopes in the larger self-addressed envelope and mail.

Please accept my most grateful thanks to you, your superintendent, and the participating staff members for the cooperation with and contribution to this bit of educational research.

Most sincerely yours,

M. Dean Murphy

Enclosures:
9 questionnaires
9 letter envelopes
10 copies of this letter
1 large self-addressed envelope
2 lists of random selected staff members

APPENDIX E

PARTICIPATING SUPERINTENDENTS

PARTICIPATING SUPERINTENDENTS*

(SCHOOL YEAR, 1968-69)

1. F. M. Adams, Lancaster Schools, Lancaster
2. Hans E. Bergner, Fredericksburg Schools, Fredericksburg
3. A. C. Blunt, Aransas Pass Schools, Aransas Pass
4. A. O. Bowen, Bryan Schools, Bryan
5. Jack G. Brock, Del Valle Schools, Del Valle
6. Alvin R. Cannady, Lamesa Schools, Lamesa
7. Edmund D. Cody, Northside Schools, San Antonio
8. Glen B. Couch, Garland Schools, Garland
9. M. Browning Combs, Grand Prairie Schools, Grand Prairie
10. W. C. Cunningham, Galena Park Schools, Galena Park
11. Raymond E. Curtis, Weatherford Schools, Weatherford
12. Carl H. Craighead, Lewisville Schools, Lewisville
13. Henry L. Cranfill, Jr., La Vega Schools, Waco
14. N. L. Douglas, Belton Schools, Belton
15. Wilburn O. Echols, Gainsville Schools, Gainsville
16. C. E. Ellison, Killeen Schools, Killeen
17. S. H. Fletcher, Comanche Schools, Comanche
18. Bill K. Ford, Texarkana Schools, Texarkana
19. Clyde M. Gott, Port Arthur Schools, Port Arthur
20. Glen Harrison, Plainview Schools, Plainview
21. Ira E. Haynie, New Caney Schools, New Caney
22. H. Wayne Hendrick, Plano Schools, Plano
23. O. E. Hendricks, New Braunfels Schools, New Braunfels
24. Harold H. Hitt, San Antonio Schools, San Antonio
25. Bill J. Hood, Snyder Schools, Snyder
26. Pat L. Holmes, East Central Schools, San Antonio
27. Wendell Hubbard, Sherman Schools, Sherman
28. Louis H. Johnson, Seymour Schools, Seymour
29. A. J. Labay, Dickinson Schools, Dickinson
30. Frank P. Leathers, Lufkin Schools, Lufkin
31. J. R. Lowe, Athens Schools, Athens
32. James W. Martin, Arlington Schools, Arlington

*These numbers do NOT correspond to those in any of the Tables and Figures in this report; nor to code number references made to individual superintendents anywhere in the text of the report.

33.* Wesley N. Martin, Greenville Schools, Greenville
34. R. L. McDonald, Refugio Schools, Refugio
35. E. H. McKenzie, Jr., Nederland Schools, Nederland
36. J. J. Pearce, Richardson Schools, Richardson
37. Nance E. Park, Huntsville Schools, Huntsville
38. Glen Pearson, Bridge City Schools, Bridge City
39. Bob G. Phillips, Tulia Schools, Tulia
40. Ralph H. Poteet, Mesquite Schools, Mesquite
41. Glenn D. Reeves, Eagle Mountain-Saginaw Schools, Saginaw
42. Joe B. Scrivner, Dumas Schools, Dumas
43. Dean Skiles, Pharr-San Juan-Alamo Schools, Pharr
44. Dewey G. Smith, Alice Schools, Alice
45. Morris D. Storkey, Sulphur Springs Schools, Sulphur Springs
46. Orace C. Taylor, Grapevine Schools, Grapevine
47. R. Eugene Tenney, La Marque Schools, La Marque
48. W. G. Thomas, Jr., Birdville Schools, Fort Worth
49. J. F. Townley, Taylor Schools, Taylor
50. Charles W. Wages, Hurst-Euless-Bedford Schools, Fort Worth
51. Kenneth White, Mission Schools, Mission
52. Dana Williams, Corpus Christi Schools, Corpus Christi
53. H. K. Wilson, Brazosport School, Freeport

*These numbers do NOT correspond to those in any of the Tables and Figures in this report; nor to code number references made to individual superintendents anywhere in the text of the report.

