THE CONTINGENCY MODEL OF LEADERSHIP EFFECTIVENESS: ITS LEVELS OF ANALYSIS

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The contingency model of leadership effectiveness (Fiedler, 1978) has been the basis for an extensive body of research. During the last three decades, numerous studies have supported its propositions (Peters, Hartke, & Pohlmann, 1985; Strube & Garcia, 1981), but the model has also elicited strong criticisms. This article argues that the contingency model was one of the first models in leadership research that was theoretically multi-level and methodologically multi-source. New evidence and alternative perspectives are offered to address the issues concerning the conceptual definitions of the model's components, which have often been the subject of debate. The discussion concludes with productive avenues for future research in the paradigm and its potential contributions to leadership training and development within a multi-level framework.

INTRODUCTION

The contingency model of leadership effectiveness was presented in its most complete form in Fiedler (1967) and Fiedler and Chemers (1974). The evolution of the model and the development of its constructs covers three decades of research. This article examines the model from a theoretical and methodological perspective. It focuses on

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Leadership Quarterly, 6(2), 147-167.
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ISSN: 1048-9843

the levels of analysis used to determine the various components of the model, to measure effective leadership, and to define the sources of information for its central variables.

The model predicts that a leader's effectiveness is based on two main factors: a leader's attributes, referred to as task or relationship motivational orientation (formerly referred to as style), and a leader's situational control (formerly referred to as situational favorability). The model predicts that leaders who have a task motivational orientation compared to those who have a relationship orientation or motivation will be more successful in high- and low-control situations. Relationship oriented leaders compared to task-oriented leaders will be more effective in moderate control situations (Fiedler, 1978). A leader is designated as "in match" in situations where the model predicts high group performance and "out of match" in situations of low group performance (Fiedler & Chemers, 1984).

The model is, by design, multi-level and multi-source. That is, measures of the leader's motivational orientation are based on the leader's responses (individual level); characteristics of the situation have been measured by the leader's report and/or that of subordinates and experimenters (multi-level and multi-source), and outcomes have been assessed at the group level, primarily group performance (Fiedler, 1978) as determined by objective measures, supervisor ratings, and averaged follower satisfaction (Rice, 1981). A few studies used outcomes related to the leader as an individual (e.g., stress, performance). A few studies have examined the model at the dyadic, leader-subordinate level (e.g., Fiedler, Potter, Zais, & Knowlton, 1979). Most generally, the model has defined the leadership effectiveness at the group level of analysis. In fact, it may be appropriate to say that this is the first model in leadership effectiveness research that was designed in a multi-level-of-analysis framework (Dansereau, personal communication).

The model has been the target of numerous criticisms through its evolution (e.g., Ashour, 1973; Graen, Alvares, Orris, & Martella, 1971; Graen, Orris, & Alvares, 1971; Schriesheim & Kerr 1977; Vecchio, 1977) and has been an impetus for over 200 empirical studies. After three decades of research, two meta-analyses (i.e., Peters, Hartke, & Pohlmann, 1985; Strube & Garcia, 1981) have tested its criteria-related validity. The results, overall, have supported the model. Both meta-analyses agreed that the laboratory studies yielded stronger support than the field studies, and both provided recommendations for improvement. Most of the recommendations suggested a need to expand and refine the definitions of situational control and of the factors that contribute to situational control.

This article defines the constructs which determine the model and reviews the operational definitions. Although there have been several reviews of the model, it has been about 16 years since the last complete review (Fielder, 1978). Confusion still exists regarding the model's components and their relationship with each other. In this article, new and old evidence is discussed to clarify these misunderstandings. The model's constructs are: (1) leader's characteristics, (2) situational control, and (3) leadership effectiveness. Table 1 gives a summary of the way each of these variables in the model has been defined and measured.

This article seeks to demonstrate that the strength of the contingency model lies in its use of a multi-level and multiple-sources approach in defining leadership effectiveness. Specifically, as presented in Table 1, measures of the leader's orientation are drawn

Table 1
Summary of Contingency Model's Variables with Their Conceptual Level of Analysis, Measure, and Source of Information

Variables	*Level*	*Measure*	*Source*
Leader's Motivational Orientation	Individual	Least Preferred Coworker (LPC) Scale	Leader
Situational Control			
Group Climate	Group	Group Atmosphere (GA) Leader-Member Relation Sociometric Method	Leader or Averaged Group Score
Task Structure	Individual	Task Structure Scale or Type of Job	Leader or Experimenter
Authority	Individual	Position Power Scale	Leader Experiment Superior
Effectiveness			
Satisfaction	Group or Dyadic	Job Descriptor Index (JDI)	Subordinate
Performance	Group	Supervisory Rating Archival Data	Superior Experimenter Org. Records
Stress	Individual	Fiedler's Job Stress Scale	Leader

from the leader; outcome measures are typically taken from sources independent of the leader, such as supervisor ratings or objective performance measures. Situational variables have been specified in a number of ways, many of which are conceptually and operationally independent both from leader variables and sources of the outcome criteria (e.g., experimental manipulations, observer ratings of organizational characteristics).

The independence of the theoretical variables reduces the model's vulnerability to validity threats attendant to single-source ratings and overlapping common-method variance. Furthermore, even when leader's characteristics and situational and outcome variables are provided by leader ratings, as in studies of leader stress (Chemers, Hays, Rhodewalt, & Wysocki, 1985), the predicted interactions among the variables are of a nature (i.e., both complex and counterintuitive) such that the interactions are unlikely to be the result of consistency factors or demand characteristics (Orne, 1962).

