PERSONALITY, MOTIVATIONAL SYSTEMS, AND BEHAVIOR OF HIGH AND LOW LPC PERSONS

Fred E. Fiedler
University of Washington

Technical Report 70-12
September, 1970
PERSONALITY, MOTIVATIONAL SYSTEMS, AND
BEHAVIOR OF HIGH AND LOW LPC PERSONS

Fred E. Fiedler
University of Washington

Technical Report 70-12
September, 1970

ARPA Order 454, Contract 177-473, N00014-67-A-0103-0013,
Contract ONR 177-472, NONR 1834(36),
Office of Naval Research, Department of the Navy
and

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED
PERSONALITY, MOTIVATIONAL SYSTEMS, AND BEHAVIOR OF HIGH AND LOW LPC PERSONS

Fred E. Fiedler
University of Washington

Abstract

This paper presents a new interpretation of the Least Preferred Coworker (LPC) score which suggests that the score reflects a hierarchy of goals. High LPC persons have as their primary goal the establishment and maintenance of interpersonal relations and as a secondary goal the attainment of prominence and self-enhancement. The low LPC person is seen as having as his primary goal the achievement of tasks and material rewards while he has as his secondary goal the development of good interpersonal relations. 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 unfavorable and stressful. The implications of this interpretation and the supporting data for the prediction of behavior, leadership training, and personality theory are discussed, as is the integration of the Contingency Model results with findings obtained in other leadership research programs.
PERSONALITY, MOTIVATIONAL SYSTEMS,
AND BEHAVIOR OF HIGH AND LOW LPC PERSONS

Fred E. Fiedler
University of Washington

Research on leadership by the author and his associates, conducted since 1951 (Fiedler, 1967; 1970b), has led to a theory of leadership effectiveness called the "Contingency Model." This theory postulates a contingent relationship between leadership performance and a leadership style score, called the esteem for the Least Preferred Coworker, or LPC. This relationship is moderated by a "situational favorableness" dimension, which is conceptually defined as the degree to which the leadership situation enables the leader to control and influence his group's behavior.

The theory postulates that leaders with low LPC scores (who describe their least preferred coworker in a very negative manner) perform better in very favorable and relatively unfavorable situations; leaders with high LPC scores (who describe their LPC in relatively positive terms) perform better in situations which are intermediate in favorableness. The theoretical model, first presented in 1964, has been substantiated with some modifications in a large number of subsequent studies (Fiedler, 1970b; see also a critique by Graen, et al., 1970). The LPC score has been used in numerous investigations on interpersonal relations, on educational problems, employee satisfaction, as well as leadership and clearly represents an important predictor of interpersonal behavior.

LPC is obtained by asking an individual to think of everyone with whom he has ever worked on a common task, and then to describe the one
person with whom he has found it most difficult to work. The description of this least preferred coworker is made on a set of 8 point bi-polar scale items modeled after the Semantic Differential, e.g.,

```
```

```
```

In some respects the Least Preferred Coworker score, LPC, is an almost ideal psychological measure. It takes no more than five minutes to administer, it consists of a short set of scale items (usually 16 to 20); it has split-half reliability of above .90, a test-retest reliability for adults ranging from .5 to .8; and it arouses little if any resistance on the part of subjects (Fiedler, 1967). In addition, the score has yielded consistent relations with leadership performance. On the other hand, the score has also been extremely resistant to any meaningful interpretation despite a persistent and intensive effort which has extended over nearly two decades. LPC has been uncorrelated with most personality test scores and various attempts to relate the score to self-descriptions, descriptions by others, or behavioral observations have led to complex or inconsistent results.

This paper presents a new interpretation of the LPC score which throws light not only on this leadership measure but also the dynamics underlying the leader's interpersonal and task behavior. The LPC score generally has been interpreted as measuring a task- versus relationship-orientation (high LPC persons being relationship-oriented, low LPC being task-oriented).

This interpretation, based primarily on weak observational data and leader
Fiedler descriptions, turns out to present an approximate but grossly oversimplified picture.

The difficulties in the interpretation of LPC scores stem from three sources. (1) As mentioned above, leader descriptions and observations as well as some personality measures of high and of low LFC persons have given weak and sometimes inconsistent results suggesting that high LPC leaders behave in a relationship-oriented manner while low LFC leaders behave in a task-oriented manner. (2) Some studies have shown, however, that low LFC persons describe themselves as concerned with developing or maintaining good relations while high LPC persons describe themselves as concerned with attaining positions of prominence which will provide them with recognition and rewards. (3) Finally, we find complex interactions between LPC and situational favorableness in determining interpersonal behavior. In favorable situations, in which the leader has a relatively high degree of influence and control, high LPC leaders behave in a task-relevant manner while low LFC persons are seen as considerate and concerned with good interpersonal relations. The opposite is the case in unfavorable situations. Here the high LPC leaders are seen as considerate and concerned with close interpersonal relations while the low LPC leaders are seen as task-oriented and relatively unconcerned with the maintenance of good interpersonal relations. Thus, the high LPC person tends to describe himself as self-oriented and concerned with the task, and in favorable situations he is also seen as task-oriented by others. However, in unfavorable and stressful situations he is seen as behaving in a considerate and relationship-oriented manner. The low LPC person tends to describe himself as concerned with good interpersonal relations; and
in favorable situations he is seen as considerate and person-oriented. However, in unfavorable and stressful situations he is seen as behaving in a task-oriented manner. Any satisfactory interpretation of LPC must adequately account for these complex characteristics of the score.

