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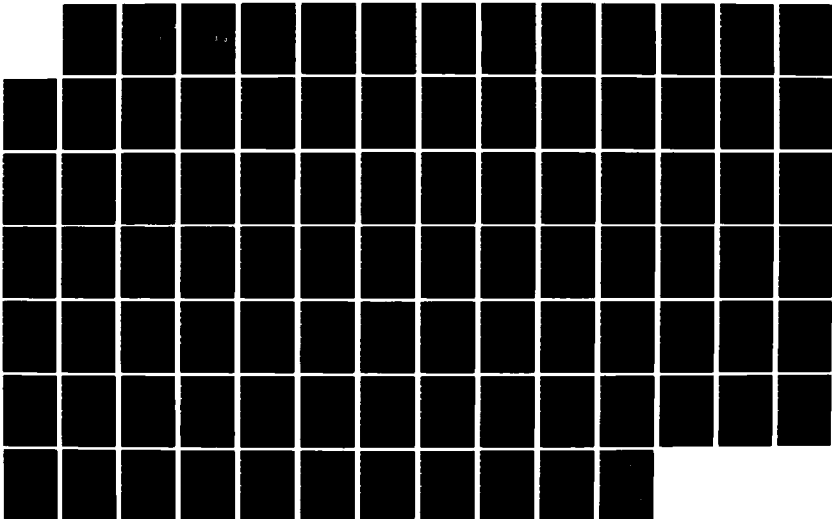
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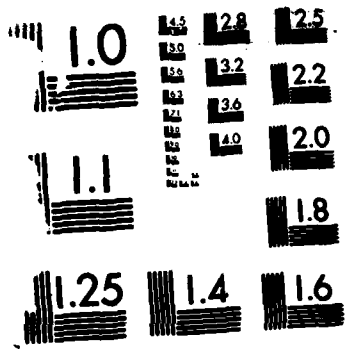
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Organizations As Information Processing Systems

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Toward an Integrated Theory
of Task Design

Ricky W. Griffin

TR-ONR-DG-17

April 1986

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Richard Daft
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Ricky Griffin
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**Toward an Integrated Theory
of Task Design**

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TOWARD AN INTEGRATED THEORY OF TASK DESIGN

ABSTRACT

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→ At present, the study of task design lacks a clear and demonstrable focus. The reasons ~~for this condition~~ relate to controversies and contradictions surrounding the dominant models and theories in the area. Yet, task design remains an important topic for scientific inquiry. In an effort to reestablish focus and direction, ^{the author proposes} an integrated theory of task design, ^{which} is ~~proposed~~. The theory is ~~not~~ viewed as an alternative for existing models, but instead as ^{existing models.} a natural extension of ~~each~~. After a brief review of the literature, several emerging questions and issues about the current viewpoints are explicated and discussed. The integrated theory is then presented, ^{and} first, its major concepts are identified and defined. The boundaries of the theory are ~~then~~ delineated, system state dynamics are summarized and the nomological network among three central concepts of the theory is discussed. Each broad category of related variables is then introduced and appropriate interrelationships noted. The major elements of the theory are summarized as propositional statements, ^{and} an overview of implications for future theory and research concludes the presentation. ↗

TOWARD AN INTEGRATED THEORY OF TASK DESIGN

INTRODUCTION

The study of individual tasks in organizational settings has long been of interest to organizational scientists (cf., Taylor, 1911; Walker & Guest, 1952; Herzberg, Mausner, & Snyderman, 1959; Hackman & Oldham, 1976, 1980). Frequently subsumed under the labels of 'task or job design, theory and research in the area has attempted to describe strategies for changing or refining jobs so as to enhance such organizationally relevant criterion variables as performance, motivation, satisfaction, absenteeism, and so forth.) Academic and practitioner journals continue to publish articles dealing with task/job design with regular frequency. One recent article (Evans, Kiggundu, & House, 1979) has even compared the study of jobs to the quest for the alchemist's stone.

Over the years, the area of task design has been characterized by shifts from one theoretical perspective to another. The primary shifts have been from job specialization (e.g., Taylor, 1911) to job enlargement (e.g., Walker & Guest, 1952) to job enrichment (e.g., Herzberg et al., 1959) to the job characteristics theory (e.g., Hackman & Oldham, 1976) to the social information processing perspective (Salancik & Pfeffer, 1977, 1978). This latter viewpoint initially cast such apparently insightful questions on the earlier models that they have fallen from favor, but has itself not been widely accepted as a viable alternative (see Thomas & Griffin, 1983).

At present, then, the study of task design lacks a clear and demonstrable focus. From the most pessimistic vantage point, task design

suffers from a theory, measurement, and operational vacuum (cf., Roberts & Glick, 1981). More optimistically, there is simply not a shared consensus as to what directions need to be taken. Of course, this state of affairs is not altogether bad, and may, in fact, be a logical and natural step in the progression toward greater understanding of task design issues and processes. Most areas of study in organizational science, including motivation and leadership, have evolved from perspective to perspective and have occasionally fallen into temporary periods of stagnation (cf., Pinder, 1984; Yukl, 1981). Such periods, though, can provide an opportunity for reflection, assessment, and integration (Kuhn, 1970). In many ways, the study of task design has reached an intellectual plateau (optimistically) or has fallen into a state of stagnation (pessimistically). In any event, this paper will attempt to assess and integrate current and emerging issues in task design with the goal of focusing and facilitating future theory and research.

First, the importance of task design as a topic of study will be addressed. Historical perspectives and background will then be summarized. Next, emerging controversies and issues will be noted. Finally, an integrated model of task design will be discussed in detail. This model draws from existing and related theories to provide an integrated perspective. As a part of this presentation, key components of the model are defined and their boundaries delineated. Relationships and processes among components of the model are then described. Implications for research conclude the presentation of the integrated model.

THE IMPORTANCE OF TASK DESIGN

Task design is clearly an important topic for theory and research for a variety of reasons. Perhaps foremost among these is the fact that an individual's task represents one of his or her most basic and fundamental points of contact with the organization. People come into contact with the reward system, their leader, the performance appraisal system, and other facets of the organization on a regular basis. Yet, they no doubt spend much of their time doing the job for which they were hired. Hence, it follows that the nature of this job will greatly influence actions, interactions, reactions, perceptions, and attitudes of employees in and toward the organization.

A second reason for the importance of task design is its potential role in various change interventions. Given that such interventions can potentially enhance various criterion variables (such as motivation, satisfaction, and/or performance) and given the primacy of the task in the individual's work experience, it follows that the task is simultaneously a likely focal point for introducing many behavioral science interventions and an element that must be considered when introducing other changes. That is, some changes, like changes in technology, work-flow, work schedules, robotics, and the adoption of autonomous work groups might begin with targeted modifications in jobs. Likewise, changes in other areas, such as the reward system, the performance appraisal system, and selection criteria may require supplemental changes in tasks as well. Of course, such interventions and changes involve a variety of complex and interrelated issues (Oldham & Hackman, 1980; Pierce, Dunham, & Cummings, 1984).

A third reason for studying task design relates to employee well-being. General concerns for quality of work life for employees have been repeatedly voiced over the years (cf., Walton, 1974). More specific concerns about such things as employee mental health (cf., Kornhauser, 1965) and employee stress (cf., Ivancevich & Matteson, 1978) have also arisen. Task design has often been identified as a key part of most quality of work life programs (cf., Griffin, 1982) and has recently been suggested as a stress-management technique (Quick & Quick, 1984). To the extent that such considerations become more important in the future, it follows that the study of task design will remain central to the field.

Finally, the study of task design is important for reasons of scientific curiosity. Stated in basic terms, it would seem almost trivial to learn how people perceive and respond to their jobs. Yet, anything beyond more than rudimentary understanding of the processes involved has eluded social scientists for decades. What seems to be a simple and predictable phenomenon must, therefore, actually be a complex and unpredictable phenomenon. While this understanding itself is of some interest (Davis, 1971), more sophisticated theory development and research are needed to better grasp the intricacies of task design concepts and processes.

THEORETICAL BACKGROUND

Because of its centrality to the field of organizational behavior, numerous theories, models, and perspectives on task design have been developed. Given the existence of several exhaustive reviews (cf., Aldag & Brief, 1979; Griffin, 1982; Hackman & Oldham, 1980), this section will

briefly summarize only the two most recent models: the task attributes model and the social information processing model.

The task attributes model (Hackman & Lawler, 1971) was in many ways the catalyst for the current interest in task design. Hackman and Lawler (1971) argued that tasks could be described in terms of certain attributes which, in turn, influence employee motivation. In order for a job to be motivating, they suggest that it must: (1) allow workers to feel personally responsible for a meaningful portion of the work, (2) provide outcomes which are intrinsically meaningful and, (3) provide feedback about what is accomplished. Specific attributes of the job which were presumed to affect these characteristics included autonomy, identity, variety, and feedback. As the framework was more fully refined into the job characteristics theory (Hackman & Oldham, 1976, 1980), an additional attribute, significance, was added and a diagnostic survey instrument, the Job Diagnostic Survey (Hackman & Oldham, 1975), was developed. The model suggests that perceptions of these attributes will be positively correlated with motivation, satisfaction, and performance, and that individual differences will moderate the relationships.

The job characteristics theory was one of the most widely studied and debated models in the entire field during the latter 1970s. Perhaps the reasons behind its widespread popularity are that it provided an academically-sound model (Hackman & Oldham, 1976), a packaged and easily-used diagnostic instrument (Hackman & Oldham, 1975), a set of practitioner-oriented implementation guidelines (Hackman, Oldham, Janson, & Purdy, 1975), and an initial body of empirical support (cf., Hackman & Oldham, 1976; Hackman, Pearce, & Wolfe, 1978; Evans et al., 1979; Oldham, Hackman, & Pearce, 1976), all within a relatively narrow span of time.

Interpretations of the empirical research pertaining to the theory have ranged from inferring positive (Aldag & Brief, 1979) to mixed (Griffin, 1982) to little (Roberts & Glick, 1981) support for its validity.

In the most critical review to date, Roberts and Glick (1981) highlight numerous deficiencies in the literature. They note several problems: (1) the statement of the theory is occasionally ambiguous and unclear, (2) empirical research has often failed to actually test predictions of the theory, (3) multimethod measures have seldom been used; and (4) within-person, person-situation, and situational relationships have often been confused. In light of these points, recent studies developed from a task attributes perspective have attempted to broaden, extend, or integrate the theory's basic concepts and processes (cf., Algera, 1983; Terborg & Davis, 1982; Taber, Beehr, & Walsh, 1985; Campion & Thayer, 1985; Kemp & Cook, 1983; Kiggundu, 1983; Griffeth, 1985; Pierce, 1984; Clegg, 1984). Algera (1983) and Taber et al. (1985), for example, have focused on the relationship between objective and perceived job characteristics. Kemp and Cook (1983) examined the role of job longevity in task design. Campion and Thayer (1985) attempted to relate the job characteristics theory to work physiology, biomechanics, perceptual/motor concepts from experimental psychology, and mechanistic job design techniques from industrial engineering. Finally, Pierce (1984) and Clegg (1984) focused on the relationships between job characteristics and technology. Still, a unified integration has failed to emerge.

