

#### 4

### MOTIVATION THROUGH THE DESIGN OF WORK

How can work be structured so that it is performed effectively and, at the same time, jobholders find the work personally rewarding and satisfying? In this chapter, one approach to answering that question is developed. We begin by examining the basic conditions that promote high performance motivation and satisfaction at work, and then work backwards to determine how those conditions can be created.<sup>1</sup>

When people are well matched with their jobs, it rarely is necessary to force, coerce, bribe, or trick them into working hard and trying to perform the job well. Instead, they try to do well because it is rewarding and satisfying to do so. Recall the diagnostic question posed in Chapter 2: "What happens when you try to work especially hard and productively on your job?" When there is a good fit between the person and the job, responses to that question will be mostly positive: "I get a nice sense of accomplishment," or "I feel good about myself and what I'm producing."

The term we use to describe this state of affairs is "internal motivation." When someone has high internal work motivation, feelings are closely tied to how well he or she performs on the job.

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<sup>1</sup> The theoretical position presented in this chapter is developed in more detail by Hackman and Oldham (1976).

Good performance is an occasion for self-reward, which serves as an incentive for continuing to do well. And because poor performance prompts unhappy feelings, the person may elect to try harder in the future so as to avoid those unpleasant outcomes and regain the internal rewards that good performance can bring. The result is a self-perpetuating cycle of positive work motivation powered by self-generated (rather than external) rewards for good work.<sup>2</sup>

A number of other personal and work outcomes (such as improved work effectiveness and increased job satisfaction) tend also to appear when conditions for internal work motivation are created. For ease of presentation, we will deal solely with internal motivation in the pages to follow, and fold in these additional outcomes toward the end of the chapter.

### CREATING CONDITIONS FOR INTERNAL MOTIVATION

When will internal motivation occur on the job? As shown in Fig. 4.1, our theory suggests that there are three key conditions. First, the person must have *knowledge of the results* of his or her work. If things are arranged so that the person who does the work never finds out whether it is being performed well or poorly, then that person has no basis for feeling good about having done well or unhappy about doing poorly.

Secondly, the person must *experience responsibility* for the results of the work, believing that he or she is personally accountable for the work outcomes. If one views the quality of work done as depending more on external factors (such as a procedure manual, the boss, or people in another work section) than on one's own initiatives or efforts, then there is no reason to feel personally proud when one does well or sad when one doesn't.

2 Concepts that are related to internal motivation as we use the term here include Deci's (1975) more general notion of "intrinsic motivation" and Csikszentmihali's (1975) more focused idea of the "flow experience." Perhaps closest in meaning to internal motivation is Blood's concept of "self-rewarding." Self-administered rewards, according to Blood, are both immediate and contingent on behavior; in colloquial terms, extreme positive self-rewarding can be characterized as pride, and extreme negative self-rewarding as shame (Blood, 1978, p. 94).

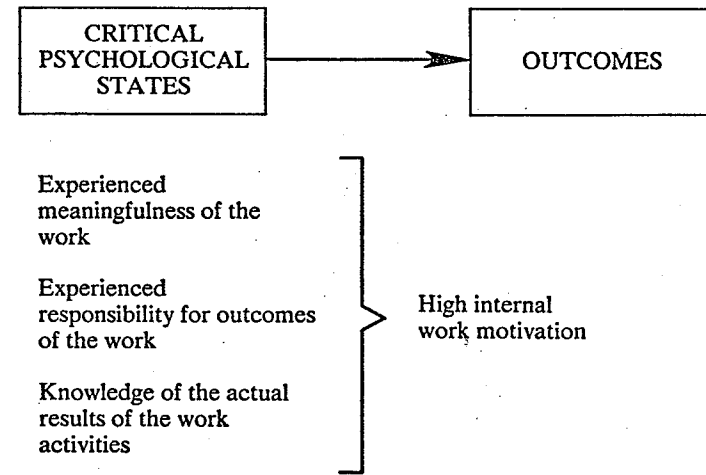


Fig. 4.1 The three psychological states that affect internal work motivation.

And finally, the person must *experience the work as meaningful*, as something that "counts" in one's own system of values. If the work being done is seen as trivial (as might be the case for a job putting paper clips in boxes, for example), then internal work motivation is unlikely to develop—even when the person has sole responsibility for the work and receives ample information about how well he or she is performing.

It appears necessary for *all three* of these factors, labeled "critical psychological states" in Fig. 4.1, to be present for strong internal work motivation to develop and persist. One of your authors, like many college teachers, finds that his day is made or broken by how well the morning lecture goes. The task is meaningful to him (he finds lecturing challenging and believes it to be important); he feels that the quality of the lecture is *his* responsibility (he's never quite learned how to attribute responsibility for a bad class to the students); and his knowledge of results is direct and unambiguous (undergraduates are expert in using subtle cues—and some not so subtle, such as newspaper reading—to signal how much they feel they are learning from the day's class). So all three of the psychological states are present in the lecturing task, and internal motivation to do well is very high indeed.

If any one of the three psychological states were to be removed, your author's internal motivation would drop. If, for example, he did not experience the task as meaningful—perhaps because he did not believe in the lecture as a teaching device, or because he was so good at it (or so poor) that it was not a challenge—then the results would not matter so much. The same would be true if he were merely reading lecture notes prepared by someone else (his personal responsibility for the outcome would be minimal), or if he were insulated from knowledge about how his lecture was being received by the students.

It is ironic that the three psychological states often characterize games played for pleasure better than they do work in organizations. Consider, for example, the game of golf. Knowledge of results is direct and immediate: the player hits the ball and sees at once where it goes. Moreover, tallies of scores for each hole played are kept, providing cumulative and comparative data about performance effectiveness. Experienced personal responsibility for the outcomes also is clear and high, despite the tendency of golfers sometimes to claim that the slice was due to someone whispering behind the tee, or perhaps to a little puff of wind that came up 100 yards down the fairway just after the ball had been hit. Experienced meaningfulness also is high, despite the fact that the task itself is mostly devoid of cosmic significance.

