

## Person-Environment Fit Theory and Organizations: Commensurate Dimensions, Time Perspectives, and Mechanisms

ROBERT D. CAPLAN

*University of Michigan*

There are many theories of person-environment (PE) fit. One unique feature of the framework is its operationalization—the assessment of the P and E components along commensurate dimensions. This paper describes other facets of the theory, studies which have adhered most strictly to its framework, experiments in improving PE fit, and five areas for future research. One such area is the role of past, present, and anticipated PE fit on well-being and employee behavior. Another is the question of whether there are differences in such outcomes when PE fit is changed by altering P (e.g., abilities and aspirations), E (e.g., job demands and rewards), or some combination. *Who* brings about the adjustive change (self or other) is also considered as a determinant of employee well-being. It is suggested that an adequate intervention theory for improving PE fit in work settings is one which includes the systemic properties of organizations as a predictor of the likelihood and nature of individual change. © 1987 Academic Press, Inc.

Organizations and their members have a fundamental stake in how well characteristics of the person and the environment of the organization fit one another. Organizations wish to select persons who will best meet the demands of the job, adapt to training and changes in job demands, and remain loyal and committed to the organization. Prospective employees want to find organizations which make use of their particular abilities and meet their specific needs.

Achieving these goals in a systematic manner requires a taxonomy of characteristics of actual and potential organizational members and of the organizational environment and its tasks (e.g., Dunnette & Fleishman, 1982; Owens & Shoenfeldt, 1979). Job analysis is intended to help achieve this goal, but there is no clear method for choosing among the various

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methods of doing so (cf. Hakel, 1986). The issue is likely to remain a challenge, and this paper does not pursue the topic of taxonomy except in a very broad manner. What this paper does attempt is a description of a conceptual framework which might be used in conjunction with such a taxonomy. The framework, person-environment (PE) fit theory, is proposed as a method for understanding the process of adjustment between organizational members and their work environments.

The theory described here was initially proposed by French, Rodgers, and Cobb (1974). It has several properties which may be of theoretical and empirical value in understanding adjustment in organizations. One property is the operational need for assessing characteristics of the person and of the environment along commensurate dimensions. This property makes it possible to define goodness of fit as the discrepancy between P and E. A second property is the importance of distinguishing between objective and subjective measures of fit and its components. This property makes it possible to define accuracy of perception as a discrepancy between objective and subjective fit. A third property is the distinction between fit defined in terms of abilities-environmental demands and needs-environmental supplies, the value of which is detailed below.

The text proceeds by defining the above concepts and others derivable from them, by exploring some assumptions and hypotheses from the basic model, and by considering issues in assessment which remain to be addressed. Then there follows a brief review of research support for the theory and an examination of potential directions for future research.

### DEFINITIONS OF CONCEPTS

Figure 1 presents a basic framework for identifying the elements of French and associates' PE fit theory and the interrelationships among the elements.

#### *Needs-Supplies and Demands-Abilities Fit*

Recent literature on organizational stress suggests that needs for autonomy and control are important predictors of job satisfaction in the work setting (e.g., French, Caplan, & Harrison, 1982; Karasek, 1979; Sutton, & Kahn, 1986). Need for affiliation/social support/nurturance also appears to be important (e.g., French, Caplan, & Harrison, 1982; House, 1981; Karasek, Kionstantinos, & Chaudhry, 1982). For each such need, one can derive the commensurate supply. For example, if the person has a need for a particular level of task clarity (Frenkel-Brunswik, 1949), one can attempt to assess the degree to which tasks are clarified. Consequently, one type of fit can be characterized as needs-supplies.

Demands-abilities fit deals with whether the person has the abilities which fit demands of the work role. For example, jobs vary in their requirements for mathematical, motor, verbal, analytic, and social skills (see above citations for examples of detailed taxonomies).