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The writer arbitrarily divided the responses into a group with a favorable attitude (statements one, two, and three, and two and three) and a group with an unfavorable attitude (statements four, five, two and five).

The one person who responded to statements two, four, and five was not included in either the favorable or unfavorable group because the response was contradictory. Also the same was done for the three students who responded to statements one and four. The one person who responded to statements three and four was not included since this person's responses were contradictory.

When one grouped the remaining responses, it was found that the below-average group had a slightly more favorable attitude (with ten points) than did the above-average group (with nine points). The average group showed the weakest responses to the unfavorable positions (with seven points). In the unfavorable attitude position the average was the strongest with seven points, the above-average was next with three points, and the below-average had only one point.

A pattern was established showing the below-average group having the most favorable attitude (a ten-to-one ratio) toward directed study. The above-average group was next with a nine-to-three ratio of favorable attitude. The average group had a seven-to-seven ratio of favorable attitude.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS SUMMARY

The purpose of this study was to test the effectiveness of the directed-study approach for teaching American history at the college level. The approach used to carry out the study has been defined and described. It was contrasted with the traditional lecture-textbook approach to teaching utilized in the control classes.

Students in the experimental group studied the same general topics as did the students in the control group. The primary aim of both groups was as thorough a coverage as possible of the scope of American history which is normally included in the first trimester of a two-trimester course. The students in the experimental group spent approximately one-third of their time in lecture, one-third in directed reading, and one-third in class discussion. The control method centered around reading the textbooks, taking notes on class lectures, and the testing of students for recall of facts and specific information.

In order to carry out the purposes of the study, three major hypotheses were formulated:

I. The mean gain made by the experimental group on the Crary American History Test will be significantly greater than the mean gain made by the control group.

II. The mean gain made by the experimental group on the Remmer's Test of Attitude Toward any School Subject will be significantly greater than the mean gain made by the control group.

III. The mean gain made by the experimental group on the California Study Methods Survey will be significantly greater than the mean gain made by the control group.

The research hypotheses were restated in the null form for statistical analysis. The study was conducted during the fall trimester of the 1968-69 school year in two colleges located in two standard metropolitan statistical areas. The two schools were similar in philosophy and in the socio-economic status of the student bodies. In regard to academic ability, the students were taught on a heterogeneous setting. At the beginning of the project, the raw scores made by the students on the Otis Quick-Scoring Mental Abilities Test were grouped into three levels for purposes of evaluating the effects of the program on students of varying academic ability levels. The three levels were above-average, average, and below-average. The highest group of raw scores formed the above-average group, the second highest group of raw scores formed the average group, and the lowest group of raw scores formed the below-average group. No attempt was made to divide

the experimental group and control group into three groups of equal size. Rather, the objective was to so divide the experimental group and control group that there would be no significant difference in the academic ability of one subgroup when compared with its counterpart.

Data were collected by means of pre- and posttesting. Appropriate statistical techniques were utilized.

When comparing mean gains of the experimental group with those of the control group, differences significant at the .05 level or better were not found on any of the three measures of achievement. Therefore, each research hypothesis was rejected.

Findings

The following indicate the findings regarding the research hypotheses:

1. There was no significant difference in achievement in American history as measured by the Crary American History Test between students who engaged in the directed-study approach and the students who were taught by the traditional lecture approach.

2. There was no significant difference in achievement in American history as measured by the Crary American History Test between students of above-average academic ability who engaged in the directed-study approach and the students of above-average academic ability who were taught by the traditional lecture approach.

3. There was no significant difference in achievement in American history, as measured by the Crary American History Test, between students of average academic ability who engaged in the directed-study approach and the students of average academic ability who were taught by the traditional lecture approach.

4. There was no significant difference in achievement in American history, as measured by the Crary American History Test, between students of below-average academic ability who engaged in the directed-study approach and the students of below-average academic ability who were taught by the traditional lecture approach.