Why is experienced meaningfulness high for the game of golf? The reason is that golf provides continuous opportunities for players to express and test their personal skills and abilities—specifically their judgment and motor coordination. As will be seen in the next section of this chapter, people tend to experience as meaningful almost any task that provides chances to use and test personal skills and abilities, regardless of whether the task is inherently significant (such as performing surgery) or trivial (such as hitting white balls around green pastures). Moreover, the meaningfulness that grows from the challenge to players' skills is often reinforced by golfing partners, who provide social validation of the importance of the activity and may even attach monetary outcomes to the day's play.

So, in golf, the three psychological states are present, and internal motivation among regular golfers is usually quite high. Indeed, golfers exhibit an intensity of behavior that is rarely seen in the workplace: getting up before dawn to be first on the tee, feeling

jubilation or despair all day depending on how well the morning round was played, sometimes even destroying the tools and equipment of the game—not out of boredom or frustration with the work (as is sometimes seen in industrial settings) but rather from anger at oneself for not playing better.

Now consider another kind of task, such as assembling aircraft brakes, which clearly is of great human significance. For this task, good versus poor performance can literally mean the difference between life and death for someone aboard an aircraft that must stop before the runway does. An aircraft brake assembler is likely to experience the work as highly meaningful, which provides a good basis for creating conditions of high internal work motivation. The irony is that in many such significant jobs, precisely because the task is so important, management designs and supervises the work to ensure error-free performance and destroys employee motivation for high quality work in the process.

For example, managers in one organization were very concerned that an assembly task (not assembling brakes, but similar in many respects) be performed at the highest possible level of quality, with virtually no errors. A detailed manual was prepared specifying how the assembly should be carried out, with step-by-step instructions about the order of assembly, the use of different tools, and so on. Supervisors were instructed to monitor closely the performance of the assemblers, to ensure that they performed the task exactly “by the book,” and to demonstrate the correct use of tools and procedures when they deviated from standard procedure in any way. Moreover, an independent inspection section was created and located in a distant wing of the plant. Also in that wing was a small repair section where any assemblies that failed to pass inspection were to be repaired. Each supervisor received an end-of-week report giving the number of faulty assemblies produced by his group and documenting the nature of the problems discovered by the inspectors. Supervisors were expected to take any corrective action needed to eliminate recurring problems.

The work system described above, which is typical for jobs deemed especially critical by management, seems at first glance appropriate and rational. How did the assemblers respond to the system? The experienced meaningfulness of the work was high: almost to a person the employees agreed that the work itself was

significant and important. But they experienced very little *personal* responsibility for the outcomes of the work and felt well insulated from knowledge of the results of their work activities.

The reasons for these perceptions and feelings are not hard to fathom. Because the job required the assemblers to follow the procedure manual to the letter, and because supervisors enforced that requirement, the assemblers viewed themselves as relatively small cogs in a carefully engineered machine. Many employees assumed that if an error were made, or if the assembly materials or tools were out of specification, an inspector would catch it—that was, after all, their job. Moreover, no assembler learned about the results of his or her work: all testing was done by the inspectors, and the information received by the supervisor at the end of each week was about the group (not the individual). This led many assemblers to conclude that reported problems probably were the fault of *other* members of the work group, not themselves.

In sum, two of the three psychological states were low for most of the assemblers (that is, experienced responsibility and knowledge of results), resulting in a low level of internal work motivation to perform well, despite the inherent significance of the task. And work quality was such a problem that management expressed dismay at the shoddy work being done by the “shoddy people” in the assembly section. Given how the work was designed, with little real chance for assemblers to feel responsibility for what they produced or to learn about the quality of their production, it was almost inevitable that there would be motivational problems among them. But as is often the case, management viewed the problem solely in terms of the apparent impact of the people on the work and failed to consider the effects of the work on the people.

In fact, most people exhibit “motivational problems” at work when their tasks are designed so that they have little meaning, when they experience little responsibility for the work outcomes, or when they are protected from data about how well they are performing. If, on the other hand, a task is arranged so that the people who perform it richly experience the three psychological states, then even individuals who view themselves as chronically lazy may find themselves putting out a little extra effort to do the work well. It appears, then, that *motivation at work may actually have more to do with how tasks are designed and managed than with the personal dispositions of the*

*people who do them.* But what are the task characteristics that create conditions for internal work motivation? We turn to this question next.

## THE PROPERTIES OF MOTIVATING JOBS

The three psychological states discussed above are, by definition, internal to persons and therefore not directly manipulable in designing or managing work. What is needed are reasonably objective, measurable, changeable properties of the work itself that foster these psychological states, and through them, enhance internal work motivation. Research suggests that the five job characteristics shown in Fig. 4.2 may be useful in this regard (Hackman and Lawler, 1971; Hackman and Oldham, 1976; Turner and Lawrence, 1965). Three of these five job characteristics are shown in the figure as contributing to the experienced meaningfulness of the work, one contributes to experienced responsibility, and one contributes to knowledge of results.

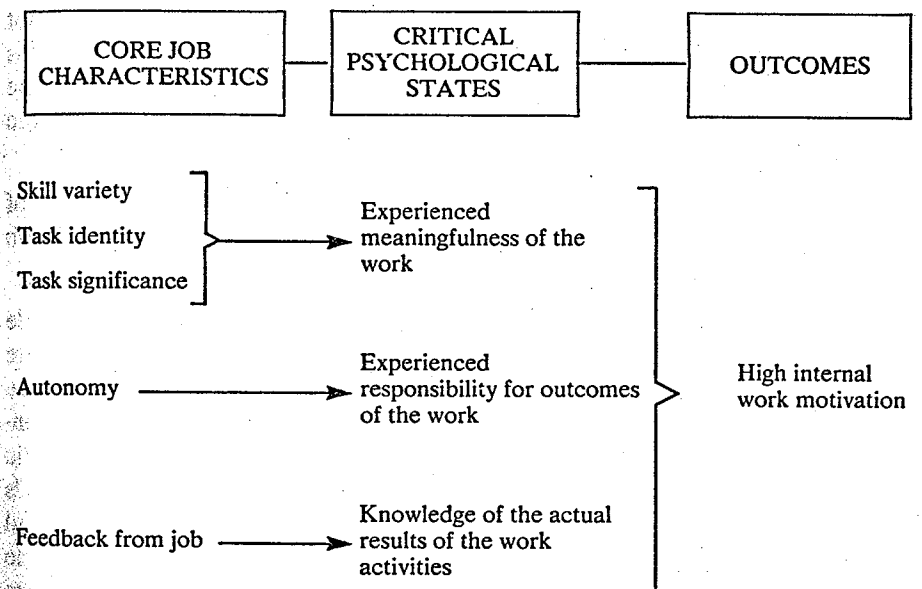


Fig. 4.2 Job characteristics that foster the three psychological states.

