

LAKEHEAD UNIVERSITY

THE RELATIONSHIP OF  
LEADERSHIP DIMENSIONS  
UNDER CONDITIONS  
OF STRESS

by

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## ABSTRACT

The present research examined the relationship between two leadership tests, the Least-Preferred Co-Worker (LPC) scale and the Leadership Opinion Questionnaire (LOQ). The two instruments are claimed to measure two conceptually similar dimensions of leadership style. One dimension is task orientation which is indicated by a low score on the LPC scale and a high score on the Initiating Structure (IS) dimension of the LOQ. The other dimension is relationship-orientation which is indicated by a high score on the LPC scale and a high score on the Consideration (C) dimension of the LOQ. Since recent evidence (Fiedler, 1970, 1971c; Mitchell, 1970) has led to the conclusion that these two instruments would only be related when subjects were under stress, the LPC-IS and LPC-C correlations were compared under high and low conditions of:

- a) stress as perceived by the leader; and
- b) stress as perceived by the leader's subordinates.

Thirty head nurses were administered the LPC scale, LOQ and the Group Atmosphere (GA) scale, the latter of which measured the leader's perception of group stress. One measure, the Job Description Index (JDI) which measures the subordinates' perception of group stress, was administered to each head nurses's subordinate group.

Results showed that: a) there was a significant overall inverse relationship between LPC and IS ( $p < .01$ ); b) there was no reliable relationship between LPC and C; and, c) the IS and C attitudes of the high- and low-LPC leaders did not differ under various conditions of

stress.

Since the data did not support the various hypotheses set forth, it was suggested that support for the hypotheses may have been obtained if a measure of behavior rather than of attitudes had been utilized and that most likely, the results obtained in the present study are reflecting attitudes rather than behaviors.

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## INTRODUCTION

Over twenty years have passed since the first work on the concepts of Consideration and Initiating Structure was done. These concepts originated with the Ohio State leadership studies (Fleishman, 1951) in which Halpin and Winer (1952) found four dimensions of leadership using factor analysis. These four dimensions, accompanied by their respective percentages of the variance, were: Consideration (49.6%), Initiating Structure (33.6%), Production Emphasis (9.8%), and Sensitivity (7.0%). Subsequent work on leadership (Fleishman, 1951, 1953a, 1953b, 1953c; Fleishman, Harris & Burt, 1955; Halpin and Winer, 1952) concentrated on the two major independent dimensions, Consideration (C) and Structure (IS).

Later in the Ohio State leadership studies, Fleishman (1969) devised a reliable instrument to measure these two dimensions and the C and IS dimensions have been shown to be meaningful in a wide variety of superior-subordinate studies (Bass, 1958; Harris & Fleishman, 1955; Fleishman & Ko, 1962; Skinner, 1969).

C reflects a boss or leader who trusts employees, respects their ideas and has consideration for their feelings. A high score on C indicates a climate of good rapport and two-way communication. A low score indicates the leader is likely to be more impersonal with his group members (Fleishman, 1969).

IS refers to what extent a leader is likely to define and structure his own role and those of his subordinates toward an end goal. A high score reflects an active role in directing group activities through planning information, scheduling, criticizing, and trying



out new ideas. A low score means inactivity in giving direction in the above ways (Fleishman, 1969).

Leadership style, as defined by C and IS, is not related to aptitude, personality or intelligence scores. It is related to the level of organization and certain group characteristics such as harmony, intimacy and stratification (Fleishman, 1969).

Certain patterns of C and IS have been shown to be generally more effective than other patterns: The most undesirable pattern for many situations is a leader low on both C and IS. Such leaders are not recognized as the leader and may not even be seen as functional (Fleishman, Harris and Burtt, 1955). Studies have shown that low C - high IS managers manifest high turnover, grievances, and stress among their subordinates. Fleishman and Harris (1962) suggest that leaders high on C can be higher on IS without the above effect. In addition, the most effective pattern which optimizes many different effectiveness criteria seems to be high or above-average scores on both C and IS (Fleishman, 1969).

Fiedler (Fiedler, 1967, 1971a) and his associates have also done a great deal of work in the leadership area. Fiedler describes leadership behavior as "particular acts in which a leader engages in the course of directing and coordinating the work of group members. He may structure work relations, praise and criticize group members or show consideration for their welfare and feelings [1967, p. 36]." He defines leadership style as "...the underlying need structure of the individual which motivates his behaviors in various lea-

dership situations ... this refers to the consistency of goals or needs over different situations [1967, pp. 36-7]." Fiedler has devised a method to identify those leaders who describe their least-preferred co-worker in a very negative, rejecting manner. This type of person "says in effect that the person with whom he cannot work is uncooperative, unintelligent and incompetent [1967, p. 44]."

These types were described as low scorers on the Least-Preferred Co-Worker scale (low LPC). The person who describes his least-preferred co-worker in relatively favorable terms is described as the high LPC scorer. The high LPC person, in effect, distinguishes between work performance and personality while the low LPC scorer associates an individual's poor performance with undesirable personality characteristics (Fiedler, 1967). These types of people were thought to behave in their characteristic manner independent of the situation.

The LPC score generally has been interpreted as measuring a task-orientation versus a relationship-orientation. That is, the high LPC leader was considered basically motivated to develop close personal relations with the group (relationship-oriented), and the low LPC leader was basically oriented toward accomplishment of the task (task-oriented) -- regardless of the situation. Note that relationship-orientation is conceptually similar to Fleishman's C and that task-orientation is conceptually similar to Fleishman's IS. Fiedler has stated that these dimensions are analagous to Fleishman's dimensions (1971b).

Fiedler (1970, 1971c), in light of recent evidence, now sees the

LPC score as an index of hierarchical goals that evoke relationship- and task-oriented behaviors:

The individual will seek to achieve his primary as well as secondary goals in situations in which his control and influence is relatively great; he will concentrate on securing his primary goals in situations which are unfavourable and stressful.

[Fiedler, 1970, Abstract].

The high LPC person's primary goal is establishing and maintaining interpersonal relations and his secondary goal is aimed at personal prominence. The low LPC person's primary goal is the achievement of tasks and material rewards while his secondary goal is to develop good interpersonal relations.

Under stressful situations, behavior patterns reflect the primary goal of the leader which is consideration behavior for the high LPC leader and structuring behavior for the low LPC leader. That is, the high LPC leader will be primarily relationship-oriented and the low LPC leader will act primarily in a structured way (Fiedler, 1970). In favorable or less stressful situations, where the achievement of primary goals is well assured, secondary goals become more prominent. In relatively unstressful situations, in which the leader has a high degree of influence and control, low LPC leaders display higher levels of consideration behavior, while high LPC leaders behave in a more structuring manner (Fiedler, 1970) or ways relating to establishing their prominence (Chemers & Skrzypek, 1972). It is concluded that structuring and consideration behavior in the high- and low-LPC leader change in a consistent manner as the stressfulness of

the situation increases or decreases.