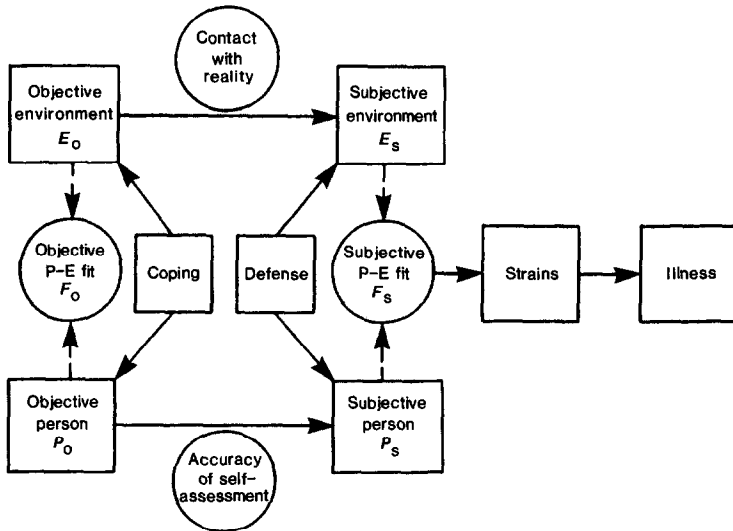


FIG. 1. A model describing the effects of psychosocial stress in terms of fit between the person and the environment. Concepts within circles are discrepancies between the two adjoining concepts. Solid lines indicate causal effects. Broken lines indicate contributions to interaction effects (Harrison, 1978).

In an exchange process, needs-supplies fit may represent the perspective of the employee asking "what can I get out of this job?" and of the employer asking "what do I have to provide in order to keep this employee?" On the other hand, demands-abilities fit represents the perspective of the employee asking "what am I expected to provide in order to keep this job?" and of the employer asking "what do I want of the employee?"

It is important to distinguish between these two types of PE fit when attempting to predict the retention and performance of employees. Focusing only on one type of fit or the other can leave out important elements of the exchange process. Those elements are needed to understand the obligations and expectations which form the psychological contract between employer and employee. If one can distinguish between the two types of fit, then it may be possible to generate hypotheses about the differential effects of satisfying one rather than the other form of fit. For example, there may be individual differences in whether employees focus more on satisfying the needs of others (demands-abilities fit) or on satisfying their own needs (needs-supplies fit). These differences may predict the likelihood that employees remain committed to the employer when one or the other type of fit is not met adequately. No studies of such effects are known.

Research on PE fit theory has made some modest attempts to distinguish between the two types of fit (French et al., 1982). There do not appear

to be any attempts, however, to explore the effects of these two types of misfit on well-being or performance within the same taxonomic domain (e.g., studying both demands-ability and needs-supply fit with regard to social skills).

### *Objective and Subjective Fit*

Subjective fit is that which is perceived by the target person—that is, the employee. Objective fit, by definition, is free of the bias of human perception. It can include facts about the person and environment which are not perceived by the person. The question of what constitutes an objective measure is a philosophical as well as pragmatic one. Asking another co-worker or supervisor for a rating of the target person's personal characteristics and of the characteristics of the job environment is likely to represent only another set of subjective views. It is beyond the scope of this paper to review the methodological issues in developing objective measures. The problem of objective measurement remains an important issue for all behavioral science including PE fit theory. The topic is returned to after a review of the research on PE fit.

### *Mapping Adjustment*

The degree of adjustment is defined in PE fit theory as the amount of improvement over time in PE fit. The adjustment process refers to *how* improvement (or worsening) is achieved. The model in Fig. 1 identifies several points of intervention. One can attempt to alter the objective person (abilities and needs) and environment (demands and supplies). One can also attempt to alter the subjective counterparts. Selection, for example, is concerned with changing objective person-environment fit by recruiting certain types of abilities and skills into the organizations. Training, on the other hand, aims to achieve fit by altering the characteristics of persons already in the organization. Human factors engineering accepts the person as a given (this is an overstatement) and attempts to alter the objective environment. Some forms of intervention attempt to alter the person and the environment. For example, survey feedback methods (Nadler, 1977) may teach people diagnostic skills for identifying problems in their organizations (change in P) and may provide a framework for altering the structure of the organization to better use the existing human resources.

Being able to map *how* PE fit was achieved can help members of the organization determine if selection, training, human factors, or any other approach produced its intended effects. For example, suppose one was interested in increasing the amount of challenging work provided to employees as a way of improving PE fit. The achievement of increased employee satisfaction would not be a *sufficient* indicator of such an

intervention program's success. Such satisfaction could have been achieved by lowered aspiration as well as by the intended job enrichment.

### *Commensurate Dimensions*

A special requirement of PE fit theory is that P and E be assessed along commensurate dimensions so that the conceptual relevance of P and E to each other is explicit. For example, one might ask an automobile mechanic "How many reading hours per week of technical updates are you expected to examine?" (E—demand) and "How many hours of reading can you do per week?" (P—ability). By requiring commensurate measurement scales, it is possible to directly assess P-E discrepancies between objective and subjective fit and among the objective measures of P and E.