### *Toward Experienced Meaningfulness*

There are a number of different ways that work can take on personal meaning for the person who performs it. Three characteristics of jobs that seem especially powerful in influencing the experienced meaningfulness of work are (1) skill variety, (2) task identity, and (3) task significance.

**Skill variety:** The degree to which a job requires a variety of different activities in carrying out the work, involving the use of a number of different skills and talents of the person.

As noted earlier, when a task requires workers to engage in activities that challenge or stretch their skills or abilities, they almost invariably experience that task as meaningful, and the more skills involved, the more meaningful the work is likely to be. The link between skill variety and experienced meaningfulness is probably "wired in" for human organisms. Numerous researchers have shown that people, from newborn infants to mature adults, seek out occasions to explore and manipulate their environments and to gain a sense of efficacy by testing and using their skills (Kagan, 1972; White, 1959). The substantive content of the materials being dealt with is not critical in establishing experienced meaningfulness; even work that is not very significant or important in an absolute sense can still be meaningful to a person if doing that work taps and stretches the performer's skills and talents.

**Task identity:** The degree to which a job requires completion of a "whole" and identifiable piece of work, that is, doing a job from beginning to end with a visible outcome.

People care about their work more when they are doing a whole job. When workers have an intact task, such as providing a complete unit of service or putting together an entire product, they tend to see that task as more meaningful than is the case when they are responsible for only a small part of the job. A social worker in a public welfare department who is responsible for dealing with *all* the needs and problems of his or her clients will find the work more meaningful than a colleague who deals only with issues relating to income maintenance or homemaker assistance. By the same token, it is more meaningful to assemble a complete toaster than to solder electrical connections on toaster after toaster—even if the skill levels required for the two jobs are about the same.

**Task significance:** The degree to which the job has a substantial impact on the lives of other people, whether those people are in the immediate organization or in the world at large.

Experienced meaningfulness of the work usually is enhanced when workers understand that the work being done will have a substantial impact on the physical or psychological well-being of other people. Employees who tighten nuts on aircraft engines are likely to experience their work as more meaningful than workers who tighten nuts on decorative mirrors, simply because lives are at stake in the first task and are not in the second. When we know that what we do at work will affect someone else's happiness, health, or safety, we care about that work more than if the work is largely irrelevant to the lives and well-being of other people.

Each of the three job characteristics described above contributes to the overall experienced meaningfulness of the work. If a given job is high on all three of the characteristics, an employee is very likely to experience the work as meaningful: putting together a complex heart pacemaker is an example of such a task. Yet because three different task characteristics contribute to experienced meaningfulness, a person can experience the work as meaningful even if one or two of these task characteristics are quite low. Even our assembler of decorative mirrors, whose task is surely below average in significance, could find meaning in the work if it were sufficiently high in skill variety and/or task identity.

### *Toward Increased Responsibility*

The characteristic of jobs that fosters increased feelings of personal responsibility for the work outcomes is *autonomy*.

**Autonomy:** The degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out.

When the job provides substantial autonomy to the persons performing it, work outcomes will be viewed by those individuals as depending substantially on their own efforts, initiatives, and decisions, rather than on, say, the adequacy of instructions from the boss or on a manual of job procedures. As autonomy increases, individuals tend to feel more personal responsibility for successes and failures

that occur on the job and are more willing to accept personal accountability for the outcomes of their work.<sup>3</sup>

### *Toward Knowledge of Results*

Knowledge of the results of one's work is affected directly by the amount of *feedback* one receives from doing the work.

**Job feedback:** The degree to which carrying out the work activities required by the job provides the individual with direct and clear information about the effectiveness of his or her performance.

Note that the focus here is on feedback obtained *directly from the job*, as when a television repairman turns on the set and finds that it works (or doesn't work) after being repaired, when a sales representative closes the deal and receives a check from the customer, or when a physician treats a patient and sees the patient get well. In each case, the knowledge of results derives from the work activities themselves, rather from some other person (such as a co-worker or a supervisor) who collects data or makes a judgment about how well the work is being done. While this second type of feedback (which will be termed "feedback from agents") can also contribute to the overall knowledge an employee has of the results of his or her work, the focus here is on feedback mechanisms that are designed into the work itself.

### *The Overall Motivating Potential of a Job*

Because a given job can be very high on one or more of the five characteristics described above and simultaneously quite low on

3 There has been a good deal of research in social and clinical psychology documenting the negative consequences for people of constrained autonomy to make decisions about their life and work (see Wortman and Brehm, 1975 for a review.) Moreover, there are some intriguing findings that suggest that increased control can have beneficial effects on learning (Perlmutter and Monty, 1977), on responses to stressful situations such as crowding (Baron and Rodin, 1978), and on happiness and health (Rodin and Langer, 1977). There are, however, few studies in which control has been increased by direct alteration of task structure, or which provide direct tests of the link proposed here between objective increases in autonomy and enhanced feelings of personal responsibility for work outcomes (Sogin and Pallak, 1976; Wortman, 1976).

others, it always is useful to consider the standing of a job on each of the job characteristics. Nevertheless, it also can be informative to combine the five characteristics into a single index that reflects the overall potential of a job to foster internal work motivation on the part of job incumbents.

Following the model diagrammed in Fig. 4.2, a job high in motivating potential must be high on at least one (and hopefully more) of the three characteristics that prompt experienced meaningfulness, and high on both autonomy and feedback as well, thereby creating conditions that foster all three of the critical psychological states. When numerical scores are available, they are combined as follows:

$$\text{Motivating potential score (MPS)} = \left[ \frac{\text{Skill variety} + \text{Task identity} + \text{Task significance}}{3} \right] \times \text{Autonomy} \times \text{Job feedback}$$

As can be seen from the formula, a very low score on *either autonomy or feedback* will reduce the overall MPS of the job very substantially. This is as it should be, because the model requires that both experienced responsibility and knowledge of results be present if internal work motivation is to be high, and autonomy and feedback, respectively, are the job characteristics that prompt those two psychological states.