A different set of criticisms about need satisfaction models in general and the task attributes framework in particular have been raised by Salancik and Pfeffer (1977, 1978). With respect to need satisfaction models, they argue that such models are formulated as to be virtually

impossible to refute, have been assessed by research characterized by priming and consistency artifacts, and fail to capture the full spectrum of complexities embodied in employee attitudes and behaviors (Salancik & Pfeffer, 1977). Regarding the task attributes model, they note its basis in a need-satisfaction model heritage and, therefore, question its efficacy (Salancik & Pfeffer, 1978).

As an alternative, Salancik and Pfeffer propose a social information processing, or SIP approach to job attitudes and task design. Pfeffer provides the following summary of the SIP model:

First, the individual's social environment may provide cues as to which dimensions might be used to characterize the work environment. . . . Second, the social environment may provide information concerning how the individual should weight the various dimensions--whether autonomy is more or less important than variety of skill, whether pay is more or less important than social usefulness or worth. Third, the social context provides cues concerning how others have come to evaluate the work environment on each of the selected dimensions. . . . And fourth, it is possible that the social context provides direct evaluation of the work setting along positive or negative dimensions, leaving it to the individual to construct a rationale to make sense of the generally shared affective reactions (1981, p. 10).

Thus, Salancik and Pfeffer believe that task perceptions and attitudes are largely socially-constructed realities derived from social information available to the individual in the workplace.

Another important source of information used in reality construction processes, according to Salancik and Pfeffer (1978), is the individual's own present and past behaviors. Drawing from the work of Bem (1972) and Weick (1977), this idea suggests that causal attributions of the reasons for past behaviors play a role in how the individual interprets his or her present circumstances. Further, the attributional process is presumed to be affected by the person's commitment to the behavior, information about

the past behaviors that is salient at the time, and social norms and expectations about what might be considered rational or legitimate explanations for past behaviors.

The logic of Salancik and Pfeffer, combined with critical assessments from other fronts (cf., Roberts & Glick, 1981), caused the task attributes framework in general and the job characteristics theory in particular to become less accepted. Simultaneously, there were several studies published, most of them conducted in the laboratory, that provided support for at least some facets of the SIP model (cf., O'Reilly & Caldwell, 1979; Weiss & Shaw, 1979). These studies found support for the idea that social information does, in fact, influence task perceptions and attitudes. Subsequent research in field settings, including both cross-sectional studies (cf., Oldham & Miller, 1979; O'Reilly, Parlette, & Bloom, 1980) and one field experiment (Griffin, 1983), also provided at least partial support for a SIP perspective.

This body of research itself, however, as well as the SIP model, was not without its own problems. In terms of the model, Salancik and Pfeffer (1978) do not appropriately define all of their terms and processes and do not clearly describe all of the interrelationships among them. For example, much of the research they cite in developing the model relates fairly well to attitudes, but not to perceptions. Similarly, some of their criticisms of the job characteristics theory appear to be overstated.

The corresponding research is also characterized by problems and weaknesses. Thomas and Griffin (1983) recently reviewed 10 studies directly or indirectly designed to test various SIP effects. They conclude that social information does appear to play a role in shaping task perceptions and attitudes, but that several sets of questions remain to be

answered. These questions center on the roles and relative importance of objective and social information in the formation of task perceptions and reactions and the processes used by individuals in perceiving, evaluating, and reacting to social cues in the work place. Thomas and Griffin (1983, p. 679) also note that "...none of the 10 studies serves even minimally to refute the task attributes view. Further, none of the 10 studies provides specific and exact support for the SIP framework. In fact, [most of the research] offers more support for an overlapping viewpoint than for either of the other models."

Using this argument as a point of departure, Griffin, Bateman, Wayne, and Head (Note 1) recently conducted a complex laboratory study designed to test both main and interactive effects of objective task attributes and social cues. Subjects worked at either an enriched or unenriched task for one hour while simultaneously being exposed to either positive or negative social cues. Measures of task perceptions and attitudes were then taken. Next, the subjects were exposed to either a change or no change in task conditions and/or social cues. After working for another hour, subjects again provided measures of task perceptions and satisfaction. Thus, it was possible to assess the effects of consistent and inconsistent task conditions and social cues as well as the effects of changes in both. Results provided reasonable support for a pure task attributes approach, modest support for a pure SIP approach, and strong support for a view suggesting main effects for both task attributes and social information.

Thus, as noted earlier, there is at present considerable ambiguity in the study of task design. Some researchers (cf., Kiggundu, 1983) continue to work from a task attributes framework, while others (cf., Dean & Brass, in press) maintain the SIP perspective. The SIP model, while raising

interesting concerns about the task attributes approach, is itself characterized by ambiguity and inconclusive research findings. In the following section, several critical questions and issues about the current state of affairs will be delineated.

EMERGING QUESTIONS AND ISSUES

In light of the present ambiguities in the area, it is instructive to focus specific attention on emerging questions and issues that characterize current theory and research in task design. The most basic questions and issues are scope, objectivity, focus, construct independence, patterns of causality, measurement, the role of time, and construct formation process. The following sections will highlight each of these questions and issues and relate them to the two dominant models.

Scope

There is considerable variation in contemporary perspectives as to the level of scope presumed to be inherent in tasks. The task attributes approach takes a fairly narrow view of task scope, usually operationalized as the level of certain dimensions or attributes such as task variety, autonomy, feedback, identity, and significance that characterize a job. While there has been considerable debate as to how these various dimensions might be most appropriately combined (cf., Brief, Wallace, & Aldag, 1976; Dunham, 1976), the focus has remained at a relatively narrow level in that these attributes are implicitly assumed to be collectively exhaustive.

In contrast, Salancik and Pfeffer (1978) explicitly take a broader view of task scope. For example, they refer to both the style of

supervision and working conditions as examples of task characteristics (p. 227). Thus, the SIP view actually considers a complex array of factors in the workplace as elements of the task, whereas the task attributes model is more narrowly focused on the specific task being performed.

This disparity in conceptualization of scope becomes quite important when the two models are compared. Since the task is the central construct of each, it follows that their relative conceptualizations of tasks must be somewhat comparable if, indeed, they are addressing the same phenomenon. Since this does not appear to be the case, it follows that the two models are evidently focusing on different concepts. The task attributes model appears to be more appropriately focused on the task itself, as well as perceptions of and attitudes toward it. The SIP model, on the other hand, takes a broader view and is perhaps best considered to be a model of task-related attitudes, rather than a model of task perceptions. To the extent that this is an accurate view, the need to critically pit one model against the other becomes less imperative.

Objectivity

A second issue that characterizes contemporary task design theory is whether task attributes and dimensions are objective or perceptual phenomenon. In the original monograph, Hackman and Lawler (1971, p. 264) clearly presume that perceptual elements of the task are central:

It should be emphasized that, for all the job characteristics..., it is not their objective state which affects employee attitudes and behavior, but rather how they are experienced by the employees. Regardless of the amount of feedback...a worker really has in his work, it is how much he perceives that he has [emphasis in the original] which will affect his reactions to the job. Objective job characteristics are important because they do affect the perceptions and experiences of employees. But there are often substantial

differences between objective job characteristics and how they are perceived by employees [emphasis added], and it is dangerous to assume that simply because the objective characteristics of a job have been measured (or changed) that the way that job is experienced by employees has been dealt with as well.

Over the years, however, the implicit assumptions about task objectivity made by task attributes theorists have become blurred. Hackman and Oldham (1976, p. 254) refer to "objective characteristics of jobs" and Hackman and Oldham (1980, p. 77) note that the job characteristics represent "reasonably objective, measurable, changeable properties of the work itself." Roberts and Glick (1981) repeatedly refer to objective jobs and job characteristics and at one point (p. 196) note that "With the exception of some minor variation, task perceptions are assumed to be equivalent to objectively defined tasks." Clearly, the original position taken by Hackman and Lawler has undergone substantial modification as a result of its various translations.

In similar fashion, the SIP model's view of task objectivity has also not been uniformly interpreted. Salancik and Pfeffer (1978) freely acknowledge that some objective elements of the workplace are readily perceived (p. 228) and that jobs can be objectively changed (pp. 247-248). They also believe, however, that standard measures of task perceptions serve to artificially prime thinking, and thus responses, along rigid and not necessarily generalizable dimensions. Yet, virtually all of the studies identified by Thomas and Griffin (1983) purporting to test the SIP model used a variant of a standard task attributes measure of job perceptions. Such a practice, of course, allows one to question some of the theoretical underpinnings of the task attributes model, or at least its more contemporary versions, but does not really provide a test of the SIP perspective as an alternative. In fact, it could be argued that no study

to date has completely operationalized the full SIP model, at least in terms of its conceptual approach to the perceptions of tasks.

Research directed at testing the relationships between objective and perceived task attributes has also provided mixed results (Kiggundu, 1980; Taber, Beehr, & Walsh, 1985; Pokorney, Gilmore, & Beehr, 1980). These and similar studies generally suggest partial but not total overlap between perceptual and objective measures. Campion and Thayer (1985) report a promising effort at developing an interdisciplinary measure of job design which presumably taps both perceptual and objective facets of jobs. In summary, then, perhaps the task attributes model and the SIP model are not as divergent as it might initially appear, at least in terms of their views on the objectivity of tasks. Both viewpoints acknowledge that objective dimensions of the task affect perceptions, but that there is also some other set of factors which affects perceptions as well. On the other hand, they are sufficiently different as to again raise the possibility that they are actually addressing such different sets of questions as to make comparisons misleading. This stems from the emerging pattern of some similarity but greater disparity between the two models along critical dimensions of comparison.

Focus

The task attributes and SIP models also vary somewhat in their focus. As noted above, the original task attributes view assumed that people formed perceptions of their tasks and then, in turn, developed attitudinal and behavioral responses to those perceptions. While much of the attention was directed at conceptualizing and measuring task perceptions, the true focus of the model was on how those perceptions were translated into

attitudes and behaviors. Operationally, for example, one of the goals of the job characteristics theory was to instruct managers in how to change task perceptions in order to enhance satisfaction, motivation, and performance (Hackman & Oldham, 1980).

The SIP model, in slight contrast, has a different focus: more attention is directed at how social and individual factors combine to affect perceptions and attitudes. Further, as discussed in the next section, perceptions and attitudes are implicitly presumed to be co-determined by these two sets of factors, as opposed to being directly linked to one another.

Hence, it can be concluded that the focus of the task attributes models is how objective and other unexplored factors affect task perceptions, and how those perceptions subsequently affect attitudes and behaviors. The focus of the SIP view is how social and individual factors affect task perceptions and attitudes. While this difference in focus is perhaps subtle, it is also quite clear and warrants additional theoretical clarification.