Basic Assumptions

The present interpretation of LPC requires certain assumptions which are here made explicit.

1. Each individual has a variety of goals which differ in importance; hence his motivation to achieve various goals correspondingly differs in strength.

2. Different types of individuals have different goal structures. The goals which are primary for one individual may have secondary, or still more negligible importance for another.

3. An individual will attempt to achieve as many of his goals as possible. In situations in which his control and influence is relatively great, in which he feels that he either has, or that he can, attain his "primary" goal, he will devote his efforts as well to the attainment of his less important "secondary" goals. In situations in which his control and influence are relatively weak or threatened, the individual will tend to concentrate his efforts on securing his primary goals to the neglect of his secondary goals.

4. At least insofar as their behavior in task situations is concerned, we shall further assume that individuals can be arrayed on a continuum at the poles of which we can identify two "types." One type (high LPC) consists of individuals who are primarily motivated to seek "relatedness" with others. By relatedness we mean here interpersonal interactions with
significant others, including superiors, coworkers, and subordinates (see Alderfer, 1969). Their secondary goal is self-enhancement, prominence, and esteem from others.

At the other end of the continuum are individuals (low LFC) who are primarily motivated by explicit competition for material and tangible rewards in the work situation, including praise and recognition for good work by superiors, or the feeling of accomplishment derived from the knowledge that the job was well done. The secondary goal of these individuals is to have good interpersonal relations with their work associates, especially if these good interpersonal relations will lead to the accomplishment of the assigned task. Thus, whether or not it can be verbalized, the formula for these individuals in terms of behavior is "business before pleasure."

Predictions

A number of predictions can be derived from the above listed assumptions.

1. When an individual is asked to describe himself he is likely to tell us how he wishes to behave or how he actually behaves in situations in which he has relatively great control and influence. In other words, an individual's self-description is more likely to reflect how he sees himself when he is secure, poised, and sure of himself than when he is insecure, anxious, and bumbling. In these secure situations he is also likely to seek the attainment of his secondary as well as his primary goals and motives.

2. Many test and experimental situations are designed to see what the individual will do in new or unstructured situations which, by
definition, involve unknown, uncertain, and uncontrollable elements. Hence, many of these observations will reflect the individual's behavior under some stress, and are likely to show the individual in the process of trying to secure his primary rather than his secondary goals. The behavior predicted on the basis of paper and pencil tests may, therefore, not match the behavior we observe in stressful and unfavorable situations.

3. In leadership situations, the most important threats to the leader's control and influence are likely to come from three sources: (a) the degree to which his group members cannot be depended upon; i.e., the degree to which the group may not back the leader; (b) the degree to which the task is unfamiliar and unstructured or stressful and (c) the degree to which the leader's position power is too weak to provide effective control and influence over his group. When the situation provides a high degree of certainty and control, the leader can be reasonably sure that his primary goals will be achieved and he will then also feel free to seek the attainment of his secondary goals.

Empirical Evidence

Self-reports. The first prediction was that individuals would describe themselves in terms of how they wish to be, or how they are at their better rather than their worse moments. Predictions of behavior based on personality tests generally have not been very satisfactory, e.g., Baughman and Welsh (1962). One reason for this disappointing record may well be that the behavior of the individual in the testing situation is differently motivated from his behavior observed in controlled studies or real life tests.

The LPC score, with which we are here concerned, has been correlated
with innumerable traits and personality measures. The resulting correlations have tended to be low and inconsistent. One of the few tests which yielded a statistically significant relationship with LPC was B. M. Bass' personality orientation inventory. The relations were low, even though the F-tests differentiating between high and low LPC persons were significant at the .01 level, (Bass, Fiedler & Krueger, 1964). High LPC persons were more "self-oriented" than low LPC persons, while the latter were more "interaction-oriented" than high LPC persons. In other words, high LPC persons tended to describe themselves as seeking self-enhancement, positions of eminence, and public recognition of their achievements. In contrast, low LPC persons described themselves as seeking personal relations and interaction with others. Only one other personality item correlated significantly with LPC (-.16). This item, "Sticking with my friends in a difficult situation is more important than going my way," was answered more positively by low than high LPC persons. An unpublished study by Bishop (1964) using Higgs' (1965) modification of Bass' scales, also found low LPC persons significantly more interaction-oriented and high LPC persons somewhat higher on the prominence scale (self-oriented).

Data from a study conducted with teenage volunteers in Honduras (Fiedler, O'Brien, & Ilgen, 1969) also yielded low but positive correlations of .20 (N=38) for males and .18 (N=60) for females between LPC and the Higgs Prominence scale. While somewhat different items emerged as significant in test responses of male and female subjects with high and low intelligence scores, 9 of 12 prominence items were answered significantly more positively by high than low LPC subjects; and 12 of 13
Achievement items were answered significantly more positively by low than high LPC subjects. Examples of Prominence items are "I like personal praise," and "I would like to be written about in a newspaper story." Achievement items are exemplified by "I would like to be a capable person," and "I work well when I work on a challenging problem."