On the other hand, a low score on one of the three job characteristics that contribute to experienced meaningfulness cannot, by itself, seriously compromise the overall motivating potential of a job. The other characteristics that prompt experienced meaningfulness can, to some extent, compensate for low scores on one or even two of these three characteristics.

Techniques for measuring the five core job characteristics are discussed in detail in the next chapter. A diagnostic instrument is described there that yields scores for each job characteristic, ranging from a low of 1 to a high of 7. Following the above formula, this means that the lowest possible MPS for a job is 1 and the highest possible is 343 (7 cubed). In practice, the lowest MPS we have ever observed was 7 (an overflow typing pool, in which a number of employees sat by their typewriters for hours on end waiting for occasions when one of the regular typing pools was overloaded, at

which time they would be given some pages to type until the workload in the regular pools once again became normal). The highest we have observed was over 300, for an autonomous organization development consultant working in a moderate-sized corporation. An average MPS score for jobs in U.S. organizations is about 128.

It should be emphasized that the objective "motivating potential" of a job does not *cause* employees who work on that job to be internally motivated, to perform well, or to experience job satisfaction. Instead, a job that is high in motivating potential merely creates conditions such that *if* the jobholder performs well he or she is likely to experience a reinforcing state of affairs as a consequence. Job characteristics, then, serve only to set the stage for internal motivation. The *behavior* of people who work on a job determines the action that unfolds on the stage. And, as will be seen below, some people are much better positioned to take advantage of the opportunities offered by "enriched" jobs than are others.

### THE ROLE OF DIFFERENCES AMONG PEOPLE

Some employees "take off" on jobs that are high in motivating potential; others are more likely to "turn off." There are many attributes of people that affect how they respond to their work, and we cannot review all of them here. We have, however, selected for discussion three characteristics of people that seem especially important in understanding who will (and who will not) respond positively to high MPS jobs. These three factors, which we believe should be taken into account in planning for possible changes in jobs, are identified as "moderators" in Fig. 4.3 and are examined separately below.

#### Knowledge and Skill

Recall once again the essential property of internal work motivation: positive feelings follow from good performance, and negative feelings follow from poor performance. If a job is low in motivating potential, then internal motivation will be low, and one's feelings will not be affected much by how well one does. But if a job is *high* in MPS, then good performance will be highly reinforcing, and poor performance will lead to very unhappy feelings. The consequence of this state of

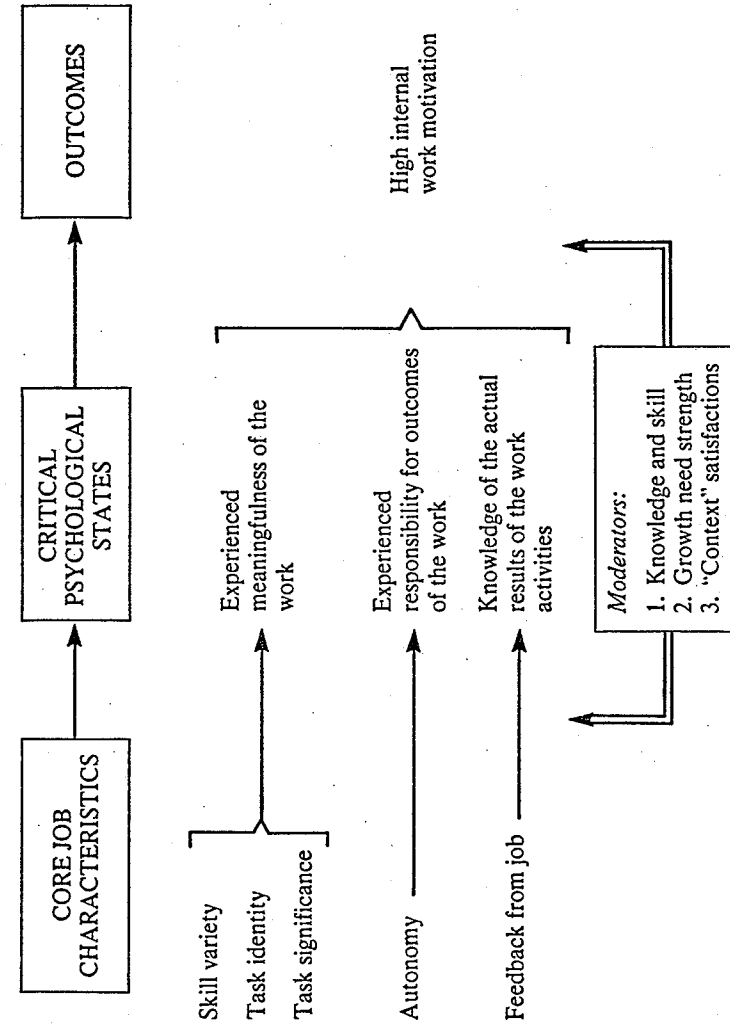


Fig. 4.3 Moderators of the relationship between the job characteristics and internal motivation.

affairs for the work motivation and satisfaction of job incumbents is shown in Fig. 4.4.

For jobs high in motivating potential, then, people who have sufficient knowledge and skill to perform well will experience substantially positive feelings as a result of their work activities. But people who are *not* competent enough to perform well will experience a good deal of unhappiness and frustration at work, precisely because the job "counts" for them and they do poorly at it.

To return to our example of golf, a high MPS task, we find talented golfers frustrated at times with occasional poor performance, but always motivated, returning for more practice, and netting a good deal of self-satisfaction with themselves and the game. However, those of us who are not blessed with good hand-eye coordination may show equally high motivation early in our experience with the game, but eventually we tend to give it up. Spending a weekend morning trying hard and being miserable at failing, time after time, eventually leads all but the most masochistic to abandon the game in favor of an activity that brings more pleasure than frustration.

A similar phenomenon can occur in organizations when people are given highly motivating tasks that they are unable to perform successfully: rather than continually accept the pain of failing at something that is experienced as important, such individuals frequently opt to withdraw from the job—either behaviorally, by changing jobs, or psychologically, by convincing themselves that in fact they do *not* care about the work. Either outcome is an undesirable state of affairs both for the individual and for the organization.