The alternative would be the use of noncommensurate measures. For example, one could assess the opportunity for control (E) by asking about participative decision-making policies and assess need for control (P) with a standard personality assessment tool (e.g., the Dominance scale on the California Personality Inventory, Gough, 1957).

Some students worry that the use of commensurate measures sets one up for statistical success. I propose a counterworry—the failure to develop commensurate measures sets one up for statistical failure. The adaptation of a generalized personality instrument from one source or theory to assess P and of a specific environmental measure from another source of theory to assess E is conceptually disrespectful of the taxonomic structures implied by each theory in dictating how the other construct should be measured. (For example, if one assessed P via Erikson's stages of life (1963), then E ought to be taxonomized in terms of elements which address opportunities to fulfill dominant concerns of those stages.) Failing to respect the need for conceptually commensurate measures of P and E could result in an unfairly conservative test of the roles of both P and E.

## THREE BASIC CURVES

In order to study PE fit in organizations systematically and empirically, one needs to become familiar with three basic curves which can describe the relation between the PE fit of employees and their levels of strain or ill-being. These curves are shown in Fig. 2. The curves have both substantive and methodological importance. Curve A, which is U-shaped, represents the condition in which excess elements may threaten one need and deficit elements may threaten another. For example, excess demand may threaten an employee's need to achieve, and too little demand may threaten the employee's need for change or sensory stimulation.

Curve B shows an asymptotic relation. It represents the case where either an excess of E (demands, resources) but not a deficit, or an excess

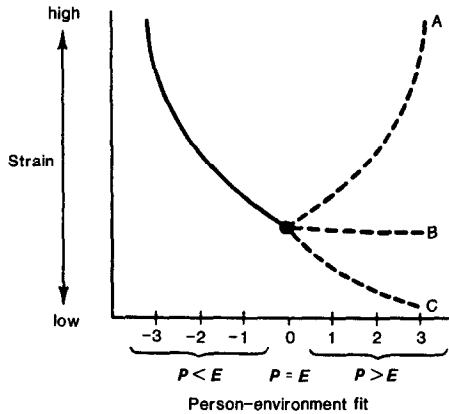


FIG. 2. Three hypothetical shapes of the relationship between PE fit and strain. Curves B and C can also be drawn as their mirror images to depict functions which are their respective reverse opposites.

of P (needs, abilities), but not a deficit, can increase ill-being. For example, persons with a low need for autonomy and a high need for guidance (Burger & Cooper, 1979) may feel threatened by too much opportunity for participating in decisions. Reducing this excess will reduce the strain such persons experience up to the point where the opportunity for participation meets their need. If a person has the option of choosing when to and when not to participate, increases in opportunity for participation beyond the point of PE fit may have little additional strain-reducing effects.

Curve C represents the case where the absolute amount of one PE fit component (e.g., P's ability to handle customer's complaints), relative to the other (e.g., E's supplies of complaining customers), has a linear effect on strain. For example, in some work situations, the more work one has *relative* to the amount one wants, the more there is strain. This is not the same as merely examining the amount of work load the person has per se, for in that case the need for work load is not considered.

There are many other PE fit curves that represent modifications of the three forms just described. For example, the U-shaped curves can be broadened at the base to represent the assumption that there is an interval of tolerance surrounding  $P = E$  and that a certain amount of poor PE fit will be tolerated. Strain begins to increase only beyond the boundaries of that interval. For U-shaped curves, the nadir can also, in theory, be slightly beyond the point of  $P = E$ . This might be the case for persons who enjoy challenge and like to have slightly more demands posed than their abilities can handle (Kobasa's [Kobasa & Puccetti, 1983] "hardy people"). More detailed discussions of such variants in these curves can be found elsewhere (Kahana, 1978; Kulka, 1979).

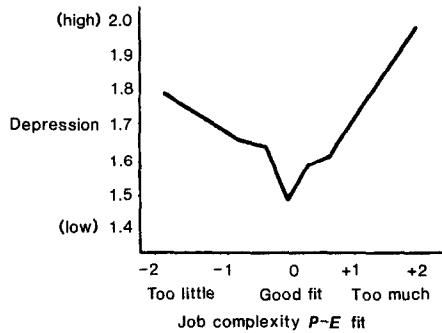


FIG. 3. Relationship between job complexity PE fit and depression.  $\text{Eta} = 0.26$  ( $p < .002$ ).  $N = 318$  men from 23 occupations. (From Caplan et al., 1980, p. 91.)