5. There was no significant difference in achievement in study methods, as measured by the California Study Methods Survey, between students who engaged in the directed-study approach and the students who were taught by the traditional lecture approach.

6. There was no significant difference in achievement in study methods, as measured by the California Study Methods Survey, between students of above-average academic ability who engaged in the directed-study approach and the students of above-average academic ability who were taught by the traditional lecture method.

7. There was no significant difference in achievement in study methods, as measured by the California Study Methods Survey, between students of average academic ability who

engaged in the directed-study approach and the students of average academic ability who were taught by the traditional lecture approach.

8. There was no significant difference in achievement in study methods, as measured by the California Study Methods Survey, between students of below-average academic ability who engaged in the directed-study approach and the students of below-average academic ability who were taught by the traditional lecture approach.

9. There was no significant difference in change in attitudes toward the study of American history, as measured by the Remmer's Test of Attitude Toward any School Subject, between students who engaged in the directed-study approach and the students who were taught by the traditional lecture approach.

10. There was no significant difference in change in attitudes toward the study of American history, as measured by the Remmer's Test of Attitude Toward any School Subject, between students of above-average academic ability who engaged in the directed-study approach and the students of above-average academic ability who were taught by the traditional lecture approach.

11. There was no significant difference in change in attitudes toward the study of American history, as measured by the Remmer's Test of Attitude Toward any School Subject, between students of average academic ability who engaged in

the directed-study approach and the students of average academic ability who were taught by the traditional lecture approach.

12. There was no significant difference in change in attitudes toward the study of American history, as measured by the Remmer's Test of Attitude Toward any School Subject, between students of below-average academic ability who engaged in the directed-study approach and the students of below-average academic ability who were taught by the traditional lecture approach.

13. The students in the experimental group, as a total group and as subgroups, showed a slightly greater mean gain in knowledge of American history, as measured by the Crary American History Test, than did the students in the control group. The below-average experimental subgroup showed the largest difference between its mean gain and that of its counterpart. The difference in mean gain was not significant at the .05 level of confidence.

14. The mean gains made by the total experimental group, the above-average, and below-average experimental group, as measured by the California Study Methods Survey, were less than those made by their control group counterpart. The only experimental group which made a higher mean gain was the average subgroup. None of the mean gain differences were significant at the .05 level of confidence, and the

directed-study approach seemed to be of help to only the average academic ability group toward developing better study methods.

15. The mean gain made by the total experimental group and the below-average experimental subgroup, as measured by the Remmer's Test of Attitude Toward any School Subject, were the only experimental groups which showed a mean gain that was greater than their control group counterpart. The average experimental subgroups showed not only less mean gain but also showed a mean loss in attitude toward the study of American history. It was found that of the students in the classes taught by the directed-study method, the average experimental group showed a mean loss that was larger than either the mean gains made by the total experimental group and the subgroups. The above-average control subgroup made a greater mean gain than any of the experimental groups except the total experimental group and the below-average experimental subgroup.

Conclusions

1. Directed study is no more effective than the traditional method in aiding the students in learning subject matter.

2. Directed study is no more effective in promoting effective study methods than is the traditional approach.

3. Directed study is no more effective than the traditional approach in promoting a positive attitude toward the study of American history.

4. From the results of the questionnaire given only to the experimental group, one could conclude that the below-average and the above-average subgroups approved of the use of the directed-study method. However, the average subgroup showed as much disapproval as approval of the directed-study method.

Implications

Each of the research hypotheses was rejected, but certain implications seem in order. However, these implications are limited to situations similar to those included in this study.

1. Since neither method proved to be significantly more effective than the other in terms of achievement, study methods, or attitudes, the one which is more economical in terms of money, staff, time, and equipment should be used.

2. Since the below-average subgroup came close to having a t value, related to knowledge achievement, that was significant in favor of the directed-study method, and the results of the questionnaire from the below-average experimental subgroup showed a positive reaction to the directed-study method; one could imply that consideration should be given to allowing the below-average students fewer lectures and more class discussion and outside reading. Also in

support of this, the results from the study methods test and the attitudes test did not show evidence that would contradict this move.

Recommendations

The following recommendations are based on the above findings:

1. Additional studies should be undertaken to determine the effects of a directed-study program for students of low academic ability in the learning of American history.