		Motivating potential of the job	
		Low	High
Job-relevant knowledge and skill of the employee	High	Low internal work motivation, with personal satisfaction not much affected by how well one performs.	High internal work motivation, and much satisfaction obtained from doing well.
	Low	Low internal work motivation, with personal satisfaction not much affected by how well one performs.	High internal work motivation, and great dissatisfaction obtained from doing poorly.

Fig. 4.4 The outcomes of work on high and low MPS jobs as a function of employee knowledge and skill.

### Growth Need Strength

Jobs high in motivating potential create opportunities for considerable self-direction, learning, and personal accomplishment at work. Not all individuals appreciate such opportunities, even among employees who would be able to perform the work very competently. What determines who will respond positively to a complex, challenging job, and who will not?

As noted in Chapter 3, some researchers (e.g., Turner and Lawrence, 1965; Blood and Hulin, 1967) have suggested that the critical factor may be subcultural: people from rural settings may more strongly endorse middle-class work norms than people from urban settings, and therefore respond more positively to jobs high in motivating potential. An alternative view, and the one we endorse, is that the *psychological needs* of people are critical in determining how vigorously an individual will respond to a job high in motivating potential (Hackman and Lawler, 1971; Hackman and Oldham, 1976).

Some people have strong needs for personal accomplishment, for learning, and for developing themselves beyond where they are now. These people are said to have strong "growth needs" and are predicted to develop high internal motivation when working on a complex, challenging job. Others have less strong needs for growth and will be less eager to exploit the opportunities for personal accomplishment provided by a job high in motivating potential.

Growth need strength may affect how people react to their jobs at two different points in the model shown in Fig. 4.3: first at the link between the objective job characteristics and the psychological states, and again between the psychological states and internal motivation. The first link specifies that people with high growth need strength will *experience* the psychological states more strongly when their objective job is high in MPS than will their low growth need strength counterparts. And the second link means that individuals with high growth need strength will *respond more positively* to the psychological states, when they are present, than will low growth need individuals.

For both of these reasons, individuals with strong needs for growth should respond eagerly and positively to the opportunities provided by enriched work. Individuals with low needs for growth, on the other hand, may not recognize the existence of such opportunities, or may not value them, or may even find them threatening and balk at being "pushed" or stretched too far by their work.



### Satisfaction with the Work Context

Up to this point our discussion has focused on the motivating properties of the work itself and on characteristics of people (specifically their job-relevant knowledge and skill, and their growth need strength) that affect how people respond to jobs that are high or low in motivating potential. However, it is also the case that how satisfied people are with aspects of the work context may affect their willingness or ability to take advantage of the opportunities for personal accomplishment provided by enriched work.

Consider, for example, an employee who is very upset about her work context. She feels exploitively underpaid for the work she does; she is worried that she is about to be fired, partly because her supervisor seems to go out of the way to make life at work miserable for her; and she doesn't get on at all well with her co-workers, to the point that she believes her co-workers are ridiculing her behind her back.

Now imagine that this woman is asked if she would like to have her (currently rather routine) job made more complex and challenging. Even if she is presently more than qualified to do the work that would be required on the enriched job, would she respond with enthusiasm to the opportunity being offered? It is not very likely. She is so dissatisfied with the contextual aspects of life at work that most of her energy is absorbed merely in coping with those issues from day to day. Only if these problems were resolved (or if the employee found a way to adapt psychologically to them) would she become able to experience, appreciate, and respond with high internal motivation to enriched work.

We expect, therefore, that individuals who are relatively satisfied with pay, job security, co-workers, and supervisors will respond more positively to enriched and challenging jobs than individuals who are dissatisfied with these aspects of the work context. And if individuals who are satisfied with the work context also have relatively strong growth need strength, then a very high level of internal work motivation would be expected.

What of employees who are both dissatisfied with the work context and low on personal need for growth? For these individuals, work motivation may be only minimally affected by the motivational characteristics of the jobs they do: they are likely to be distracted from whatever richness exists in the work itself (because of their

dissatisfaction with contextual factors) and at the same time oriented toward satisfactions other than those that can come from effective performance on enriched jobs (because of their low need for personal growth at work).

Research tests of these ideas provide some support for the proposition that the impact of a job on a person is moderated both by the person's needs and by his or her context satisfaction (Oldham, 1976a; Oldham, Hackman, and Pearce, 1976). The findings of the Oldham, Hackman, and Pearce study are summarized in Fig. 4.5. Overall, we found that the higher the motivating potential of a job, the stronger the work motivation and on-the-job performance of the employee. This was not unexpected: task characteristics usually turn out to predict outcomes such as satisfaction and performance in this kind of research.

Yet it also was found in this study that the strongest relationships between MPS and the outcomes were obtained for those employees who were highly desirous of growth satisfaction and simultaneously satisfied with the work context (that is, those employees in the upper right-hand cell of Fig. 4.5. And when both growth need strength and context satisfaction were at low levels (the lower left-hand cell), some negative relationships were obtained between MPS and the outcomes—a quite unusual finding. Apparently those individuals who were both low in growth need strength and dissatisfied with the work

		Growth need strength	
		Low	High
Satisfaction with the work context	High	<u>Moderate positive relationship</u>	<u>Strong positive relationship:</u> The higher the MPS of the job, the higher the motivation and performance of the job incumbent.
	Low	<u>No relationship (or small negative relationship):</u> Motivation and performance are unrelated (or slightly negatively related) to the MPS of the job.	<u>Moderate positive relationship</u>

Fig. 4.5 Relationship between the motivating potential of a job and the motivation and performance of job incumbents.

context found a complex and challenging job so far out of line with their needs that they were unable to perform well on it. When, on the other hand, these individuals worked on a simple and routine job (one low in MPS), they reacted positively to it, probably for two related reasons. First, the job may have fit better with their personal needs (which were for other than growth satisfactions); secondly, because the job was not very challenging, these individuals probably could carry out the work satisfactorily and still have energy left over to use in attempting to deal with the dissatisfying work context.

### Summary

In the preceding pages, we have reviewed three factors which qualify the general proposition that increases in the motivating potential of a job foster greater internal work motivation on the part of the people who perform it. These factors are a person's job-relevant knowledge and skill; growth need strength; and level of satisfaction with aspects of the work context, particularly satisfaction with job security, compensation, co-workers, and supervision.

