Individual Differences and the Job Characteristics-Job Involvement Linkage

by

Steven D. Papamarcos

A dissertation submitted to the Graduate Faculty in Business in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

1995

This manuscript has been read and accepted for the Graduate Faculty in Business in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

8/16/95 — Date

Chair of Examining Committee

August 25, 1995 — Date

Executive Officer

Hannah R. Rothstein

Cynthia A. Thompson

Janet L. Rovenpor

Supervisory Committee

The City University of New York

Abstract

Individual Differences and the Job Characteristics-Job Involvement Linkage

by

Steven D. Papamarcos

Adviser: Dr. Abraham K. Korman, Wollman Distinguished Professor of Management

High-involvement management has been advanced as something of a prescription for meeting the challenges faced by today's corporate managers. While the literature is rich with anecdotal evidence supporting involvement as critical to corporate survival in increasingly global and hostile markets, empirically establishing the efficacy of participative strategies vis-a-vis either the organization or the individual has not been easy.

In this paper, I hypothesized that the substantive denial of job-related freedom and opportunities to develop a sense of membership may be a job-alienating experience. Conversely, opportunities to exercise a degree of control with regard to the substance of one's work life, and establish a sense of belonging to the larger organization, may result in greater job involvement.

Additionally, using an interactionist perspective and Hofstede's work-related values as an organizing framework, I suggested that psychological proxies for Hofstede's ecological factors would qualify the job characteristics-job

involvement linkage. I also argued that the psychological moderators being investigated in this research may not be equally salient for all subjects. Indeed, for some they may not serve as evaluative criteria at all. I proposed that the practical importance of one's value system is determined, in part, by one's image of the self as worthwhile. Therefore, I hypothesized that the strength of the moderator effects of the personological variables would be positively related to self-esteem.

Empirical results evidence a level of support for this study's general hypotheses. Objectively evaluated participative job content and context factors appear statistically and operationally related to job involvement. Modest support is also found for the interactionist perspective. Results indicate that the overall job characteristics-job involvement linkage is qualified by the individual difference variables jointly considered. Lastly, it was hypothesized that self-esteem would qualify the moderating influence of the psychological variables. However, the class of second-order interactions entered into this study's general analysis failed to achieve statistical significance after controlling for the direct and first-order interactive effects of the job characteristics and individual differences. Subsidiary hypotheses showed similar supportive or null results. No relationships opposite those predicted were detected.

To my loving wife Karen Nelson; to my teachers, Drs. Abraham Korman, Sidney Lirtzman, and Hannah Rothstein of Baruch College, and William Stewart and the late Marvin Stanley of the College of William and Mary; and to the people of William and Mary, for their patience and example.

Table of Contents

Table of Tables

Individual Differences and the Job Characteristics-Job Involvement Linkage

Chapter One: Introduction

1.1. The Structure and Objectives of this Research

Chapter 1 of this paper details the rationale behind this research and briefly describes its major objectives. Chapter 2 presents the two constructs which are the primary foci of this study: job involvement and job alienation. In Chapter 2, the various definitions of the constructs appearing in the literature are critically examined and Kanungo's (1982) reformulation presented. Kanungo (1982) synthesizes the two variables into a single construct, which he refers to as job involvement, of which job alienation is the obverse. Chapter 3 provides an overview of the IEP, the Index of the Objective Circumstances of Employee Participation, a relatively objective instrument designed to quantify the degree to which a particular job is characterized by the task-specific, group, and organization-level interventions often associated with programs of participative, or high-involvement management. Also in Chapter 3, I hypothesize that the substantive denial of job-related freedom and opportunities to develop a sense of membership may be a job-alienating experience. Conversely, opportunities to exercise a degree of control with regard to the substance of one's work life, and establish a sense of

belonging to the larger organization, may result in greater job involvement.

In 1980, Hofstede empirically identified the work-related values characterizing 40 countries. He suggested that these values affect human thinking and behavior in predictable ways. Using an interactionist perspective (see Endler and Magnusson, 1976; Schneider, 1983; and Terborg, 1981), and Hofstede's (1980) work-related values as an organizing framework, I suggest in Chapter 4 that psychological proxies for Hofstede's (1980) ecological factors qualify the job characteristics-job involvement linkage. Additionally, in Chapter 4 I argue that the psychological moderators being investigated in this research may not be equally salient for all subjects. Indeed, for some they may not serve as operative guides or evaluative criteria at all. I propose that the practical importance of one's value system is determined, in part, by the extent to which one perceives oneself, and likewise one's needs, as being worthwhile. Therefore, I hypothesize that the strength of the moderator effects of the personological variables will be positively related to self-esteem.

Chapter 5 describes the series of general and discrete moderated multiple regression analyses employed in evaluating this study's hypotheses. Originally developed in the context of job redesign studies not unlike this one, the technique allows one to avoid the sometimes theoretically

arbitrary choices required when using subgroups. At the same time, the procedure makes more complete use of continuous data, thereby increasing statistical power and the capacity to detect moderator effects. Finally, Chapter 6 describes and discusses this study's empirical results and suggests directions for future research.

1.2. The Rationale for this Research

1.2.1. Job Involvement

Traditional management techniques, when called upon today, just do not seem to work the way they historically have. The workforce has become better educated, more questioning and less tolerant of authority, and more insistent upon influencing, if not dictating, the terms and conditions of employment. Moreover, society is increasingly finding and protecting employee rights.

High-involvement management has been advanced as something of a prescription for meeting the challenges faced by today's corporate managers. Better than 35 years ago Merrihue and Katzell (1955) suggested that "success in attaining virtually all of a business's...objectives depends on the extent to which its employees are willing to contribute their full skill, care, and effort to those ends" (p. 91). Indeed, much of our current management theory and practice is predicated on the assumption of just such a willingness (Saunders, O'Neill, and Jensen, 1986). Walton

(1985) believes that "a model that assumes low employee commitment and that is designed to produce reliable, if not outstanding, performance, simply cannot match the standards of excellence set by world-class competitors. Especially in a high-wage country like the United States, market success depends on a superior level of performance, a level that, in turn, requires the deep commitment, not merely the obedience...of workers" (p. 79). It is no longer enough for management, by force of economic leverage, to coerce or attempt to purchase employee cooperation. Rather, more and more it appears as if cooperation must be respectfully sought and freely given for a business of any type to enjoy all that its workers have to offer. While change efforts have an intuitive appeal--having been advertised as meeting the competitive needs of the organization as well as the human needs of the worker--and the literature is rich with anecdotal evidence supporting involvement as critical to corporate survival in an increasingly global and hostile marketplace, empirically establishing the efficacy of participative strategies vis-a-vis either the organization or the individual has not been easy (Kopelman, 1985; Leana, Locke, and Schweiger, 1990; Livingston and Henry, 1980; Locke, Schweiger, and Latham, 1986; Russell, 1988). One of the objectives of this research will be to advance the state of our knowledge in an operationally meaningful way by helping to define the boundaries of what today's popular

high-involvement management interventions can reasonably be expected to provide.