Mitchell (1970) interprets this pattern of change in a different light. In recent research, he has found that the LPC score is related to cognitive complexity scores similar to the scale used by Scott (1962) in which high LPC subjects differentiated more than low LPC subjects among various aspects of group situations. Using the notion of cognitive complexity, he suggests that the LPC score may be a reflection of two dimensions of the individual's personality; one dimension being the leader's cognitive abilities or perceptual tendencies, and the other dimension being related to his emotional needs for achievement or satisfaction from the work setting. When the high LPC person is in a relatively non-stressful setting, the intellectual or cognitive abilities would dominate his activities. Thus, "the high LPC person would pay attention to all aspects of the group situation and perhaps use both interpersonally-oriented and task-oriented behaviors [Mitchell, 1970, p. 173]." When a leader is in a stressful situation, the "need-satisfaction dimension" might dominate his activities. Thus:

It would be in these stressful situations, then, where the high LPC leader would be concerned with the interpersonal relations in a situation ... and the low LPC leader would be concerned with task success. [Mitchell, 1970, p. 173].

This conclusion, that as stress increases, the task-oriented behaviors of the low LPC leaders increase and interpersonally oriented behaviors of the high LPC leaders increase is not contradictory to Fiedler's most recent findings and theorizing.

Independent of Fiedler's recent interpretation of the behavior of the LPC leader, he had previously postulated a theory to explain leadership "effectiveness" which is dependent upon two interacting variables. These are: (a) the leader's basic motivation either to relate to members of his group (which involves consideration) or to achieve task success (which involves structuring); and (b) the favorability of the situation for the leader to exercise his power and influence (Fiedler, 1967). As previously stated, the leader's motivation system is indexed by the LPC score. The situational favorableness dimension refers to the degree of power and influence the situation gives to the leader. Situational favorableness is typically defined by three sub-dimensions: the degree to which the leader feels accepted by the group, how structured the task is, and the degree of legitimate or accepted power the leader has to control his subordinates.

Fiedler has set up a "contingency model" which postulates that the low LPC leader will perform best in a very favorable or very unfavorable situation. The two extremes respective of the most favorable and least favorable situations would be a well-liked leader with high power in a highly structured situation, and a little-liked leader with little power in a less-structured situation. The high LPC scorer will perform best in situations of moderate favorableness; for example, a well-liked leader with high position power in low-task structure; or a well-liked leader with low position power in high task-structure or a little-liked leader with high position power in

high-task structure.

Thus, the contingency model suggests that leadership performance depends upon the situation at hand as well as the leader's motivational pattern. Both low LPC and high LPC leaders perform well in certain situations but not in others. Evidence in regard to the validity of the contingency model has been both negative and positive. In a recent study, Graen, Orris and Alvares (1971) concluded that the contingency model of leadership effectiveness lacked predictive validity. Graen et al. (1971) confirmed their conclusion with results from their two studies along with other cited studies in which correlations between LPC and group productivity across octants showed no consistent or significant patterns. In a reply, Fiedler (1971) challenged the authors on their inadequate manipulations of the variables affecting situational favorableness. In support of Fiedler (1971), Chemers and Skrzypek (1972) found strong support for the validity of the model when variables affecting situational favorableness were controlled and manipulated according to Fiedler's specifications.

Recent findings also suggest that intelligence of the leader interacts with LPC and stress in determining leadership effectiveness (Csoka & Fiedler, 1972), but research to date has not provided any unequivocal evidence in regard to the exact nature of this relationship.

Although researchers from the Fleishman and Fiedler schools have done seemingly parallel work in the area of leadership, several inconsistencies between them are not yet fully resolved. Researchers from the Ohio State school have assumed all along that C and IS are

independent of each other and have found support for this assumption (Fleishman, Harris & Burt, 1955; Halpin, 1954). On the other hand, most of the researchers from the Fiedler school originally assumed that C (or relationship-orientation) and IS (or task-orientation) lay on one continuum (Fiedler, 1967). According to these latter researchers, the same leader could not be both task-oriented and relationship-oriented. But, evidence has revealed that both high and low LPC leaders may engage in C and IS behavior although one dimension of behavior may be emitted more than the other in a particular situation.

For example, Fiedler, Meuwese and Oonk (1961) found that all leaders -- regardless of their LPC score -- made a higher proportion of task-oriented comments than relationship comments across all situations, although low LPC leaders had significantly higher amounts of task-oriented comments and significantly lesser amounts of relationship-oriented comments than the high LPC leaders. Chemers and Skrzypek (1972) also found that the high and low LPC leaders utilized both dimensions of behavior in each situation, but that the high LPC leader was rated as displaying a significantly higher level of consideration behavior than the low LPC leader. According to Fiedler (1970), the high LPC leader will be task-oriented when necessary in order to achieve interpersonal success and the low LPC leader will be relationship-oriented when necessary to achieve task success. Therefore, the C and IS behavior of the high and low LPC leader is not as mutually exclusive as previously thought.

In spite of the recent evidence that there may be conceptual

similarities between Fleishman's C and IS dimensions of behavior and the relationship-oriented and task-oriented behaviors of leaders indexed by Fiedler's LPC score, little work has been done to demonstrate a relationship between the LPC, Fiedler's measure of leadership orientation and the LOQ, Fleishman's measure of leadership orientation. Weissenberg and Gruenfeld (1966) found no evidence of a relationship between the LOQ and the LPC scale in civil service workers. Beside this single study, the author is not aware of any other investigation of the possible relationship between the LPC and the LOQ scales. Recently Gibb (1972), in a review of the LOQ, indicated the need for further research in this regard.

The purpose of this present study was to investigate whether a relationship between C and IS (as measured by the LOQ) and the LPC scale could be demonstrated. It would seem that since these instruments reflect conceptually similar dimensions, that under certain conditions, they could be shown to be related. However, Weissenberg and Gruenfeld (1966) failed to demonstrate any relationship between the LOQ and the LPC scales. It is being proposed here that the reason for this failure is that previous investigators failed to take into account the stress variable that both Fiedler (1971c) and Mitchell (1970) think is important. For this reason, stress was controlled in this study.

Since recent evidence (Fiedler, 1970, 1971c; Mitchell, 1970) suggests that the low LPC leader should initiate more structure in a stressful situation, it was predicted that a negative LPC-IS



correlation would be significantly higher in a high stress group than in a low stress group. Conversely, since the high LPC leader should be more considerate in a stressful situation, it was predicted that a positive LPC-C correlation would be significantly higher in a high stress group than in a low stress group.

Since there are many aspects to organizational stress (Fiedler, 1971a), the stress variable in this study was limited to the dimension of human relations. One reliable measure of human relations stress is the Group Atmosphere (GA) scale developed by Fiedler (1961) which indicates the degree to which the leader feels accepted by the group and relaxed and at ease in his role. Thus, this measure of stress reflects how the leader thinks his subordinates feel about him. However, stress as perceived by the leader may not coincide with stress as perceived by subordinates. Thus, stress was also assessed from the subordinates' perspective. This measure of stress, the Job Description Index (JDI), measures employee satisfaction in five aspects of the job. If the employees are dissatisfied with their job, co-workers, pay, promotion, or their supervisor, this would obviously be a very stressful situation on the work unit. This measure of stress is called stress as perceived by the subordinates.

In summary, the purpose of this study was to examine the relationship between the LOQ and the LPC scale under high and low conditions of stress. Stress was measured from both the leader's and the subordinates' perspective.

## METHOD

### Subjects

The subjects were 30 head nurses and 139 subordinate nurses of the three general hospitals and the psychiatric hospital in Thunder Bay Ontario. All head nurses were female and registered nurses. Most of the subordinate nurses were registered nurses but a few were registered nursing assistants. About 95% of the subordinate subjects were female. Only the subjects on the day shift participated.