Note, however, that low LPC college students in Bass, Fiedler and Krueger (see Footnote 3) study responded more positively to Bass' Interaction-orientation Scale while there were no differences between high and low LPC persons on his Task-orientation Scale.

Particularly interesting data bearing on the interpretation of LPC were obtained by Nealey in an unpublished study of college students. Nealey asked students to complete various paper and pencil questionnaires, including LPC scales. One of these asked the student (a) which of various traits or personality adjectives he saw as relevant to accomplishing a leadership task, (b) which he saw as contributing to good interpersonal relations, and (c) how important these would be for a leader. High LPC persons rated more task-relevant adjectives as important than did low LPC persons, while the latter rated the relationship-relevant items as more important.

Nealey further asked each subject to imagine himself to be the foreman of a work group which was in serious difficulties. Each person was then asked to say whether he would concentrate on the job to the neglect of interpersonal relations, or the reverse. High LPC persons to a significantly greater extent opted for concentration on the task, while low LPC persons opted for concentration on the interpersonal relationship. Thus, here again, the results ran exactly counter to the
usual interpretation that high LFC persons are relationship-oriented and low LFC persons are task-oriented. Taken at face value, the results mentioned in this section would support the interpretation that high LPC persons are task oriented while low LPC persons are relationship or achievement oriented.

Personality descriptions and observations. Descriptions and indirect personality test measures of high and low LPC leaders represent quite different motivational pictures. These data, usually obtained under more or less stressful or threatening experimental conditions, show the high LFC person as concerned with interpersonal relations and the low LPC person as concerned with performance.

Descriptions of Leaders. In Hawkins (1962) study low LPC leaders were described by others as "more task-than-relationship oriented" and rated as more punitive toward poor coworkers. In Meuwese's (1964) study of leader behavior and performance under stress, low LPC leaders were seen as somewhat more structuring, efficient, and goal oriented, while high LPC leaders were described as more considerate. Hawley (1969) reported low LPC principals rated by their teachers as higher on initiating structure (-.36) and on "assumption of leader role" (-.45), both significant.

Graham (1968) tested 116 life insurance agents from 18 agencies to determine the leader behavior of high and low LPC managers. The results of his study supported the notion "that high LPC leaders tend to be primarily human relations oriented whereas low LPC leaders tend to be more task oriented."

Indirect Personality Measures. Mitchell (1970) found that high LPC
persons tend to be more cognitively complex in classifying various groups. We may view cognitive complexity as one indication of underlying or overt interest in, and concern with, a domain of objects (see Schroder, et al., 1967). It is obvious that we differentiate and make fine distinctions about things which concern us while we are content to deal with objects of little concern in broad categories or stereotypes. Since groups and other individuals are the basis for social support, the high LPC person's ability to categorize and to think analytically about groups and certain coworkers would imply that his concern with them is greater than that of the low LPC person. This would be consistent with the notion that the high LPC person views others as instrumental to his primary motivation for relatedness to his work group.

A study by Bass, Fiedler, and Krueger (see Footnote 3) of 163 college students showed that the factor structure of high LPC persons contained unique factors pointing to the salience of interpersonal relationships in their perceptions of self and others; the factor structure of low LPC persons indicated that task leadership and task orientation are more important in their thinking about self and others.

Another study with important implications was conducted by Fishbein, et al., (1969). The authors asked high and low LPC persons to describe in their own words individuals with whom they found it most difficult to work on a common task. A frequency count was obtained for the various adjectives employed in these descriptions.

The high LPC leader tended to see his least preferred coworker as an intelligent, self-willed, bullheaded, bossy, uninvolved, assertive know-it-all, i.e., someone who might be expected to compete with the
leader for prominence and eminence in the group. The low LPC person tended to see his least preferred coworker as an unintelligent, incompetent team worker who is unfriendly, self-centered and egotistical, sloppy, messy, careless, slow, as well as unpleasant and obnoxious—in other words, a poor team member who is unreliable, incompetent, and stupid. The results take on particular meaning if we assume that the least preferred coworker is likely to be highly threatening and potentially frustrating to the needs of the leader in a task situation. Thus, the high LPC leader tends to be threatened by someone who might compete for group leadership while a low LPC leader is threatened by someone who would frustrate the efficient performance of the task.

**Leader's Reactions.** Using data obtained by Meuwese (1964), Bishop (1964) investigated the reactions of high and low LPC leaders to success or failure in interpersonal relations and assigned tasks. He measured adjustment on the basis of the individual's satisfaction with the group as well as the anxiety and tension reported in post-session questionnaires. Subjective interpersonal success was measured by the subject's report of how well he could work with the other two group members. Subjective task success was the individual's rating on how well he thought his group had performed, how well they would perform on another task, etc. Bishop's study showed that the adjustment of high LPC persons increased as a function of experiencing interpersonal success while the adjustment of low LPC persons increased as a function of experiencing task success.

McGrath and Julian (1963) found that the low LPC person's group atmosphere score significantly increased if he thought he had been
successful in a negotiation group. No such effect occurred for high LPC subjects. A study by Myers (1962) of competitive and non-competitive rifle marksmanship teams yielded similar results. In the competitive condition (when success counted) the low LPC person's perception of being accepted was significantly higher when the team was successful than when it was unsuccessful. No effect was found for high LPC persons in this condition. In other words, task success raised the low LPC person's esteem of himself and increased his belief that others will esteem him higher.