In the sections that follow, we address the levels of analysis and sources of information with respect to: (1) the leader's motivational orientation, (2) the variables that contribute to the leader's situational control, (3) various individual, group, and organizational outcomes, (4) the new directions, and (5) the applications of the contingency model.

LEADERSHIP MOTIVATIONAL ORIENTATION

Although past reviews (e.g., Rice 1978a, 1978b) have been quite thorough, there are a few issues regarding the conceptualization of the scale and its use that were not

clarified. In order to address these points, this section presents key evidence that elucidates these issues. The leader's orientation is measured by a scale referred to as "least preferred coworker" (LPC) scale. The scale's instructions ask the respondent to identify within the context of all the persons with whom the respondent has ever worked:

> the one person in your life with whom you could work least well. This individual may or may not be the person you also dislike most. It must be the one person with whom you had the most difficulty getting a job done, the one single individual with whom you would least want to work—a boss, a subordinate, or a peer (Fiedler & Chemers, 1984, p. 17).

Various closely related forms of the LPC scale have consisted of from 16 to 22, eight-point, bipolar adjective scales on which the respondent's least preferred coworker is described. Regardless of the version, the respondent's score is calculated by summing across all items. When the LPC score has been treated categorically, the cutoff points to categorize the score have not always been consistent across studies. In some cases, extreme scores have been used (cutoffs usually have been based on a standard deviation on each side of the mean or the top and bottom 10% or thirds of the distribution). In other cases, a median or mean split has been used to categorize high and low LPC scores. In recent years, a few studies have used the LPC score as a continuous score, examining the magnitude of its relation to outcome variables.

Psychometric Questions Concerning the LPC Scale

This section discusses the validity and reliability of the LPC scale, with the special intent of clarifying past misconceptions with respect to the measurement and meaning of the construct. We address both the psychometric properties of the scale and its validity and utility as a research tool. Rather than measuring a leader's attitudes, expectations, and self-reported behaviors, the LPC scale seeks to infer a respondent's (leader's) investment in task accomplishment through his/her reactions to a coworker who thwarts accomplishment. The degree to which the respondent gives a negative rating of the "least preferred coworker" presumably reflects the respondent's frustration or anger.

Two terms in the instructions are especially important—that is, "least" and "coworker." The term "least" demands that the person rated is not just any undesirable coworker in the rater's experience but the single worst ever encountered. The intent is to create a strong stimulus that will draw the greatest level of reaction from the respondent. Asking a respondent to describe two different coworkers as a means of assessing the reliability of the measure is not appropriate. For each rater, there should be only one appropriate stimulus: the **least** preferred coworker.

The term "coworker" rather than "subordinate" or "follower" is intentionally vague, allowing the respondent to rate a peer, superior, or subordinate. Finally, the frame of reference for identifying this poor coworker is the respondent's entire working history, avoiding an emphasis on the current situation. Here, the attempt is to obtain a stable, affective reaction. The items on which the least preferred coworker are rated are not descriptors of particular behaviors or task-related abilities. They are global, evaluative adjectives. The ratings of the stimulus thus reflect a general evaluative response (i.e.,

an attitude) toward a person who has interfered with the attainment of a more or less highly valued goal (e.g., task accomplishment). In sum, the LPC reflects a broad emotional reaction to a poor coworker, revealing how important the rater considers task success to be.

The LPC score clearly has been the most controversial component of the contingency model. It has been interpreted as a measure of psychological distance, leader orientation, and motivational hierarchy. All of these interpretations apply to some extent. This lack of consensus has been very disturbing to those with a low tolerance for ambiguity. Whether we now call LPC a measure of leader orientation, the term favored by Ayman and Chemers (1991), or a motivational index, the term favored by Fiedler (1978), is not of critical importance. As we shall see, the difference in operational terms turns out to be one of emphasis rather than of substance.

Questions of the construct validity of the LPC scale have engendered debates and controversies. Three approaches have been taken to respond to these debates. One has examined the scale's item content. A second has addressed issues of convergent and divergent validity, and a third has studied the relationship between the LPC score and leader behavior. Each of these approaches is now considered.

Item Content

The discussion surrounding the nature of the adjectives included in the scale has been concerned with the different number of adjectives that were descriptors of work-related traits (e.g., lazy or industrious) versus the number of relationship-relevant descriptors (e.g., friendly or close). Rice (1978b) referred to a series of studies (published and unpublished) demonstrating that the scale has two factors (task and people orientation). He also demonstrated that the structure has varied for high and low LPC respondents, and the intercorrelation between the factors across studies has also varied. Edwards, Rode, and Ayman (1989) compared the responses of ROTC cadets to the leader behavior questionnaire (LBDQ), leader opinion questionnaire (LOQ or LEAD), and LPC scale, using confirmatory factor analyses. They found that the three scales of LBDQ, LOQ, and LEAD had similar two-factor structures (consideration and initiation of structure) and that the LPC scale did not match this factor structure.