### Material

There were three measures administered to the head nurses: The Leadership Opinion Questionnaire (LOQ), the Least Preferred Co-Worker (LPC) scale and the Group Atmosphere (GA) scale. Only one measure, the Job Description Index (JDI), was administered to the subordinate nurses.

Leadership Opinion Questionnaire (LOQ): The LOQ assesses how a supervisor thinks he should act in his leadership role and yields two scores of Consideration (C) and Initiating Structure (IS) (Fleishman, 1969). There are 40 items in which the supervisor indicates how frequently he thinks he should do what each item describes. The possible scores for each item are 0 1 2 3 or 4. Since there are 20 items on each scale, a maximum possible score is 80 on each scale, but generally scores range from 30 - 70 (Fleishman, 1969). In his manual, Fleishman

(1969) gives norms plus means and standard deviations for various supervisory populations. The dimensions of C and IS generally do not correlate and they are considered independent of each other (Fleishman, 1969). The manual gives both split-half and test-retest correlations for several populations. These correlations range from .62 to .89. The LOQ has received favorable reviews (Doppelt, 1970; Kirchner, 1970; and Gibb, 1972). See Appendix A for the copy of the LOQ.

Least-Preferred Co-Worker Scale (LPC): The LPC scale is used to identify high and low LPC leaders. The scale is arranged on a format similar to Osgood's Semantic Differential (1952) with scales containing 16 - 24 bi-polar adjective items like "Friendly/Unfriendly". The scale is given to a leader and he must rate each adjective in regard to the person in his work-life with whom he has been able to cooperate least well, i.e., his least-preferred co-worker. Each of the items is scored by a range of numbers from eight at the most favorable pole (e.g., pleasant, helpful) down to one at the least favorable pole (e.g., unfriendly, frustrating). The LPC score is obtained by summing up the item scores and averaging them. Scores considered as low LPC scores range from 1.2 to 2.2, and scores considered as high LPC scores range from 4.1 to 5.7 (Fiedler, 1967). The split-half reliability of the 20 items is .90; and the test-retest reliability, depending on length of time and experience of the respondent, ranges from .35 to .70 (Fiedler, 1967). A copy of the scale may be seen in Appendix B.

Group Atmosphere Scale (GA): The GA scale is used as a measure of stress as perceived by a leader (Fiedler, 1967). It was derived from sociometric preference questionnaires in real-life groups. This scale has been used in several of Fiedler's (1967) studies. The GA scale has a format similar to the LPC scale. It contains ten bipolar adjective items such as "frustrating/satisfying". Each of the items is scored by a range of numbers from eight at the most favorable pole down to one at the least favorable pole. The leader is asked to rate his group according to the ten sets of adjectives. Rather than relying on comparative norms, past researchers (Fiedler, 1961; Fiedler, London & Nemo, 1961; Hawley, 1969) have ranked GA scores from the highest to the lowest and subdivided the data into upper-, intermediate- and lower-third. As a result, no information is given for split-half or test-retest reliability or for other normatic information. See Appendix C for the copy of the scale.

Job Description Index (JDI): The JDI is a measure of job satisfaction which can be used as a measure of stress as perceived by subordinates (Smith, Kendall & Hulin, 1969). The instrument measures five areas of work, namely, the type of work, the pay, the opportunities for promotion, the supervision and the co-workers on the job. For each dimension of the job, there is a list of adjectives or short phrases. The subject is required to indicate whether each word is appropriate to the particular aspect of the job. If the word applies, he is required to write "Y" for "yes"; and if the word does not

apply, he is to write "N" for "no". This instrument was developed out of the Cornell Studies of Satisfaction, which constitutes one of the most definitive research programs on problems of job satisfaction and employee attitudes ever attempted (Campbell, 1970). The split-half estimate of internal consistency is .79. There are numerous correlations above .7 and .8 between JDI measure and other measure of satisfaction (Smith, Kendall & Hulin, 1969). Test-retest data after a three year period are generally low which suggest that the JDI measure is sensitive to situational changes rather than to stable elements independent of situational changes (Smith, Kendall & Hulin, 1969). This instrument has had favorable reviews (Campbell, 1970). See Appendix D for a copy of the measure.

Organization and identification of materials. A set containing one LOQ, one LPC scale and one GA scale was compiled for each head nurse. To avoid an order effect, the three questionnaires were counter-balanced in their order of occurrence for each set.

For each ward, one set of the three leadership questionnaires for the head nurse and eight sets of JDI questionnaires for the subordinates all received the same code number at the top of each questionnaire. The code number enabled the investigator to identify the respective ward from which each completed and collected questionnaire belonged. See Appendix E for a copy of the instructions accompanying the head nurse's set of questionnaires.

### Procedure

Initially, the investigator contacted the nursing director of each hospital involved in the study. A letter from the investigator's advisor was used as a means of introduction. All nursing directors, after consulting with their head nurses, gave the investigator permission to conduct the study in their respective hospitals. After permission was granted, the investigator worked out the details of collecting the data with the in-service directors.

All wards were notified verbally or by written memo of the date on which the questionnaires would be issued to each ward, and a date was given by which the questionnaires were to be completed. Generally, each in-service director personally delivered the questionnaires to each ward. A short verbal presentation was given to the available subjects in a group at the ward nursing station or to individual subjects on the ward. They were informed that this was a study of group-member attitudes in different nursing situations in Northwestern Ontario hospitals. In addition, the subjects were informed of the time in which to complete the questionnaire, the anonymity of individual and ward results and of the place in which to deposit their questionnaires.

On each ward, one set of leadership questionnaires was left for the head nurse and eight questionnaires were left for the subordinate nurses. All questionnaires were in a manila folder left at the nursing station for subjects to pick up and fill out at their leisure.

Collection of the data generally consisted of the subjects depositing their completed questionnaires at a central depot area usually located at or near the in-service director's office. Due to differences between hospitals, wards, and in-service directors, data collection could not be rigidly controlled and there were minor differences in procedure between units. For example, without the knowledge of the investigator, one in-service director had the subjects leave their completed questionnaires in a manila folder in each ward nursing station. The manila folder containing the subordinates' questionnaires was taken down to the director's office by each head nurse.

Due to a less than satisfactory return of the questionnaires, a personal plea was made to all the wards of the four hospitals to encourage the return of the questionnaires. Shortly thereafter, the investigator picked up the tardy questionnaires from the in-service directors.

## RESULTS

Each head nurse had two scores from the Leadership Opinion Questionnaire (LOQ). They consisted of scores on Consideration (C) and Initiating Structure (IS). Each head nurse also had a score from the Least-Preferred Co-Worker (LPC) scale and a score from the Group Atmosphere (GA) scale.

The scores on C, IS and the LPC scale were used as dependent variables meant to reflect the leader's or the head nurse's leadership style. The scores on the GA scale were used as an independent variable to determine the leader's perception of stress on her ward.

Associated with each head nurse was another score. The subordinate nurses on each head nurse's ward received a score from the Job Description Index (JDI). An average of all the individual JDI scores on a particular ward was calculated to determine the average JDI score associated with each respective head nurse. The average JDI score from each ward was used as an independent variable, meant to reflect the subordinate nurses' perceptions of stress on their ward.