Figures 3 and 4 provide an illustration of an actual set of PE fit curves. These findings come from a study of a random subsample of 318 men selected from 23 occupations (Caplan, Cobb, French, Harrison, & Pinneau, 1980). The dimension of fit is job complexity. A multi-item index of complexity was built for this study. The index was based on research (Kohn, 1969) that identified several symptoms of a complex environment. These symptoms include dealing with people, working on multiple tasks in various stages of completion, having work which changes from day to day, and not being able to predict exactly how each day will go.

Figure 3 shows that depression (as measured by a self-report index) was high for persons in jobs with too little complexity as well as in jobs with too much complexity, and lowest in jobs where PE fit was best. The measures of the amount of complexity desired (P) and the amount present (E) did not vary significantly with depression.

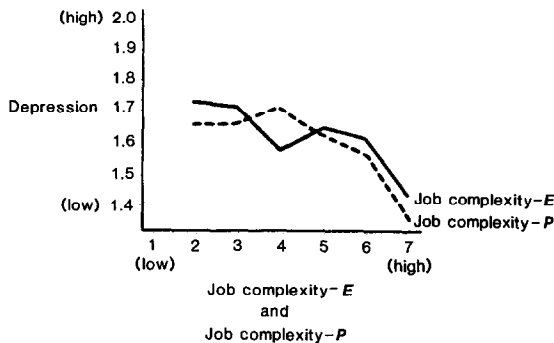


FIG. 4. Relationships between scores on depression and scores on job complexity-E and job complexity-P.  $\text{Etas} = 0.14$  (NS) and  $0.19$  (NS), respectively.  $N = 318$  men from 23 occupations. (From Caplan et al., 1980, p. 90.)

*Research on PE Fit*

Considerable research has been based on a person-environment interactionist approach to social psychology (Lazarus & Launier, 1978; Magnusson, 1982; Sarason et al., 1975). The first real test of a PE fit theory using commensurate measures of P and E, however, appears to be Pervin's (1967a, 1967b) study of adaptation among university students. Poor fit between the amount of structure in the educational approach of universities and the student's need for structure was associated with academic dissatisfaction and with dropping out of school for nonacademic reasons. Since Pervin's research, several major tests of PE fit theory have been conducted. The studies have been conducted in a variety of settings including 23 occupations (Harrison, 1978; Caplan et al., 1980; French et al., 1982), 52 industrial plants in five countries (Tannenbaum & Kuleck, 1978), a whole community (the Tecumseh project; House, 1972), among high school students (Kulka, 1976; Kulka, Klingel, & Mann, 1980), and among the elderly (Kahana, Liang, & Felton, 1980). With little exception, commensurately measured P and E contributed significantly to the variance explained in emotional and somatic symptomatology beyond that accounted for by P or E alone. Only the Pervin studies, however, have examined performance and leaving organizations as behavioral consequences of poor PE fit. This deficiency needs to be corrected.

*Why does research deal only with subjective fit despite the inclusion of objective fit in the model?* Studies of PE fit have dealt almost exclusively with subjective, rather than objective, measures of PE fit. Is there any evidence that these measures reflect objective conditions?

Some evidence comes from the above-cited study of 23 occupations. Those occupations ranged from machine-paced assembly line work to family medicine, and from forklift driving to air traffic control (Caplan et al., 1980; French et al., 1982). The results showed that the PE fit measures varied in ways which were meaningful in terms of the objective nature of that diverse set of occupations.

For example, the more selective the objective entry requirements of a job (i.e., the requirements in terms of P, abilities and needs), the more likely that people in selective jobs should show good PE fit regardless of the level of job demands (E). This is particularly evident when one compares groups as different from one another as family physicians and machine-paced assembly line workers on both P and E. The measures of P and E on work load indicated that family physicians and machine-paced assembly workers both reported very high levels of work load (E), but that the fit with desired levels of work load (P) was good only for the family physicians. These results would be expected given the rigid ability requirements for entering medical practice and the minimal screening for becoming an assembly line worker. Further, the measures



of PE fit on complexity showed that the assemblers had lower levels of job complexity and wanted lower levels of job complexity than was the case for the family physicians. The data indicated that the discrepancy between the desired and actual amount of complexity was four times as great for the assembly line workers as for the physicians.