Rice (1978b) argued that "the potential importance of these factor analytic data is indicated by examining the relationship between LPC factor scores and external criteria" (p. 110). Rice and Seaman (1981) explored the relationship of task versus relationship adjective sets with outcome variables. Using a 22-item scale, they found that an overall score and a score based only on task items seemed to have quite similar relationships to outcome criteria. Apparently, the variations in item content of the scale do not threaten the criterion-related validity of the total LPC scale.

Convergent-Divergent Validity

During the past 30 years of research on LPC, several studies have examined the LPC scale's construct validity through convergent and divergent validity studies in which LPC scores are associated with other trait measures. The earlier studies reported correlations below .30 between the various traits and the LPC scale, establishing the LPC scale as an independent construct (Fiedler, 1967). Recent studies have shown that respondents' self-monitoring score (Ayman & Chemers, 1991; Ayman & Abenate, 1994),

gender (Powell, Butterfield, Mainiero, 1981; Schneier, 1978), values and intelligence (Kennedy, Houston, Korsgaard, & Gallo (1987) are non-linearly related to the LPC scale.

Rice (1978a) reported a low negative linear relationship between the LPC score (that is, a low LPC person scoring higher) and measures of self-evaluation, including intelligence (Bons, Bass, & Komorita, 1970), achievement (Burke, 1965), and being agreeable (Shima, 1968). He also reported a positive relationship (that is, high LPC person scoring higher) with social cognitive complexity. A pattern of results relating the LPC score to measures of confidence, attention, and cognitive complexity, revealed that low LPC persons were more interested in, and knowledgeable about, variables in the task domain whereas high LPC persons evidenced a similar involvement with aspects of the interpersonal or relationship domain. Rice concluded that the LPC scale reflects a basic value orientation (toward task achievement in low LPCs and toward interpersonal relations in high LPCs) and these values influence attitudes towards various factors in the leadership environment.

Two studies of job satisfaction provide direct support of the value-attitude interpretation of the LPC construct. In both a laboratory experiment (Rice, Marwick, Chemers, & Bentley, 1982) and an organizational survey (Chemers & Ayman, 1985), low LPC leaders showed a significantly stronger relationship between performance measures and job satisfaction than did high LPC leaders. The high LPCs showed a stronger relationship than the lows between job satisfaction and measures of group atmosphere and interpersonal harmony. Consistent with other studies that have demonstrated a moderating effect of work values (e.g., growth need strength, need for achievement) on satisfaction-performance relationships (e.g., Abdel-Halim, 1980), these findings reinforce the view of LPC as a measure of values or motivational orientations of the respondents.

Leader Behavior

The third construct validity technique involves relating the LPC scale to leader behavior measures. Fiedler and Chemers (1974) referred to the LPC score as a measure of the leader's style. Whereas it may have seemed rational then to relate the LPC score to leader behavior, several issues of concern need to be addressed. First, as already established, the LPC scale measures a respondent's attitudes, values, and motivational orientation, not his or her behavior. Although attitudes and values may be the basis for an individual's behavior, attitude/values and behavior do not bear an isomorphic relationship, and therefore, the relationship between a leader's LPC score and a particular leader behavior is an empirical question. Second, recognition of the strong effect of cognitive and information processing biases in the perception of leader behavior (Lord & Maher, 1991) has called into question the role of behavioral measures as valid indicators of "actual" leader behavior.

Given these caveats related to the measurement of leader behavior, the relationship between the LPC and leaders' behaviors is important not only from a leadership-process perspective but also because it can assist in clarifying two dominant hypotheses about the LPC: the Value-Attitude (Rice 1978a) and the Motivational Hierarchy (Fiedler, 1978) hypotheses. For the value-attitude hypothesis to be supported, the research should show significant and consistent main effects for the LPC scale and measures of leader

behavior. For the motivational hierarchy hypothesis to be validated, the results should have demonstrated an interaction effect of a leader's LPC score with his or her situational control predicting the leader's behavior. Rice (1978a), by including main effects that were present in studies with significant interaction effects, concluded that across studies there were an equal number of findings supporting both hypotheses. This conclusion may have been premature because some of these main effects were part of results that supported interaction effects.

We argued earlier that the LPC scale is an attitude measure with a strong emphasis on the affective component. However, evidence also supported the fact that although the LPC reflects the respondent's reaction to a person in a situation, it also reflects the respondent's values and goals (i.e., emphasis on task accomplishment or relationship with people), which are the motivational forces behind his/her actions. The results of the interaction effects of leader's LPC score and situational control on measures of leader behavior demonstrate that the relationship of the leader's LPC score to the leader's behavior is moderated by the situation (e.g., Bons & Fiedler, 1976; Borden, 1980; Chemers, 1969; Frost, 1981; Fiedler, 1967, 1972; Fielder & Garcia, 1987; Larson, Rowland, 1973; Sample & Wilson, 1965). For example, high LPC leaders behaved more considerately toward group members in moderately stressful conditions than low LPC leaders; low LPC leaders behaved more considerately than highs in situations where they felt in control. On the other hand, high LPC leaders behaved with more emphasis on the task than low LPC leaders in situations where they felt in control, and the low LPC leaders behaved with more focus on the task than high LPC leaders when they were in moderately stressful conditions. These shifts in behavioral manifestations of LPC score may be indicative of a hierarchy of the leaders' goals motivating them to act. That is, in situations where individuals feel that their primary values, goals, or motivational orientations are not met, they act in a way to satisfy them, and if they are satisfied, their secondary goals or values will direct their behavior. It is important to note that in several of the above-mentioned studies, leader's behavior was measured by objective techniques—for example, in-basket exercise responses (Larson & Rowland, 1973).