Unavoidably, the investigator encountered several problems in obtaining enough subjects and in rigidly controlling the procedure. The initial return rate for head nurses was 53.3% (24 subjects). After the personal inquiry was made into all wards, an additional 13.4% of the questionnaires (six subjects) were returned to give a total return rate of 66.7% (30 subjects). There were a number of JDI questionnaires



returned from subordinates for which there were no concomitant returns from their respective head nurse, so these questionnaires could not be used in the analysis. Also, some of the returned questionnaires had to be discarded because the front page with the identifying code number was missing, some questionnaires were incomplete and some subjects did not respond according to instructions.

The actual number of subordinates' questionnaires suitable for use in the analysis was less than satisfactory. The return of these questionnaires ranged from three to eight subjects per ward. The investigator had anticipated a return rate of at least five from each ward.

There is also some doubt concerning whether some of the subordinates' responses on the JDI were valid. Some of the subordinates left their completed questionnaires in the manila folder at the ward nursing station rather than returning them to the central depot area. In one hospital, the in-service director designated no central depot area, and the questionnaires on the ward were returned to the in-service director in the original manila folder in which they were distributed. As a result, the subordinates may have perceived a possibility of individual exposure since the head nurse had the completed questionnaires accessible to her before they were returned to the in-service director or central depot area. Thus, the possibility of exposure of the subordinates' results to peers and/or supervisors may have biased their responses.

A minor error also occurred in the GA scale itself. In an attempt to replicate Fiedler's instrument, all favorable adjectives were to be placed on the left side of the page and all unfavorable adjectives were to be placed on the right side of the page. Despite three proofreadings, the last adjective set "Successful/Unsuccessful" occurred in inverse order, i.e., "Unsuccessful/Successful".

Methodological flaws are often unavoidable in field research, but the author is of the opinion that the obtained data and ensuing results and discussion are generally valid. The following will give the details of the results. In addition, Appendix F contains the raw data from the 30 head nurses used in the present study and their concomitant average JDI scores from their subordinates.

The data in Table I (p. 20) give the mean, standard deviation and range of scores for each measure.

#### Overall Correlations

To determine whether there were any overall relationships among the variables, Pearson Product Moment Correlations between all variables were computed (Ferguson, 1971, p. 96).

Table II (p. 21) contains the intercorrelations of the five variables used in this study. As can be seen from this table, the only significant relationship revealed was the negative correlation between the LPC and IS scores.

Table I. Mean, Standard Deviation, and Range of Scores Per Measure

Measure	Mean	Standard Deviation	Range of Scores	
			Low	High
Initiating Structure	45.03	6.29	33	59
Consideration	57.30	5.81	44	66
Least-Preferred Co-Worker Scale	4.48	.956	2.6	6.4
Group Atmosphere Scale	69.43	6.23	59	80
Average Job Description Index	146.00	20.68	93	190

Table II. Overall Intercorrelations of the Five Variables

	LPC	IS	C	JDI	GAS
LPC	-	-.519*	.05	.210	.285
IS		-	-.091	-.204	-.073
C			-	.310	.190
JDI				-	.141

\* level of confidence  $p < .01$

Correlations: Group Atmosphere (GA) Scale Split:

According to prediction, the positive correlation between LPC - C scores should have been significantly higher in the high stress group than in the low stress group. Likewise, the negative correlation between LPC - IS scores should have been significantly higher in the high stress group than in the low stress group.

The data were rank-ordered according to the leader's GA scores from the highest to the lowest. A high score on the GA indicated the leader's perception of low group stress while a low score indicated a perception of high group stress. The data were split into a high stress group with the GA scores ranging from 59 - 65 ( $\bar{X} = 63.0$ ); into a medium stress group, with the scores ranging from 66 - 70 ( $\bar{X} = 68.6$ ); and, into a low stress group, with scores ranging from 71 - 80 ( $\bar{X} = 76.7$ ). Each stress group contained ten (10) subjects. A manipulation check was made to see if the high stress group was significantly different from the low stress group in regard to stress as measured by the GA scale. It was found, as expected, that the high stress group was significantly higher in stress than the low stress group ( $t = -10.46$ , d.f. = 18,  $p < .001$ ).

The correlations between the three variables, LPC, IS and C were found separately for each of the three groups. A comparison of correlations between the LPC - C scores for the high and low stress conditions and the LPC - IS scores for the high and low stress conditions was then made using the test for the significance of the difference between two independent correlation coefficients (Ferguson,

1971, p. 170).

Table III (p. 24) illustrates the correlations between LPC, IS and C scores in the three stress groups based on the rank-ordered scores of the GA scale. As can be seen, the only significant relationship found was a negative correlation between the LPC scores and IS scores in the middle stress group.

For the comparison between the LPC - IS correlation of  $-.315$  for the high stress group to the LPC - IS correlation of  $-.517$  for the low stress group,  $Z = .464$  ( $p > .05$ ). For the comparison between the LPC - C correlation of  $.186$  from the high stress group to the LPC - C correlation of  $.024$  for the low stress group,  $Z = .306$ , ( $p > .05$ ). In other words, no significant differences were found between the LPC - C relationships and the LPC - IS relationships between the two extreme stress groups, using stress as perceived by the head nurses.

Correlations: Job Description Index (JDI) Split:

As with the GA scale split, it was expected that with the JDI split, the positive correlation between LPC and C scores should be significantly higher in the high stress group than in the low stress group. Likewise, the negative correlation between LPC - IS scores was expected to be significantly higher in the high stress group than in the low stress group.

Stress as perceived by the subordinates was determined according to the second independent variable, the JDI scores. Average JDI scores for each head nurse were rank-ordered from the highest to the lowest

Table III. Group Correlations for Stress as Perceived by the Leader

TABLE IIIa. High Stress Group Correlation

	LPC	IS	C
LPC	-	-.315	.186
IS		-	-.085

TABLE IIIb. Middle Stress Group Correlation

	LPC	IS	C
LPC	-	-.763*	-.158
IS		-	-.069

TABLE IIIc. Low Stress Group Correlation

	LPC	IS	C
LPC	-	-.517	.024
IS		-	-.054

\* level of confidence  $p < .05$

score. A high average JDI score measured the subordinates' group perception of low group stress and a low average JDI score measured perception of high stress. The data were split into three stress groups with ten (10) subjects in each group. The JDI scores ranged from 93 - 139 ( $\bar{X} = 123.0$ ), in the high stress group; from 140 - 157 ( $\bar{X} = 148.3$ ) in the medium stress group; and, from 157 - 190 ( $\bar{X} = 166.7$ ) in the low stress group. A manipulation check was made to see if the high stress group was significantly different from the low stress group in regard to stress as measured by the GA scale. It was found that the high stress group was significantly higher in stress than the low stress group ( $t = -8.28$ ,  $df = 18$ ,  $p < .001$ ).

Table IV (p. 26) illustrates the correlations between LPC, IS and C scores in the three stress groups based on the rank-ordered scores of the JDI. Significant negative correlations were found between LPC - IS scores in the high and low stress groups. Also, a significant positive correlation between LPC - C scores was found in the middle stress group.

For the comparison between the LPC - IS correlation of  $-.689$  from the high stress group to the correlation of  $-.698$  from the low stress group,  $Z = -.031$  ( $> .05$ ). For the comparison between the LPC - C correlation of  $-.163$  from the high stress group to the correlation of  $-.140$  from the low stress group,  $Z = .047$  ( $p > .05$ ). In other words, no significant differences were found between the LPC - C relationships and the LPC - IS relationships between the two extreme stress groups using stress as perceived by the subordinates.