Additional analyses indicated that measures of job satisfaction, anxiety, depression, and somatic complaints varied significantly by occupational title. An occupational title can be viewed as a rough indicator of objective differences in job demands. Multivariate analyses showed that the effects of occupational title on well-being were substantially represented by the effects of the self-report measures of job demands and PE fit on well-being. These findings suggest that subjective measures of fit *do* reflect objective conditions of work.

More generally, a longitudinal study of German blue-collar workers found that objectively measured job stressors influence the development of perceived stressors and subsequent psychosomatic complaints (Frese, 1985). The stressors included role ambiguity and conflict, organizational problems such as not getting materials, and environmental stressors such as noise. The study's results also suggest that the positive link between perceived job stressors and somatic complaints operates independently of employee tendencies of overestimate or underestimate the level of job stressors. Other observational and experimental studies have also reported positive associations between self-reports of work conditions and objective measures of those conditions, although the number of studies exploring this question are few (French & Caplan, 1972; Jackson, 1983).

This brings us to a second issue; do we need measures of objective fit if the subjective measures appear to be reasonably valid? For one thing, we do not know conclusively how objective and subjective PE fit are related. This lack of knowledge, however, is not a simple oversight. Although social scientists have been called upon in the past to develop objective measures of stress (Kasl, 1978), attempting to meet the call is a nontrivial technical problem. Nevertheless, the ability to distinguish operationally between objective and subjective environment is critical for the further development of theory and for applied as well as ethical reasons.

The empirical evidence that subjective measures do reflect objective environments *reasonably well* and the generic difficulties in assessing the objective environment should not detract from the importance of assessing the objective environment. Organizations and their occupants do not exist solely in a world in which phenomenology has no links with the objective environment. Attempts to restructure organizations, introduce new incentives, alter the membership and leadership, and construct new physical plants and production facilities all involve tangible objective

changes. A martinet of a supervisor, job insecurity, a new incentive plan, and an organizational merger cannot be turned, by the application of mere persuasion, into a subjective world which is 180° different from the objective reality.

The relationship between objective and subjective fit is generally expected to be imperfect. The multiple sources of imperfection are not well understood, and therefore, they are currently uncontrollable. As long as they are uncontrollable, the best intended plans for shaping a new objective reality for organizations and their members will run into unintended roadblocks. The perceptions of the organizational members will modify and create a social reality of their own. Until we understand the "rules of correspondence" between objective and subjective, these problems will remain.

There are at least three candidates for study in pursuing these rules of correspondence. For one thing, people have a limited capacity to process all the information about their organizations, their needs, and their abilities (e.g., March & Simon, 1958; Miller, 1960). Second, there are limits on access to information imposed by the structure of organizations and by wishes of others to restrict the flow of information in order to gain power (e.g., Crozier, 1964; Pfeffer, 1978). Third, defensive processes such as denial may lead the person to distort needs and abilities as well as environmental demands and supplies in order to serve certain preconceptions about the self and the environment. If one could understand how these mechanisms operate and intervene to alter their effects, then one might succeed in producing changes in objective PE fit which were perceived veridically.

Whether one would want to achieve a distortion-free world, however, is a separate question. For example, it has been noted that depressed persons *suffer* from an overly accurate perception of how little control they (and indeed, all of us) have over outcomes. Normal persons are characterized by a perpetually unfulfilled optimism (Taylor, 1983) which provides the stuff of self-fulfilling prophecy (Eden, 1975).

### *Interim Solutions for the Practitioner*

It may be quite some time until such rules of correspondence are discovered. Meanwhile, organizations will continue to face the problem of how to engineer changes in the objective environment and in the person which are also subjectively good person-environment fit. One solution is to use participation (Coch & French, 1948; French, Israel, & Aas, 1960, Kanter, 1982), a social process which appears antecedent to good PE fit (French et al., 1982).

By using participation, one can, in principle, make the decision-making process include persons who are most likely to have information about the objective needs of the employees and the nature of the environment—

that is, those employees who will be affected directly by the decisions. Participation per se, however, is not an adequate formula for ensuring that objective solutions to PE fit will match perceptions of what constitutes good fit. Participation will lead to high-quality decisions only when those participating are offered the same resources we would expect to give to any key decision maker. Those resources include access to information and to expert consultants, adequate time, and objective and psychological empowerment to make and carry out the decisions. Unless such conditions can be met, it is unlikely that the decisions will be good ones for both the individual and the organization (Kantor, 1982; Locke & Schweiger, 1979).