In summary, the value-attitude and motivational hierarchy are not incompatible hypotheses. Rather, one focuses on the measure of LPC and the other on the construct it represents. They both agree that LPC measures values or goals. However, the former assumed that individual's values will always be manifested in specific behaviors (Rice, 1978a) and the latter (Fiedler, 1978) assumed that values or goals may or may not be manifested in a particular behavior. In the latter case, the vehicle that moderates the behavioral manifestation is the situation. The motivational hierarchy is more in line with other social-psychological views on the relationship between attitude and behavior (Ajzen, 1987; Fazio, 1990).

In addition, the relationship of the LPC score and leader behavior can only be studied when the issues of measurement of leader behavior are considered with great care. Therefore, although we concur with Rice's position that research on this relationship may provide a better understanding of the LPC score, the path is not as smooth and clear as it may seem.

Although the evidence on the construct validity of the LPC scale is not conclusive, some conclusions do seem reasonable. A low LPC score is a reflection of a negative

affect emanating from frustration with the inability to complete the task at hand. A low score may represent those individuals who have a self-concept that is strongly associated with accomplishment. The evidence suggests that LPC is a measure of a respondent's inner state, not a measure of his/her behavior patterns.

Reliability

As a final note to the review of the LPC scale's psychometric properties, its reliability is now discussed. The reliability of the LPC scale has been measured both by examining its internal consistency and test-retest reliability. The internal consistency of the scale has always been fairly high. The average internal consistency coefficient reported is .88 (Rice, 1978b), and more recently, Ayman and Chemers (1991) reported Cronbach's alpha of .90. The test-retest reliability of the scale parallels other personality measures with a median stability coefficient of .67 (Rice, 1978b; Fiedler, 1978). Rice's (1978b) review included 23 studies on test-retest reliability of the scale. The time lapse in the these studies ranged from two days to two-and-a-half years. The scale seems to meet the established criteria for reliability.

Summary of the Review on the LPC Scale

Overall, the findings about the psychometric properties of the LPC scale have demonstrated that the nature of the adjectives included in the scale may affect its structure, but it is not critical to the scale's functionality. Based on the existing evidence, it is safe to say that the LPC scale is a measure of the internal state of the leader. Whether it measures values, motivation attitude, or goals is not totally resolved. However, based on Markus and Wurf (1987), all of these concepts are variables that operate in determining the working self, though they vary in their level of specificity.

The LPC scale is a measure whose history and approach creates unique advantages and disadvantages. As an indirect measure of values and/or motivational orientation, it is less susceptible to demand characteristics or social desirability effects. On the other hand, the lack of a clear theoretic-deductive explanation makes the LPC construct appear mysterious and unscientific. The predictive utility of the construct as evidenced in the comprehensive meta-analyses (Strube & Garcia, 1981; Peters, Hartke, & Pohlmann, 1985) does encourage us to continue attempts to understand the concept better.

SITUATIONAL CONTROL

The other central construct in contingency model research, situational control, has been operationalized in various ways. It is conceptually defined as the leader's sense of influence and control afforded by the situation (Fiedler, 1978). In most of the research, three components of the situation have been identified as contributors to a sense of predictability and control: Leader-Member Relationship (formerly referred to as group atmosphere), Task Structure, and Position Power.

In the following sections, each of the three components of situational control is discussed. Each component is defined both theoretically and methodologically. From a methodological perspective, both the measurements and the source of information for the component across studies are examined. Finally, the relationship among the

three components is presented, as well as their relationship with the leader's motivational orientation.

Leader-Member Relations

This construct refers to the amount of cohesiveness in the work team and the support of the team for the leader. Leader-member relations is the most important aspect of the situation, because if the leader lacks group support, energy is diverted to controlling the group rather than toward planning, problem-solving, and productivity. Under these conditions, the leader's influence is weakened, and he or she can not rely on the team to achieve and implement the goal.

In early laboratory research of the model, the group-atmosphere scale (Fiedler, 1967) was used to assess either experimentally manipulated or naturally occurring work team cohesion. The measure was completed by all participants. The scale consisted of 10 eight-point bipolar items. In studies where sociometric choice was use to manipulate group cohesion, the statistical relationship between the score on the group atmosphere scale and sociometric manipulation was positive and substantial (e.g., Chemers & Skrzypek, 1972).

More recently, the Leader-Member Relation (LMR) scale has been used to assess this construct. This measure was first introduced as a training tool (Fiedler, Chemers, & Mahar, 1976). It consists of eight five-point scale items describing the relationship of the team members with each other and their loyalty and responsiveness to the leader. The LMR scale has good internal reliability—Cronbach's alpha of.80 (e.g., Ayman & Chemers, 1991).

Leader-member relations is theoretically conceptualized at the group level. In much of the experimental and field studies a group average on Group Atmosphere scale was used to determine group cohesion (e.g., Chemers & Skrzypek, 1972, Geyer & Julian, 1973, Csoka & Fiedler, 1972). In some of the more recent field studies, the leader has been the source of information about this construct. However, the leaders' scores represented their experiences with their group as a whole, not with individual subordinates in dyadic relationships (e.g., Ayman & Chemers, 1991).