While each of these factors may, in its own right, affect the responses of a person to a job, they become especially significant when they occur in combination. The "worst possible" circumstance for a job that is high in motivating potential, for example, would be when the job incumbent is only marginally competent to perform the work and has low needs for personal growth at work and is highly dissatisfied with one or more aspects of the work context. The job clearly would be too much for that individual, and negative personal and work outcomes would be predicted. It would be better, for the person as well as for the organization, for the individual to perform relatively more simple and routine work.

On the other hand, if an individual is fully competent to carry out the work required by a complex, challenging task and has strong needs for personal growth and is well satisfied with the work context, then we would expect both high personal satisfaction and high work motivation and performance. The work, in this case, would fit well both with the talents and the needs of the individual, and the outcomes should be beneficial both to the individual and to the organization.

## OUTCOMES OF ENRICHED WORK

Thus far, we have focused on internal work motivation as one key outcome of enriched work. We now broaden our view and examine a number of other personal and organizational outcomes that often are associated with motivating jobs, outcomes that may be affected when the motivational structure of work is changed. The expanded set of outcomes is shown in Fig. 4.6, which provides a complete overview of the job characteristics model of work motivation that has been developed in the preceding pages.

### Personal Outcomes

The personal outcomes associated with the motivating potential of jobs are, in addition to internal motivation, growth satisfaction and general satisfaction. When a job is high in MPS, jobholders have enriched opportunities for personal learning and growth at work, and they tend to report that they find those opportunities personally satisfying. Employees on enriched jobs also express relatively high general satisfaction, as measured by questions such as "Generally speaking, how satisfied are you with your job?" and "How frequently do you think of quitting this job?" (reverse scored).

Not included among the outcomes in Fig. 4.6 is satisfaction with various aspects of the work context. What is changed when work is redesigned is the relationship between the person and the work itself. While improvements in that relationship should affect the overall satisfaction of individuals with their jobs, there is no reason to expect that it should also lead to specific improvements in satisfaction with job security, pay, supervision, or co-worker relationships. Indeed, as will be seen later in this book, job enrichment sometimes leads to decreases in satisfaction with pay and supervision, particularly when compensation arrangements and supervision are not altered to mesh with the new responsibilities and increased autonomy of the persons whose jobs are redesigned.

### Work Effectiveness

The model in Fig. 4.6 specifies that employee work effectiveness is expected to be high when jobs are high in motivating potential. As we

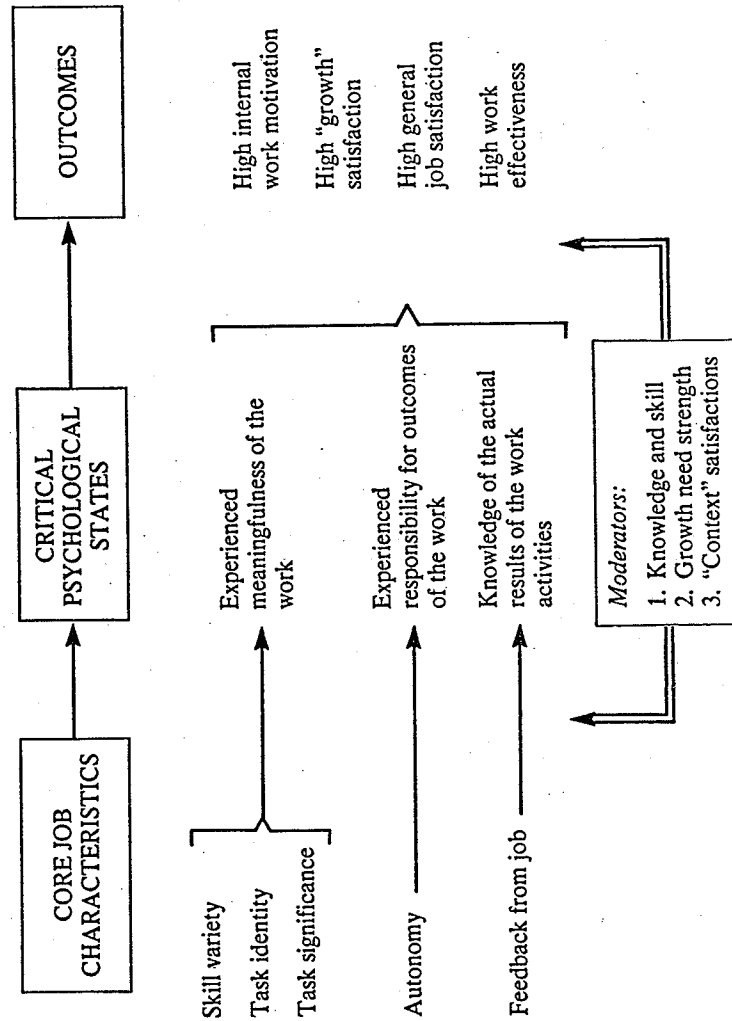


Fig. 4.6 The complete job characteristics model.

choose to use the term, work effectiveness includes both the quality and the quantity of the goods or services produced. These two components of overall effectiveness relate to the motivational structure of jobs somewhat differently.

The reasoning regarding work *quality* is straightforward: When a job is high in motivating potential, people who work on that job tend to experience positive affect when they perform *well*. And performing well, for most people, means producing high-quality work of which one can be proud. Thus, on enriched jobs, we find error-free products being manufactured, or especially considerate and helpful service being given to clients, or an extra-careful piece of library research being done.

On the other hand, merely producing a great *quantity* of work—such as making many calls, turning out lots of products, or handling hordes of customers—may not be viewed as a very good reason for patting one's self on the back. Such self-rewards are especially unlikely when, as is sometimes the case, it has been necessary to cut some corners in quality to rack up great quantities of work.

But if the motivational payoff of enriched work has more to do with producing excellent products or services than with producing lots of them, then why are improvements in work quantity obtained in many work redesign projects (Katzell, Bienstock, and Faerstein, 1977)? There are, we believe, three reasons. First, work redesign may remove the "demotivating" effects of a traditionally designed job. As noted in chapter 3, if work is extremely routine and repetitive employees often engage in behaviors that minimize the amount of work they actually have to do. This may involve diversion of attention from the work (daydreaming or sleeping), finding ways to leave the job (taking unnecessary breaks or feigning the need for help from the supervisor), or even engaging in directly counterproductive behaviors (causing machine malfunctions or deliberately restricting output). So even if employees do not become motivated to produce especially great quantities of output when their work is enriched, productivity increases may still be obtained, simply because dysfunctional behaviors such as those noted above are no longer exhibited.