Unfortunately, such clarification is difficult to explicate from the existing models. The task attributes is a tight, narrow, and fully bounded model, whereas the SIP model is loose, broad, and ambiguous in many areas. This ambiguity at least partially explains the different interpretations and operationalizations associated with the SIP model and the confusion in the literature as to whether it is a model of task perceptions or task attitudes. Whether theorists agree or disagree with the job characteristics theory, they at least understand and accept its boundaries. With the SIP model, there is no such understanding or acceptance. The

integrated model developed later in this chapter attempts to overcome these problems.

Construct Independence

The related issue noted above is the extent to which the key constructs in the two dominant models are independent. The task attributes model clearly assumes that task perceptions, attitudes, and behaviors are orthogonal constructs. In similar fashion, the critical psychological states detailed most fully by Hackman and Oldham (1976, 1980) and the individual difference variable growth need strength are likewise assumed to be independent constructs. While the various constructs in the model are assumed to be causally related, the underlying assumption of the model is that each individual construct can be measured independently and that each represents a unique and bounded entity.

In contrast, the SIP model makes no such assumption of construct independence. In fact, there are several instances where the various elements of the model are presumed to overlap. Salancik and Pfeffer (1978) do not draw sharp distinctions between task perceptions and task attitudes. In many instances they use the terms virtually interchangeably. They even go so far as to assert, based on the work of Calder and Ross (1973), that since attitude and need statements are expressions, they are also behaviors. While perceptions, attitudes, and behaviors are generally discussed by Salancik and Pfeffer as separate entities, they are just as often discussed as though they were the same thing. Of course, this imprecision makes a normal science test of the SIP model impossible. Since the constructs are not carefully defined, their boundaries are not identified, and their interrelationships are not clearly specified, it

would be extremely difficult to operationalize causal relationships as suggested by the complete model.

Research into this issue has produced ambiguous results. One study (Ferratt, Dunham, & Pierce, 1981) found that job satisfaction as measured by two common scales could not be adequately discriminated from task perceptions as also measured by two common scales, but that satisfaction as measured by two other scales did adequately discriminate between task attitudes and task perceptions. Unfortunately, it is unknown whether this pattern is best explained by a lack of construct independence or simply a deficiency in measures.

Patterns of Causality.

Still another related issue that can be extracted from contemporary thinking is the presumed pattern of causality among variables. The general interpretation of the task attributes model is that task perceptions cause critical psychological states which, in turn, cause attitudes and behaviors (cf., Orpen, 1979; Kiggundu, 1980). In reality, Hackman and Oldham make no such claims. They state, for example:

It should be emphasized that the objective "motivating potential" of a job does not cause [emphasis in the original] 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 [emphasis in the original] of people who work on a job determines the action that unfolds on the stage (1980, p. 82).

The original statement of the SIP model is equally vague in terms of its stated patterns of causality among variables. While the model is presented in terms of conventional "boxes and arrows", many of the arrows

go in both directions in a complex and ambiguous pattern. For example, social information is assumed to cause job characteristics and attitudes-needs, although the linkages are mediated by social reality construction processes. Job characteristics are also assumed to cause attitudes-needs, mediated by perceptual-judgment processes. Similarly, attitudes-needs and behaviors are assumed to be reciprocally related, with each arrow mediated by a different set of processes. Hence, patterns of causality are presumed to exist in the model, although they are only vaguely defined (in defense of Salancik and Pfeffer, they note early-on that their model is incompletely formulated).

Other SIP theorists have taken steps to be more explicit in their consideration of causality. For example, on the basis of a laboratory study and a field survey, Caldwell and O'Reilly (1982) argue that different levels of satisfaction cause variations in task perceptions. On balance, though, patterns of causality among key variables are not clearly related in a causal sense at either a theoretic or empirical level.

Measurement

The issue of measurement is somewhat of a paradox when considered in the task design area. The existence of measures such as the Job Diagnostic Survey (Hackman & Oldham, 1975), as noted earlier, can be argued to be a major reason for the continued enthusiasm for task design research. These scales have been subjected to several critical assessments (cf., Roberts & Glick, 1981; Aldag, Barr, & Brief, 1981). Moreover, as also noted earlier, there are considerable differences in the presumed relationship, if any, between objective facets of the job and task perceptions as assessed by these instruments. Nevertheless, job characteristics scales like the JDS

continue to be used perhaps more frequently than any other scale in the field, with the exception of the common satisfaction measures.

In contrast, there have been no published attempts to develop or validate scales for measuring the central constructs in the SIP model. In all likelihood, this is attributable to the vagueness with which the central constructs of the model are defined, the breadth of those constructs, and the fact that their meaning is not consistent from one use to another. Research in the SIP area has generally involved manipulating objective task characteristics, social cues from others and/or other kinds of information, and then observing the effects of the different manipulations on perceived task attributes and/or satisfaction measures.

Inferences regarding measurement issues, then, are problematic and are subject to the exact nature of the question being asked. Perhaps the answer is again one of convenience. Measuring the array of constructs in the full SIP model would be difficult, if not impossible. Still, it is surprising that no attempts have been made to even measure the central parts of the model, or to otherwise empirically assess such areas as social reality construction processes, external priming, and commitment.

The Role of Time

A crucial issue noticeably absent in the two dominant models is the role of time. In the job characteristics model, for example, several interesting time-related questions might be asked: how long does it take for task perceptions to develop, how long does it take for task changes to affect attitudes and motivation, and if no objective task changes are introduced, will task perceptions and attitudes also remain constant? A few isolated studies have considered time. For example, Griffin (1981)

found that task perceptions were relatively stable across a three-month period, but that job satisfaction was less stable. Katz (1978) found that relationships between job satisfaction and task perceptions vary as a function of job longevity. In particular, he found different patterns of correlation between task attributes and job satisfaction for groups differentiated according to time on the job. For example, only task significance was positively correlated with satisfaction for new employees, while the correlation between autonomy and satisfaction increased then decreased as longevity increased. On balance, however, the role of time has been neglected in the task attributes literature.

Similarly, time is not explicitly considered in the SIP model. Does social information bring about stable perceptions and attitudes, or are they unstable and subject to variation? Is social information itself stable over time? While these and similar derivative questions are not dealt with in the model itself, research is beginning to address them. For example, Vance and Biddle (in press) found that increased experience, a logical element of time, decreased the effects of social cues on attitudes and behavioral intentions. Still, as with the task attributes model, much more work is needed to more completely integrate the impact of time.

Construct Formation Processes

A final issue that can be derived from current task design literature is the attention paid to the formation of the key constructs in each model. The job characteristics model acknowledges that a variety of processes are inherent in the formation of task perceptions and attitudes. Similarly, the SIP model explicitly includes five processes and implicitly includes as many as four others. The five explicit processes are social reality

construction, enactment, attribution, perception/judgment, and evaluation/choice. Implicit processes include rationalization/legitimation and, perhaps, social influence, priming, and commitment (the qualifier is necessary because at various places they are described as processes but in other places they are treated as attributes or attitudes).

Neither model, however, adequately addresses how these processes operate. For example, neither theory adequately characterizes its associated processes as being cognitive, affective, or emotional. In reality, of course, it is likely that cognitions, affect, and emotion all play a role. People are likely to perceive and learn about objective elements of their jobs (cognitions), have that learning affect and be affected by their attitudes (affect), as well as also be influenced by temporal mood and state-of-mind (emotion). More care should have been taken by the original theorists in describing the mechanics involved in each process as one construct influences or is influenced by another. Useful insights into these processes is, fortunately, being developed in other areas. For example, Berman, Read, and Kenny (1983) found that initial expectations may influence the extent to which social information is perceived, processed, and translated into attitudes. In another area, Lord (1985) explicates in great detail how social information may be processed in the context of leadership. While much clearly remains to be done, these efforts represent potentially useful first steps which may be of considerable value if translated into a task design framework.

Summary

This section has identified and discussed several emerging issues and themes that can be used to characterize the existing theory and research

pertaining to the job characteristics theory and the SIP model. Each of these models has been the subject of considerable research, analysis, and speculation. If nothing else, the preceding discussion has perhaps shown that the two models are more alike than different along some dimensions, and more different than alike in others. They clearly differ in their views and conceptualizations of task scope, task objectivity, focus, and construct independence. They both have implicit patterns of causality, common (even if not appropriate) methods of measurement, and each ignores the role of time and fails to adequately consider construct formation processes. Each has something to offer, but perhaps together they can offer even more. The next section outlines an integrated theory of task design that draws from both of the current dominant views. Hopefully, the aspects of each that are retained are their respective strengths, and the aspects that are modified or omitted their weaknesses.

AN INTEGRATED THEORY OF TASK DESIGN

As detailed in the previous sections, the area of task design has been the topic of considerable speculation and research for decades. There is much that scholars in the area have learned, yet there are many questions as of yet unanswered. This section will describe an integrated theory of task design presented in an effort to refocus theory and research in the area. The primary goal in presenting such a theory is to attempt to bring together the best of existing models and theories, while simultaneously addressing many of their deficiencies. The theory draws from the major emerging questions and issues cited earlier. Moreover, it follows the general guidelines for social science theory presented by Dubin (1978).

In the first section that follows, the major concepts and variables of the theory are identified and defined. The next section outlines the boundaries of the theory, focusing specifically on what the theory does and does not make predictions about. System state dynamics are then explored. Next, the nomological network among three central concepts of the theory is described. Subsequent sections discuss each broad set of related variables and concepts--antecedent factors, internal/stable states, direct and indirect mediating factors, external/expressed states, and stimuli for assessment. The basic foundational elements of the theory are presented in the form of propositions which specify the presumed laws of interaction.

Key Concepts and Variables

This section will identify and define two sets of key concepts and variables that are central to the integrated theory. The first set consists of the variables of task, job, and role. The second set is comprised of the concepts of perception, attitude, and behavior.

Task, job, and role are considered to be dimensions or characteristics of the organization within which the individual functions. This is not to suggest that they are presumed to be purely objective (and thus measureable) phenomena, just that they exist independently of the person who occupies them. A task will be defined as the set of prescribed activities a person normally performs during a typical work period. The task of a sales representative, for example, may consist of driving from customer to customer, describing the firm's products to relevant parties, and writing up orders for transmission back to headquarters. The task of an assembly line worker, similarly, could involve standing by a moving

conveyor belt and attaching three modular components to in-process subassemblies as they pass down the line.

In contrast to a task, a role is somewhat broader in scope. Clegg (1984) has recently delineated the differences between task and role. He defines a role as the decision making rights of the person performing the task. Basically, work roles are seen as being a function of local control, while tasks are more technologically derived. If tasks are rigidly controlled and structured via close supervision, routinization, and prescribed performance procedures, the individual's role has little or no latitude for individual self-regulation. Clegg (1984) defines this as a simple work role. The worker is simply an extension of the technology. In contrast, if the worker has some degree of control and discretion over decisions and procedures pertinent to his or her task, the work role is seen as being more complex.