1.2.2. Alienation

Alienation is a focus of this research for several reasons. First, the sundry definitions of alienation crafted by its many theorists (Aiken and Hage, 1966; Eichar and Thompson, 1986; Maddi, 1967; Maddi, Kobasa, and Hoover, 1979, undated; Marx, 1964; Saunders, et al., 1986; Seeman, 1959) have resulted in a "conceptual fuzziness" (Kanungo, 1979, 1982), and "conceptual confusion" (Rabinowitz and Hall, 1977), where conceptual refinement and insight are the goals. Second, on a personal level alienation is a profoundly meaningful negative emotion, one capable of generating feelings of sterility, impoverishment, and emptiness, emotions of pathological significance (Korman and Korman, 1980). Organizationally, employees' attitudes regarding pay, supervision, and equitable treatment, as well as their more global attitudes regarding their jobs, continue to deteriorate (Cooper, Morgan, Foley, and Kaplan, 1979). Further, likely manifestations of employee alienation--absenteeism; tardiness; turnover; theft and vandalism; excessive reliance on rules, grievance procedures and litigation; and other so-called "bureau-pathologies"--are becoming increasingly problematic. While the present research is not designed to directly address alienation's

consequences, it will, it is hoped, better prepare us to examine these issues in the future and determine the precise fashion in which alienation shows itself. It is my belief that this is a worthwhile ambition since the utility of a construct such as alienation is, in part, determined by its ability to enhance our understanding of the behavior of people at work.

1.2.3. The Interactionist Perspective

In their attempts to study involvement and/or alienation, many theorists (Aiken and Hage, 1966; Ashforth, 1989; Bass, 1965; Blauner, 1964; Kohn, 1976; Lawler, 1973; Lawler and Hall, 1970; Marx, 1964; Saleh and Hosek, 1976; Shepard, 1971; Weissenberg and Gruenfeld, 1968) have limited their independent variables to those related to job design. Generally, these authors have argued in favor of a universal prescription for increasing involvement and/or decreasing alienation through various job redesign initiatives. These initiatives will be evaluated in this research in a somewhat different, and perhaps more rigorous fashion using the IEP. However, simply stated, not all workers will be expected to welcome the chance to influence decisions or otherwise integrate themselves into the organization; some may just wish to punch in and out and leave the problems of work at work. Generally, interactional psychology is based on the belief that cognitive, affective, and behavioral outcomes

are a function of a continuous, multidirectional exchange between the person and the situation (Endler and Magnusson, 1976; Schneider, 1983; Terborg, 1981). Using this perspective, this research will test the suggestion that the association between four situational variables and job involvement is qualified by each of five person variables in some specified way.

Chapter Two: The Constructs of Job Involvement and Job Alienation

2.1. Job Involvement

2.1.1. Challenges to Understanding Job Involvement

The literature on job involvement is quite uneven both theoretically and empirically. Definitive conclusions are difficult to reach, especially as regards the practical usefulness of participative management (Kopelman, 1985; Leana, et al., 1990; Locke, et al., 1986). Following a review of the literature, it appears as if the reasons are several: a) researchers have yet to agree on a generally-accepted definition of job involvement, and indeed presently appear far from any such agreement (Cotton, Vollrath, Froggatt, Lengnick-Hall, and Jennings, 1988; Gorn and Kanungo, 1980; Kanungo, 1979, 1982; Lawler and Hall, 1970; Rabinowitz and Hall, 1979; Russell, 1988; Saleh and Hosek, 1976; Schregle, 1970; Weiner and Gechman, 1977); b) many previous conceptualizations have been burdened with excess meaning, interfering with attempts to study the relationship between people and their jobs (Kanungo, 1979, 1982); c) there has been too little attention paid to individual differences in the theoretical and empirical research into job involvement, and those studies that have investigated person-situation interactions (Blood and Hulin, 1967; Gurin, Veroff, and Feld, 1960; Hackman and Lawler, 1971; Hackman and Oldham, 1975, 1976, 1980; Hulin and Blood, 1968;

Rabinowitz, Hall, and Goodale, 1977; Saal, 1978; Schuler, 1975; Siegel and Ruh, 1973; White and Ruh, 1973) have provided few unambiguous results; d) greater methodological rigor is required if the outcomes achieved are to be relied upon (Hackman and Oldham, 1975), and some popular research designs have likely resulted in more than one false positive, and have just as likely inflated any true relationships extant; e) researchers into high-involvement management have often failed to regard it as anything more than a series of independent management initiatives, ignoring potentially powerful interdependencies (Dulworth, Landen, and Usilaner, 1990; Hackman and Oldham, 1975; Lawler, 1986; Mintzberg, 1983; Russell, 1988); and f) corporate managers often treat the components of participative management as do the theorists (Dulworth, et al., 1990; Kanter, Summers, and Stein, 1986; Papamarcos, 1992), and such incremental approach may result in negligible, perhaps even negative outcomes as employee expectations, raised in anticipation of being granted, for instance, greater autonomy, collide with the unchanged realities of the shop floor.

2.1.2. The Job Involvement Puzzle

Saleh and Hosek (1976) believe that one of the hurdles confronting anyone attempting to make sense of the vast literature on job involvement is that in its "wide range of

use, different interpretations and measurements have been introduced. The differences signify the lack of clarity and the complexity of the concept and point to the lack of agreement of just what it should include" (p. 213). Schregle (1970) also believes that "almost everyone who employs the term thinks of something different" (p. 117), likely interfering with evaluative attempts.

Rabinowitz and Hall (1977), in their conceptual integration, determined that two classes of definitions have guided the research into job involvement: a) job involvement as a "component of self-image," in which the phrase refers to a sense of psychological identification with one's job, and the importance of work in one's total self-image; and b) job involvement as a "performance self-esteem contingency," with its emphasis on the extent to which an individual's self-esteem is exposed to his or her job-related performance.