Second, hidden inefficiencies in the use of time and support staff may be eliminated when traditional jobs are redesigned. While in traditional designs each subpart of the work to be done is engineered

for maximum efficiency, it often is necessary to add extra coordinating, supervising, and quality control staff for the work system as a whole to function smoothly. Moreover, when work must be passed from person to person repeatedly to complete an entire task, employees necessarily spend nonproductive time receiving the work, getting started on it, and passing it on to the co-worker who is to perform the next operation. In some (not all) work systems, these inefficiencies of time and staff can be reduced substantially when the numerous small parts of the total task are recombined into a meaningful whole.

Finally, it often is possible to refine and simplify the overall work system when jobs within that system are redesigned. Whenever jobs are changed substantially, it usually is necessary to rethink the way related jobs are structured and how work flows from person to person and from job to job. Often such scrutiny of the workflow (which previously may have been taken as "given") unearths some simple systemic inefficiencies—such as redundant work activities, work being done that does not contribute to the final product or service (reports written for files that are never used, for instance), or time-wasting work rules and procedures. Once these inefficiencies are brought to light they are likely to be corrected, resulting in higher system productivity.

In sum, improvements in work effectiveness generally are to be expected when the motivational makeup of jobs is improved through work redesign. The quality of performance should improve as a direct function of the increased motivating potential of the work. The quantity of work produced also may increase, but this is a more complicated and less predictable matter. In our view, the likelihood of quantity improvements depends on the state of the work system *prior* to work redesign, specifically whether (1) employees were exhibiting low productivity because they were "turned off" by exceedingly routine or repetitive work, (2) there were hidden inefficiencies in the use of time or support staff in getting the work done, or (3) there were redundancies or time-wasting procedures built into the work system itself. If one or more of these problems preexisted in the work unit, then increases in the quantity of work performed are likely to appear after the work is redesigned. If these problems were not present, then we would not expect work redesign to yield increases in production

quantity.<sup>4</sup> Indeed, decreases in quantity may even be noted as people work especially hard to produce high *quality* work.<sup>5</sup>

#### *Attendance at Work*

Why is reduced absenteeism not in the outcome list in Fig. 4.6? One would expect that when jobs are motivationally improved, employees would find the workplace more attractive and would want to come to work more regularly. The fact that general satisfaction (which is typically associated with absenteeism) usually improves when jobs are enriched would further strengthen the expectation that attendance should improve when the design of work is improved. Yet research results on the question are far from conclusive: Some studies report improvements in attendance when jobs are enriched, some report no change, and some have even reported worse absence problems than before (e.g., Hackman, Pearce, and Wolfe, 1978).

Our view is that whether attendance improves or deteriorates as a consequence of work redesign depends heavily on the *competence* of the employees whose jobs are changed. We argued earlier in this chapter that while jobs high in motivating potential lead to increased occasions for self-reinforcement among people who are competent in the work, they also provide more frequent occasions for self-generated *negative* affect for those who are not. If this is true, then changes in jobs that increase internal motivation might simultaneously prompt decreased absenteeism for more competent employees and increased

4 This suggests that findings from laboratory studies of the effects of work redesign on productivity should be interpreted with caution. It is doubtful, in such studies, that control conditions will contain the kinds of systemic inefficiencies that often build up over time in real organizations, or that control subjects in the laboratory will exhibit the kinds of antiproducer behaviors that sometimes appear when employees have extended experience on poorly designed jobs. Thus, a laboratory finding that work redesign has no impact on productivity may not generalize to problem-ridden real organizations.

5 In such circumstances, devices such as goal setting and contingent financial rewards may be helpful in maintaining a balance between the quantity and quality of work produced (cf. Umstot, Bell, and Mitchell, 1976).

absenteeism for their less competent co-workers. Any overall indicator of absenteeism for the work group as a whole would be misleading because of the different effects of the change on the absence rate of the two subgroups.

This notion awaits systematic research testing. If it should be borne out, it would have some interesting implications for the management of employee attendance—and, perhaps, even for issues of work-force retention. Specifically, it appears that designing enriched jobs might be one way to foster the retention of the best workers and to ensure their regular attendance, while at the same time creating conditions such that their less competent colleagues would find it advantageous to stay away from work. For some managers, this would be a pleasant reversal of present difficulties in getting competent workers to stay with the organization and in getting incompetents to stay away.

### Summary

When the motivational properties of work are improved, one can usually count on increases in internal work motivation, general satisfaction, and growth satisfaction. Employee satisfaction with aspects of the work context, such as job security, pay, supervision, and co-workers are not likely to increase and may even show a decline.

Work effectiveness should improve when jobs are enriched, especially the quality of the work done. Production quantity may also increase, but this is likely only when there were relatively severe motivational problems or built-in inefficiencies in the work system prior to redesign. Although additional research is required before confident predictions can be made regarding the effects of work redesign on absenteeism and voluntary turnover, it may be that enriched work leads to greater behavioral commitment to the work and the organization for more talented employees and to less commitment among employees who are less capable.

Work redesign assuredly is *not* a panacea for all organizational problems. It is a viable and useful change strategy for some personal and work outcomes but not for others. And, as will be seen in subsequent chapters of this book, even to obtain those outcomes listed in Fig. 4.6 requires careful and competent planning to ensure that the changes made are appropriate for the kind of work being done, for the people who do the work, and for the broader organizational context.

### THE JOB CHARACTERISTICS MODEL: TRUTH OR FICTION?

Just how correct and complete is the model of work motivation presented in this chapter? The literature relevant to the many propositions in the model cannot be reviewed here, and it is probably too early for a definitive assessment of the validity of the model in any case. Based on evidence available, it is fair to say that the model probably is more right than wrong, but that it is surely inaccurate and incomplete in numerous specifics.<sup>6</sup>

We believe that it is very important for people to be guided by some theory or model when they plan and implement organizational changes. Yet it is also important for those who would base their change activities on a given theoretical model to be aware of known problems, ambiguities, and omissions in that model, especially those that might affect how the changes are carried out. Here, then, are a number of concerns about the job characteristics model that we believe should be kept in mind by readers who might use our approach in redesigning work.