Part of the value of participation is that it provides a way to check perceptions about what are the objective demands and supplies and what are the employees' abilities and needs. This checking is likely to be effective when one participates with peers in this process. Numerous studies suggest that objective information about the self and the environment is much more likely to be accepted when it comes from peers than from others. Peers have a credibility because of shared bases of power and perception which nonpeers, particularly superiors, lack (Baekelund & Lundwall, 1975; Tripathi, Caplan, & Naidu, 1986; Lewin, 1947). Although studies have been done on the value of peer support in changing behavior and perceptions, there is a need to explore the effect of peer group feedback in closing the gap between objective (or at least, consensually held) PE fit and subjective PE fit.

### *Improving People's PE Fit: Should One Change P or E?*

French and his colleagues described the theory of PE fit as one of "adjustment." As has been noted elsewhere (Caplan, 1979), the theory makes no assumptions about how such adjustment is to take place but does derive the options.

Certain parties in the organization, such as experts in training or selection or in human factors engineering, may be trained or motivated to achieve PE fit in the work force by tailoring the employee's abilities to the demands of the organization. Other parties may be trained to or motivated to achieve PE fit by altering the organization's resources to meet the needs of the employee. It may be natural for most employees, from executives to line workers, to prefer to attain their *own* PE fit by having the environment change (essentially, "let them change, not me").

As a case in point, consider a recent survey that asked members of management and union for their views on how stress should be reduced in organizations. The results indicated that each group thought the other should change (Neale, Singer, & Schwartz, 1987). Management personnel preferred that their employees deal with stress by changing P (biofeedback, meditation, retraining, and so forth). Union members preferred that man-

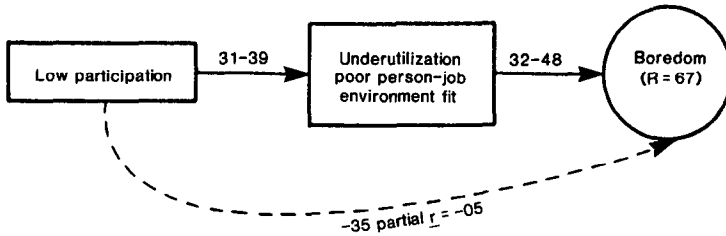


FIG. 5. Summary of first-order correlations among Participation, Person-Environment Fit, and Boredom. Arrows represent hypothesized directions of effect. The dashed arrow indicates a derived relationship.

agement give up some of its control and power to the employees, rather than have the employees develop better psychic stiff upper lips. Such differences in perspective indicate that issues of power, among other motives, can influence people's preferences for how PE fit should be achieved in organizations. The theory may be cool, but the way it gets played out in organizational life can get quite hot.

PE fit theory does not preclude adjustments via changes in *both* P and in E. Consequently, it is shortsighted to adopt the perspective that there is only one correct method of adjustment. It is also the case that one person's E is another person's P, and that changes in the adjustment of one person will influence the well-being of others. Consequently, it is also shortsighted to assume that adjustment in one locale in the organization can be achieved with minimum change on the part of other role senders and units of the organization. The progress of adjustment may need to be addressed at a systemic level (Katz & Kahn, 1978).

#### *Who is Responsible for Changing PE Fit? Research on the Antecedents of PE Fit in the Work Place*

Although PE fit theory deals with the adjustment of individuals, the theory does *not* suggest that the achievement of PE fit is a matter of individual responsibility. On the contrary, research on PE fit, on its antecedents, and on how to change PE fit suggests that the collective mechanism of participative decision making is a potentially effective way of improving person-environment fit.

This conjecture has been examined in two ISR studies, one a survey of 23 occupations, some results of which were described earlier, and the other a field experiment. The results of interest from the survey (French et al., 1980) are summarized in Fig. 5. They show that although low participation and poor person-environment fit were associated with boredom, all of the effects of participation on boredom operated statistically via participation's effects on PE fit. The dimensions of poor fit included responsibility for others (that is, for their performance and well-being)

and job complexity. The findings were based on cross-sectional survey data, so interpretations of participation as the cause of improved PE fit required further testing. Subsequently, a field experiment in participation was conducted by one of French's students (Campbell, 1974). The experiment was part of a program of research which French and his colleagues had been conducting with the support of NASA.