Finally, the individual's job is defined here as the array of elements and dimensions of the organization with which the individual comes into contact. Thus, the job includes both the task and the role. In addition, however, it also includes the nature of the supervision received, the level of compensation received, the organization's assessment of the individual's contributions (i.e., performance appraisals, etc.), working conditions, required and optional social interactions with co-workers, and so forth. Task, role, and job, then, fall along a continuum of scope, or breadth. Tasks are the narrowest of the three concepts in scope and breadth, jobs are the broadest, and roles are typified by an intermediate level of scope and breadth. Of course, task, role and job are not independent constructs. Indeed, as will be seen in a later section, there is a complex network of interdependencies among the three.

It is also necessary to define and delineate the related concepts of perceptions, attitudes, and behaviors. In general, as used in the integrated theory, they follow their traditional and generally accepted meanings. It is necessary to define them, however, because of the ambiguities associated with the issues of focus, construct independence, and patterns of causality described earlier. Perception will refer simply to the processes by which people become aware of, interpret, and assimilate information obtained by their senses. Thus, perception is nonevaluative. It does, however, play a key role in the other two related variables, attitudes and behaviors.

The concept of attitude is viewed from a somewhat more complex perspective by scholars in the area. Calder and Schurr (1981), for example, cite three alternative models of attitudes. The dispositional view assumes a stable positive or negative disposition learned through experience. The situational view is basically Salancik and Pfeffer's (1978) SIP model. As summarized earlier, this model argues that attitudes (as well as perceptions) are socially constructed. Finally, the third model, which Calder and Schurr (1981) call the information processing view, incorporates the concepts of memory and cognitive schema. They hold that its primary advantage, relative to the other models, is that it provides a theoretical mechanism for linking organizational variables to the individual-level concept. The integrated model of task design will take a slightly modified version of the Calder and Schurr (1981) model as the most accurate representation of individual attitudes. That is, the model conceptualizes an attitude as a generalized feeling people have toward an object or referent, in this case their tasks, roles, and jobs. The

determination of such attitudes is a result of ongoing information processing in the mind of the individual.

Finally, behaviors will be taken to mean the complete spectrum of organizationally-relevant behaviors from which employees may choose. Prominent among these are performance, absenteeism, and turnover. By spectrum, the theory assumes that individuals can choose, within boundaries imposed by technology, organizational policies, and so forth, a range of performance levels, a range of attendance levels, and whether to leave or stay. No attempt is made with the integrated theory to reconcile the long-standing controversies surrounding attitude-behavior relationships--both attitudes and behaviors (as well as perceptions) are seen as independent elements.

Boundaries of the Theory

Besides those noted earlier, another distinction that can be drawn between the job characteristics theory and the social information processing model is that they vary dramatically in their breadth. The job characteristics theory is relatively narrow, focusing specifically on how perceptions of five concepts impact certain outcomes, with the relationships moderated by a limited set of other variables. In contrast, the boundaries of the SIP model are quite broad and ambiguous. (And, arguably, more a theory of task attitudes than task perceptions.) Numerous processes and concepts are included, and others implied, that span different levels of analysis and orientation. To avoid some of the uncertainties that have come to characterize these two views, the following paragraphs will delineate the boundaries of the integrated theory, couched in terms of the theory's purposes.

The first purpose of the theory is to predict the determinants of perceived task dynamics. Perceived task dynamics refer to the individual's perceptions of the relevant attributes, dimensions, and processes that characterize her or his task. Consistent with the job characteristics theory, such attributes, dimensions, and processes might include variety, autonomy, and feedback. However, they might also include routineness, predictability, social interaction and/or other dimensions. Consistent with the SIP model, the exact set of relevant attributes, dimensions and processes is presumed to vary from setting to setting. Four sets of variables are presumed to be the primary determinants of such perceptions. The second purpose of the theory is to specify interrelationships among perceived task, role, and job dynamics. Next, the theory identifies how these perceptions affect four sets of internal/stable states. Several other factors are identified which are presumed to mediate these relationships. Finally, attention is directed at how these internal/stable states are translated into external/expressed states.

The theory is broader than the job characteristics theory, in that it includes more than a precise conceptualization of task attributes or dimensions. It does, however, retain the assumption that relevant attributes, dimensions, and processes are adequate descriptors of tasks. It also includes a broader array of variables and concepts. At the same time, however, it is narrower and more specific than the SIP model. The elements of the theory are clearly identified and the nature of their interrelationships specified.

System State Dynamics

The integrated theory presumes that task, role, job, perceptions,

attitudes, and behaviors are simultaneously interrelated and dynamic. Each affects the other, each changes over time, and the relationship between each also changes over time. Thus, the theory is basically a process model of task design. Such a perspective has both strengths and weaknesses.

The primary strength of a process approach is that it presents a more realistic view of the complexities and intricacies of behavioral relationships in organizational settings. In many ways, the Job Characteristics Theory is a very simple model--A, B, and C are related in a linear fashion. This very simplicity, however, is also its greatest weakness. When mapped onto organizational reality, it invariably fails to capture the complete picture. By taking a more realistic process view, however, the integrated theory provides an avenue for a broader explanation of work-place phenomena.

On the other hand, the greatest weakness of a process view is that it does not easily lend itself to empirical investigation. If A leads to B, B to C, but C leads back to A, the point at which the researcher intervenes into the situation will affect the nature of the observed relationships. Still, however, this approach is seen as being preferable in that it allows a more complete representation of the complex network of variables that no doubt operate in work settings.

Task/Job/Role Dynamics Network

A critical element of the model is the network comprised of task, job, and role dynamics. As mentioned earlier, the three constructs are presumed to be overlapping but unique phenomena. Since the model is primarily concerned with task design considerations, perceived task dynamics are of central importance. Perceived job and role dynamics are of secondary

importance in the model; their importance is seen as being a function of the extent to which they overlap or otherwise interact with perceived task dynamics in a given situation.

The view taken by the model is that people do not form perceptions of and reactions to the workplace in a compartmentalized fashion. While an individual might perceive his or her pay (a part of the job), role complexity (a part of the role), and task demands (perhaps a part of the task) independently and form attitudes about each, both perceptions and attitudes are likely to be a primary function of the salient referent object but also a secondary function of other referent objects. For example, when asked about his job, a worker might offer that he likes his job because his salary is good, his boss leaves him alone, and the demands are not too great. This response, then, blurs the perception of the job with perceptions of the role and task as well. Similarly, the expressed attitude toward the job also makes reference to elements of not only the job but also the role and task. Thus,

P1: Task perceptions affect and are affected by role and job perceptions.

This proposition states that the three sets of perceptions are interrelated. By the definitions presented earlier, however, they are also unique constructs. In operational terms, then, the three sets of perceptions will have some degree of shared variance but each will also have some degree of unique variance. They will be correlated but each will also be a valid independent construct. This notion of overlapping independence is shown in Figure 1 as two overlapping circles. (Since the theory has as its focus the task, job and role dynamics are superimposed as

one circle for the sake of parsimony. A more complete representation would consist of three overlapping circles.)

Insert Figure 1 About Here

Antecedent Factors

The theory presumes that there are four sets of antecedent factors that largely determine task, role, and job perceptions. As also shown in Figure 1, these factors are objective task properties, the physical setting (couched in terms of the job and role context), individual attributes and characteristics, and the social setting (also couched in terms of the job and role context).

Objective Task Properties. Objective task properties are those elements of the task that exist independently of any perceptual variation on the part of job incumbents. For the most part, objective task properties are a function of technology and organization structure. Several theoretical (cf., Slocum & Sims, 1980) and empirical (cf., Pierce, 1984; Rousseau, 1977) papers have linked technology with task perceptions. Similarly, structural characteristics of organizations have also been related to task design from both theoretical (cf., Griffin, 1982) and empirical (Pierce & Dunham, 1978; Moorhead, 1981; Vecchio & Keon, 1981; Zierden, 1980) perspectives. Moreover, objective task properties have been empirically linked to task perceptions both cross-sectionally (Terborg & Davis, 1982; Algera, 1983; Kiggundu, 1980) and experimentally (Orpen, 1979; Bhagat & Chassie, 1980). Therefore,

P2: Objective task properties are a primary determinant of task perceptions.

This relationship is shown in Figure 1 as a solid line between objective task perceptions and perceived task dynamics. Also shown in the Figure is a secondary linkage between objective task properties and perceived job and role dynamics. That is, objective task properties will have a lesser impact on perceptions of the job and the role.

Physical Setting. The physical setting is the objective surroundings in which the task is performed. The role of physical setting has been, with few exceptions (cf., Steele, 1973; Davis, 1984), virtually ignored in organizational science. Yet, the physical setting of the task should logically affect how people perceive that task. In some ways, the task and its setting must be accommodated simultaneously. For example, physically demanding job settings, such as oil, coal, and diamond extraction, all require that tasks be specified in as precise a fashion as possible. Similarly, many tasks, such as that of a teacher, secretary, or machinist, require a certain setting.

In other ways, however, tasks and physical settings may be less precisely interrelated. A consultant, for example, might work out of a university office, a professional office, or off of the kitchen table at home. And, of course, the quality of the physical setting can vary dramatically from one task to another--some machinists labor in sweat-shop, dirty surroundings while others perform the same tasks in air conditioned, clean modern plants. Clearly, then, the nature of the physical should have an impact on how task incumbents perceive those tasks. Thus,

P3: The physical setting is a primary determinant of task perceptions.

This relationship is also shown in Figure 1 as a solid line to indicate the presumed primacy of the relationship. Also as with objective task properties, the physical setting of the task is presumed to have a secondary relationship with perceived job and role demands. That is, the physical setting will influence how people perceive their jobs and role, but the magnitude of the effect will not be as great as for the physical setting-task perceptions relationship.

Individual Attributes and Characteristics. The third set of antecedent factors in the integrated theory consists of individual attributes and characteristics. This premise is drawn from the SIP model (Salancik & Pfeffer, 1978). The original job characteristics theory (Hackman & Oldham, 1976) predicted that individual differences would affect the relationships between task perceptions and attitudes and behaviors. Research has generally not supported this view, however (cf., White, 1978). While not precisely couched in the vernacular of individual differences, the SIP model suggests that differences in people will also affect task perceptions and attitudes. The manner in which this is predicted to occur is through an interpretation of past behaviors on the part of individuals. Research has suggested that individual attitudes (Caldwell & O'Reilly, 1982) and frames of reference (O'Reilly, Parlette, & Bloom, 1980) may affect perceptions. However, these effects have not been found to explain large amounts of variance in perception. Indeed, it seems more logical to expect such individual attributes and characteristics to have a greater impact on perceptions of role and job than of the task, since such factors will generally be somewhat broader in focus. Therefore,

P4: Individual attributes and characteristics are a secondary determinant of task perceptions.