2. A longitudinal study is needed to ascertain the cumulative effects on the students who are taught by the directed-study approach over a period of two or three years.

3. Because directed study involves a multivaried approach, research is needed in the area of using a team-teaching approach. Some instructors are better at delivering lectures, some are better at conducting a small group discussion or individual conference, while others are better at serving as resource persons. If this approach proved to be successful, it would allow the students to receive the best skills of each instructor, making all areas of the course strong.

Appendix A

QUESTIONNAIRE FOR DIRECTED STUDY

Directions: Please mark (✓) the statement or statements which most closely represents your feelings regarding Directed Study.

_____ 1. I feel that Directed Study should be a part of every student's program.

_____ 2. I feel that Directed Study should be a part of some students' program.

_____ 3. I am satisfied with Directed Study, and would like to take it next semester.

_____ 4. I am satisfied with Directed Study, but would like to return to regular class next semester.

_____ 5. I am dissatisfied with Directed Study, and would rather not take it next semester.

APPENDIX B

COURSE OUTLINE

Unit One: The Morning of America 1450-1754

I. The Opening of the New World

A. The first Americans
B. The rise of commerce and the search for new trade routes
C. Columbus and the discovery of America
D. European rivalry for America and motives for colonization

II. The Chesapeake and New England Colonies

A. The Jamestown colony
B. The pilgrims--Plymouth
C. The Massachusetts Bay Colony
D. Puritan government and religious intolerance
E. Maryland--a Catholic refuge

III. The Central and Southern Colonies

A. Peter Stuyvesant and New York
B. William Penn and Pennsylvania
C. The fundamental constitutions and the Carolinas
D. James Oglethorpe and Georgia

IV. The Colonial Self-government and Imperial Control

A. England's imperial delay
B. The Navigation Acts and the problems of enforcement
C. The Colonial governments and the growth of Colonial self-government
D. The Dominion of New England

V. The First American Way of Life

A. The Plantation Areas
   1. Life on the plantation
   2. Religion and education

B. The New England towns
   1. Occupations--industry
   2. Religion and education

Unit One: (continued)

C. The Middle Colonies
   1. The Quaker and Scotch-Irish
   2. Religion and education

Unit II: Evolution in Democracy 1789-1830

I. Launching the New Government

- A. The first president
- B. Undemocratic tendencies
- C. The national debt
- D. The frontier problems
- E. The foreign policy

II. The Freedom of the Seas

- A. English and French violations of American neutrality
- B. Party politics in U.S.
- C. John Adams and Thomas Jefferson

III. The Revolution of 1800

- A. Alien and Sedition Acts
- B. Federalist dissension and loss in 1800
- C. The new capital city
- D. America's economic status
- E. The arts and the sciences

IV. Jeffersonian Democracy

- A. "The less government the better"
- B. The Tripolitan War
- C. Repeal of Federalist legislation
- D. National land policy
- E. The Louisiana Purchase

V. The War of 1812

- A. The election of 1808 and the repeal of the Embargo
- B. The War Hawks
- C. The election of 1812
- D. American naval victories
- E. Treaty of Ghent

VI. New Nationalism

- A. A new era and the growth of manufactures
- B. The American way
- C. Nationalism in politics
- D. Supreme Court and John Marshall

Unit II: (continued)

VII. The Rise of the New West

A. The reasons for the move
B. Slavery and sectionalism
C. The Missouri Compromise
D. Foreign relations and the Monroe Doctrine

VIII. Sectional Cross-Currents

A. Sectionalism in the United States
B. Clay's American system
C. Internal improvements
D. Suffrage extension
E. The Revolution of 1828
F. The great debaters--Clay, Calhoun, and Webster

IX. The Reign of Andrew Jackson

A. The Bank of the United States
B. State extravagance
C. Foreign trade
D. Recognition of Texas

Unit III: Expansion and the Sectional Controversy 1830-1865

I. A Period of Depression

- A. The independent Treasury
- B. Banking reforms
- C. Campaign and election of 1840
- D. The foreign policy