Leader reactions to the group—new analyses. The previously obtained results suggested that the low LPC person's feeling of satisfaction and adjustment is closely linked to task performance while the high LPC person's feelings of satisfaction and adjustment depend upon good interpersonal relations. We would expect, therefore, that the low LPC leader's feeling of being accepted and liked would be closely related to his satisfaction with his task performance.

These hypotheses could be tested by reanalyzing data from earlier studies. As is the case with most small group research, the number of cases available for any one analysis is less than desirable. The findings are, however, quite consistent from study to study and, therefore, worth reporting. Note, however, that the findings came from groups with high leader position power and structured tasks (i.e., the relatively favorable Octant I and the intermediately favorable Octant V) and may not generalize to other situations.

Interpersonal Relations and Task Relevant Behavior. Julian, Bishop, and Fiedler (1966) studied squads of a combat engineer battalion. These
squad were divided into those with high and low LPC leaders. The correlations between the low LPC leader's feeling of being liked and his perceived task effectiveness was .83 (N=9, p < .05) while that for high LPC leaders was -.56 (N=9, n.s.). As in the McGrath and Julian study, therefore, low LPC leaders who felt liked also considered themselves successful. In contrast high LPC leaders perceived being liked and being successful as unrelated if not antagonistic outcomes. A re-analysis of data from an Army tank crew study (Fiedler, Dodge, & Hutchins, 1959) showed similar results; the members' sociometric acceptance of the leader correlated with a work related morale score .81 (p < .05) for low LPC but -.01 for high LPC leaders.

Linked to the leader's feeling about the task is his feeling about his own superior officer, i.e., the individual who assigns the task. In the study of combat engineer squads, the squad's esteem for the leader and the leader's esteem for his commanding officer correlated .63 (N=9) for low LPC leaders but -.35 for high LPC leaders. For the low LPC leader good task performance is, thus, associated with good interpersonal relations. The high LPC leader, on the other hand, may well achieve good interpersonal relations at the expense of good task performance or else, his striving for good task performance (or pleasing his superior) results in poor interpersonal relations with his group members. This finding is supported by a correlation of -.87 (N=9, p < .01) between the high LPC leader's feeling of being liked and his rated task orientation, i.e., high LPC leaders who think they are liked are also seen as not task motivated (versus -.01 for low LPC leaders). Their findings again suggest that the high LPC leader who attends to the task has, or feels he has, poor relations with his group members.
Group relations and Interpersonal Behavior. Having a good relationship with the group and liking the group is closely related for the high but not for the low LPC leader. In the combat engineer study, feeling liked and liking his own unit correlated positively (.95, N=9, p < .01) for high LPC leaders but negatively (-.49) for low LPC leaders. This is further supported by the finding that the high LPC leader who felt liked was seen as not distant by his group (-.30) while the low LPC leader who felt liked was seen as distant (.83, N=9, p < .05). Likewise, in the combat engineer study, the squad’s esteem for the leaders and the squad’s rating of the leader’s psychological distance was .60 for low LPC leaders but -.05 for high LPC leaders. Risking a causal interpretation of these correlational data, the high LPC leader seems to respond to good relations with his group by being psychologically close and by reciprocating the group members' positive feelings toward him, although, as we have seen, apparently to the neglect of the task. The low LPC leader seems to respond to good interpersonal relations by becoming psychologically distant (perhaps to guard against jeopardizing the group’s task performance).

The results, while based on small samples, are consistent with the hypothesis that the low LPC leader uses his good interpersonal relations to get good task performance while the high LPC leader perceives his task related leadership functions as separate from, if not antagonistic to, his good interpersonal relations with members of his group.

Interaction of LPC and Situational Favorableness

The disparate findings obtained from self-descriptions, personality tests, and observations have made the interpretation of LPC extremely
difficult. The concept of a hierarchy of goals and associated motives provides a basis for reconciling these seemingly contradictory findings. If such a hierarchy does exist, we would expect that the individual (a) will behave differently in non-threatening and in threatening situations, (b) that his public self-concept will tend to be consistent with his behavior under non-threatening situations, and (c) that his behavior under threat will be more consistent with his attempt to achieve his primary rather than his secondary goals. Specifically, we would expect that high LPC leaders in favorable situations would behave in a way which would lead to the accomplishment of their secondary goals, i.e., self-enhancement, prominence, and recognition. Under unfavorable or threatening conditions we would expect the high LPC leaders to concentrate on securing their primary goals, i.e., to devote their efforts to maintaining good relations with coworkers. For low LPC leaders we would expect in favorable or non-threatening situations behavior to maintain good interpersonal relations, and to concentrate on essential task functions when the situation is threatening and unfavorable.

Probably the most important single measure, indicating concern with good interpersonal relations, is the "Consideration" dimension, identified by the Ohio State Studies (see Stogdill and Coons, 1957). This dimension is measured by the group members' description of the leader. It includes such items as "He listened attentively to others," "He was friendly, and it was easy to talk to him," etc. A second behavior dimension of importance, although defined variously in the annotated studies, is concerned with structuring the interaction and the performance of the task.
Several studies mentioned in this paper used consideration items similar to those found in the Ohio State leader behavior description questionnaire. Some of these studies have already been described and will here be only briefly annotated.

a. A study by Fiedler, Meuwese, & Oonk (1961) compared four-person groups which were composed of Dutch Calvinists and/or Dutch Catholics on performance and behavior in tasks requiring creativity. The sessions were tape recorded and the recordings were then content analyzed.