Table IV. Group Correlations for Stress as Perceived by the Subordinate

TABLE IVa. High Stress Group Correlations

	LPC	IS	C
LPC	-	-.689*	-.163
IS		-	-.275

TABLE IVb. Middle Stress Group Correlations

	LPC	IS	C
LPC	-	-.243	.700*
IS		-	-.297

TABLE IVc. Low Stress Group Correlations

	LPC	IS	C
LPC	-	-.698*	-.140
IS		-	.116

\* level of confidence  $p < .05$

## DISCUSSION

The purpose of the present study was to determine how a leader's attitude toward his least-preferred co-worker, as measured by the Least Preferred Co-Worker (LPC) scale, is related to the way in which he perceives his leadership role as reflected by the Initiating Structure (IS) and Consideration (C) dimensions of the Leadership Opinion Questionnaire (LOQ). The primary concern was with the relationship between LPC and the LOQ. In regard to the obtained data, the scores on most measures in the present study appear to be within the normal range when compared to the norms of other studies. In Table I (p. 20) the means, standard deviations and ranges are given for each measure. The mean and standard deviation of C and IS are quite similar to the norms for head nurses (Oaklander & Fleishman, 1964) given in Fleishman's (1969) manual and no significant differences between Oaklander and Fleishman's data and the obtained data were detected.

The mean, standard deviation and range of the LPC scores indicated that the majority of the leaders tended to be high- and middle-LPC scorers. The mean of the LPC scorers, ( $\bar{X} = 4.48$ ), in the present study was higher than the range of means for various samples quoted by Fiedler (1967). The variance of the obtained LPC scores was significantly smaller than Fiedler's (1967) sample of 350 scores ( $F=2.11$ ;  $p<.05$ ). The high mean and low variance of scores in the present study indicates that the head nurses used in the present study were a relatively homogeneous group predominantly of high- and middle-LPC scorers. Since there are no data or norms presently available to the author for the head nurse population, it can only be concluded that the difference

may be due to the unique characteristics of head nurses. As a group, they may be more cognitively complex (Mitchell, 1970) or they may have a different type of subordinate with whom they work. Fishbein, Landy and Hatch (1969) found that the leader's score on the LPC identified people who have different types of subordinates with whom they work. These explanations of the head nurses' unique style of scoring remain tentative without comparison to LPC scores based on other populations of head nurses.

It appeared that the mean ( $\bar{X} = 69.43$ ) of the Group Atmosphere (GA) scale was higher than average. The only available norms for comparison were the GA scores of Saskatchewan principals (Hawley, 1969). It was found that the present GA mean was higher ( $t = 1.925$ ,  $df = 65$ ,  $p < .06$ ) than Hawley's mean. However, since the above confidence level is conventionally not acceptable, especially with different populations being involved, the author is hesitant about concluding that the present head nurses' perception of stress was less than average.

The average JDI scores were slightly lower than Nealey and Blood's (1968) sample of nurses. Since only graphic results were available, Nealey and Blood's mean and standard deviation could only be roughly estimated. However, the mean obtained in the present study and Nealey and Blood's did not appear to differ significantly. The mean obtained in the present study fell within the first standard deviation of Nealey and Blood's sample.

### Overall Correlations

The obtained data raises two issues. The first is why was an overall LPC-IS relationship found? Weissenberg and Gruenfeld (1966) failed to find any relationship between the LPC and the dimensions of the LOQ in civil service workers. The second issue is, since there is an LPC-IS relationship, why was a concomitant LPC-C relationship not found?

In regard to why an LPC-IS relationship was found in the present study and not found in Weissenberg and Gruenfeld's (1966) study, this discrepancy may be due to biased responses as a result of the subjects' perceived threat of individual exposure in the latter study. Since these authors' testing situation was not anonymous, the subjects were aware that their results were identifiable. As a result, Weissenberg and Gruenfeld felt that faking was readily apparent from the post hoc comments of the subjects. Weissenberg and Gruenfeld indicated that as a result of their study they felt that the instrument should be administered anonymously.

In a study of the same population of seventy-three civil service workers, Gruenfeld and Weissenberg (1966) found an unusually high correlation of .40 between IS and C, the scores of which are usually independent of one another. Although it was not specified, the IS and C scores may have been the same IS and C scores used in the Weissenberg and Gruenfeld (1966) study which involved suspected faking. If the IS and C scores are the same as those scores in the former study, or if anonymity also was not practised in the Gruenfeld

and Weissenberg (1966) study, the .40 IS-C correlation may have been a reflection of faking. In the present study, the IS-C correlation of  $-.091$  reflects mutual independence of these dimensions (see Table II, p. 21). Since it appears that the subjects may have biased their responses in both of Weissenberg and Gruenfeld's studies, it is also reasonable to suspect that this bias may have prevented a true reflection of attitudes in their leaders, as indexed by the LPC scale. The possible lack of anonymity in Weissenberg and Gruenfeld's studies may explain their failure to find the LPC-IS relationship that was found in the present study.

At this point, it should be noted that much of the following discussion deals with attitudes only, since behavioral measures were not utilized in this study. Further, one should be cognizant of the fact that attitudes are not necessarily reflected in observed behavior. Research indicates that there is often a discrepancy between overtly expressed attitudes and actual observed behavior (e.g., Lapierre, 1934; Festinger, 1964; Fendrich, 1967; Zimbardo & Ebbesen, 1970). It should be kept in mind that both leadership instruments used are probably a reflection of attitudes and not of observed behavior. Evidence suggests (Kiesler, Collins & Miller, 1969) that if behavior rather than attitudes had been observed, the findings may have been different.

One plausible explanation for an overall LPC-IS correlation and the absence of an LPC-C correlation may be as follows. In filling out the LOQ, the leader may have imagined himself in a favorable situ-

ation and responded according to his goals (or attitudes) associated with complete control and influence in the situation. The IS and C dimensions may be reflecting the realization of primary and secondary goals -- rather than behavior of the high and low LPC leader. As previously mentioned, Fiedler (1970, 1971c) recently stated that the LPC score is an index of hierarchical goals. The primary goal of the low LPC leader is structuring or task-achievement while his secondary goal is consideration. The primary goal of the high LPC leader is consideration while his secondary goal is self-enhancement. Fiedler (1971c) has stated that a person who fills out a paper and pencil test in describing himself often visualizes himself in a situation where he has control rather than in a situation where he has no control. The hypothesis that a person imagines himself in control of the situation when filling out a paper and pencil test is supported by Bass, Fiedler and Krueger (1964) and Fendrich (1967). Furthermore, the subject's perception of situational control may be reinforced by the LOQ instructions themselves. Gibb (1972) notes that this questionnaire asks the leader to indicate how he believes he should act, rather than how he actually behaves. In addition, indirect evidence (Oaklander & Fleishman, 1964) indicated that intra-unit stress was not significantly related to the LOQ dimensions in small voluntary hospital head nurses. The population used in the latter study was similar to 87% of the subjects used in the present study. Thus, in a favorable situation, the primary goal of structuring as well as the secondary goal of consideration is readily amenable to the low LPC leader. In this non-stressful

situation, he can realize both goals. Therefore, he would tend to score high on IS and relatively high on C. In the favorable situation, the high LPC leader's primary goal is consideration and his secondary goal is self-enhancement. In this non-stressful situation, he would also expect to score relatively high on C. Of course, there is nothing in the LOQ that reflects self-enhancement and therefore, it was not measured. There was no relationship between LPC and C scores. After a post hoc examination of the results, the author did a finer analysis of the data and checked the mean of the ten highest LPC leaders' C scores ( $\bar{X} = 56.0$ ) and the mean of the ten lowest LPC leaders' C scores ( $\bar{X} = 56.9$ ). There was no significant difference ( $t=0.37$ ,  $df=18$ ,  $p>.05$ ), and both means were considered well within the average range of C scores for nurses (Fleishman, 1969). Since the low LPC leaders scored equally high as the high LPC leaders on C, this again indicated that there was no relationship between LPC and C scores. On the other hand, there was a significant difference between the IS scores of the ten highest LPC leaders and the IS scores of the ten lowest LPC leaders ( $t=2.08$ ,  $df=18$ ,  $p<.05$ ). This indicated that the low LPC leaders scored higher on IS than the high LPC leaders.