II. The Awakening of the American Mind

- A. Intellectual activity and New England's leadership
- B. The arts and education reform
- C. The Labor movement
- D. Prohibition
- E. The peace movement

III. Slavery and Abolition

- A. The "Cotton South" and the growth of slavery
- B. The abolition movement
- C. The effect of slavery on the southern whites

IV. Manifest Destiny

- A. The Santa Fe trade
- B. American interest in the Pacific West
- C. The campaign and election of 1844
- D. The Mexican War and its results

V. The Compromise of 1850

- A. The debate over slavery expansion
- B. Plans of compromise
- C. The Free-soil Party
- D. The Northern and Southern view of the Compromise
- E. The election of 1852

VI. Peace and Prosperity

- A. The transportation era
- B. Business and industry
- C. Immigration and native Americanism
- D. Douglas and the Kansas-Nebraska Act

Unit III: (continued)

VII. The House Divided

A. The birth of the Republican Party
B. The Dred Scott case
C. The Lincoln-Douglas debates
D. The election of 1860

VIII. Secession

A. The Confederate States of America
B. The Confederate Constitution
C. Lincoln and his policy
D. The border states

IX. The Civil War

A. Lack of preparedness, North and South
B. Strategy of the war
C. The war in the West
D. Gettysburg and Vicksburg
E. Grant vs. Lee
F. The Peterburg Campaign
G. Lee's Surrender
H. Losses of the war

APPENDIX C

TABLE XX

RAW DATA ON PRE- AND POST-TESTING
CONTROL GROUP

N	OQSMAT	Pre-CSMS	Post-CSMS	Diff.	Pre-CAHT	Post-CAHT	Diff.	Pre-RTA	Post-RTA	Diff.
1	71	107	107	0	49	55	+ 6	7.9	8.3	+ .4
2	71	110	103	- 7	61	61	0	7.7	8.1	+ .4
3	66	105	81	-24	48	50	+ 2	7.7	8.5	+ .8
4	66	89	91	+ 2	41	51	+10	6.5	6.5	0
5	65	82	82	0	41	45	+ 4	5.5	6.0	+ .5
6	62	81	89	+ 8	32	53	+19	6.5	8.1	+1.6
7	61	113	116	+ 3	58	59	+ 1	7.7	8.7	+1.0
8	61	105	96	- 9	44	57	+13	7.7	7.1	- .6
9	60	117	107	-10	56	64	+ 8	7.1	7.7	+ .6
10	59	75	79	+ 4	38	39	+ 1	8.5	8.3	- .2
11	59	75	83	+ 8	50	44	- 6	8.1	8.7	+ .5
12	57	100	99	- 1	52	65	+13	8.9	8.9	0
13	55	116	99	- 7	48	55	+ 7	8.5	6.0	-1.5
14	54	101	101	0	53	57	+ 4	7.9	8.7	+ .8
15	54	93	101	+ 8	61	68	+ 7	8.7	8.5	- .2
16	54	107	90	-17	48	44	- 4	8.1	8.5	+ .4
17	53	79	90	+11	19	19	0	8.3	8.3	0
18	52	68	74	+ 6	26	23	- 3	7.9	8.3	+ .4
19	52	96	92	- 4	64	57	- 7	6.3	6.3	0
20	52	82	108	+20	50	52	+ 2	7.7	8.5	+ .8
21	51	96	100	+ 4	37	36	- 1	7.7	6.0	-1.7
22	51	98	100	+ 2	33	49	+16	8.5	8.7	+ .2
23	50	84	85	+ 1	46	52	+ 6	7.7	7.7	0
24	49	62	82	+20	27	47	+20	8.9	8.5	- .4