This proposition is consistent with Figure 1, which indicates a strong relationship between individual attributes and characteristics and job and role perceptions, and a weaker relationship, albeit one with considerable theoretic significance, between those attributes and characteristics and task perceptions.

Social Setting. Finally, the fourth antecedent factor to influence task perceptions is the social setting. This element of the integrated theory is closest in character to Salancik & Pfeffer's original SIP model. Although there have been documented theoretical and operational problems with the model (Thomas & Griffin, 1983), social cues have been shown to affect task perceptions and attitudes in both laboratory (cf., O'Reilly & Caldwell, 1979) and field (cf., Griffin, 1983) settings. However, as shown by Griffin et al. (Note 1), objective task properties tend to be more salient than do social cues. This follows from the likely role of experience, an individual characteristic but also one which affects the impact of social cues. Katz (1978) suggests that job longevity will affect task perception-attitude relationships. Vance and Biddle (in press) further document this assumption. For example, an employee with thirty years experience doing the same job will not likely have her or his perceptions or attitudes toward the job changed because of social cues in the workplace. On the other hand, a new employee confronted with an ambiguous task may lean more heavily on social information, at least in the early stages of forming perceptions and attitudes about the task. Another aspect of the social setting essentially ignored in the literature of task design is group dynamics and processes (Griffin, 1982). Factors such as group norms, cohesiveness, and roles will all likely affect how people perceive the work environment. Social cues may play a greater role in a

highly cohesive group than in a less cohesive group, for example. Similarly, if role ambiguity is high, social cues may be seen as a viable mechanism for increasing clarity. Again, however, these effects are most likely to be more on the level of the role and job and less on the level of the task. Therefore,

P5: The social setting is a secondary determinant of task perceptions.

This proposition acknowledges the importance of social information in the workplace, but also puts it in its proper context, focused more on broader levels of workplace perceptions consistent with the original presentation of the SIP model (Salancik & Pfeffer, 1978) and empirical research designed to test the efficacy of the model relative to the task attributes approach (cf., Griffin et al., Note 1).

Internal/Stable States

Another central component of the integrated theory is what are termed internal/stable states. Their relationship to the model is illustrated in Figure 2. These states coincide with common outcome variables included in many organizational science theories and models, including both the job characteristics theory (Hackman & Oldham, 1976) and the social information processing model (Salancik & Pfeffer, 1978). An important distinction made by the integrated theory, however, is the concept of internality, or stability. Before describing exactly what this is intended to convey, however, the outcome states themselves will be briefly discussed.

Insert Figure 2 About Here

Cognitive Impressions of Task/Job/Role Network. One basic internal/stable state resulting from the network of task/job/role dynamics network is the individual's cognitive impression of that network. That is, this set of impressions is what the person "knows" about his or her task, job, and role. Individual "beliefs" about such things as the levels of task importance, role complexity, and job-related pay, for example, are cognitive impressions.

The view of task taken by the integrated theory draws from both of the earlier dominant models. The integrated theory agrees with Hackman and Oldham (1976) in assuming that tasks in a given setting can be described in terms of a set of attributes, dimensions, or characteristics. At the same time, however, the integrated theory takes the position that the relevant set of attributes varies from one setting to another, similar to the stance taken by Salancik and Pfeffer (1978), and within the same setting over time. Moreover, even when different tasks can be essentially "captured" by the same set of attributes, their relative weightings can still vary.

A second set of internal or stable impressions is perceptions of the job and role. As noted previously, the role is conceptualized as simple or complex, depending on the degree of local control possessed by incumbents, and the job is a broader network of workplace stimuli salient for any given situation. Since perceived task, job, and role dynamics form an interdependent set of factors, it follows that perceptions of one set influences the other sets. As indicated in Figure 2, then, cognitive impressions of the task/job/role network necessarily follow the initial perceptions of relevant task/job/role dynamics.

Specific and General Satisfaction. Both specific and general satisfactions are also considered to be relevant internal/stable outcomes

in the integrated theory. Specific satisfactions are attitudes about specific and defineable dimensions of the organizational setting. For example, following the traditional literature on job satisfaction (cf., Locke, 1976), people may be satisfied about any number of stimuli, such as their task, pay, benefits, supervisor, co-workers, promotion opportunities, and so forth. They may also have attitudinal orientations of higher levels of aggregation or abstraction. Thus, an employee may have an overall level of job satisfaction that is some sort of a composite of all relevant specific satisfactions. Alternatively, he or she may have an intermediate number of satisfactions, each comprised of more than one but less than the total set of specific satisfactions relevant to the situation. A point made earlier, and one especially germane to this discussion, is that even when multiple attitudes exist, they are unlikely to be independent. Moreover, negative attitudes may tend to dominate neutral or positive ones. When describing feelings about a job, employees will usually express several different attitudes in the same evaluation. Hence, people will say that they do or do not like their jobs because of several different factors.

Given that multiple attitudes exist and that they tend to be interrelated, the integrated theory does not attempt to precisely distinguish between them. Rather, the view taken by the theory is that the magnitude of the relationship between perceived task dynamics and satisfaction will vary as a function of the precision of the relationship between the relevant attributes of the task and the specificity of the attitude toward that attribute. For example, the relationship between perceived task routineness and the individual's attitude toward task routineness should be quite high. Similarly, the relationship between

perceived task routineness and attitudes toward the task may be moderately strong, while the relationship between task routineness and overall job satisfaction may be very low. Finally, the relationship between the perception and the attitude may be further influenced by the importance of that attitude relative to other attitudes. A worker who is extremely dissatisfied with his or her pay may express a negative attitude toward all other facets of the workplace, including task routineness, simply because of the severity of an extremely central attitude, that toward her pay.

Behavioral Propensities. The final set of internal/stable outcomes included in the integrated theory is behavioral propensities. This set includes the complete array of relevant potential behaviors, such as productivity, performance, attendance, retention, helping and other indicators of good organizational citizenship, and such negative behaviors (from the organization's standpoint) as theft or union activity. As with attitudes, the nature of the relationships will be at least partially determined by the specificity of the relationship in question. The relationship between perceptions of task routineness and behavioral propensities relevant to routineness should be quite strong, whereas the relationship between routiness and overall job performance may be considerably weaker. It is also useful to highlight the concept of behavioral propensities in the integrated theory. Thus, perceptions do not have to always lead to behaviors for the perception-behavior relationship to be pertinent. That is, if an employee with a tendency toward high levels of absenteeism is more inclined to come to work on one task than on another, there is at least a practical relationship between task perceptions and behavioral propensities.

As also noted in Figure 2, the various outcome variables are also

presumed to have interrelationships among themselves. However, a detailed consideration of these interrelationships is beyond the scope of the integrated theory. Even though they are presumed to be interrelated, they are likewise presumed to be independently affected by perceptions of task dynamics. Therefore,

P6: The task/job/role dynamics network determines cognitive impressions of that network, specific and general satisfactions, and behavioral propensities.

Internality/Stability. While the relationships noted in P6 are expected to exist in organizational settings with varying degrees of magnitude, they are also presumed to exist, at least most of the time, in an internal or stable state. An employee is likely to build up over time a repository of feelings about his or her job. After some point, each subsequent feeling is likely to have a diminishing impact on the cumulative set of feelings. For example, if such a thing could be quantified, over a one year period an employee might accumulate 300 good feelings about his job and 40 bad feelings. The next feeling added to either set will have a minimal impact on their relative proportions. For a new employee with only two good and two bad feelings, however, the next feeling encountered may play a critical role in future attitude formations.

In general, as the repository of feelings grows, the total set takes on a generally positive, a generally neutral, or a generally negative orientation. As the set begins to take shape, it also tends to become more stable (except in cases of extreme negativism, when the employee is more likely to leave the setting). After the first day at work, the individual's spouse may ask how the day went and the individual might respond, "I think I'm going to like this job because...." After several

months, the question may become less frequent and the individual gradually stops forming systematic perceptions of and responses to the work setting. The reactions become internal and stable--without a stimuli for assessment (discussed later), people do not update their cognitive impressions, attitudes, and behavioral propensities on a regular basis. Hence, while internal and stable are not necessarily the same thing, in the context used here they denote states that exist within the individual (internal) on a fairly consistent (stable) basis.

As a consequence, all three sets of outcomes eventually come to take the form of internal or stable states. People have cognitive impressions of their tasks, job, and role, have both specific and general satisfactions, and tend to behave in certain ways. Yet, these outcomes are not expressed except in certain situations. These situations are described more fully later.

Mediating Factors

The integrated theory, as also shown in Figure 2, suggests that several factors mediate the relationship between perceived task/job/role dynamics and the three internal/stable states. Two sets of factors, task/job/role instrumentalities and social comparison/evaluation processes, are assumed to play a strong role in determining the relationship. Two other sets of factors, other workplace characteristics and societal/cultural dimensions, are predicted to play a less significant role.

Task/Job/Role Instrumentalities. People work for a variety of reasons. Salancik and Pfeffer (1977) point out that models such as the job characteristics theory are based on need-satisfaction models of motivation. They take issue with this body of literature for several reasons, and

subsequently propose their social information processing model (Salancik & Pfeffer, 1978) as an alternative. Yet, regardless of whether people work to satisfy a uniform and precise set of needs, there is nevertheless some reason or reasons for them to work. Consider, for example, three common but quite different kinds of workers. A manual worker who has been at the same job for twenty years and who is now counting the years until retirement will likely say that he works to earn enough money to live a reasonable kind of life. A highly trained and skilled professional may argue that she works because of the intrinsic rewards and challenges her job offers. Finally, a secretary in a Department of Management might work to support her husband while he finishes school, and be planning to complete her own education later. Why do these people work? They work for very clear but quite different reasons. These reasons, in turn, will affect the nature of the relationship between the task and the internal/passive outcomes.

To the extent that the manual laborer's job continues to provide him with a reasonable income and a secure outlook for the future, he will likely respond favorably to a stable and predictable set of task/job/role dynamics. If these dynamics change, (for example, if he were to be assigned to a much more strenuous job) or if his reasons for working change (for example, if he were to come into a large inheritance), the relationship between perceptions and states will also change. Similarly, for the professional, if the job becomes less challenging and fulfilling or if her aspirations change or if her reasons for working change (for example, if a parent became financially dependent on her), the relationship between perceptions and states will change. Finally, if the perceived task/job/role dynamics network for the secretary were to change (for

example, if the job were to become considerably more demanding) or if her reasons for working were to change (for example, if her husband dropped out of school or graduated), the relationship would again change. Essentially, these relationships will change because of the cognitive nature of people's awareness of their tasks/jobs/roles. The manual laborer "knows" his job and how it satisfies his needs. If the match between his "knowledge" of the job and how it satisfies his needs changes, his cognitive impressions, attitudes, and behavioral impressions may also be affected. Therefore,

P7: Task/job/role instrumentalities strongly mediate the relationships between perceived task/job/role dynamics and the internal/stable states.