For instance, Dubin (1956) conceptualized job involvement as the degree to which work itself is a "central life interest," i.e., the degree to which work itself is perceived by a particular individual to be an important source for the satisfaction of his or her salient needs. Siegel (1969) used a like definition, seeing job involvement as the importance of one's employment to one's image of the self. Similarly, various other theorists have conceptualized job involvement as intimately tied up in the Protestant

ethic, a general belief in the inherent goodness of work and a sense of personal responsibility. For example Blood (1969), in the context of his theme of "work values," and Blood and Hulin (1967) and Hulin and Blood (1968) with their emphasis on "middle-class norms" suggested that the primary determinant of job involvement is a value orientation learned early in the socialization process. Because of this they, like Hall and Mansfield (1971), believe it to be a relatively enduring personality trait, resistant to change based on the characteristics of a particular job. Blood and Hulin (1967) and Hulin and Blood (1968) believe there exists a continuum, one end of which is comprised of individuals who have integrated middle-class norms into their character and who therefore desire personal involvement with their job, and the other end of workers who are alienated from such norms and who therefore experience only an instrumental involvement with their job, a suggestion also made by Siegel and Ruh (1973) and White and Ruh (1973).

Bass (1965) and Wickert (1951) emphasized the importance of feeling that one is participating in and contributing to the success of one's organization. Likewise, one's perceived level of influence is seen as important by Vroom (1962) who, additionally, considers the congruence of performance with self-image meaningful. Vroom (1962) believes attitudinal and performance outcomes to be the product of an interaction between the individual and the

context in which he or she finds him- or herself. Ego-involvement is thought by Vroom (1962) to depend upon the degree to which "performance is perceived to be relevant to certain attitudes, abilities, or other attributes which are central to a person's self-conception" (p. 174).

Rabinowitz and Hall's (1977) data were more supportive of the "component of self-image" conceptualization than of the "performance self-esteem contingency" formulation. Problematically, both of these definitions, although quite dissimilar, were earlier integrated into a single, widely-used questionnaire by Lodahl and Kejner (1965). These authors conceive of job involvement as the degree to which work is central to one's self-concept, and like French and Kahn (1962) and Guion (1958) in one of his definitions of morale, focus on the importance of perceived performance and its ability to affect one's self-esteem. The majority of the studies cited in this paper have employed Lodahl and Kejner's (1965) questionnaire. Some have administered it in its entirety; others have adapted it for use. Additional related studies which used the instrument include: Gannon and Hendrickson (1973); Goodman, Rose, and Furcon (1970); Hall and Lawler (1970); Jones, James, and Bruni (1975); Lawler, Hackman, and Kaufman (1973); Schneider, Hall, and Nygren (1971); Schwyhart and Smith (1972); Thompson and Blau (1993); and Wood (1974).

Early in his theorizing, Lawler (1969) seemingly equated job involvement with intrinsic motivation, converging task-specific design, higher-order needs, and performance in an expectancy format. A somewhat similar definition was offered by Allport (1943, 1947). He indicated that involvement depends upon the degree to which one attempts to fulfill one's psychological needs--such as those of prestige, self-respect, and self-expression--through one's job. Gurin et al. (1960) took an interactionist approach, finding the ego-involved individual to be susceptible to environmental conditions to which the less ego-involved are indifferent. Gorn and Kanungo (1980) did the same, but also argued for the role of both intrinsic and extrinsic reinforcements, finding support for "lower-need-based...job involvement," and concluding that the satisfaction of extrinsic needs in extrinsically motivated people, and the satisfaction of intrinsic needs in the intrinsically motivated were equally likely to create high job involvement.

Saleh and Hosek (1976) suggested a three-factor structure of job involvement, concluding that it is "the degree to which the person identifies with the job, actively participates in it, and considers his performance important to his self-worth. It is therefore a complex concept based on cognition, action, and feeling" (p. 223). While it may be that job involvement is by its nature multidimensional, I

will join Kanungo (1982) and Blau (1985) in arguing for the unidimensionality of the construct. I will also argue against the conceptualizations of Lodahl and Kejner (1965) and Saleh and Hosek (1976) on other grounds. For instance, based on the survey items comprising "active participation" in Saleh and Hosek's (1976) research, the factor appears to be measuring job satisfaction, in addition to several potentially more relevant ideas. Indeed, Saleh and Hosek (1976) indicated that "active participation" is similar to the variable Lawler and Hall (1970) labelled "job satisfaction," but that "satisfaction is not...participation itself" (p. 222). Lawler and Hall (1970) had earlier differentiated the state of job involvement from issues of intrinsic motivation and job satisfaction. Unfortunately, Saleh and Hosek (1977) brought them together again. It should also be recognized that Lodahl and Kejner (1965), Saleh and Hosek (1976), Warr, Cook, and Wall (1979), Weiner and Gechman (1977), and White and Ruh (1973) used the terms "job" and "work" interchangeably in addressing the idea of involvement.

2.2. Alienation

2.2.1. Limitations in the Literature

Like job involvement, the construct of alienation is somewhat less than well-developed in the literature. Maddi, et al. (undated), citing Schacht (1971), believe that

"however promising the concept may be, it has often been used in vague, inconsistent, overgeneralized and contradictory...fashion. Nor has its measurement fared better" (p. 1). Kohn (1976) suggested that "in social-psychological usage, alienation is an extraordinarily vague and imprecise term" (p. 114), and questioned the "theoretical utility of retaining as an analytic concept a term with such diverse meanings" (p. 115). (See also Kanungo, 1979, 1982; and Rabinowitz and Hall, 1977.) Seemingly, three major limitations inform the research: a) the general failure on the part of its theorists to distinguish alienation's sources, substance, and symptoms (Papamarcos, 1992); b) the continuing emphasis on self-expression at the expense of a more inclusive instrumentalist perspective--for example, Shepard (1971) considers an instrumental orientation to itself be an index of self-estrangement; and c) the failure to adequately differentiate feelings of alienation from the issue of job and other satisfactions (Kanungo, 1979, 1982; Nash, 1976).