In summary, it is being suggested that the head nurse perceived herself in a favorable situation when she described herself on the LOQ. This perception influenced the low LPC head nurse to score high on IS -- indicating the realization of her basic structuring goal, and to score relatively high on C, indicating the realization of her secondary goal of consideration. The high LPC head nurse also scored relatively

high on C indicating the realization of her primary goal of consideration but did not score high on IS because structuring is neither a primary nor a secondary goal for high LPC people (Fiedler, 1970).

A second plausible explanation for an overall LPC-IS correlation and the absence of an LPC-C correlation may be as follows. In line with the assumption of a behavior-attitude discrepancy underlying the preceding explanation, the overall results may reflect attitudes rather than behavior. This present explanation implies that the LOQ, an attitude scale, may not have a direct relationship with observed behavior. Since the hypothesis was based on behavioral data, it can not be adequately interpreted in light of the present attitudinal data. Because evidence indicates that behavior is a function of attitude and the immediate situation (e.g, Wicker, 1969), it is reasonable to suspect that a leader's basic attitudes may remain somewhat stable, while the associated behavior may vary according to the interaction between the attitude and the situation. "One will not find a high correlation between attitude and behavior if situational pressures substantially contribute to the observed behavior -- and they almost always do (Kiesler, Collins & Miller, 1969, pp. 29-30)..." Fiedler's (1970, 1971c) recent findings, on which the present hypothesis is based, had been centered around variable behavior rather than on variable attitudes. Since there is evidence that an attitude does not directly reflect behavior, the choice of the IS and C measure used in the study may have been somewhat inappropriate to test the proposed hypothesis. The attitude measure (LOQ) used does not



measure behavior and may not have been suitable to test a hypothesis based on behavioral evidence. The Supervisor Behavior Description (SBD) questionnaire (Fleishman, 1953a) measures the IS and C dimensions of the leaders' behavior, from the viewpoint of the subordinates. This measure would have probably been a better choice to test the hypothesis that behavior changes according to the interaction of one's LPC score and the magnitude of situational stress. In essence, the results obtained in this study may reflect stable IS and especially C attitudes apart from IS and C behavior.

Because the author was not as unequivocally clear in regard to the distinction and relationship between attitudes and behavior, the choice between the LOQ and the SBD questionnaire did not seem to be of as much theoretical importance as it now seems. Also, there were indications from some hospital authorities that head nurses would perceive an instrument such as the SBD questionnaire as an "invasion of privacy" since subordinates would have been asked to describe their head nurse's behavior. In this light, cooperation might have been limited. For these reasons, the present investigator chose an instrument that was self-descriptive, i.e., the LOQ, rather than one where people would be asked to describe the behavior of others, i.e., the SBD questionnaire. But, in retrospect, it seems that the SBD questionnaire may have been the better choice.

A third possible explanation as to why there was no LPC-C relationship may be as follows. The low LPC leader appears to give more socially desirable responses in describing himself and others

(Fiedler, 1967). A "social desirability" factor is "a response set to put up a good front, of which the subject himself may not be fully aware (Anatasi, 1961, 511)." Perhaps responses to the C dimension were more subject to the "social desirability" factor than responses to the IS dimension. This may explain why there was no LPC-C correlation. The "social desirability" factor of scoring high on C may have masked the low LPC leader's true response associated with his basic LPC-C orientation. Similarly, since there may have been less of a "social desirability" factor associated with the low LPC leader's response to IS, the low LPC leader responded in accord to his basic LPC orientation. This possibility does not seem likely since there is no evidence to indicate that, when the questionnaire is anonymous, responses to C are any more subject to the social desirability bias than are responses to IS.

A fourth possible explanation of the findings is that the LPC score is simply a measure of a single structuring-nonstructuring dimension rather than a structuring-consideration dimension, as Fiedler claims. Perhaps there is no stable LPC-C relationship. This may explain why a LPC-C relationship was not demonstrated along with a LPC-IS relationship. However, since there is no evidence to support the single LPC-IS dimension notion, any conclusion as to its validity should be reserved for future investigation.

The overall correlation between the two stress variables, the Job Description Index (JDI) and the Group Atmosphere (GA) scale was not significant (see Table II, p. 21) which appears surprising at

first glance. However, Fiedler (1967) has recognized that the leader's perception of group stress is often different from the subordinates' perception. In this regard he states that:

"This is not too surprising when we consider that the leader's task is basically quite different from that of his group members. The leader may well become very tense and anxious because his group is too relaxed and playful, and the leader may be quite pleased and at ease when his group members are anxious and tense while trying to do a good job."

[1967, p. 32]

In addition to the foregoing, the two measures were based on different aspects of the group situation. The measurement of the leader's perception of stress (as measured by the GA scale) was based on her perception of how the group accepted her, whereas, the measurement of the subordinates' perceptions of stress (JDI) was based on job desirability, co-workers, supervision, promotions, and pay. Therefore, it is not that surprising that there is not a significant relationship between the two measures.

#### Correlations: Group Atmosphere (GA) Scale Split

In order to study the relationship of the two leadership questionnaires across stressful situations, the LPC-LOQ scores were correlated within three different groups divided according to the magnitude of the leader's perception of stress. To test the hypothesis that the leadership questionnaires would be significantly more related under high stress conditions than under low stress conditions, correlations from high and low stress groups were compared.

As can be seen in Table III (p. 24), the only significant relationship found was the inverse relationship between LPC and IS scores in the middle stress group. However, it should be noted that the LPC-IS correlations in the high and low stress groups were relatively high and in the right direction. Generally, it would appear that there is a negative LPC-IS relationship across stress. Further analyses supported this assumption. In comparing the LPC-IS correlations across the three groups, it was found that they were not significantly different from one another. Therefore, there is no evidence that the LPC-IS relationship does differ according to the leader's perception of group stress. That is, these data suggest that the more favorable a head nurse perceives her least-preferred co-worker, the less she believes she should act in a structured manner, independent of her perception of group stress. In other words, the lower a head nurse scores on the LPC scale, the more structure she believes she should initiate in the situation, regardless of perceived group stress.

Contrary to the relatively consistent LPC-IS relationship across stress, no LPC-C relationship was found in any of the stress groups nor did these LPC-C correlations differ significantly across stress. Obviously, this finding does not support the hypothesis that the LPC-C relationship would be significantly higher in the high stress group than in the low stress group.