Social Comparison/Evaluation Processes. Processes of social comparison and evaluation will also mediate the relationships. Oldham and Miller (1979) reasoned that people would compare their jobs with the jobs of comparison others and that the results of such comparisons would bias how they viewed and responded to their own tasks. The argument is based on equity theory (Adams, 1965) and assumes that job quality is an important outcome which people receive in return for their inputs to the organization. Thus, from a classical equity theory perspective, people on better quality jobs than their comparison others may experience an over-reward condition, evaluate this as inequity, and subsequently be less satisfied but higher performing. Alternatively, a worker who experiences an under-reward condition due to a lesser quality task will also be less satisfied and will attempt to decrease his or her inputs by performing at a lower level. Of course, any given individual may develop multiple explanations for why he or she has a better job or earns more money (such as self-attributed experience, performance, and so forth). Yet, equity

theory does provide a theoretical rationale for expecting some people to view job quality as an outcome and the work of Oldham and Miller (1979) does provide limited support for the same notion.

In a direct extension of this idea, Slusher and Griffin (1985) have recently proposed a model of comparison processes in task design. Drawing from the social comparison theories of Festinger (1954), Albert (1977), and Goodman (1977), this model describes task perceptions as a three-stage process. The first stage is task understanding at an informational level and is essentially nonevaluative. Here, the employee simply seeks as much relevant information as possible to help understand the dynamics of the task. This would be analogous to the concept of cognitive impressions as described here. In stage two, she or he begins to make comparative evaluations as to the true nature of the task. Using the social comparison processes described by the three models referenced above, the person comes to believe that the dynamics of his or her task are "good" or "bad", with the evaluation usually determined as a result of comparing input/outcome ratios with relevant others. Finally, in stage three, the person experiences varying levels of intrinsic reward as a function of over-, equitably-, or under-rewarding conditions. Using the ideas presented by Oldham and Miller (1979) and refined by Slusher and Griffin (1985),

P8: Social comparison/evaluation processes strongly mediate the relationships between perceived task/job/role dynamics and the internal/passive states.

Other Mediating Factors. While task/job/role instrumentalities and social comparison/evaluation processes are the primary mediating factors in the integrated theory, two secondary sets of mediating factors are also likely to be operative. First, other workplace characteristics may

influence the primary relationships in the model. Examples of these characteristics could include the performance feedback processes used by the organization, the style of supervision received by the employee, and the relationship between the individual's work and non-work activities (cf., Champoux, 1980).

Second, societal/cultural dimensions may also influence the task dynamics-outcome relationships. Examples of such dimensions might include the occupational status associated with the task, the image of the organization, and so forth. Consider, for example, differences in task perceptions for a physician and a garbage collector. Since the societal view of a physician is one of high value and prestige, the physician him or herself is inclined to view the task in a positive way, regardless of its objective character. Similarly, the job of garbage collector is viewed as being of low value and little prestige. Thus, the job-holder is predisposed to have a negative impression of the task. Therefore,

P9: Other workplace characteristics and societal/cultural dimensions also mediate the relationships between perceived task/job/role dynamics and internal/stable states.

External/Expressed States and Stimuli for Assessment

The final major components of the integrated theory are external/expressed states and stimuli for assessment. As with the notions of internal/stable states, external and expressed states are not necessarily synonymous concepts. As used here, the terms refer to joint conditions of externally recognizable (i.e., actual behaviors, spoken words, etc.) and expressed perceptions, attitudes, and behaviors in response to workplace

stimuli. The relationships between the internal/stable and external/expressed states are depicted in Figure 3.

Insert Figure 3 About Here

External/Expressed States. The external or expressed states included in the integrated theory parallel the internal or stable states: emotive expressions of task/job/role network evaluations and perceptions (a function of cognitive impressions), affective expressions of feelings toward task/job/role elements (a function of specific and general satisfactions), and actual behaviors relative to the task/job/role (a function of behavioral propensities). While there should be some degree of consistency between each external/expressed state and its analogous internal/stable state, there will also be some degree of variation as well. This variation stems from a variety of reasons. For one thing, it is difficult to fully express many feelings, moods, and emotions about the job. For another, the expressed condition may vary as a function those same moods and emotions, as well as by stress, fatigue, and so forth. For example, a worker who is caught in traffic on the way to work, has a flat tire, and arrives two hours late may express considerably more negative views of all facets of the workplace the rest of that day than will a worker whose day got off to a smoother start. Therefore,

P10: Whereas internal/stable states remain relatively constant for any given individual, external/expressed states will vary as a function of mood, emotions, and other salient experiences. As shown in Figure 3, there will also be variation between internal/stable

states and external/expressed states as a function of the stimuli for assessment.

Stimuli for Assessment. By stimuli for assessment, the theory refers to the cause or causes for the internal or stable state being translated into an external or expressed statement or observation. Numerous stimuli for assessment can be identified: an external prompt (such as a question about how the person likes her job or a questionnaire designed to measure task perceptions), an extreme experience (such as a very poor performance evaluation or an unexpectedly large pay increase), change (such as the adoption of a new set of work procedures or a move toward greater automation), recurring transition (such as a systematic rotation from one department to another as a part of a training program), the presence or absence of alternative opportunities (such as being offered another job or being told that one may be laid off), or an intrusive assessment made by others (such as a co-worker verbally proclaiming the virtues of the organization or a close associate leaving the organization after a disagreement with the boss). Each of these stimuli may serve to directly or indirectly elicit an evaluation, in the form of an external or expressed state, by the employee. The expression itself, of course, may then become a part of the individual's cognitive schema for viewing the workplace in the future. For example, an individual may be forced to unexpectedly evaluate his task because of the unforeseen termination of a good friend and a request from the friend that he leave as well. In essence, the person is forced to evaluate the job and decide whether to leave or stay. If he stays, he must rationalize his decision in terms of such things as the quality of the objective task, the physical setting, the tasks's congruence with his own aspirations and expectations, and the social

setting. Consequently, he may come to believe that the organization is better than he originally thought. Less extreme stimuli for assessment will, in all likelihood, produce less pronounced effects but should still, over time, affect the accumulation of perceptions, attitudes, and behaviors that people compile. Therefore,

P11: The nature of the stimuli for assessment affects the nature of the external/expressed state and the degree of correspondence between it and its internal/stable analog.

As described above, different forms and types of stimuli for assessment will shape the form of the response. While not as integral a part of the theory as the earlier propositions, this assertion is nonetheless important due to its implications for operationalization. This point will be more completely dealt with later. First, however, it is appropriate at this point to summarize and pull together the complete model.

THE INTEGRATED THEORY: A RECAPITULATION

The preceding section detailed the various constructs and processes included in the integrated theory. Figures 1, 2, and 3 and propositions 1 through 11 capture the basic nature and character of the theory. However, to conclude the presentation of the model, it is instructive to combine the various components and processes into one overall framework. This framework is illustrated in Figure 4.

Insert Figure 4 About Here

The integrated theory identifies five sets of constructs linked

through a network of interrelated processes. Four sets of antecedent factors (objective task properties, the physical setting, individual attributes and characteristics, and the social setting) determine task/job role dynamics. This set of dynamics, in turn, is comprised of perceived dimensions, or dynamics, of the task, job, and role.

The network of task/job/role dynamics then determines three internal/stable states. These states are cognitive impressions of the task/job/role network, specific and general satisfactions, and behavioral propensities. The relationships between the network of task/job/role dynamics and the internal/stable states is mediated by task/job/role instrumentalities, social comparison/evaluation processes, societal/cultural dimensions, and other work-place characteristics.

The internal/stable states then potentially lead to a set of corresponding external/expressed states. These states are emotive expressions of task/job/role network evaluations and perceptions (a function of cognitive impressions of the task/job/role network), affective expressions of feelings toward task/job/role elements (a function of specific and general satisfactions), and actual behaviors relative to the task/job/role (a function of behavioral propensities).

The degree of correspondence between external/expressed states and their analogous internal/stable states will be affected by mood, emotion, and other salient experiences and the relationship will be mediated by the nature of the stimuli that elicits the expressed state to be made public. Finally, the act of public expression will itself affect the initial antecedent factors, especially individual attributes and characteristics and the social setting, as the set of processes repeat themselves.

In contrast to the job characteristics theory, the integrated model

represents a more comprehensive conceptualization of the workplace dynamics involved in task design processes. Its boundaries are broader, its range of constructs and processes wider, and its ability to explain work-place phenomenon greater. On the other hand, it is at a much less advanced stage in terms of its operational properties and characteristics.

In contrast to the SIP model, on the other hand, the integrated theory is considerably more precise and focused in its approach to task perceptions and attitudes. Its constructs and processes are more carefully defined and their interrelationships more completely delineated.

Yet, as noted at the beginning of this Chapter, the integrated theory is not intended to serve as a replacement for either of the other models. Instead, it represents an attempt to demonstrate how the two dominant models, with appropriate supplementation from other areas, can be merged in such a way as to capitalize on their relative strengths and perhaps overcome at least some of their relative weaknesses. The next section will explore implications of the integrated model for future theory and research.

IMPLICATIONS FOR FUTURE THEORY AND RESEARCH

Numerous implications for future theory and research can be drawn from the integrated theory. This section will explicate several of the more significant implications in detail. Attention will first be focused on implications for theory. Research implications will then be addressed.

Implications for Theory. As noted earlier, the integrated theory is perhaps best viewed as a mid-range theory, somewhat broader and more comprehensive than the job characteristics theory but narrower and more

clearly bounded than the social information processing theory. The five areas that may provide the greatest avenues for theoretical refinement are the link between antecedent factors and perceived task dynamics, the appropriate conceptualization of perceived task dynamics, the role of social comparison/evaluation processes, the role of societal/cultural dimensions, and the link between the internal/stable states and the external/expressed states.

Researchers and theorists have already begun to address the antecedent factors-perceived task linkage, although the work to date has taken more of a competitive, rather than integrative, perspective. For example, Slocum and Sims (1980) describe in considerable detail one framework for linking dimensions of technology (clearly a determinant of objective task properties) to perceived task attributes. Similarly, O'Reilly et al. (1980) investigated how certain individual attributes and characteristics influenced task perceptions. However, Slocum and Sims (1980) used the job characteristics theory as a point of departure, while O'Reilly et al. (1980) were explicitly using a SIP-based theoretical framework. Since it stands to reason that such theory-specific approaches may have overlooked critical linkages between other constructs and the relationships under discussion, a broader, more integrative analysis could perhaps yield greater insights. For example, one potential starting point could be a reconceptualization of the Slocum and Sims (1980) framework systematically incorporating critical variables from the physical and social settings, as well as individual attributes and characteristics. Of course, other frameworks might be equally appropriate as starting points, but, regardless, efforts are clearly needed develop a comprehensive understanding of the determinants of perceived task dynamics.