2.2.2. Alienation: A Confusion of Sources, Substance, and Symptoms

Marx (1964) first identified alienation in the working lives of men and women. He viewed alienation as resulting from a separation of the workers from both the product of their labor and the means of production, essential

conditions of their occupational lives. This separation was believed to result in a subordination of individual needs and interests, the loss of free personal expression, and therefore the denial of individual uniqueness and, ultimately, a sense of estrangement. To the alienated individual work had become external to the self, and therefore "forced labor." On the other hand, he believed that a state of work involvement results when the work situation elicits job behavior that is perceived by the individual to be: a) voluntary; b) instrumental in satisfying higher-order needs such as self-realization and self-actualization; and c) conducive to developing the individual's intellectual and physical abilities to their fullest. Like Blauner (1964), Dubin (1956), Seeman (1959), and Shepard (1971), Marx (1964) rejected a straight instrumentalist perspective, one believed by others to be useful in understanding alienation's mirror image, "involvement" (Gorn and Kanungo, 1980; Kanungo, 1979, 1982; Lawler, 1973), and thought by this writer to be potentially useful in understanding both.

Marx's (1964) legacy pervades the research. However, whereas he clearly distinguished alienation's sources, substance, and symptoms, others have often failed in this regard. For instance, Eichar and Thompson (1986) suggested that "the occupational dimensions of autonomy, complexity, and variety of tasks performed can be thought of as the

constituent elements of an index running from occupational self-direction at one end to alienation at the other" (p. 51). This indicates a belief that alienation is an objective, not a psychological state. I will argue that a lack of opportunities for self-direction is not alienation itself but rather a possible source of alienation. Indeed, with regard to alienation's antecedents, Kohn (1976) found that the pivotal job-related characteristics are those determinative of self-direction in one's work.

Seeman (1959) segmented alienation into what he believed to be its five constituent psychological states: a) powerlessness--the expectancy held by the individual that his or her own behavior does not determine the realization of outcomes; b) meaninglessness--when the individual is unclear as to what he or she ought to believe, with the result that the individual's standards for clarity in decision-making are not met; c) normlessness--a high expectancy that socially unapproved behaviors are required to achieve desired goals; d) isolation--assignment by the individual of low utility to goals or beliefs that are typically highly valued by society; and e) self-estrangement--the degree to which the individual's behavior set is dependent upon anticipated future rewards, that is, on rewards that reside outside of the task activity itself. Seeman (1972) later modified his typology somewhat, but left four of the five classes intact, dividing the isolation

variant into two parts: cultural estrangement--the individual's rejection of commonly held societal values; and social isolation--the individual's sense of social exclusion.

Blauner (1964), Kohn (1976), and Shepard (1971), all focusing on issues of "freedom and control," employed Seeman's (1959) classification scheme in their research, and perhaps further confused alienation's sources, substance, and symptoms. For instance, Shepard (1971) operationalized Seeman's (1959) categories through the highly subjective evaluation of objective job conditions. Opportunities for participation were equated, inversely, with feelings of powerlessness. While it may well be that participation serves to diminish one's sense of powerlessness, and that the diminution of one's feelings of powerlessness may lessen one's level of alienation, participation is not the other side of powerlessness, and a sense of powerlessness is not the same as the state of alienation. This argument is consistent with Ashforth's, 1989, findings regarding powerlessness, helplessness, and work alienation, and Seeman's, 1959, emphasis that "the individual's expectancy for control of events [must be]...clearly distinguished from...the objective situation of powerlessness as some observer sees it" (p. 784). I suggest that Seeman's (1959) five factors need to be reconfigured, and that the first three should be viewed as determinants of the last two.

Maddi (1967), and Maddi, et al. (1979, undated) also distinguished several types of alienation: a) powerlessness--the individual's sense of having limited influence over social or personal affairs, but continuing belief in the importance of those affairs; b) vegetativeness--the inability of the individual to believe in the truth, importance, or interest value of anything he or she is doing or can imagine doing; c) nihilism--the individual's belief that nothing is meaningful, and his or her continual effort to discredit anything that appears to have meaning; and d) adventurousness--the individual's feeling that everyday life has ceased to be meaningful, and that he or she must engage in extreme and dangerous activities in order to feel vital and committed. Each was defined relative to five areas of human functioning, work, social institutions, other persons, family, and self. Again, in this research powerlessness is seen as a possible source of alienation, and I will argue that the remaining categories represent much of the symptomatology of alienation, but not alienation itself.

Aiken and Hage (1966) divided alienation into two types, alienation from work, and alienation from expressive relations. The former reflects a feeling of disappointment with one's professional development and one's inability to fulfill professional norms; the latter, a dissatisfaction with social relations with supervisors and fellow workers. Once again, I view such feelings as two of the conditions

possibly leading to alienation, or perhaps reflective of aspects of job satisfaction, but in either case inappropriate as a definition of the construct of alienation. (Aiken and Hage's, 1966, index actually appears to be measuring the degree to which one is satisfied with one's supervisor, one's co-workers, and the on-the-job authority one has been granted. In addition, their scale seemingly addresses much larger issues including career success/failure, relative both to personal expectations and the level of achievement of referent others.) Saunders, et al. (1986) defined work alienation as the opposite of job satisfaction. Corlett (1988) aggressively critiqued Saunders et al. (1986) and challenged what I also consider to be a problematic definition. He suggested in its place Marx's (1964) conceptualization involving a sense of "separation." Vredenburgh and Sheridan (1979) clearly distinguished issues of satisfaction and alienation, but an examination of much of the research on alienation suggests that the phenomenon studied has indeed been job satisfaction (Kanungo, 1979, 1982; Nash, 1976).

Miller (1967) referred to work alienation as involving "intrinsic pride," but his five-item scale appears to measure issues of work satisfaction, job identification, and the Protestant ethic, in addition to pride--which he equates to a sense of accomplishment in the context of a single double-barreled questionnaire item. Rosner and Putterman

(1991) attempted to map work alienation in terms of a conventional economics paradigm. Similar to Lawler (1969) with regard to job involvement, they seem to view work alienation as synonymous with intrinsic motivation. Rosner and Putterman (1991) failed to adequately define the construct of alienation while building something of an expectancy model which sets forth both its causes and its offsets: "First, alienation derives from a sense of powerlessness and lack of autonomy; secondly, alienation results from work processes that are intrinsically unsatisfying...[Workers with jobs] that engender a high degree of intrinsic work satisfaction...should in principle be willing to trade increments of other job attributes such as pay, work hours, commuting time, etc. [Jobs believed to result in high levels of intrinsic satisfaction] are marked by skill intensity, and by opportunities for workers to use their own ideas, work in groups, learn new skills, do interesting work, and determine their own pace of work" (pp. 18-19).