The leader-member relations scale has shown strong construct validity. The group atmosphere scale and the leader-member relation scale are highly correlated—$r = .88$ (Fiedler, 1978). Neither of the scales has shown a correlation with the leader's LPC scale (e.g., Chemers, Hays, Rhodewalt, & Wysoki, 1985; Fiedler, 1978; McNamara, 1968). However, group atmosphere has been correlated with some outcome variables like leader's experience of stress with the subordinates (Chemers et al., 1985). The construct validity of the leader-member relations scale demonstrates that it is a valid measure depicting the group's cohesion and loyalty to the leader. The test of validity has been ascertained by high correlations between two different measures and from multiple sources (i.e., the group and/or the leader). It is independent of the leader's orientation even when the leader has been the source of information for both the LPC score and the leader-member relation score. This is a significant strength in the model because in field studies, the leader is typically the source of this information.

Task Structure

This second component of Situational Control represents the clarity and certainty in task goals and procedures that allow the leader confidently to guide the group's activities. In laboratory studies, the variable was usually manipulated by the choice of assigned tasks that varied on Shaw's (1963) criteria for task structure (Fiedler, 1978). In field studies, task structure ratings can be provided by a knowledgeable observer, such as a superior. A scale for rating task structure by a supervisor or investigator was developed by Hunt (1967).

More recent field research has employed the Task Structure Rating Scale developed as part of the "Leader Match" training program (Fiedler, Chemers, & Mahar, 1976; Fiedler & Chemers, 1984). The self-report scale consists of 10 items incorporating Shaw's (1963) dimensions of goal clarity, goal path multiplicity, solution specificity, and outcome quantifiability. Based on research that indicated that task-relevant experience and training enhanced task structure (Fiedler, 1970; Chemers, Rice, Sundstrom, & Butler, 1975), an additional two-item subscale assessing the leader's experience and training was added to the scale. Information on the total scale's reliability is not available. However, Ayman and Chemers (1991) reported a Cronbach's alpha of .81 for the first section of the scale.

In studies where the measure of task structure has been based on the leader's perception, the intercorrelation of LPC score and task structure score has not been reported. Part of the reason may be due to the fact that task structure is a single component of the situational control dimension and only the correlations between situational control and other variables are usually reported. In addition, until recently, task structure was objectively rated by the experimenter or the leader's supervisor in most studies.

The sense of predictability and certainty provided by a task with clear goals and procedures contributes to the overall level of situational control experienced by the **leader**. Conceptually, task structure is a group-level variable. The task being measured includes all the activities that the leader must accomplish to move the group toward its collective goal. In contrast to some models, the task being measured is the leader's task, not the task of individual subordinates being supervised by the leader. For example, a task requiring high levels of interdependence among subordinates might increase complexity and reduce task structure for the leader.

Operationally, task structure has been defined by leader self-reports, by ratings of observers or superiors, or by manipulation of assigned tasks. Although the measurement of the variable sometimes occurs at the individual level, in combination with other situational control variables, it represents an aspect of the group environment in which the leader functions. As shown, in Table 1, however, it is an **individual**-level variable about the Leader's Task.

Position Power

This component of situational control is defined as the administrative authority bestowed on the leader by the organization or other source of authority—for example, the experimenter. Fiedler (1978) advised that position power assessments should be supplied by the leader's supervisor, due to the possibility of distortion of information

by self-report. However, in most field studies, the leader's self-report has been used (Fiedler & Chemers, 1984). This is a five-item scale that measures the leader's discretionary power to reward and punish, job-relevant expertise, and official status. Internal reliability data are available for only one study (Ayman & Chemers, 1991), where it had a low Cronbach's Alpha of .31. While a single reliability coefficient is not conclusive, it may be that the low internal consistency is the result of the multidimensional nature of the scale, which measures several bases of power. In most field research, leaders are chosen from a single organizational level with similar position power. No relationship has been found between leader's LPC score and the leader's reported Position Power score.

Similar to the Task Structure, Position Power has been defined at the **individual** level, for the leader. It has been manipulated by experimental design, described by the leader's supervisor, or measured through the leader's perception (see Table 1). Like Task Structure, it contributes to the overall level of control in the leader's situation, and may be conceptualized as either a group- or individual-level variable depending on the analysis.

Summary of Situational Control and Social Power

The three components of situational control parallel French and Raven's (1959) five bases of power. Power has been defined as the ability to influence others. Situational Control has also been defined as providing the leader with the ability to influence and gain control (Bass, 1991). French and Raven identified the expert and referent sources of power as sources based on knowledge and expertise regarding the task and the strength or solidity of the social relationships. Research has indicated that these two sources of power have the most efficacious and lasting effects in social influence (Podsakoff & Schriesheim, 1985; Yukl & Taber, 1983). Referent power based on the quality of the social relationship is most similar to the contingency model variable of "Leader-Member Relations." Expert power with its emphasis on task knowledge bears much in common with "Task Structure." The three other sources of power—coercive, reward, and legitimate—reflect on individual's authority. These three sources have shown to be inter-correlated to the point that some have referred to it as position power (Bass, 1991). Their effects have been debated. Thus, they do not seem to have as robust and lasting effect as the referent and expert sources (Podsakoff & Schrieshiem, 1985). In the contingency model, these power sources are given the least weight in the assessment of situational control.