The most favorable situation for the leader was found in groups which were homogenous in religion and subculture and where the leader was formally appointed as the chairman. The least favorable situation involved emergent leaders of groups in which the members were heterogenous in religious background and subculture.

The analysis showed that groups with high LPC leaders made a greater number of task relevant comments ("proposes" or "elaborates new ideas") in the most favorable situation than did groups led by low LPC leaders, and they made fewer statements which would enhance the personal relationship (task irrelevant and procedural comments). In contrast, groups under low LPC leaders made more relationship-oriented statements in the favorable condition and more task-relevant statements in the unfavorable situation. (See Figures 11-1 and 11-2 in Fiedler, 1967).

b. A study of ROTC cadets (Meuwese and Fiedler, 1965) dealt with creative performance under three conditions of stress. Group Atmosphere (GA) scores were obtained after each task session and groups were then divided into those with good and poor leader GA scores. In the low stress condition and good group atmosphere, low LPC leaders were rated as more relationship-oriented ("democratic leader," "promotes
group participation") than high LPC leaders, while high LPC leaders were rated as more relationship-oriented than low LPC leaders under poor group atmosphere or stressful conditions. The reverse occurred for task-relevant types of behaviors ("proposes new ideas," and "integrates ideas"). Here the high LPC leaders were rated more highly in the low stress condition while the low LPC leaders were rated more highly in the more stressful conditions. (See Figures 11-3 and 11-4 in Fiedler, 1967).

c. A study by Sample and Wilson (1965) compared the behavior of leaders whose groups were conducting class projects involving the running of a small laboratory experiment. Three phases were identified by the authors, viz., planning the experiment, running it, and writing the report. Shirakashi noted that the three sub-tasks could be scaled in terms of their structure, with "running" being most structured, "writing" second, and "planning" least structured. He then used the Sample and Wilson data to show that the low LPC leaders made more positive social emotional responses in the running phase and the fewest in the planning phase, while the high LPC leaders made fewer positive emotional statements in the running phase and more in the planning phase. The high LPC leaders made most task relevant remarks ("attempted answer") in the running phase and fewest in the planning phase. These data very aptly exemplify most of the findings here discussed (Figure 1).

Insert Figure 1 here

---

d. A study by Fiedler (1966) used Belgian Navy teams in a large and complex study of group creativity. Groups performed under conditions
which could be scaled on situational favorableness. The study showed that the low LPC leaders were more considerate and interacted more intensively with group members in favorable situations while high LPC leaders were more considerate and interacted more intensively in the less favorable situations.

e. Hawley (1959) investigated relations between LPC scores of elementary school principals and their leadership behaviors as measured by a 12 factor leader behavior description questionnaire. Hawley pooled the 12 factors into two factors: a "person oriented" factor consisted of tolerance of uncertainty, tolerance of freedom, consideration, and demand reconciliation with negative loadings on production emphasis and initiating structure. A "system oriented" factor consisted of "initiating structure, production emphasis, persuasiveness, role assumption, and representation." The results showed high LPC principals with low Group Atmosphere scores described as more person oriented, while low LPC principals, also with low GA scores, were described by their teachers as more "system oriented" (-.53, N = 13, p .05). The corresponding correlations for principals with high GA scores were -.04 for high LPC and .27 for low LPC leaders.

In summary, these as well as several other studies not specifically discussed in this paper (e.g., Ayer, 1968; Morris & Fiedler, 1964; Fiedler & Barron, 1967; Cruenfeld, Renz & Weissenberg; Fiedler, O'Brien, and Ilgen, 1969), indicate quite clearly that LPC scores consistently and predictably interact with situational favorableness in affecting leader behavior. In favorable situations, high LPC leaders tend to be concerned with the task, while low LPC leaders behave in a
relationship-oriented manner. In unfavorable situations, under stress, etc., the high LFC leaders tend to behave in a relationship-oriented manner while the low LFC leaders behave in a task-oriented manner. These studies relating LPC to leader behavior clearly indicate that the unfavorable, and therefore more threatening, leadership situation evokes quite different types of reactions from the high and from the low LPC leader. The theoretical import of these findings derives from the evidence that the reactions of leaders in the favorable situation tend to be consistent with the self-descriptions by high and low LFC individuals. The behaviors of leaders with high and low LFC under unfavorable situations are more similar to observations of high and low LFC individuals under actual test conditions or inferences from indirect measure of personality and behavior. (See Table 1)

Effect of training on leader behavior. Very few studies conducted under our program have systematically explored the influence of training on leader behavior. The data which are available throw a very interesting light on the effect of training on the behavior of high and low LFC leaders. One would expect, of course, that a training program would give the leader better means for dealing with the situation or a better understanding of the situation—and thus make the task in effect more structured. We would then expect that a relevant training program would affect the behavior of the high and the low LPC leaders differently.