2.3. Kanungo's Synthesis

Kanungo (1979, 1982) conceptualized job involvement and job alienation as bipolar states of the same subjectively felt phenomenon. Writing in 1982, Kanungo distinguished involvement with or alienation from work in general, and involvement with or alienation from a particular job:

"Involvement with work in general is viewed as a generalized cognitive (or belief) state of psychological identification with work, insofar as work is perceived to have the potential to satisfy one's salient needs and expectations. Likewise, work alienation can be viewed as a generalized cognitive (or belief) state of psychological separation from work, insofar as work is perceived to lack the potential for satisfying one's salient needs and expectations. Worker involvement with or alienation from a given job is defined as a specific cognitive belief state of psychological identification with or separation from that job" (pp. 79-80). Kanungo's (1982) definition of job involvement has been empirically supported by Blau (1985), and employed by Blau (1986, 1987, 1988); Blau, Paul, and St. John (1993); and Michaels, Cron, Dubinsky, and Joachimsthaler (1988).

Chapter Three: Job Characteristics and Job Involvement

I propose that the substantive denial of job-related freedom and opportunities to develop a sense of membership may itself be a job-alienating experience. Likewise, opportunities to exercise a degree of control with regard to the substance of one's work life, and establish a sense of belonging to the larger organization, may result in greater job involvement (see also Aiken and Hage, 1966; Ashforth, 1989; Bass, 1965; Blauner, 1964; Kohn, 1976; Lawler, 1973; Lawler and Hall, 1970; Marx, 1964; Saleh and Hosek, 1976; Shepard, 1971; and, Weissenberg and Gruenfeld, 1968). Since some job characteristics will be more likely than others to offer these opportunities, the challenge is to identify which is which.

It can reasonably be argued that when the intent is to understand employee attitudes, employee ratings of the characteristics of their jobs should be used since it is the employee's own perception of the circumstances of his or her job that influences his or her attitudes. In other words, this procedure is frequently justified by arguing that perceptions mediate the linkage between objective reality and behaviors or attitudes. People are asked to make subjective judgements regarding, for example, their jobs, and their subjective judgements are then empirically related to some equally subjective dependent variable of interest. However, an individual's judgements regarding his or her

job's attributes may be only partly a function of the job's objective characteristics, and these subjective instruments may create confusion about what is actually being measured, the situation as it exists in the world, perhaps what Salancik and Pfeffer (1977) described as "socially constructed realities," or perhaps something else entirely. Clearly, we can scale either people or objects with regard to some attribute. However, even when subjective judgements are used to measure the attributes of objects, it is still usually the objects that are of primary interest. It is my belief that if job redesign initiatives are to adequately be planned, implemented, and evaluated, then it is important that measures of objective reality be used in conjunction with subjective self-reports.

Hackman and Oldham (1975) developed a popular instrument, the Job Diagnostic Survey (the JDS), which can be used to scale jobs along the attribute of "motivating potential." The JDS uses the judgements or perceptions of individuals to "diagnose the motivating potential of jobs" (p. 159). Using this type of measurement procedure, the accuracy of worker perceptions and the relative influence of third variables become potential hazards. Indeed, Hackman and Oldham (1976) reported the correlation between JDS scores gathered from workers and their respective supervisors to be only r=.56. When gathered from workers and independent observers the correlation was r=.63. Further,

Hackman, Pearce, and Wolfe (1978) reported the quantitative descriptions provided by employees and their managers to show only a moderate level of convergence, r=.49, and Fried and Ferris (1987), reviewing the JDS literature, determined the median of the median correlations to be r=.54. While self-reports have been used extensively elsewhere in related research (Ashforth, 1989; Eichar and Thompson, 1986; Gorn and Kanungo, 1980; Kohn, 1976; Kohn and Schooler, 1982; Hackman and Lawler, 1971; Halaby and Weakliem, 1989; Lawler and Hall, 1970; Lee and Schuler, 1982; Ruh, White, and Wood, 1975; Saal, 1978; Schuler, 1980; Shepard, 1971; Siegel and Ruh, 1973; Smith and Brannick, 1990; Vroom, 1962; White and Ruh, 1973; Wickert, 1951), Smith and Brannick (1990) concluded that "self-report measures of organizational practices reflect, to varying degrees, the unmet expectations or idiosyncratic occupational situations of subjects" (p. 102), and may well be at odds with reality. When measures of job characteristics are influenced by factors other than objective reality, their validity may be questionable and their diagnostic utility in the context of job redesign programs limited.

Alternatively, being able to examine structural job conditions in the relatively objective fashion employed in this research allows a less biased determination of the extent to which the individual actually experiences the job characteristics being investigated. In this study, the

subject job characteristics will be evaluated using the IEP, a relatively objective instrument designed to quantify the degree to which a particular job is characterized by the task-specific, group, and organization-level interventions often associated with participative management. The IEP profiles a respondent's job via descriptive data obtained directly from the worker or his or her supervisor. Generally, data gathered in this manner are relatively free of much of the contamination that employees often bring to their interpretation of the nature of the work setting, inadvertently or otherwise (Hackman and Lawler, 1971). Indeed, White and Ruh (1973) and Saal (1978), who himself used verbal self-reports, advised that it is imperative that future research be designed to minimize the effects of shared method bias, often a threat when comparing subjective judgements. Also, Crampton and Wagner's (1994) analysis of 42,934 correlations published in 581 articles revealed general evidence that self-report methods have regularly produced percept-percept inflation.

The IEP is designed to be employed by researchers primarily as a standardized instrument for the evaluation of jobs and in helping to understand which interventions, and in which combination(s), affect the dependent variable of choice and which do not. The IEP may also have practical application in planning, implementing, and evaluating organizational change efforts.

The dimensions of the IEP are discrete management initiatives which may be implemented jointly or severally. They include: a) quality circles; b) job enrichment/enlargement; c) new-design plants; and d) financial participation. In general, the first three can all be viewed as giving the employee a "larger identification" (Blauner, 1964), and empowering the employee, granting him or her increased influence over his or her day-to-day work life and a heightened feeling of producing a more complete product or of providing a more complete service. Financial participation serves to close a feedback loop and provide an enhanced sense of stakeholdership. Table 1 presents the issues which define each of the variables, and which were operationalized into survey items.

Following several pretest analyses, the final instrument consists of 27 descriptive items assessing the four characteristics. It should perhaps also be noted that these variables need to be viewed as something more than univariate. For example, while a respondent either belongs to a quality circle or does not, if he or she does, then questions regarding the individual's role within the group and the group's general level of activity must be answered. The same is true with self-managing work teams, the basic building blocks of new-design plants. With financial participation, the respondent either is eligible for incentive compensation or is not. But if so, how important

is it in the context of his or her total compensation package? And what is the respondent's ability to influence compensation outcomes?