The weighing of the three components of situational control was originally ordinal. Fiedler (1967) specified group atmosphere (leader-member relations) to be most important. Task Structure came second, and Position Power was third. The analytic strategy typically involved dividing groups at the median on each variable and combining the resultant designations into one of eight cells, or "octants." This approach had the ad hoc effect of weighing leader-member relations twice as strongly as task structure, which was weighted twice as strongly as position power (i.e., 4:2:1 weighing ratio). Later empirical research related measures of each variable to a rating of overall control and predictability and found that the inductively derived weights were very close to the 4:2:1 ratios (Nebeker, 1975).

The self-rating Leader Match scales (Fiedler & Chemers, 1984) are adjusted for the prescribed weights by the maximum number of points possible on each scale (i.e., LMR scale, 40 points; TS scale, 20; PP scale, 10). The summed scale values provide a measure of overall Situational Control, which can be compared to the cutting points for high, moderate, and low levels of control. Recent field studies have used the normative cutoff points (e.g., Giffort & Ayman, 1989) or median (e.g., Ayman & Chemers, 1991) or tripartite splits (e.g., Chemers et al., 1985) of sample distributions to assign leaders to conditions.

THE RELATIONSHIP AMONG THE INDEPENDENT VARIABLES WITHIN THE CONTINGENCY MODEL

The variables that define the leader's personal characteristic (the LPC) and the leader's situational control (leader-member relations, task structure, and position power) are both conceptually and psychometrically independent. This is one of the most valuable and unique properties of the contingency model. In studies where the leader is the only source of information for both personal and situational variables, or where the situation is defined by an independent observer, the LPC and situational control scores are not statistically related. Problems of multi-colinearity and single-source biases, which bedevil much current leadership-research methodology (Padsakoff & Organ, 1986; Spector, 1987), are not a serious problem for contingency model research. Although LPC and situational control are uncorrelated, some dependency does appear among the three situational variables.

In laboratory experiments, the situational control variables were manipulated and their relationship was, by design, independent. In field studies, task structure and position power have been found to be correlated between $r = .75$ (Chemers & Fiedler, 1986) and $r = .33$ (Chemers et al., 1985). The actual level of interdependence of the three factors may have varied from study to study because of the level of the manager, the type of company, or the source of information on each factor. Overlap among the situational control variables provides a strong rationale for employing the composite situational control score.

Relationship of the Model to Outcome (Dependent) Variables

The contingency model of leadership effectiveness has defined its criterion of effectiveness primarily as work group performance. However, some studies have examined effects on other criteria, such as subordinate satisfaction or leader's reported symptoms of stress.

The operational definition of performance has been based partially on the nature of task and the level of the leader's position. Wherever possible, productivity was defined by objective measures, such as win-lose records for basketball teams, tons per person-hour for steel production crews, and accuracy for bombing crews. In cases where the nature of the tasks required a subjective evaluation, at least two raters evaluated the quality of performance. Such tasks typically consisted of composing a story, developing a report, or recommending a program. In most of the organizational field studies, the manager's performance was rated by a superior.

The important point to note is that the contingency model has used a variety of performance measures that have been relevant to the work group objective. However, regardless of whether the performance was measured subjectively or objectively and whether it was a measure of quality or quantity, it was always assessed by an agent outside of the work team.

We pointed out earlier that the contingency model was designed primarily to predict work team performance. The empirical development of the model made clear that only the interaction of personal and situational parameters could predict group performance. One of the most important premises of the contingency principle is that neither leader characteristics nor situational factors alone can predict performance. The reviews and meta-analyses have established the essential validity of that premise. Person-situation match, but neither person nor situation alone, has been consistently predictive of performance outcomes.

In the early stages of the development of the model, Fiedler (1967) argued that group productivity was the most important and appropriate outcome variable in leadership research. He pointed out that chief executive officers, football coaches, and symphony conductors are not retained and rewarded for making their subordinates happy and satisfied but for making them productive and profitable. This point is still apt today, but organizational theorists and practitioners have come to recognize that variables such as commitment, loyalty, and satisfaction can have important implications for organizational performance and profitability.

In 1977, Schriesheim and Kerr criticized the contingency model for its lack of attention to subordinate satisfaction. If we turn our attention to the prediction and explanation of subordinate satisfaction and other attitudinal and affective states, what might be the most useful ways to proceed? A logical approach might be to look for the same confluence of person and situational variables that are effective in the prediction of performance—that is, leader-situation match.

In 1981, Rice responded to Schriesheim and Kerr's (1977) criticism with a review of existing studies examining the relationship of the contingency model variables to job satisfaction. Although some inconsistencies exist across studies, Rice concluded that the bulk of the evidence supports the view that subordinate satisfaction is highest when leaders are in match. Subsequent studies of managers in the United States (Giffort & Ayman, 1989) and in Mexico (Ayman & Chemers, 1991) have supported Rice's conclusions. Subordinates of low LPC managers in high-control situations and of high LPC managers in moderate-control situations were more satisfied than their "out-of-match" counterparts.

Job satisfaction is a multi-faceted construct. The contingency model effects reported here occur primarily on measures of satisfaction with the superior or satisfaction with coworkers (i.e., measures of work team cohesion) rather than on measures of satisfaction with pay or promotion which are variables frequently outside the leader's control. It is interesting to note that match (i.e., the interaction of LPC and Situational Control) is a better predictor of subordinate satisfaction than is the leader's score on the leader-member relations scale, indicating the importance of multiple, independent measures of group effects.