TABLE XX--Continued

N	OQSMAT	Pre-CSMS	Post-CSMS	Diff.	Pre-CAHT	Post-CAHT	Diff.	Pre-RTA	Post-RTA	Diff.
25	49	110	114	+ 4	45	51	+ 6	8.1	7.7	- .4
26	48	100	103	+ 3	52	60	+ 8	8.7	8.1	- .6
27	48	103	112	+ 9	40	37	- 3	8.3	6.5	-1.8
28	48	88	95	+ 7	44	45	+ 1	8.5	8.5	0
29	47	71	69	- 2	21	15	- 6	6.0	7.7	+1.7
30	47	78	65	-13	37	51	+14	8.5	6.0	-2.5
31	47	80	91	+11	45	43	- 2	7.7	8.1	+ .4
32	47	67	69	+ 2	39	45	+ 6	7.7	8.1	+ .4
33	45	90	100	+10	43	46	+ 3	7.7	8.1	+ .4
34	45	102	118	+16	39	50	+11	8.1	8.3	+ .2
35	43	85	75	-10	25	26	+ 1	8.1	8.1	0
36	42	68	72	+ 4	40	36	- 4	9.1	7.1	-2.0
37	42	102	100	- 2	30	40	+10	8.1	7.1	-1.0
38	38	102	93	- 9	29	30	+ 1	8.1	8.5	+ .4
39	37	92	96	+ 4	29	32	+ 3	8.7	8.5	- .2
40	35	100	85	-15	31	38	+ 7	8.1	7.7	- .4
41	34	75	78	+ 3	22	25	+ 3	7.7	8.9	+1.8
42	30	82	75	- 7	33	33	0	8.7	8.9	+ .2
43	21	50	82	+32	30	44	+14	8.5	8.9	+ .4

APPENDIX D

TABLE XXI

RAW DATA ON PRE- AND POST-TESTING
EXPERIMENTAL GROUP

N	OQSMAT	Pre-CSMS	Post-CSMS	Diff.	Pre-CAHT	Post-CAHT	Diff.	Pre-RTA	Post-RTA	Diff.
1	74	117	117	0	51	58	+ 7	8.5	8.1	- .4
2	72	111	96	-15	52	61	+ 9	8.5	8.5	0
3	71	102	103	+ 1	47	49	+ 2	7.7	7.7	0
4	68	114	107	- 7	47	46	- 1	7.7	7.9	+ .2
5	68	81	90	+ 9	42	47	+ 5	8.1	7.7	- .4
6	65	79	91	+12	33	53	+20	4.5	8.5	+4.0
7	64	108	93	-15	36	51	+15	6.5	8.1	+1.6
8	61	98	93	- 5	41	52	+11	7.7	8.1	+ .4
9	60	117	107	-10	52	53	+ 1	8.7	8.5	- .2
10	59	102	110	+ 8	59	66	+ 7	7.7	8.5	+ .8
11	59	116	120	+ 4	26	50	+24	8.5	8.3	- .2
12	59	81	89	+ 8	48	53	+ 5	7.9	8.1	+ .2
13	58	99	105	+ 6	43	52	+ 9	8.7	8.7	0
14	57	99	97	- 2	42	36	- 6	8.5	6.0	-2.5
15	56	78	47	-31	36	38	+ 2	8.9	7.9	-1.0
16	55	79	96	+20	27	45	+18	8.1	8.3	+ .2
17	55	84	67	-17	35	35	0	8.5	8.1	- .4
18	55	97	110	+13	34	41	+ 7	8.5	8.5	0
19	54	91	102	+11	46	46	0	5.5	5.3	- .2
20	53	92	97	+ 5	31	38	+ 7	7.7	8.5	+ .8
21	52	87	110	+23	45	53	+ 8	8.1	7.7	- .4
22	52	81	68	-13	30	27	- 3	5.5	8.5	+3.0
23	51	95	86	- 9	46	42	- 4	8.5	7.7	- .8
24	51	82	89	+ 7	44	40	- 4	8.3	8.7	+ .4