3.1. Quality Circles

During the late 1950s and early 1960s, many large Japanese manufacturers aggressively implemented strategies designed to change both the image and the reality that they were producing relatively low-quality goods. Subsequently, the quality of Japanese products and the productivity of the Japanese worker improved dramatically. Integral to these strategies was the widespread use of quality circles.

It was a decade or more later until quality circles, which actually originated in the United States, became at all popular in this country. As it developed, this reintroduction was partly due to Japan's observed business success, and the fact that Japan's ability to make high-quality products at low cost is frequently ascribed directly to the quality circle concept. One source of tactics was the Japanese themselves. Ouchi's work (1981a, 1981b) on Japanese management practices was widely studied in the United States. Early applications in this country were largely confined to traditionally blue-collar sectors, and to a large degree they continue to be viewed in this rather limited way. However, this state of affairs has changed somewhat recently, and circles are now relatively popular in

many white-collar and technical areas. Today, quality circles may be the most widely discussed, implemented, and researched of the participative initiatives.

Quality circles virtually always focus on improving product or service quality, although in some instances a dual focus on quality and productivity exists. Generally, quality circles concentrate on recurring causes of defective workmanship (Peters and O'Connor, 1980; Steel and Lloyd, 1980; Steel and Mento, 1986) as well as chronic barriers to productivity such as physical performance constraints. The major emphasis is usually limited to the members' immediate jobs (Griffen, 1988; Lawler, 1986; Marks, Mervis, Grady, and Hackett, 1986; Steel and Shane, 1986; Steel, Jennings, and Lindsey, 1990). While the specific characteristics of quality circles differ application to application, there are enough similarities that it is reasonable to talk about a basic model.

Quality circles generally consist of small groups of people who either work side by side--for example, as part of an assembly line--or have relatively similar jobs with only minor hierarchical disparities. Members voluntarily get together on a regular basis to try to systematically and in an ongoing way identify, analyze, and solve work-related problems. On average, the typical quality circle's eight to 15 members spend anywhere from an hour a month to several hours per week in related activities, usually meeting once

every week or two on company time and company premises. Circles generate ideas or suggestions for change that members formally present to management. However, they can only propose these to management which, having almost complete control over the final choice, ultimately decides whether to implement the group's recommendations. This is especially true if expenditures are required. If their recommendations are accepted, quality circle members usually monitor the results of their work. While there is often no extra pay for participating in a quality circle, or rewards for making good suggestions--most organizations prefer to rely on perceived psychological rewards--gainsharing and other incentive schemes may sometimes be offered. Quality circles are believed to leverage the greater knowledge, variety of views, and creativity of the group over the individual. They are also said to improve, motivationally and otherwise, the job characteristics of the members and the degree to which participatively made decisions are understood, "owned," and therefore accepted by the workers involved (Locke and Schweiger, 1979).

I suggest that quality circles may additionally provide workers opportunities to acquire and use different skills, and give them a different perspective and a greater overview of their work and their work product. If a group's suggestions are actually put to use in the factory or office, they get to see their ideas in daily use by others.

Moreover, members may perceive themselves as having greater voice with regard to their tasks, and quality circles may offer workers a greater ability to see the outcomes of their work and therefore to judge their performance.

Steel and Shane (1986) reviewed the research literature on quality circles and concluded that much of it is woefully inadequate methodologically. Indeed, many of the studies relating quality circles to general work attitudes are anecdotal case studies. In these studies, results are often presented by way of largely unsubstantiated statements of benefits by the very managers and consultants who implemented the quality circles (e.g., Barra, 1983; Bradley and Hill, 1987; Dillon, 1985; Kelly, 1985; Schwartz and Comstock, 1979), not by carefully defined and measured changes in the participants' quality of work life. Unfortunately, this is also true with reference to the literature addressing the other job characteristics which are the foci of this research. Perhaps the largest challenge presented by this state of affairs is that success stories have likely been overemphasized and that, although failures have been reported, they have just as likely been underreported. However, several more reliable quasi-experimental field studies do exist, although their results are quite mixed.

For example, Steel and Lloyd (1988) developed a heuristic model of major behavioral responses to the more

immediate consequences of participating in a quality circle. Significant results of this longitudinal study tie quality circles to the self-descriptive variables of task mastery and control over one's work life, interpersonal trust, intent to leave, and adaptability/flexibility. Several measures of cognitive and affective outcomes incorporated into the model failed to relate to the independent variable (e.g., job satisfaction, organizational commitment, global and problem-solving competencies, confidence, opportunities to participate, goal congruence, efficiency, and quantity and quality of output). At best, the study provides only marginal support for the attitudinal efficacy of using quality circles. Other quasi-experimental studies, considered together, do little to clarify this difficult-to-interpret series of results.

Marks, et al. (1986) reported that quality circle membership is related to employee quality of work life only for those facets of work life specific to the membership itself. For instance, perceived changes in opportunities to participate at work and communicate with other workers appeared associated with being in a circle. In addition, being a part of a quality circle was positively related to opportunities to accomplish something worthwhile and to advance at work. However, these results did not generalize to more global feelings regarding one's job or one's work life (e.g., the meaningfulness of one's work, the degree to

which one finds one's work challenging and as providing opportunities to take personal responsibility for one's work outcomes). Interestingly, these authors reported that participating in a quality circle appears to do more to provide informational and emotional support to buffer threats to work life quality versus directly changing employees' attitudes regarding their jobs. Generally, participants' quality of work life did not increase markedly during this quasi-experiment, their scores simply did not deteriorate as dramatically as the controls' in response to a stressful, changeful work environment. In the alternative, I suggest that after observing the circles over time, workers who initially decided not to join may have also come to believe that they were being left out or that they were being in some way neglected, and thus the deterioration of their attitudes.

Conversely, Steel, et al. (1990), while reporting that work units employing quality circles registered positive and significant results on the psychosocial variables of influence, group cohesiveness, and work group support, also reported that job involvement (which they assessed using a derivative of Saleh and Hosek's, 1976, measure) corresponded negatively with membership. Likewise, contextual performance constraints were perceived as actually being greater in departments with quality circles. Various measures of job satisfaction, organizational commitment, impersonality, and

intent to leave were, again counter to this study's predicted results, not significantly related to quality circles.