Two studies illustrate this point. These studies were concerned with testing a culture training program, the so-called Culture Assimilators,
Fiedler
(Fiedler, Mitchell, Triandis, 1970) which provide information about another culture in the form of a self-administered programmed instruction. The effectiveness of this programmed instruction has been demonstrated in several recent papers, (Chemers, et al., 1966; Chemers, 1969; O'Brien, Fiedler, & Hewett, 1970; Mitchell & Foa, 1969).

The Chemers, et al. study tested the effectiveness of an Arab Culture Assimilator. Subjects were 28 American Reserve Officer Training Corps cadets who, along with 7 pairs of Arab students at the University of Illinois, performed three tasks under controlled conditions. The American students served as group leaders, and half of them were given Culture Assimilator training for the Arab countries while the other 14 leaders received programmed instruction in Mid East geography. After each task session, the members were asked to rate the group climate, i.e., the interpersonal relationship established by the leader, and their enjoyment of the group session. The ratings of culture trained leaders were 23.56 and 24.56 for high and for low LPC leaders respectively, and 24.70 and 22.56 for geography trained leaders with high and with low LPC scores. Thus, the low LPC leaders developed a more enjoyable group climate in the culture trained condition and the high LPC leaders developed better relations and group climate in the geography trained condition (interaction significant at the .01 level). Since the culture training presumably made the situation more favorable than the geography training, the results clearly support the hypothesis. Similar findings, significant at the .05 level were obtained from members' esteem for the leader. While there were no marked differences between high and low LPC leaders who had received culture training, the high LPC leaders in the geography
training condition were more highly esteemed by their members than were the low LPC leaders. Since the geography training did not increase the favorableness of the situation, the high LPC leaders would be more highly motivated than low LPC leaders to develop good interpersonal relations with group members. This apparently was the case.

A second study was conducted in Iran by Chemers (1969) and involved an Iran Culture Assimilator for training American leaders. The participants, working in 3-man groups, were 48 Americans living in Teheran and 96 Iranians who volunteered for the study. The Americans served as leaders, the Iranians as members. Half the American leaders received Culture Assimilator training while the others received training with a comparable program on Iranian geography.

As in the Chemers, et al. study, the members were asked after completion of the group tasks to rate the group atmosphere, to describe the leader’s behavior, to evaluate the leader, and to indicate their liking for the intercultural situation. The ratings expressed in z-scores, are shown on Table 2.

As can be seen, all interactions were significant in the expected direction. In the more favorable culture-trained situation, the low LPC leaders were evaluated as being more considerate, they were esteemed more highly, and the members evaluated the group atmosphere and the situation more favorably. In the less favorable geography-training condition, the high LPC leaders and their sessions were evaluated more highly. In other words, leadership training (here in understanding the members’ culture)
changed the ratings of leader consideration as well as the group climate in a predictable manner consistent with the theoretical expectations. Although we have no evidence as yet to substantiate this point, one would expect that other types of training, e.g., sensitivity groups, case study methods, or technical instructions, would modify leader behavior depending upon the degree to which the training improved the favorableness of the situation for the leader. The complexity of these relations may well account for the hitherto disappointing results which leadership training programs have yielded (e.g., Dunnette and Campbell, 1968; Fiedler, 1970). If our theory is correct, then the training which makes high LFC leaders more self-oriented and concerned with the task would make low LFC leaders more concerned with good personal relations; training which would make high LFC leaders more concerned with good interpersonal relations would make low LFC leaders more concerned with task relevant behavior. Thus, the same training program might result in quite different types of behavior by high and by low LFC leaders, while the results pooled for high and low LFC leaders would, of course, be insignificant.

Discussion

It appears that we may have begun at long last to unravel the enigma of the Least Preferred Coworker score. This section will spell out some major implications of the reinterpretation of LPC in terms of leader behavior, leadership performance, and general personality theory. The generalizations here proposed should, of course, be seen as hypotheses for further research.

Leader Behavior. The attempt to relate leader behavior to personality and to leadership effectiveness dates back to pre-World War I days. Among
the most concerted efforts were those made by the Ohio State University's eminent research group directed by Shartle, and consisting of such major contributors to the literature as Stogdill, Hemphill, Fleishman, Bass, Coons, and others (see Stogdill and Coons, 1957). Another major effort of equal importance was carried out at the University of Michigan under Likert and his coworkers, e.g., Kahn, Cartwright, Seashore, Bowers, Mann, Zander, to mention but a few (see Likert, 1961).

The major findings of these studies were that good interpersonal relations-oriented behavior, variously called by such names as consideration, employee centeredness, person orientation, etc., is conducive to effective organizational performance. This hypothesis has been supported in a number of studies although the results have been far from conclusive.

The Contingency Model findings indicate that the "task-oriented" low LPC leaders perform better in favorable and unfavorable situations, and the "relationship-oriented" high LPC leaders are more effective in situations of intermediate favorableness. This might suggest that the Ohio State and Michigan studies are inconsistent with Contingency Model findings. Further consideration of these findings shows, however, that the divergencies are relatively minor. Our data show fairly consistently that low LPC leaders develop good interpersonal relations with members of their group in favorable leadership situations—and in these situations the low LPC leaders are also more effective than high LPC leaders. High LPC leaders tend to develop good interpersonal relations in leadership situations of intermediate favorableness and here it will be recalled, the high LPC leaders are more effective. Only in very unfavorable situations is there a conflict between our data and the Ohio State and Michigan hypotheses.
Fiedler

Here we find that the low LPC leaders are more effective but that they withdraw from the interpersonal relationship while the less effective high LPC leaders tend to have better relations or, at least, become more concerned with having good leader-member relations.