The first stage of the experiment required that participants, NASA engineers, become informed about their own PE fit. PE fit data were collected by standardized self-report questionnaires from several teams of engineers. Half the teams were randomly assigned to the participation condition. In that condition survey data from each group were fed back to each group—the survey feedback method of organizational development (Mann, 1957). The other teams served as control groups and received no such information. In the experimental groups, a series of 10 weekly group meetings followed. These meetings were designed to help the engineers, in a participative manner, identify problems of poor PE fit that each group felt was stressful in its work and to work out solutions.

One set of multivariate regression analyses treated the data as a longitudinal survey. Those analyses showed that antecedent improvement in PE fit on participation was one of the strongest predictors of subsequent improvement in fit on the amount of responsibility one has for the well-being of others and fit on work load. Thus, the previously cited cross-sectional findings were replicated and their cause-effect interpretation was confirmed. On the other hand, there were few significant changes in PE fit as a result of the intervention. Indeed, the PE fit and job satisfaction of the experimental group occasionally got *worse* rather than better compared to the unchanged state of the control groups.

The failure of the intervention appears due to its enactment in only parts of a large and highly interconnected organization rather than throughout the total organization (e.g., Blake & Mouton, 1964, 1985; French & Bell, 1973). The changes identified by the engineers as useful in improving PE fit ran into blockades and frustrations. Many attempted adjustments involved agreement by other interdependent units which were not included in the intervention. Those other units did not have the flexibility delegated to the experimental teams and were understandably unable to go along with the proposed changes.

As a whole, these findings suggest that participation is a mechanism for improving well-being. There are, nevertheless, limits to its effectiveness. Those limits, in part, include the extent to which participative decision making is a systemic property of the total organization or of selected units only (Likert, 1966). The decision as to *who* to include in the participative process is the first and most fundamental step in the process. The NASA experiment illustrates this clearly.

## CHALLENGES FOR THE RESEARCHER

### *Methodological Issues*

The small percentages of variance gained by including *both* P and E in prediction equations may bespeak methodological problems as much as, or perhaps more than, the substantive validity of PE fit theory. There is concern that the measures of P and E are contaminated with elements of one another. This is particularly possible when the response scales deal with relative quantities (e.g., rating amount of workload on a scale where 1 = *none* and 5 = *a lot*) rather than with absolute quantities (e.g., \_\_\_\_\_hours of reading). A relative rating of E-demands, such as “a lot” on work load, for example, may refer to “a lot compared to what it was yesterday,” “a lot compared to what the other employees have,” or, to in the case of contamination with P, “a lot compared to my *ability* to handle the work.” There is a need to move away from relative response scales, if the independent contributions of P and E are to be assessed.

There is also uncertainty about whether P and E should be asked in pairs next to each other in surveys and interviews or should be separated. The argument for putting pairs of commensurate P and E items next to each other is that this allows the person to keep the same scale in mind. The argument against this is that it leads to contamination. No experiments have been done to test these propositions.

Closely related to the above effect of proximity is the issue of order. Should one ask the P question(s) before or after the E question(s)? Again, no research has been done on PE fit measures to address this question. These issues need to be resolved. If there are such effects, and they are not identified, one will not be able to avoid a patchwork of contradictory findings which are due to procedure.

### *Substantive Areas for Future Research*

*Time frames.* An extension of PE fit theory by Caplan (1983) suggests that recollections of past, present, and anticipated PE fit may influence well-being as well as performance. This extension recognizes that the allegiance of members to their organization, their willingness to invest in training, and to seek certain standards of performance are based on expectations (e.g., Lawler, 1973) as well as on current perceptions of their fit with the organization.

In one modest test of the relative contributions of different time frames (Caplan, Tripathi, & Naidu, 1985), there was evidence that current perceptions of fit influenced mental health most and that anticipated fit had the next strongest influence. Furthermore, anticipated fit was more likely to have strong effects on well-being when it dealt with controllable (motivation, effort) elements of the self than when it dealt with noncontrollable elements (e.g., basic abilities). On the other hand, recollections of past

fit had their strongest effects on well-being when the content dealt with uncontrollable, stable elements than with one to which the person might attribute control.

These findings and research by others (e.g., Fischhoff, 1975; Janoff-Bulman & Brickman, 1981; Miller & Porter, 1980) suggest that these emphases are self-serving. Specifically, we like to think of the past as being a matter of destiny and fate—the romantic view of the world. Otherwise, one might have to live with uncomfortable cognition that the past *could* have been lived otherwise, had we only chosen a different car, spouse, occupation, citizenship, and so on. We like to think of the future as being controllable. Effort, but not basic ability falls into that category. Consequently, interventions aimed at improving PE fit which appeal to ways of “putting your skills to better work for you” may have more success than those which appeal to ways of “teaching you new skills.”