The attitudinal results in the literature provide, at best, circumspect support for the linkage of quality circles with participants' quality of work life. Although the conceptual literature suggests that improved worker cognitive and affective outcomes are associated with participating in a quality circle, the limited empirical findings are not entirely supportive of the derivative hypotheses. Indeed, in at least one study (Steel, et al., 1990) quality circle members were lower in job involvement and perceived greater barriers to performance relative to control group members. Alternatively, these same studies have established linkages with withdrawal behavior (Marks, et al., 1986; Steel, et al., 1990; Steel and Lloyd, 1988), a likely correlate of job involvement as it is conceptualized in the present research. It therefore seems reasonable to suggest the following hypothesis:

H1a: Quality circle membership will be positively related to job involvement.

3.2. Job Enrichment/Enlargement

Enriching the jobs of individuals is an idea that dates back to the 1950s. At that time, behavioral scientists started to rethink the classical theorists' orthodoxy of

specialized and simplified work (Babbage, 1832; Fayol, 1949; Smith, 1776; Taylor, 1911). Studies indicated that jobs designed based on the principles of scientific management sometimes had dysfunctional consequences both for the organization and the individual worker (Argyris, 1957; Blauner, 1964; Davis, 1957; Likert, 1961; Walker, 1950). Increasing output by using what the traditionalists thought to be the fastest, most efficient, and least physically fatiguing methods was criticized for ultimately resulting in a poor quality of work life, limited productivity, and low-quality products and services (Argyris, 1957). However, the traditional approach was probably valid for the many decades during which American workers were characterized by low levels of education and multiple languages, and their work by relatively simple manufacturing tasks (Lawler, 1986). Indeed, increasing the task variety and responsibilities of individual jobs did not become at all popular until the late 1960s and early 1970s in this country (Hackman and Oldham, 1980). Perhaps the theorist who initially stimulated scholarly research and influenced practice in this area was Herzberg (1966). Later Hackman and Lawler (1971) and Hackman and Oldham (1975, 1976, 1980) detailed other, equally popular ways to enrich jobs.

Herzberg's (1966) Motivation-Hygiene Theory, also referred to as Two-Factor Theory, derived from an extensive study of job attitudes by Herzberg, Mausner, and Snyderman

(1959). These authors determined that the job-related variables associated with satisfied workers are very different from those associated with dissatisfied employees. They concluded that satisfaction and dissatisfaction are not simply the opposite ends of the same continuum, but are entirely separate phenomena. Two-Factor Theory suggests that when five intrinsic factors, achievement, recognition, challenge, responsibility, and advancement characterize a job, positive feelings as well as improved work performance will result. Herzberg (1966) referred to these factors as motivators. In contrast, job dissatisfaction was thought to result from a different set of factors, all of which characterize the context in which the work is performed: organizational policies and administrative practices; supervisory and other interpersonal relations; physical working conditions; job security; benefits; and pay. These variables are known as dissatisfiers or hygiene factors. Herzberg (1966) advocated the restructuring of jobs via Orthodox Job Enrichment to introduce motivators into a job (e.g., feedback, being able to schedule one's own work, increased accountability). If one wishes to improve the motivational properties of tasks, jobs should be designed to allow greater personal achievement and recognition, more challenging and responsible work, and increased opportunities for advancement and growth. But Herzberg

(1966) never actually advocated what contemporary theorists generally know as participative management.

The underlying psychological basis of Hackman and Lawler's (1971) and Hackman and Oldham's (1975, 1976, 1980) Job Characteristics Theory rests on several beliefs:

1) to the extent that an individual believes that he or she will realize a valued outcome by exhibiting some particular behavior, the likelihood that he or she will actually exhibit that behavior is increased;

2) outcomes are valued by individuals to the extent that they satisfy the physiological or psychological needs of the individual, or to the extent that they are likely to result in other outcomes which satisfy such needs or are expected by the individual ultimately to do so; and

3) lower level physiological and safety needs (Maslow, 1969) generally are reasonably satisfied for individuals in contemporary American society on a continuing basis and, therefore, will not serve as motivational incentives except under unusual circumstances. However, this is not true for some of the higher order needs.

With this as the operative basis, realistic principles for redesigning jobs as described by these theorists include:

1) work units should be established in order to increase the "core" job characteristics of task identity and task significance;

2) tasks should be horizontally enriched in order to increase skill variety and task identity;

3) client relationships with the ultimate user should be established whenever possible in order to increase skill variety, autonomy, and feedback;

4) jobs should be vertically enlarged with responsibilities usually reserved for the next hierarchical level in order to increase individual autonomy; and

5) feedback channels should be opened, especially channels directly related to the day-to-day performance of the job itself, in order to increase the information received regularly by the worker.

Increasing the core job dimensions of task identity and significance, skill variety, autonomy, and feedback enhances the degree to which one would be expected to experience one's work as meaningful, to have knowledge of the results of one's work activity, and to feel personally responsible for those results. These three "critical psychological states" should, based on these authors' theory, result in psychological and work outcomes including internally motivated and satisfied workers, high-quality work performance, and low absenteeism and turnover. Indeed, I will argue that the other job characteristics investigated in this study (quality circles, new-design plants, and financial participation), similarly may be discussed in the context of Hackman and Lawler's (1971), Hackman and Oldham's

(1975, 1976, 1980), and other theories. Each may be seen as enhancing one or more of the five core job dimensions, one or more of the three critical psychological states, and each would therefore be expected to result in one or more of the four suggested psychological and work outcomes.

Hackman and Oldham (1975, 1976, 1980) theorized that individual differences in growth need strength (i.e., the job incumbent's need for personal growth and development through his or her job) moderates the direct relationships of the job characteristics and psychological and work outcomes. Employees high in growth need strength are believed to respond more positively to jobs with high levels of the five core characteristics. Sundry other individual differences including locus of control, knowledge, skill, and such contextual factors as pay and job security have also been hypothesized to moderate the outcomes of enriched/enlarged jobs. The obvious suggestion is that the individual must be psychologically and practically ready, and work system must be healthy for the theory to operate effectively. But the number of moderators being evaluated has become unwieldy and greater parsimony would be appreciated. White (1978), in a review of the moderator literature, failed to support the specified moderators, although others (Oldham, Hackman, and Pearce, 1976; Fried and Ferris, 1987; Miner, 1980; Wanous, 1974) have concluded that some type of moderator effect is operative. Like some

of these authors, I suggest that individual differences in work-related psychological factors may influence this linkage. However, and this is key to the present research, some of these job characteristics operate through group-based organizational structures, while others focus entirely on the individual and serve to highlight his or her independence.