There is, however, an important divergence in interpreting the findings of the Contingency Model and those of the Ohio State and Michigan studies. The assumptions of most writers on leadership has been that one can improve leadership performance by training individuals to behave in a considerate or employee centered manner (e.g., Fleishman, 1967; Tannenbaum & Schmidt, 1958). Our data suggest a more pessimistic picture.

If an individual's behavior is determined largely by the motivational system and the degree to which the individual's attainment of his goals is secure or threatened, the individual's volitional control over his own behavior is likely to be rather small. While our findings show that training may change behavior, the changes which we observe appear to take place as a response to changing the situational favorableness which the training has brought about. As Fleishman (1967) has shown, the effects of training individuals to behave differently in managerial or supervisory positions fade rather rapidly if the individual returns to his former situation. Providing individuals with skills, be they of a human relations nature or technical nature, may increase the situational favorableness and in this way bring about changes in leadership behavior. As mentioned before, these behavioral changes will, however, differ for high and for low LPC supervisors.

A major implication of our findings is the enhanced possibility of...
predicting the type of leader behavior which is likely to occur under situations which can be specified in advance. Thus, knowing the individual's LPC score and other relevant information (e.g., his intelligence score) will allow us to predict with greater accuracy his behavior if the favorableness of the situation can be specified in advance. Training programs may then be more successful if they provide instruction to some individuals and not to others: The training which might make high LPC supervisors more effective might make the low LPC supervisors less effective.

While our analysis tentatively suggests a two level hierarchy of motives and goals for high and for low LPC persons, it is quite likely that still different goals may be sought under extremely favorable or extremely unfavorable situations. Further differences in behaviors of high and low LPC leaders may then occur in unusually stressful situations. The data to confirm this hypothesis are as yet inconclusive.

LPC and member satisfaction and adjustment. As we have seen, the interpersonal relations between the low LPC leader and his group members are likely to be good in favorable situations while they are likely to be poor in unfavorable situations. Conversely, the interpersonal relations between high LPC leaders and members tend to be good in unfavorable situations. This should affect the adjustment of group members. One study (Fiedler, O'Brien, and Ilgen, 1969) did, indeed show that the adjustment of group members in favorable situations tended to be better in groups of low LPC leaders, but in unfavorable situations better in groups of high LPC leaders.

Several studies show that member satisfaction was relatively great
under high LFC leaders with comparatively low intelligence as well as low LFC leaders with comparatively high intelligence. (See Neuwese and Fiedler, 1965--Footnote 5). This study also showed striking interactions between LFC and intelligence on various types of leader behavior and ratings of leaders by members. We can now interpret these findings in light of our reinterpretation of LFC.

We assume that intellectual tasks, such as those used in the Neuwese and Fiedler experiment, present greater problems to the less intelligent than to the more intelligent leaders. The more intelligent leader should, therefore, find the situation more favorable than will the less intelligent leader. In light of previous findings we would then expect that the low LFC leader who is intelligent should establish better interpersonal relations with his members than the high LFC leader who is intelligent. The situation will be less favorable for the relatively dull leaders. Hence, the relatively dull low LFC leader should concentrate on the primary goal of accomplishing the task while the relatively dull high LFC leader should concentrate on his primary goal of establishing close interpersonal relations with his group. The latter will, therefore, have satisfied team members. The present formulation should enable us to predict job satisfaction as well as member adjustment with a greater degree of accuracy than was possible up to now.

Implications for personality theory. The fact that LFC consistently correlated with important interpersonal behaviors as well as with the effective leadership of groups and organizations indicates that the measure must reflect important personality attributes. The present formulation suggests that the LFC score is an index of a motivational
system which affects behavior on at least two levels, depending upon the degree to which the individual feels in control of the situation. Leaving aside for the moment the obvious point that the "two levels" are likely to be two rather arbitrary regions on a continuum, the formulation leads to a number of interesting predictions.

As has been pointed out by a number of writers, the predictive power of most personality tests has been disappointingly low (Baughman & Welsh, 1962). This may well be because we do not consider the nature of the situation for which the personality test is destined to predict. Specifying the types of situations or degrees of situational favorableness for which the prediction is made might well improve the behavior prediction of various personality measures.

The analysis also suggests that individuals will answer personality tests differently depending upon the situational and other personality characteristics under which the test is taken. An individual who is intelligent or test-wise will see the test situation as more favorable than will someone who is less intelligent or less test-wise. Likewise, an individual who is anxious will perceive the test situation as more threatening and hence give different responses from someone who is free of anxiety and secure. This is readily illustrated by data from Bass, Fiedler, and Krueger's study (see Footnote 3) which correlated LPC with 81 different variables.

As an example, we can divide the subjects into those with a high SCAT-L intelligence score and those with a low score (N=54). The correlations between LPC and Bass' self-orientation score were .30 for the intelligent group and -.23 for the less intelligent group (r's of
The correlations between LPC and interaction orientation were -.37 for the intelligent group and .15 for the less intelligent group. Thus, as we would expect, the more intelligent individual with high LPC tended to be in a more favorable situation and he, therefore, responded in a more self-oriented and less interaction oriented way. The low LPC person was relatively more interaction-oriented under these favorable conditions. The less intelligent individual was, however, in a less favorable situation, and he, therefore, concentrated on his primary goals. In line with this prediction we find that the high LPC person of lower intelligence was less self-oriented (-.37) and somewhat more interaction-oriented (.15) than the low LPC person.