There are at least three possible explanations as to why the relationship of LPC-IS and LPC-C did not change as a function of the

leader's magnitude of perceived stress. First of all, the operational definition of stress as perceived by the leader may have been inadequate. The GA scale appears to be easily fakeable in terms of placing oneself in a favorable light according to social expectations. But, there seems to be evidence that this scale is adequate. McKague (1968) and Hawley (1969) found the GA scale to be an intervening variable between the leader's LPC score and the subordinates' descriptions of leader behavior. In addition, Meuwese and Fiedler (1965) found that the behavior of high and low LPC leaders changed in accord with their GA scores. It does not appear that the stress variable used was inadequate.

The second possible reason why the LPC-LOQ relationship did not change according to the magnitude of stress may be explained as follows. In filling out the LOQ, the leader may imagine himself in a favorable situation. Therefore, he would then respond according to his goals associated with complete control and influence in the situation. Consequently, the leader may not have taken into account the stressfulness of the situation when describing himself on the LOQ. This notion is supported by Fendrich (1967) who states that the respondent's attitudes are not subject to outside situational factors in the normal testing situation.

And again, the third possible reason why the LPC-LOQ relationship did not change across stress groups emphasizes the distinction and relationship between attitudes and behavior. The obtained results may reflect relationships between attitudes that do not necessarily vary, if at all, in the same manner as associated LPC-IS and LPC-C behavior

when associated with stress. The hypothesis for the present study, based on behavioral data rather than on attitudinal data, may be appropriate only for predicting behavior change as a function of stress. The assumption that since a leader's proportion of IS and C behavior changes as a function of stress so should his associated proportion of IS and C attitude change, is questionable. As Kiesler, Collins and Miller (1969) suggest, "situational differences, norms and expectations can vary while the attitude remains constant. These differences in norms for behavior create differences in behavior unrelated to the attitude (p. 29)..." Evidence for the resilience of attitudes to pressures are reflected in unsuccessful attempts to change peoples attitudes in the world outside of the laboratory (Freedman, Carlsmith & Sears, 1970). Long-term attitude change has been unsuccessful in areas of anti-smoking campaigns, political campaigns, and brainwashing. "...Deeply held attitudes that generally have been built up over many years, are related to a great many other attitudes and beliefs, are supported by strong emotional feelings, and, accordingly, are resistant to change (Freedman, Carlsmith & Sears, 1970, p. 278)..." In the same light, Fiedler believes that it is easier to change the leader's work situation than to change his personality or basic style of leadership (Fiedler, 1969). Since there is evidence that an attitude may remain somewhat stable while associated behavior may vary, the LQ, an attitude measure may not reflect behavior and therefore most likely was not suitable to test a hypothesis based on behavioral evidence.

In summary, there are three possible explanations as to why the LPC-IS and the LPC-C relationship remained static across stress as per-

ceived by the leader. First, the GA scale may be an inadequate measure of perceived group stress, but this appears unlikely in the face of supportive evidence. Second, the leader, in filling out the LOQ, may have imagined himself in a favorable situation. He would then respond in accord to his attitude or goals associated with complete control and influence in the situation. Thirdly, the present results may be reflecting relatively stable attitudes rather than fluctuating behavior.

#### Correlations: Job Description Index (JDI) Split

Again, the LPC-IS and LPC-C correlations were examined across high-, medium-and low-stress groups. This time stress was operationally defined as stress as perceived by subordinates. A significant inverse relationship was found between LPC and IS in the high and low stress groups. (see Table IV, p. 26). The negative LPC-IS relationship in the middle stress group was not significant but in the right direction. When the LPC-IS correlations from the three stress groups were compared, it was found that they were not significantly different from each other (See Table IV, p. 26). Again generally, it would appear that the LPC-IS relationship is relatively stable and independent of stress. Stress does not appear to affect the way in which the high-or low-LPC leader believes he would structure his work situation.

The possible reasons for a lack of variations of the LPC-LOQ relationship across stress as perceived by the subordinates are very similar to the reasons for a lack of variation of the LPC-LOQ relationship across stress as perceived by the head nurses. First, the JDI may not

have been an adequate operational expression of the subordinates' perception of stress. However, this seems unlikely since Nealey and Blood (1968) found a strong relationship between the leader IS and C behavior and the JDI among subordinate nurses. Second, the leader, in filling out the LOQ, may have imagined himself in a favorable situation independent of his work situation. Therefore, he may have responded in accord to his goals associated with complete control and influence in the situation. Thirdly, the measure used may be reflecting attitudes rather than behavior.

When the LPC-C relationship was examined the only significant LPC-C correlation occurred in the middle stress group. However, this direct positive LPC-C correlation did not differ significantly from the LPC-C correlations in the high and low stress groups ( $Z=1.88$ ,  $p>.05$ ;  $Z=1.93$ ,  $p>.05$  respectively), but the differences were approaching significance. Since the middle stress LPC-C correlation is significantly different from zero and nearly significantly different from the obtained correlations in the high and low-stress groups, future research in this regard may be warranted. But, at the present time, no meaningful interpretation of this finding can be made. Future research will have to determine whether the obtained correlation is replicable or merely an instance of Type I error.

Since there was no indication of an overall LPC-C relationship (see Table II, p. 21), the obtained significant LPC-C correlation in the middle stress group may, in fact, be spurious. Since no reasonably consistent LPC-C relationship was detected, any speculation as to why this



relationship did not change across stress groups is not warranted at the present time.

In summary, the present study found an unexpected overall inverse correlation between LPC and IS. This inverse correlation appeared repeatedly under every stress condition. In every case, the correlations were either significantly different from zero or relatively high and in the right direction. There is little doubt that the low LPC head nurses felt that they should act in a structuring fashion and the high LPC head nurses felt that they should initiate less structure in the group situation -- irrespective of stress. Various explanations were offered as to why this phenomenon occurred but future research will have to determine whether it is replicable and if it is a stable phenomenon. Future research will have to determine its exact cause. There does not appear to be any reliable relationship between LPC and C. No evidence was obtained to indicate that the high LPC leader is any more considerate than the low LPC leader. Also the present study failed to find any evidence that the attitudes of the high LPC leaders and the attitudes of low LPC leaders differ under varying conditions of stress, and various explanations were offered as to why this occurred. It was suggested that support for the various hypotheses offered in the present study may have been obtained if a measure of behavior rather than attitudes had been utilized and that most likely, the results obtained in the present study are reflecting attitudes rather than behaviors.

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## APPENDIX A :

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Self-assured :     :     :     :     |     :     :     :     : Hesitant  
                  8      7      6      5      4      3      2      1

Efficient :     :     :     :     |     :     :     :     : Inefficient  
                  8      7      6      5      4      3      2      1

Gloomy :     :     :     :     |     :     :     :     : Cheerful  
                  1      2      3      4      5      6      7      8

Open :     :     :     :     |     :     :     :     : Guarded  
                  8      7      6      5      4      3      2      1

## INSTRUCTIONS

Below are pairs of words which are opposite in meaning, such as "tense" and "relaxed". You are asked to describe the atmosphere of your group by placing an "X" in one of the eight spaces on the line between the two words.

Each space represents how well the adjective fits your group that you work with, as if it were written:

Tense: \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ | \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : Relaxed  
           8      7      6      5      4      3      2      1  
       Very Quite Some- Slight-Slight- Some- Quite Very  
       Tense Tense what ly ly what Relaxed Relaxed  
                   Tense Tense Relaxed Relaxed

FOR EXAMPLE: If you were to describe the atmosphere of your group, and you ordinarily think of the group as being slightly tense, you would put an "X" in the fourth space from the word "Tense", like this:

Tense: \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : X | \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : Relaxed  
           8      7      6      5      4      3      2      1  
       Very Quite Some- Slight-Slight- Some- Quite Very  
       Tense Tense what ly ly what Relaxed Relaxed  
                   Tense Tense Relaxed Relaxed

DESCRIBE THE ATMOSPHERE OF YOUR GROUP BY CHECKING THE FOLLOWING ITEMS.