Perhaps of even greater importance, however, is a better understanding of exactly what constitutes perceived task dynamics. That is, there is a need for a new conceptualization of task. The job characteristics theory uses a set of imposed and prescribed dimensions to conceptualize the task. The major advantages of this approach are that it facilitates measurement and promotes generalizability and comparability between investigations. It suffers, however, from the likelihood that the dimensions are not necessarily mutually exclusive, collectively exhaustive, nor universally salient. The SIP model implicitly suggests that relevant task dimensions will vary across settings, perhaps even within settings. While this approach might have greater conceptual power, it greatly constrains measurement and virtually eliminates the ability to generalize and compare across studies.

Two different paths toward greater theoretical understanding might be fruitful. One approach would call for the development of an inventory of task dimensions or attributes, conceptually similar to those in the job characteristics theory, but in greater numbers, diversity, and scope. Researchers would then follow some systematic procedure, such as pre-testing, structured observation, or similar method to determine the most relevant dimensions for each particular research setting. This approach would allow a common frame of reference for research but would also facilitate tailoring research to specific settings. The other approach could be to follow the lead of Campion and Thayer (1985) and continue to systematically incorporate interdisciplinary views of tasks and jobs into one overarching theoretical framework. Their taxonomy of job design approaches and outcomes, in particular, holds considerable promise in this regard.

The third area within the integrated model that may provide a foundation for theoretical refinement is the role of social comparison/evaluation processes in task perceptions and attitudes. The work of Oldham and Miller (1979) and Slusher and Griffin (1985) suggests that people do indeed compare their jobs with the jobs of comparison others and that such comparisons may influence how they subsequently perceive and respond to their own tasks. Since most jobs are performed in social settings (i.e., in locations such that an individual can see what others are doing and others can see what she or he is doing), it follows that if such arrangements do, in fact, lead to awareness and observations of others, and if such awareness and observations lead to comparisons and evaluations, greater attention should be devoted to a more refined theoretical articulation of how social comparison/evaluation processes work. The most likely path for theoretical refinement would be to build on the existing work of Festinger (1954), Albert (1977), and Goodman (1977), but with an objective of tailoring it more specifically to task comparisons and evaluations.

A fourth area, related in some ways to the preceding one, is a better appreciation of the role of societal/cultural dimensions in task design processes. As noted earlier in the Chapter, relevant societal/dimensions might include occupational status and organizational image. Status is likely to be a factor both within and between organizations. For example, within a department store like Sears, an employee in the jewelry department is likely to have more status than someone who works in the hardware department who, in turn, may have more status than someone in the coffee shop (Griffin, 1982). Even more obvious examples relate to occupational status differences, such as between occupational groups like doctors,

lawyers, executives, and priests, as compared with groups like cab drivers, garbage collectors, and dish washers. Such status differentials are likely to affect how people perceive themselves and their jobs. Similarly, the public image of the organization may also impact individual perceptions of and responses to their jobs. For example, following a major air disaster, employees of the airline involved may have their perceptions of and attitudes toward their jobs changed either temporarily or permanently.

A fifth area in need of theoretical attention is the link between internal/stable states and external/expressed states. As detailed in the Chapter, these states may be quite similar, or quite different, depending on such things as mood and emotion, and as mediated by stimuli for assessment. Perhaps a starting point in this area might be the development of a taxonomy of situations in which people are prompted to express or otherwise externally demonstrate their perceptions, attitudes, and/or behaviors toward their jobs. Next, it might be possible to extract from such a taxonomy how each prompt or stimuli will affect the degree of correspondence between the internal and external states. Finally, the concepts of mood and emotion need to be more systematically integrated into not just the integrated theory, but into other models of organizational behavior as well. In addition to these theoretical implications explicated from the integrated model, several research implications can also be drawn.

Implications for Research. In contrast to the implications for theory, research implications drawn from the integrated model are fairly obvious and straightforward. The five implications to be described in the following paragraphs relate to task measurement, appropriate consideration of the organizational context, distinctions between objective phenomena,

perceptions, attitudes, and behaviors, explainable variance, and generalizability trade-offs.

Attention to task measurement should most appropriately follow refined theoretical development, as outlined earlier. It is perhaps best to move away from standard measures of task perceptions and to move toward measures that take a broader conceptualization of task dynamics. For example, to the extent that the interdisciplinary approach of Campion and Thayer (1985) becomes widely used, it follows that their Multimethod Job Design Questionnaire (MJJDQ) might also be used more frequently.

Such measures also partially address the second research need suggested by the integrated model, namely, a more systematic consideration of the organizational context of the jobs and job holders being studied. Simply measuring and then correlating task perceptions and job satisfaction, for example, ignores the complete spectrum of antecedent and mediating factors which are likely to be important. It is incumbent upon researchers to measure as many of these constructs as possible, and to learn as much as they can about the others so as to be better able to assess the likely impact of these other variables on the more narrow linkages being studied. A failure to do so results in an incomplete understanding of task design processes.

Third, it is incumbent upon researchers to make sure that they themselves understand whether they are interested in objective phenomena, perceptions, attitudes, and/or behaviors when studying task design issues and processes and to then use appropriate measures. If someone is interested in objective attributes of the job, then objective measures should be used. If perceptions are what are of interest, then perceptual measures are appropriate. It is not appropriate, however, to measure

objective constructs with perceptual techniques and to then assume that they reflect objective reality. Similarly, objective measures should not be taken to represent perceptions. Care should also be taken to not confuse task perceptions with task attitudes, the mistake made by the SIP model.

Researchers should also recognize and confront the trade-offs they make between specificity and generalizability. When studying task design in one organization, they must make several decisions as to what levels of analysis to use, what variables to study, what measures to use, how to sample, and so forth. Each decision affects the extent to which the knowledge gained will be of value to other researchers. The goal, then, should be to optimize the degree of specificity incorporated into any one study. The researcher should take appropriate steps to insure that the study fits the setting. Beyond that, however, she or he might also consider what other researchers are most likely to do and take whatever steps are appropriate to facilitate the aggregation of knowledge and understanding across studies. Of course, experimental, longitudinal, multi-sample research developed from a well conceived theoretical foundation should always be the goal.

Finally, theorists, researchers, and practitioners alike should all recognize the constraints that exist regarding explained variance. People's perceptions, attitudes, and behaviors are joint functions of a variety of individual, social, cultural, workplace, and nonworkplace stimuli. Thus, the extent to which meaningful variance in any of the field's "standard" dependent variables can ever be explained by one set of constructs, even an extremely salient one, is limited. Whether the set of independent variables relates primarily to motivation, leadership, task

design, or other areas, this fact should always be considered when assessing the significance of one's findings.

In summary, this Chapter has attempted to assess current theory and research in the area of task design. An integrated theory drawing from the current dominant models, with appropriate supplementation from other areas, has been presented. Hopefully, this integrated view can serve as a framework for future theory and research as organizational scholars continue to study this important set of constructs.