Although the validity of the contingency model in the prediction of group performance seems well established and its utility for predicting subordinate satisfaction

is promising, many gaps in understanding remain which reduce the model's explanatory value. The model continues, however, to instigate research that may enrich our understanding of the processes that underlie match effects. The next section will briefly describe some new directions in contingency model research involving efforts at the individual level to understand the phenomenological and emotional effects of match; at the dyadic level to predict performance and satisfaction; and multi-trait approaches in which person-level variables besides the LPC are integrated into the model.

NEW DIRECTIONS

Individual-Level Analyses

A series of studies have examined the phenomenological experience of style-situation match on leaders. Garcia (1983) compared high and low LPC persons working on individual tasks that varied in the degree of certainty. Certainty was manipulated by providing half of the subjects with task-relevant training that increased task structure and subjective reports of certainty. Garcia reported that low LPC persons in the high-certainty condition (training) and high LPC persons in the low-certainty (no training) condition made stronger attributions to their own ability as the cause of performance than did low LPC persons in the low certainty condition or high LPCs in the high certainty condition. In a laboratory experiment on group leadership, Nahavandi (1983) found that "in-match" leaders, as defined by contingency model variables, reported higher levels of involvement and interest in the experience than did "out-of-match" leaders.

Chemers, Hays, Rhodewalt, and Wysocki (1985) measured the relationship of contingency model match to job stress and stress-related illness among university administrators. Department chairs who were out of match reported significantly higher levels of stress and stress-related illness than did their in-match counterparts. These findings were replicated in a follow-up study (Chemers, Hill, & Sorod, 1986) of high school administrators. As in the earlier studies, in-match leaders reported less stress and illness, as well as higher levels of job satisfaction, than did out-of-match leaders. Shirakashi (1991) closely replicated the results of these match-stress studies using a sample of managers in Japan.

A laboratory experiment by Chemers, Sorod, and Akimoto (reported in Chemers, 1993) found that in-match leaders as compared to out-of-match leaders reported: (1) more positive mood states, (2) greater confidence in their ability to lead, and (3) more internal attributions to their own ability and effort to explain group performance. A number of theorists and researchers have recently focused on the role of positive affective states, such as confidence and mood, on leadership performance (e.g., Murphy, 1992; May, 1993; Staw & Barsade, 1993; Bennis & Nanus, 1985; House & Shamir, 1993). Leadership match may be a powerful moderator of contemporaneous situational factors affecting such affective states.

Dyadic-Level Analyses

The study of dyads in the contingency model has not received much attention. Two studies that have examined dyads have shown trends that indicate that the nature of

the task may interact with different compositions of leader's and follower's LPC score to predict subordinate satisfaction and performance.

Chemers, Goza, and Plumer (1978) conducted an experiment in which three- person groups solved a problem for which the leader and one follower had been given contradictory information in a pre-session briefing. The dyads that were most effective in solving the problem were those with a high LPC leader and low LPC follower, while the most ineffective dyads were those that were homogeneous with respect to leader and follower LPC. Tobey (1992) also found the high-LPC-leader/low-LPC-subordinate dyads to be most effective in performance on a similarly unstructured task. However, Tobey (1992) also found that dyads led by low LPCs outperformed dyads led by high LPCs when the task was more structured. It seems reasonable to expect that the effects of dyadic composition on both performance and satisfaction would be most productively addressed in a contingency framework.

Multi-Trait Approach

Weiss and Adler (1984) have suggested a multi-trait approach to organizational behavior theories. They advise the inclusion of traits that have a theoretical relationship to outcome criteria or have the potential for expanding the explanatory base of the theory. The most developed of the new expansions of the contingency model is the cognitive resource theory (Fiedler, 1993; Fiedler & Garcia, 1987). Fiedler and his associates have demonstrated that the leader's ability to make effective use of his or her cognitive resources (i.e., intellectual ability and job-relevant experience) depends on a number of contingencies. Job stress from any of several sources (including one's boss or subordinates, or the nature of one's task) interferes with a leader's ability to think creatively and use intellectual resources but enhances the value of the well-learned lessons of experience. The intellectual demands of the task, the cooperativeness of subordinates, and the leader's willingness to act directively also moderate the impact of cognitive resources on group productivity.

Unless the leader acts in a directive manner employing knowledge and insight to influence group activities, those cognitive resources will have little effect. Furthermore, compliant and supportive subordinates who respond positively to the leader's influence attempts increase the impact of the leader's directions on group outputs. Finally, intellectually demanding tasks that place a premium on thoughtful and creative ideas will increase the relative effects of cognitive processes.

Similar to the cognitive model, cognitive resource theory places an individual-level phenomenon (the effects of stress on cognition) in a context in which superiors, subordinates, and task influence relationships with group-level outcomes. Leadership as a group process, analyzable at the group level, seems to be the overriding emphasis of these two contingency theories.