	8	7	6	5	4	3	2	1		
1. Friendly	:	_____	:	_____	:	_____	:	_____	:	Unfriendly
2. Accepting	:	_____	:	_____	:	_____	:	_____	:	Rejecting
3. Satisfying	:	_____	:	_____	:	_____	:	_____	:	Frustrating
4. Enthusiastic	:	_____	:	_____	:	_____	:	_____	:	Unenthusiastic
5. Productive	:	_____	:	_____	:	_____	:	_____	:	Non-productive
6. Warm	:	_____	:	_____	:	_____	:	_____	:	Cold
7. Cooperative	:	_____	:	_____	:	_____	:	_____	:	Uncooperative
8. Supportive	:	_____	:	_____	:	_____	:	_____	:	Hostile
9. Interesting	:	_____	:	_____	:	_____	:	_____	:	Boring
10. Unsuccessful	:	_____	:	_____	:	_____	:	_____	:	Successful

## Appendix D

## JOB DESCRIPTION INDEX

This is a study of group-member attitudes in different nursing situations in Northwestern Ontario.

Please put a "Y" for yes beside an item if the item describes a particular aspect of your job; and a "N" for no if an item does not describe that aspect of your job. Place a "?" if you cannot decide.

This is an anonymous questionnaire and individual or group results will not be revealed to your supervisors.

You can easily complete this questionnaire in one coffee break. This questionnaire should be returned to the designated place in the nursing station as soon as it is done.

Please give your age, sex and number of years you have worked in this profession here or elsewhere.

Thank you for your cooperation.

## Appendix D

SEX \_\_\_\_\_

AGE \_\_\_\_\_

NUMBER OF YEARS IN YOUR PROFESSION \_\_\_\_\_

## WORK

- \_\_\_\_\_ Fascinating
- \_\_\_\_\_ Routine
- \_\_\_\_\_ Satisfying
- \_\_\_\_\_ Boring
- \_\_\_\_\_ Good
- \_\_\_\_\_ Creative
- \_\_\_\_\_ Respected
- \_\_\_\_\_ Hot
- \_\_\_\_\_ Pleasant
- \_\_\_\_\_ Useful
- \_\_\_\_\_ Tiresome
- \_\_\_\_\_ Healthful
- \_\_\_\_\_ Challenging
- \_\_\_\_\_ On your feet
- \_\_\_\_\_ Frustrating
- \_\_\_\_\_ Simple
- \_\_\_\_\_ Endless
- \_\_\_\_\_ Gives sense of accomplishment

## Appendix D

## SUPERVISION

- \_\_\_\_\_ Asks my advice
- \_\_\_\_\_ Hard to please
- \_\_\_\_\_ Impolite
- \_\_\_\_\_ Praises good work
- \_\_\_\_\_ Tactful
- \_\_\_\_\_ Influential
- \_\_\_\_\_ Up-to-date
- \_\_\_\_\_ Doesn't supervise enough
- \_\_\_\_\_ Quick tempered
- \_\_\_\_\_ Tells me where I stand
- \_\_\_\_\_ Annoying
- \_\_\_\_\_ Stubborn
- \_\_\_\_\_ Knows job well
- \_\_\_\_\_ Bad
- \_\_\_\_\_ Intelligent
- \_\_\_\_\_ Leaves me on my own
- \_\_\_\_\_ Lazy
- \_\_\_\_\_ Around when needed

## Appendix D

## PAY

- \_\_\_\_\_ Income adequate for  
normal expenses
- \_\_\_\_\_ Satisfactory profit sharing
- \_\_\_\_\_ Barely live on income
- \_\_\_\_\_ Bad
- \_\_\_\_\_ Income provides luxuries
- \_\_\_\_\_ Insecure
- \_\_\_\_\_ Less than I deserve
- \_\_\_\_\_ Highly paid
- \_\_\_\_\_ Underpaid

## Appendix D

## PROMOTIONS

- \_\_\_\_\_ Good opportunity for advancement
- \_\_\_\_\_ Opportunity somewhat limited
- \_\_\_\_\_ Promotion on ability
- \_\_\_\_\_ Dead-end job
- \_\_\_\_\_ Good chance for promotion
- \_\_\_\_\_ Unfair promotion policy
- \_\_\_\_\_ Infrequent promotions
- \_\_\_\_\_ Regular promotions
- \_\_\_\_\_ Fairly good chance for promotion

## Appendix D

## CO-WORKERS

\_\_\_\_\_ Stimulating  
\_\_\_\_\_ Boring  
\_\_\_\_\_ Slow  
\_\_\_\_\_ Ambitious  
\_\_\_\_\_ Stupid  
\_\_\_\_\_ Responsible  
\_\_\_\_\_ Fast  
\_\_\_\_\_ Intelligent  
\_\_\_\_\_ Easy to make enemies  
\_\_\_\_\_ Talk too much  
\_\_\_\_\_ Smart  
\_\_\_\_\_ Lazy  
\_\_\_\_\_ Unpleasant  
\_\_\_\_\_ No privacy  
\_\_\_\_\_ Active  
\_\_\_\_\_ Narrow interests  
\_\_\_\_\_ Loyal  
\_\_\_\_\_ Hard to meet



Appendix E  
Instructions

This is a study of group-member attitudes in different nursing situations in Northwestern Ontario.

Please fill out the three questionnaires given to you. This should not take longer than 40 minutes. Please return the completed sheets to the designated area in your nursing station.

This is anonymous and individual or group results will not be revealed to your superiors. Please ignore the space for your name, organization and position on the front of the Leadership Opinion Questionnaire.

Thank you for your cooperation.

## Data

## Data For All Subjects

S #	LPC	IS	C	GA	JDI	JDI/n
1	26	53	52	70	93	5
2	53	41	57	64	116	4
3	47	46	44	68	117	5
4	39	43	57	80	120	7
5	38	47	57	70	120	5
6	54	45	51	67	123	4
7	39	46	62	67	131	8
8	37	54	55	65	134	6
9	48	43	61	63	137	6
10	36	45	62	70	139	7
11	43	45	62	60	140	5
12	47	49	64	80	141	3
13	43	37	57	63	143	4
14	51	52	58	63	148	7
15	36	55	57	65	149	5
16	46	40	60	68	149	8
17	43	43	53	74	151	3
18	59	35	67	78	151	3
19	34	50	53	59	154	5
20	52	59	59	80	157	4
21	49	49	50	77	157	7
22	52	41	52	64	158	8
23	62	33	46	71	158	7
24	57	38	54	70	164	5
25	46	48	66	66	166	5
26	64	34	66	80	166	7
27	26	43	56	64	166	3
28	37	48	55	70	167	4
29	36	48	60	76	175	6
30	44	41	66	71	190	4

<u>Code</u>	<u>Variable</u>
S #	Subject Number
LPC	Least Preferred Co-Worker Scores
IS	Initiating Structure Scores
C	Consideration Scores
GA	Group Atmosphere Scores
JDI	Average Job Description Index
JDI/n	n for JDI score