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Figure 1

The Task/Job/Role Dynamics Network

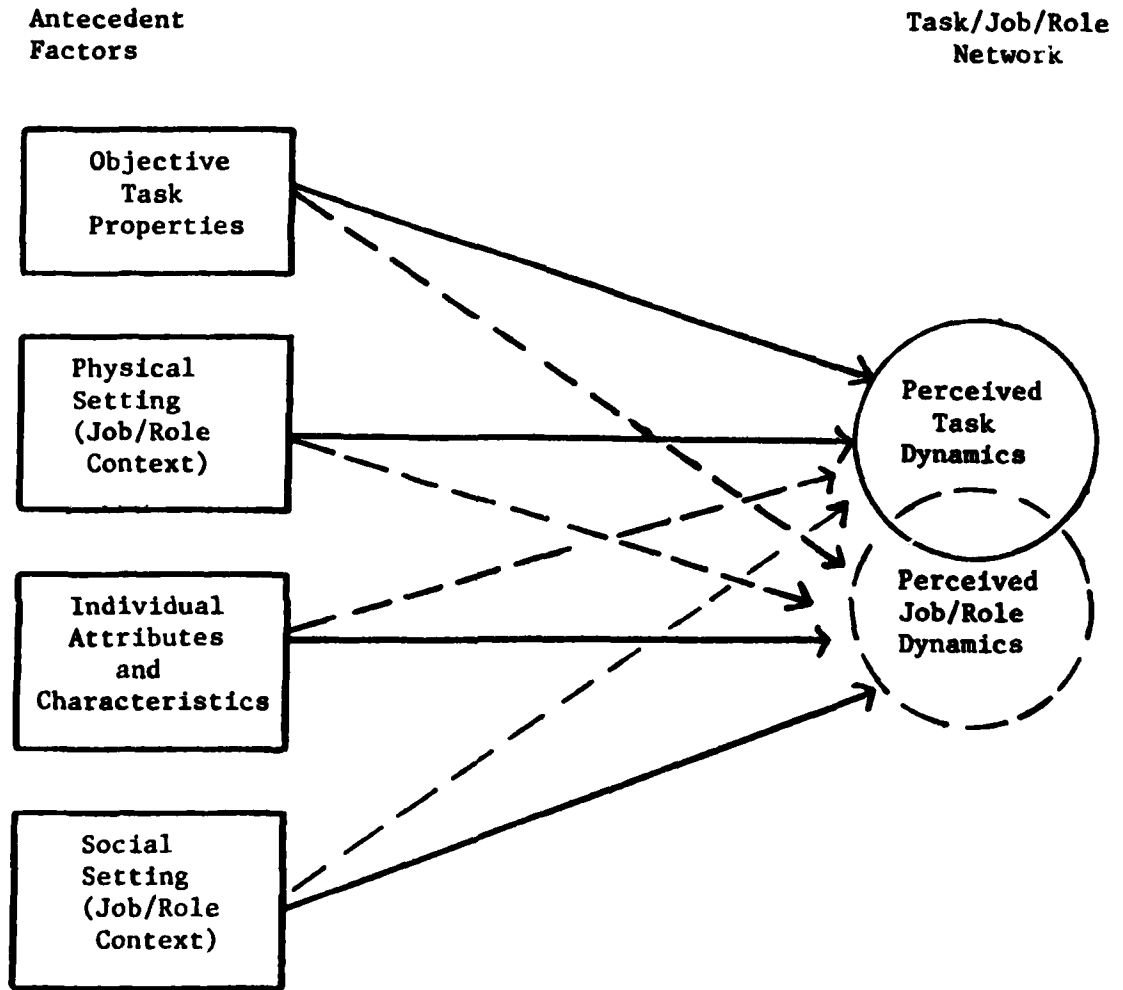


Figure 2
Consequences of Task/Job/Role Dynamics

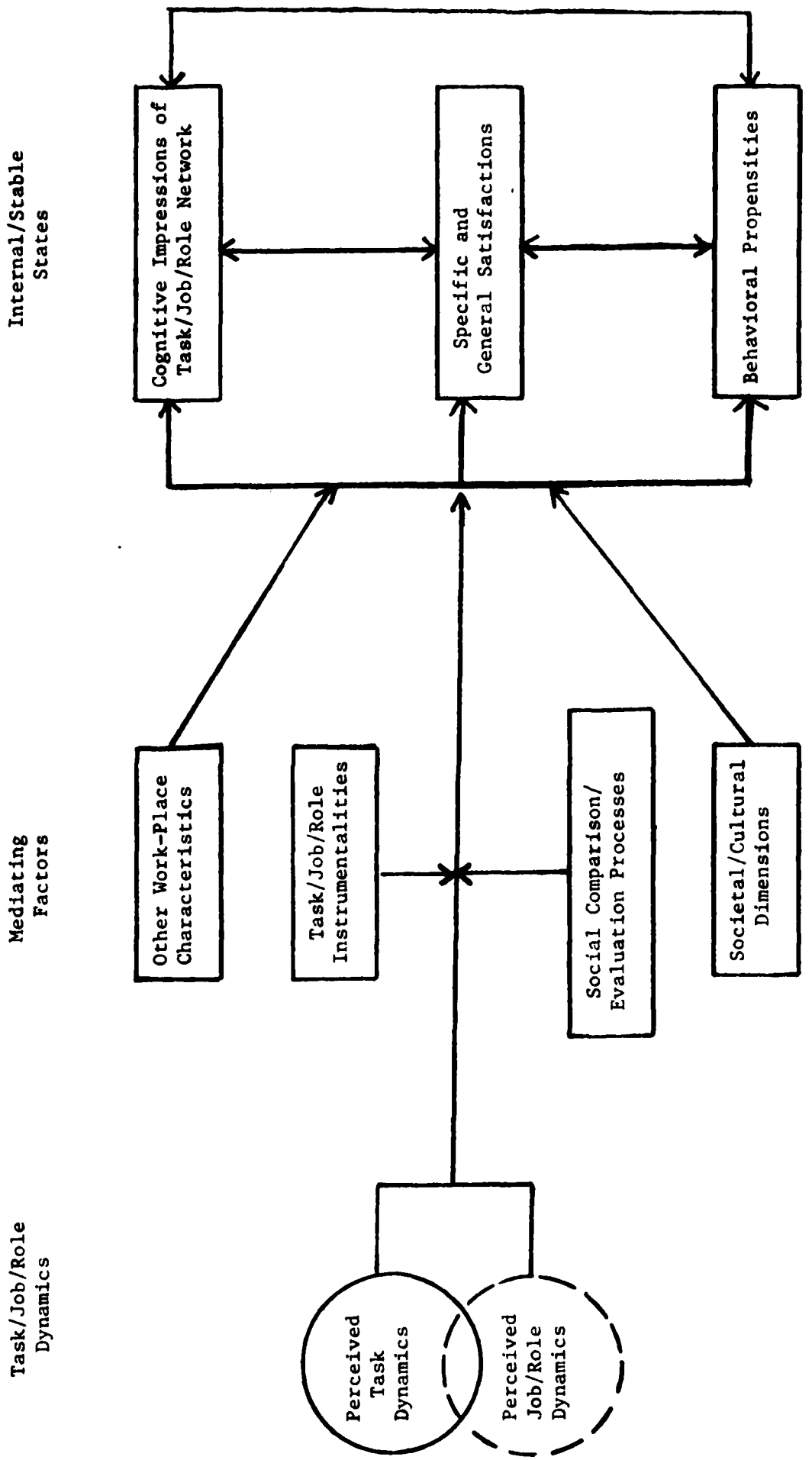


Figure 3

The Internal/Stable and External/Expressed States Linkages

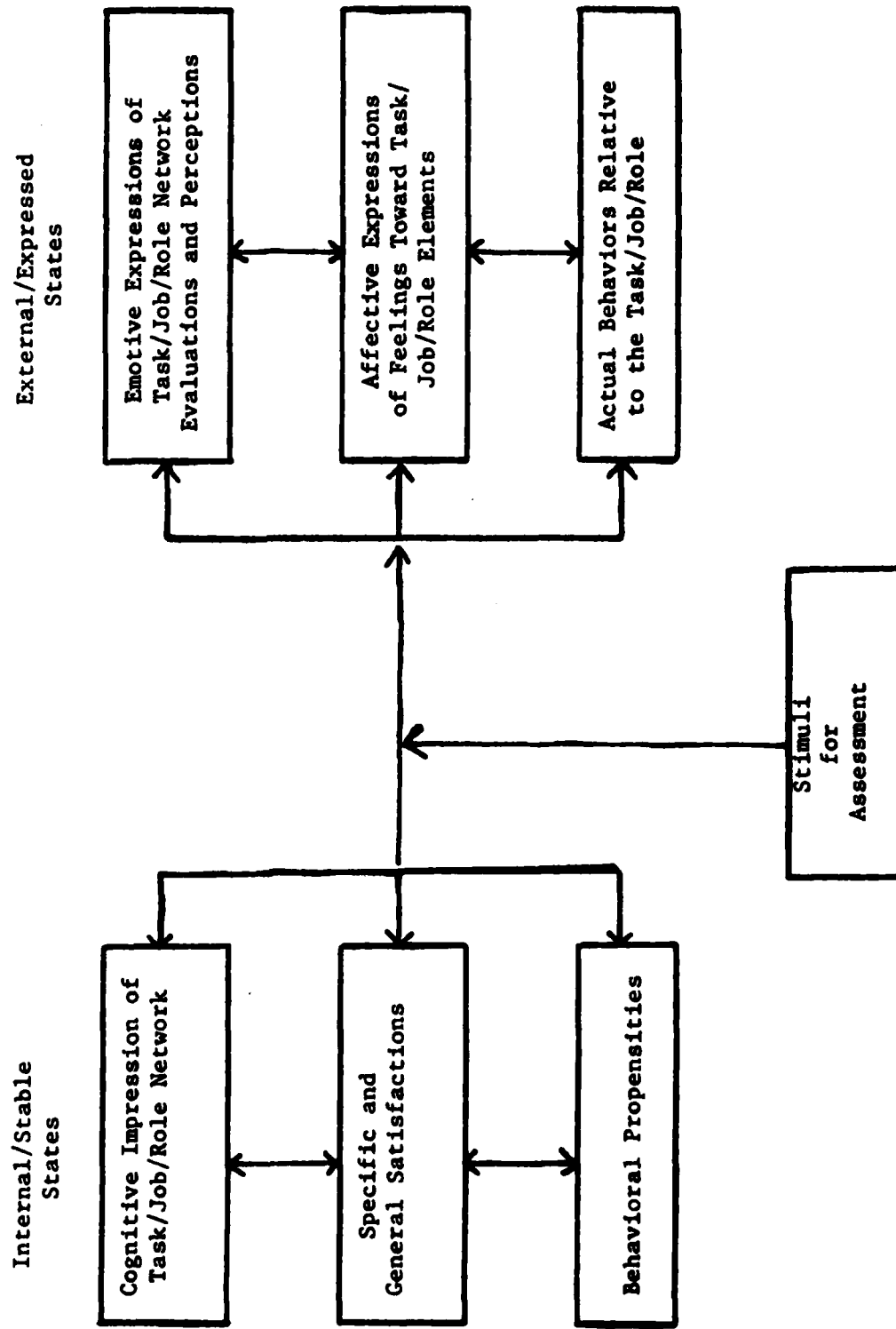
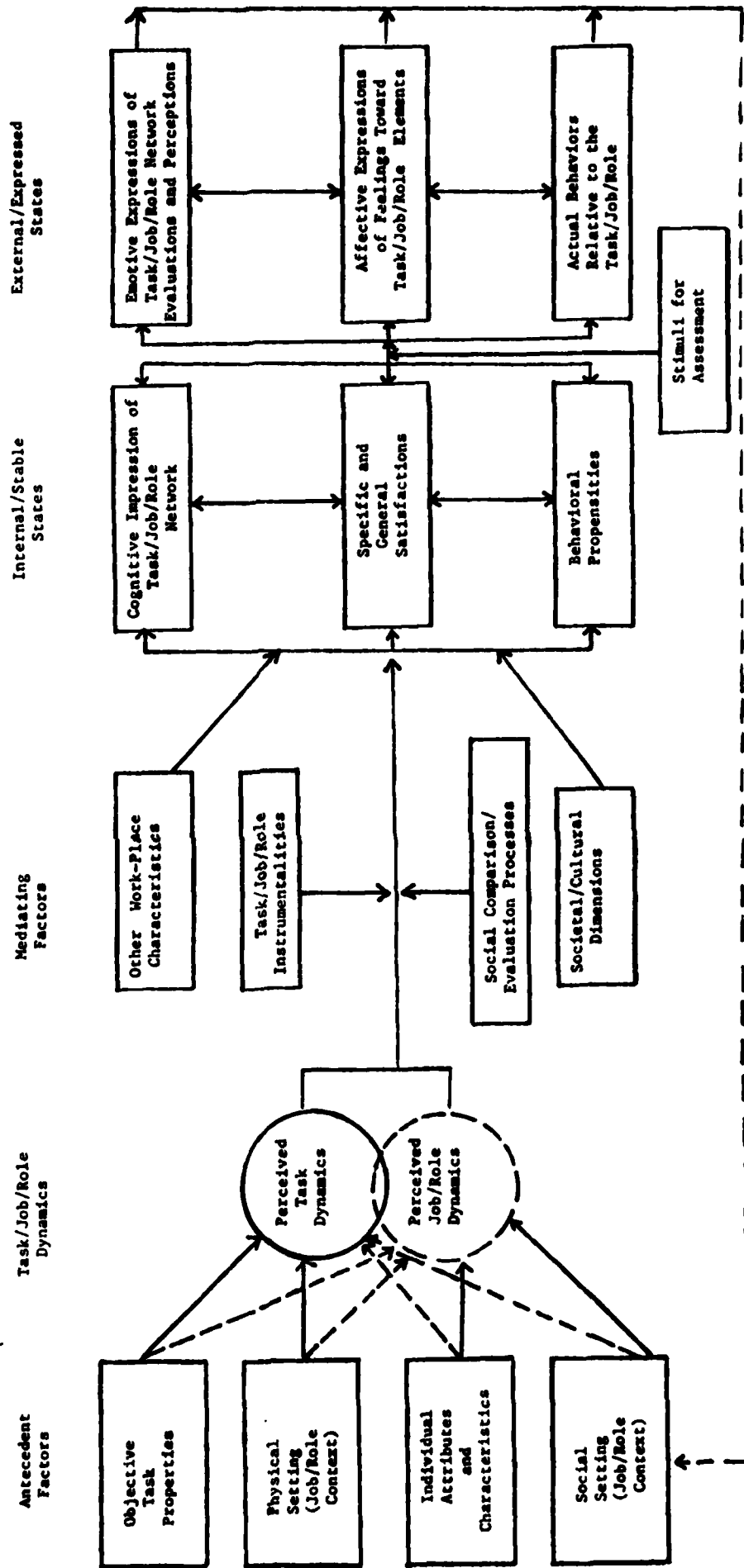


Figure 4
The Complete Integrated Model



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