Finally, it would be most surprising if the LPC score were to be the only psychological measure which would correlate with behavior differently in situations in which the individual is secure and in those in which he feels anxious and insecure. It is to be hoped that the present analysis of LPC-related behavior under various situations of favorableness and the individual's control over his environment will serve as a model for similar studies which utilize other measures of personality.
REFERENCES


Dunnette, M. D. & Campbell, J. P. Laboratory education: impact on people and organizations. *Industrial Relations*, 1968, 8, 1-44.


This review was prepared under a contract with the Advanced Research Projects Agency, ARPA Order 454, NO 177-473, N00014-67-A-0103-0013, Office of Naval Research, Department of the Navy (Fred E. Fiedler, Principal Investigator). Some of the research cited was performed under Contracts ONR NR 177-472, NONR 1834(36).

B. M. Bass. Comparisons of the behavior in groups of self-oriented, interaction-oriented, and task-oriented members. TR # 25, Behavior in Groups, Louisiana State University, 1961.


S. M. Nealey. Personal communication, 1968.

Group Atmosphere scores are obtained by asking subjects to describe the group on items similar to those used for LPC scales. GA scores have been used as measures of the leader-member relationship in numerous studies (Fiedler, 1967).


Sanshiro Shirakashi, Personal communication, 1970.
It is also important to note that we have found strong interactions between LPC and leader intelligence in a number of studies. In most of these investigations the task was unstructured. In many situations leaders with relatively low intelligence tended to experience situations less structured (they "feel at a loss") and hence less favorable than very intelligent leaders who can impose structure on an amorphous situation with greater facility. There are, however, other situations in which the leader with relatively low intelligence will have a low level of aspiration while the intelligent leader may be threatened because his level of aspiration is high or because he will feel that others expect a great deal from him. While the relation of LPC and leader intelligence, and interaction of these variables on performance is far from clear at this point, the data point to an explanation similar to that advanced for the interaction of LPC and other favorableness indices.
Figure 1. Sample and Wilson (1965) data reanalyzed by Shirakashi
<table>
<thead>
<tr>
<th>Interaction</th>
<th>Supportive Teacher</th>
<th>Contested Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>High LPC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low LPC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Low LPC    |               |               |
| High LPC   |               |               |

**Table 1**

Summary of certain test scores, interest personality measures, and observed behaviors of high and low LPC persons under favorable and unfavorable situations.

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Low LPC</th>
<th>High LPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>observed</td>
<td>behaviors</td>
<td>observed</td>
</tr>
</tbody>
</table>

*Non-Stressful Situation*

*Stressful Situation*
### Table 2

**INTERACTION OF TRAINING AND LEADERSHIP STYLE ON SEVERAL MEASURES OF INTERPERSONAL RELATIONS**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Culture</th>
<th>Geography</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High LPC</td>
<td>Low LPC</td>
<td>High LPC</td>
<td>Low LPC</td>
<td>F</td>
</tr>
<tr>
<td>Group Atmosphere</td>
<td>-.354</td>
<td>.118</td>
<td>.091</td>
<td>-.029</td>
<td>5.00</td>
</tr>
<tr>
<td>Leaders's Consideration Behavior</td>
<td>-.366</td>
<td>.342</td>
<td>.033</td>
<td>-.216</td>
<td>11.00</td>
</tr>
<tr>
<td>Evaluation of Leader</td>
<td>-.403</td>
<td>.205</td>
<td>.037</td>
<td>-.001</td>
<td>6.73</td>
</tr>
<tr>
<td>Climate: Liking for Situation</td>
<td>-.421</td>
<td>.231</td>
<td>.002</td>
<td>.017</td>
<td>6.27</td>
</tr>
</tbody>
</table>

**From M.M. Chemers, 1969.**
This paper presents a new interpretation of the Least Preferred Coworker (LPC) score which suggests that the score reflects a hierarchy of goals. High LPC persons have as their primary goal the establishment and maintenance of interpersonal relations and as a secondary goal the attainment of prominence and self-enhancement. The low LPC person is seen as having as his primary goal the achievement of tasks and material rewards, while he has as his secondary goal the development of good interpersonal relations. 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 unfavorable and stressful. The implications of this interpretation and the supporting data for the prediction of behavior, leadership training, and personality theory are discussed, as is the integration of the Contingency Model results with findings obtained in other leadership research programs.

NOTE: As continued. This research was further supported by Contract ONR 177-472, NONR 1834(36), Office of Naval Research, and by DA 49-103-MD-2060, Office of the Surgeon General, U.S. Army
<table>
<thead>
<tr>
<th>KEY WORDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task-oriented</td>
</tr>
<tr>
<td>Relationship-oriented</td>
</tr>
<tr>
<td>Least Preferred Coworker Scale</td>
</tr>
<tr>
<td>Contingency Model</td>
</tr>
<tr>
<td>Prediction of Behavior</td>
</tr>
<tr>
<td>Hierarchy of goals</td>
</tr>
</tbody>
</table>