Like the contingency model that preceded it, cognitive resource theory assesses the effects of individual-level variables (i.e., leader intelligence and experience) at a group level of analysis. Situational parameters, such as task demands, subordinate support, and environmental stress, moderate the relationships between the individual-level variables and group-level outcomes, for example, productivity. Cognitive resource theory adds the process variable of the leader's level of directiveness to tie together the

leader and outcome variables. The centrality of job stress in the cognitive resource theory and in the recent work by Chemers and his associates on leadership match and job stress suggests the potential for integrating the two models. Future research in that direction seems warranted.

Another multi-trait approach to contingency-model research has investigated the moderating role of self-monitoring (Snyder, 1979). Kenny and Zaccaro (1983) have argued that a leader's flexibility in adapting to situational characteristics may be a leadership trait with broad applicability. The self-monitoring construct reflects an individual's sensitivity and responsiveness to the social expectations across varying situations. Since leadership match is based on the degree of fit between the leader's motivational orientation and situational characteristics, a leader's ability to adapt to situations might moderate the effects of match. Specifically, high self-monitors who are able to change their behavior to adjust to the expectations of others may be less susceptible to leader-situation mismatches than would be low self-monitors whose behavioral style is more rigidly determined by internal values and attitudes.

A recent study by Ayman and Chemers (1991) included the self-monitoring scale with the contingency model measures administered to 85 middle managers in Mexican companies. The predicted effects of match on several outcome measures, including subordinate satisfaction with work and the leader's effectiveness in conflict management, were moderated by self-monitoring as expected. Other measures in the same study, such as subordinate satisfaction with the leader, showed straight match effects, unaffected by self-monitoring.

These results indicate that multi-trait approaches to leadership effects have great potential. However, the choice of traits for inclusion must be theoretically driven (Weiss & Adler, 1984).

SUMMARY AND CONCLUSIONS

The contingency model of leadership has stimulated and guided research for more than 30 years. The greatest strengths of the model reside in: (1) the conceptual and statistical independence of its central constructs, LPC and Situational Control; (2) its emphasis on independent and, where possible, objective measures of important organizational outcomes such as group productivity; (3) its relatively lesser vulnerability to the invalidation of its constructs and findings as a result of information-processing biases and methodological weaknesses; and, of course, (4) its proven predictive validity.

The model's greatest weaknesses arise from its inductive development. The LPC construct has little face or concurrent validity, and even evidence for its construct validity requires some faith. The lack of process-based explanations for performance effects makes both the understanding and application of the model more difficult.

One of the major strengths of the contingency model in practical application is that about 15 minutes worth of questionnaire administration provides a multi-level analysis of person-situation match that can be used in selection, placement, training, and organizational development. Based on the contingency model, the Leader Match training program (Fiedler & Chemers, 1984) provides a framework for organizational intervention at the individual, dyadic, and group levels.

During the last three decades, the contingency model has been the subject of extensive research and vigorous controversy, and yet it is alive and still developing. The individual and dyadic levels of analysis are being added to the traditional focus on group-level effectiveness phenomena. Multi-trait approaches may help to illuminate the factors that underlie its impact. The power of the cognitive resource theory reveals productive avenues for bridging the gap between the contingency model and other psychological theories. Finally, the model's utility in creating practical approaches to leadership training and organizational development reinforces Kurt Lewin's dictum that "There is nothing so practical as a good theory."

Through training such as Leader Match, which is based on the contingency model of leadership effectiveness, the leader uses both personal and group data to assess his or her match in the situation. The validity of this training program has been presented in numerous documents (Fiedler & Mahar, 1979; Burke & Day, 1986). Using the model's existing research, the leader can then anticipate his or her effectiveness both at a personal and dyadic level (i.e., experienced stress or subordinate satisfaction) and at a group level (i.e., performance, subordinates' satisfaction and morale). With access to such wisdom, the leader can do "job engineering." This does not require major changes in the way the work is done but, through modifying the three situational control constructs, the leader can affect all levels of work team dynamics and alter group functioning.

Because the model is multi-level, (that is, it represents leadership as a dynamic exchange of various levels of analyses present in a natural team building setting instead of individually focused model—only the leader or the subordinates), it allows for interventions at different levels. For example, at the individual level, the leader is made aware of the his or her strength and environmentally available resources and learns job engineering. This is helpful for leadership development programs. A focus on the dyadic level will assist in arranging work teams for the highest yield.

Similar to some other leadership theories, the contingency model has also been tested for validity in other countries (e.g., Ayman & Chemers, 1991; Rubio, 1986; Shima, 1968). In addition, cross-cultural research with the contingency model has incorporated the effects of work team diversity (e.g., Fiedler, 1966). The employment of a multi-level approach in which group-level variables, such as leader-member relations, are conceptualized and measured at the group level of analysis provides a basis for the inclusion of work team diversity. Diverse group affiliations between leader and followers (e.g., with respect to religion, language, ethnicity, gender, functional specialization, etc.) can be addressed in terms of effects on the situational control constructs. Groups marked by diversity may have lower leader-member relations. Diversity might also affect the leader's power and authority or task structure, as cultural differences in customs and norms affect expectations about the acceptable forms of leadership influence (Triandis, 1993). The ability of the contingency model to incorporate the effects of cultural differences and diversity provides the potential for building a universal leadership theory.

Although the contingency model is almost 40 years old, its basic premise, the interaction of person and situation in the study of leadership effectiveness, provides a flexibility that allows the model to grow and develop. The levels of analysis approach offers a framework for utilizing the flexibility that may render productive avenues for future research.

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