1. Evidence for the proposed moderating effects is scattered. The moderating effects of knowledge and skill have not been systematically tested, and only a few studies have addressed context satisfaction as a moderator of job characteristic-outcome relationships. A relatively large number of studies have examined the moderating effect of growth need strength, with mixed results. Some studies

6 While there are numerous studies of devices for *measuring* job characteristics (see Barr, Brief, and Aldag, 1978 for a review), relatively few studies have been made of the *conceptual* propositions of job characteristics theory. Recent tests of the theory that came to our attention as this book was going to press are: Arnold and House, in press; Champoux, in press; Orpen, 1979; and Wall, Clegg, and Jackson, 1978. The Arnold and House study is of special interest because of its innovations in the use of regression techniques to test the theory; the Orpen study is of special interest because it is the only *experimental* test (that is, involving random assignment of employees to enriched and unenriched conditions in a real organization) of which we are aware. While there is not yet a review of studies testing the job characteristics model in the research literature, a more general review that questions the entire meta-theory on which the model is based is provided by Salancik and Pfeffer (1977).

have, and others have not, found the predicted moderating effect. Moreover, several other individual difference variables (such as need for achievement, alienation from middle-class work norms, and intrinsic versus extrinsic work values) have been proposed as alternatives to growth need strength in determining how people react to their work. That there are important differences among people in their motivational readiness for work on enriched jobs seems not at issue, but how best to construe and measure those differences remains very much an open question.

2. While existing evidence generally suggests that the job characteristics affect the outcomes *through* the psychological states as specified by the model, a number of anomalies have been found. Some of the job characteristics (particularly autonomy) appear in some investigations to affect psychological states other than those specified in the model. And some of the psychological states are, on occasion, influenced by other than model-specified job characteristics. In sum, the links between the job characteristics and the psychological states are not as neat and clean as suggested in Fig. 4.6.

3. While the model treats the several job characteristics as if they were independent (that is, mostly uncorrelated with one another), this is not always true. Instead, jobs that are high on one job characteristic often are high on others as well. Skill variety and autonomy are especially closely associated in many organizations. Intercorrelations among the job characteristics can diffuse their effects on the psychological states, as noted above. Moreover, the appropriateness of the multiplicative formula for MPS (given earlier in this chapter) is compromised to the extent that these intercorrelations are high. In many situations, therefore, an estimate of the motivating potential of jobs obtained by simply summing the scores of the job characteristics will be just as good (or better) than one that uses the more complex MPS formula (cf. Brief, Wallace, and Aldag, 1976).

4. The concept of feedback used in the model is flawed. It sometimes is difficult to determine just what is (and what is not) "job-based" feedback, and we frequently find supervisors, job incumbents, and outside observers disagreeing about how much feedback a given job actually provides. Moreover, the model does not address feedback from nonjob sources (such as supervisors, co-workers, or one's self) that also affect knowledge of the results of the work, let alone the complex interactions that no doubt exist among these sources of information about performance. This is important because the ef-

fects of job-based feedback may be altered by data about performance that is received from nonjob sources.<sup>7</sup>

5. How the objective properties of jobs relate to people's perceptions of those properties is not completely clear. It is known that people "redefine" their tasks to be consistent with their personal needs, attitudes, and values, and in response to cues or direct influence from other people about the meaning of the work (Hackman, 1969; Weiss and Shaw, 1979). Yet the job characteristics model in its present form does not differentiate between objective and perceived properties of tasks, and it is not known whether the motivational benefits of "enriched" work derive primarily from objective task characteristics (even if those characteristics are not perceived by the performer) or from employee perceptions of task characteristics (even if those perceptions are influenced by nonjob factors).

In sum, while there is support in the research literature for the basic job characteristics model, it would be inappropriate to conclude that the model provides a correct and complete picture of the motivational effects of job characteristics. Instead, this model, like the alternative models proposed by Herzberg (1968) and by sociotechnical systems theorists (Davis and Trist, 1974), is perhaps best viewed as a guide for further research and as an aid in planning for changes in work systems. An especially important part of that planning process, and one for which a conceptual model of some kind is almost essential, is the prechange diagnosis of a work system. It is to the diagnostic task that we turn in the next chapter, where a diagnostic strategy based on the job characteristics approach is developed and discussed.

#### FOR ADDITIONAL READING

Hackman, J.R., and G.R. Oldham. Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, 1976, 16, 250-279. This is the original statement of our version of job characteristics theory, which includes an empirical assessment of the strengths and weaknesses of the model.

<sup>7</sup> For a more differentiated view of the concept of feedback and its consequences in work systems, see Herold and Greller (1977) or Ilgen, Fisher, and Taylor (1977).

Wanous, J.P. Individual differences and reactions to job characteristics. *Journal of Applied Psychology*, 1974, 59, 612-622. This study compares the usefulness of (1) growth need strength, (2) endorsement of the Protestant Work Ethic, and (3) urban versus rural background in determining how people react to "enriched" work. It is found that growth needs are the best moderator of reactions to work and that urban-rural background is the worst. Implications for the practice of work design are drawn. (It should be noted, however, that other studies have not been as supportive of the moderating effects of growth need strength as is this one.)

Umstot, D.D., C.H. Bell, and T.R. Mitchell. Effects of job enrichment and task goals on satisfaction and productivity: Implications for job design. *Journal of Applied Psychology*, 1976, 61, 379-394. The authors created an organization to study and found that enriched jobs improved employee attitudes (but not productivity), while goal setting improved productivity (but not attitudes). Interesting implications for the *joint* use of work design and goal setting in managing work are suggested.

Locke, E.A., D. Sirota, and A.D. Wolfson. An experimental case study of the successes and failures of job enrichment in a government agency. *Journal of Applied Psychology*, 1976, 61, 701-711. A well-documented field investigation showing the opposite of the Umstot, Bell, and Mitchell results: namely, that job enrichment improved productivity but had no effect on attitudes. Note the interesting discussion about why these results may have been obtained.

Pierce, J.L. and R.B. Dunham. Task design: A literature review. *Academy of Management Review*, 1976, 1, 83-87. A relatively thorough and thoughtful assessment of the state of the evidence regarding the effects of job design. Although there have been many studies of work design published since this review was completed, the authors' implications and recommendations are still worth careful attention.