TABLE XXI--Continued

N	OQSMAT	Pre-CSMS	Post-CSMS	Diff.	Pre-CAHT	Post-CAHT	Diff.	Pre-RTA	Post-RTA	Diff.
25	50	70	98	+28	48	58	+10	7.7	7.7	0
26	49	78	79	+ 1	27	53	+26	8.5	2.6	-5.9
27	49	65	68	+ 3	25	22	- 3	7.7	7.7	0
28	48	80	71	- 9	44	42	- 2	6.0	8.5	+2.5
29	47	99	109	+10	23	38	+15	6.5	8.3	+1.8
30	47	99	104	+ 5	46	42	- 4	8.5	8.1	- .4
31	47	93	96	+ 3	53	55	+ 2	8.3	8.3	0
32	47	85	80	- 5	21	27	+ 6	7.7	5.5	-2.2
33	46	69	100	+21	29	47	+18	8.7	8.3	- .4
34	45	88	66	-22	19	25	+ 6	5.8	7.9	+2.1
35	44	88	92	+ 4	40	46	+ 6	8.1	8.3	+ .2
36	42	100	91	- 9	31	34	+ 3	8.3	8.3	0
37	41	82	92	+10	34	39	+ 5	8.5	8.5	0
38	40	83	80	- 3	36	44	+ 8	8.5	8.3	- .2
39	36	80	76	- 4	41	46	+ 5	8.1	8.1	0
40	34	100	94	- 6	24	34	+10	8.3	8.3	0
41	20	77	90	+13	29	42	+13	8.3	8.1	- .2

APPENDIX E

TABLE XXII

MEAN RAW SCORE, STANDARD DEVIATIONS, AND t VALUES FOR EXPERIMENTAL AND CONTROL GROUPS ON PRE-TEST

Variables	Experimental			Control			Fisher's t	L.S.
	N	Mean	S.D.	N	Mean	S.D.		
Entire Group								
C.A.H.T.	41	38.12	10.01	43	40.84	11.43	-1.2	N.S.
C.S.M.S.	41	90.88	13.48	43	90.37	15.85	.2	N.S.
Remmer's A.T.A.H.	41	7.8	1.03	43	7.9	.78	- .5	N.S.
Subgroups								
C.A.H.T. Above Average	15	43.7	8.6	12	47.5	8.6	1.2	N.S.
C.A.H.T. Average	13	37.1	8.6	16	43.3	12.4	1.5	N.S.
C.A.H.T. Below Average	13	32.8	10.2	15	32.8	7.4	- .0	N.S.
C.S.M.S. Above Average	15	100.1	14.3	12	96.6	15.3	.6	N.S.
C.S.M.S. Average	13	83.1	9.4	16	92.7	14.8	-2.0	N.S.
C.S.M.S. Below Average	13	87.9	9.9	15	82.9	15.3	1.0	N.S.
Rem. A.T.A.H. Above Average	15	7.9	1.11	12	7.48	.9	1.0	N.S.
Rem. A.T.A.H. Average	13	7.6	1.1	16	8.1	.6	-1.6	N.S.
Rem. A.T.A.H. Below Average	13	7.9	.86	15	8.05	.71	- .3	N.S.

APPENDIX F

TABLE XXIII

MEAN RAW SCORE, STANDARD DEVIATIONS, AND t VALUES FOR EXPERIMENTAL AND CONTROL GROUPS ON POST-TESTS

Variables	Experimental			Control			Fisher's t	L.S.
	N	Mean	S.D.	N	Mean	S.D.		
Entire Group								
C.A.H.T.	41	44.53	9.86	43	45.32	12.57	- .3	N.S.
C.S.M.S.	41	92.09	15.45	43	91.79	13.5	.1	N.S.
Remmer's A.T.A.H.	41	7.87	1.12	43	7.9	.89	- .1	N.S.
Subgroups								
C.A.H.T. Above Average	15	51.00	7.69	12	53.58	8.17	- .8	N.S.
C.A.H.T. Average	13	41.69	10.07	16	47.00	13.00	-1.2	N.S.
C.A.H.T. Below Average	13	39.92	8.37	15	36.93	10.15	.8	N.S.
C.S.M.S. Above Average	15	97.66	17.05	12	94.41	12.14	.6	N.S.
C.S.M.S. Average	13	87.76	15.87	16	96.62	10.79	-1.8	N.S.
C.S.M.S. Below Average	13	90.00	11.86	15	84.53	14.87	1.1	N.S.
Rem. A.T.A.H. Above Average	15	8.04	.64	12	7.90	.91	.4	N.S.
Rem. A.T.A.H. Average	13	7.52	1.71	16	7.8	1.00	- .5	N.S.
Rem. A.T.A.H. Below Average	13	8.12	.77	15	8.0	.77	.1	N.S.

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