Research on coping with poor PE fit and with the nature of organizational changes that attempt to improve PE fit could pursue the question of time frames in greater detail. For example, does it make a difference in how well people cope if they anticipate that future fit requires a change in effort or basic abilities? Is the effect of past, present, and anticipated fit on performance similar to that on well-being? Are the effects for demands-ability fit similar to those for needs-supplies fit? Are the prospective employee's *anticipations* with regard to these types of fit diagnostic of future performance and adjustment? For example, is there a difference in the likely adjustment of prospective employees who view *future* coping as a matter of changing their own aspirations compared to changing their skills? Is there a difference in likely adjustment among employees who view future coping as a matter of getting the organization to alter its demands compared to those intent on finding ways of getting more rewards from the organization? All of these options derive from the framework for PE fit theory. Their comparative benefits for the employee and organization as coping strategies and as predictors of adjustment remain unknown.

*Control.* The discussion of adjustment has focused on *how* fit is accomplished (e.g., by changes in P or E and by changes in objective compared to subjective elements). *Who* accomplishes the adjustment is also an important consideration in predicting the well-being that results from changed PE fit. Suppose PE fit on task complexity is improved, or is perceived to be improved by some external agent such as a supervisor or chance. Will such PE fit be accomplished at the expense of undermining fit on some other dimension, such as with regard to personal control or sense of accomplishment (deCharms, 1968)?

*Participation, control over improving PE fit, and failure to improve.* Giving people a sense of personal control over their PE fit (e.g., enhancing

their sense of self-confidence in being able to improve work conditions or their skills, telling them that they have the right to bring about changes) can be a double-edged sword. Should these persons fail, they may be at especially high risk of depression, because their expectations have not been met (e.g., Feather & Davenport, 1981; Vinokur & Caplan, in press). It is possible that participation may counter this risk. As noted earlier, participation appears to lead to improved fit. Group participation might provide a useful mechanism for sharing and diffusing the sense of failure when attempts at increasing PE fit are not successful. Under such conditions, it may be important to introduce improvement in fit as a group, rather than individual, goal. The group might provide an emotional safety net to overcome the negative effects of failing to attain improved fit and overcome setbacks (Vinokur & Caplan, in press). Research is needed to further evaluate the role of groups both in attaining PE fit in organization and in inoculating persons against setbacks in achieving PE fit.

### CONCLUSION

There are several methodological problems that remain to be addressed in PE fit theory. The objective measurement of the person's skills, abilities, and needs and of the environment's demands and resources continues to elude us. The assessment of subjective measures of P and E also requires more methodological development. Scales need to be developed which demonstrate that the P and E measures are not contaminated by each other. A taxonomy of theory-based dimensions of P and E also needs to be developed. To the extent that barriers such as these can be overcome, social science research will be able to address a wide array of questions of both basic and applied interest raised by this article:

1. Are there different consequences for well-being and productivity when one produces fit via changes in P, E, or in both?
2. Does it make a difference if the change in fit that is produced is under or not under the target person's control? How is the mechanism of participation related to such control?
3. When poor PE fit occurs, does it make a difference in the probability that future fit will be attained if the person views the task as a challenge or as an adverse demand?
4. Are well-being and productivity influenced only by current perceptions of PE fit, or, do thoughts about past and future fit also have affective and motivational properties?
5. If organizations attempt to promote well-being by making changes in the objective nature of the job environment and the objective nature of the person (e.g., abilities and skills), what principles can increase the



likelihood that objective improvements in fit correspond to *perceptions* that improvement has taken place? What are the ethical ways in which this correspondence can be attained?

Although PE fit theory deals with the adjustment of individuals, an organizational perspective is recommended. Judgements about the benefits of improved PE fit may need to include assessments of benefit at more than the individual level. Was the change achieved at a cost to others or is it the result of a systemic effort to improve organization-wide well-being? Without systemic programs, it has been suggested that individual changes may be shortlived. There may be scientific and diagnostic value in assessing the degree to which the fit of certain stake holders or coalitions in organizations is improved at the expense or benefit of others. In this way, one can evaluate how improving fit in particular components of its system may have consequences for the other elements of the organization.

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