With reference to the research evidence, Schwab, DeVitt, and Cummings (1971) and Herzberg (1966) found support for Two-Factor Theory. Additionally, Cummings and Molloy (1977) reviewed 28 studies, the majority of which investigated Herzberg's Two-Factor Theory. Of the 21 studies using job attitudes as a dependent variable, 15 had positive results, and six mixed, null, or negative results. But with regard to the structure of the theory itself, Miner (1980) found that abstractions such as motivators and hygiene factors become difficult to distinguish when one gets more specific. For example, issues of pay, interpersonal relations, and security are not just sources of dissatisfaction, they are just as likely to be sources of satisfaction itself. (This conclusion is also supported by Hackman, 1969.) House and Wigdor (1967) raised other methodological criticisms of Herzberg's (1966) work, and Herzberg's methodology may indeed introduce a level of attributional bias into the results (Vroom, 1964) which may be artifactually supportive of the theory's basic structure.

Others, using different research designs, have also failed to support the theory (Steers and Mowday, 1977).

Because of the large body of research which addresses Job Characteristics Theory, a series of literature reviews has evaluated it's hypothesized linkages (Aldag, Barr, and Brief, 1981; Pierce and Dunham, 1976; Roberts and Glick, 1981; Steers and Mowday, 1977). Several of these reviewers have argued that the majority of the available data are invalid as bases for simultaneously assessing the characteristics of a job and the relationships of the characteristics and individual responses. Specifically, the use of self-reported, subjective data is methodologically problematic (O'Reilly and Caldwell, 1979; White and Mitchell, 1979). Systematic analyses of the evidence is required. Based on a meta-analysis of the available research, Fried and Ferris (1987) were generally supportive of Job Characteristics Theory. Job characteristics appear related to selected psychological and behavioral outcomes, and these authors' results also supported the mediating role of the critical psychological states. Finally, the data indicated that as the dependent foci shift from the psychological outcomes specified by the theory in the direction of actual job behavior, the theory itself becomes less valid.

While empirical results obviously are not definitively supportive of either model specifically, researchers using

more rigorous quasi-experimental designs have reported positive attitudinal results associated with job enrichment/enlargement interventions generally (Bhagat and Schassie, 1980; Frank and Hackman, 1975; Griffeth, 1985; Hackman, et al., 1978; Maher and Overbagh, 1971; Orpen, 1979; Rosenbach and Zawacki, 1989; Wall, Corbett, Martin, Clegg, and Jackson, 1990). However others, using similar methodologies, have reported mixed, null, or even negative results (Griffen, 1991; Lawler, et al., 1973; Locke, Sirota, and Wolfson, 1976). Based on the weight of the evidence available, I offer the following hypothesis for testing:

H1b: Job enrichment/enlargement will be positively related to job involvement.

3.3. New-Design Plants

Writing in 1978, Lawler described a type of manufacturing facility revolutionary in the degree to which power, information, and knowledge is forced downward in the organization. The design of these facilities has its basis in socio-technical systems (STS) theory. Since its genesis in the early 1950s (Trist and Bamforth, 1951), STS thinking has emerged as a significant guide to organizational design. Briefly, this perspective views all work systems as comprised both of technological and social components, and emphasizes the criticality of "fit" at the interface of the two (Emery and Trist, 1965). The technological side consists

of the equipment and methods used to transform raw materials into, in manufacturing environments, manufactured products. The social side includes the work structure that relates people to the technology and to each other. The primary objective of socio-technical design is to configure a facility that is responsive to the task requirements of the technology and, at the same time, to the psychological needs of the employees (Pasmore, Francis, Haldeman, and Shani, 1982). This model was subsequently integrated by many service companies into their operations. It is also appropriate for the restructured, and usually deemphasized, staff and managerial functions in these facilities. From this thinking, "new-design plants" (Lawler, 1986) were evolved which, while not complete participative systems, may be the best example of a comprehensive approach to participative management in use today.

A concrete outcome of this theoretical perspective is the development of self-managing work teams (Kelly, 1978; Trist, 1981). Indeed, the principles underlying STS theorizing typically support the use of work teams as the basic building blocks of organizations. Self-managing, or self-directed, autonomous, or semi-autonomous work groups have existed worldwide for almost 40 years. Generally, each group involves employees working in the same particular job or series of jobs. Groups may also be established around specific products, services, or customers. While teams may

be of any size, they usually have a maximum of 12 to 15 employees (Cotton, 1993), large enough to embrace, for instance, a set of interrelated tasks, and small enough to encourage face-to-face meetings.

In practice, this design usually includes a work facility configured so that each group has its physically defined area of "ownership," and so that members of a team are able to easily see and communicate with one another. Generally, these work groups have relatively complete overall product or service objectives, and workers who each possess a variety of skills directly related to the performance of the group's task. A team's members may have a substantial degree of control over the choice of the work methods used by the group to accomplish its objectives, over the scheduling of the work itself, and over individual work assignments--although jobs are sometimes assigned to group members on a rotating basis. Self-managing work teams may also have quality control responsibilities, in other words, responsibility for inspecting their work product. Additionally, they may be responsible for ordering or purchasing the materials and equipment needed to get the group's job done. Teams may also be responsible for selecting a leader, hiring and firing members, and deciding how much each of the group's workers is paid.

In new-design plants, the equality of all employees is affirmed, and obvious status symbols eliminated (Jenkins,

1978; Walton, 1972). In order to foster the appropriate egalitarian atmosphere, employees in new-design plants are generally salaried (Lawler, 1986), and skill-based pay systems often replace more traditional job-specific pay (Lawler and Ledford, 1985). Workers are paid based on the number of tasks they are capable of performing, rather than for their immediate job. Typically, everyone starts at the same salary level and, as they acquire additional skills, they are paid more. Such incentive, it is believed, encourages people to grow professionally because it increases their pay as their skills and flexibility develop. Indeed, extensive technical training is required if individual workers are to adequately handle multiple tasks. Moreover, many workers may lack the kinds of analytic and interpersonal skills it takes to make responsible decisions, to give feedback to other group members, and to otherwise interact with one another in a positive way. Various types of technical-, analytic-, and interpersonal-skills training are generally made available. Workers are formally encouraged to avail themselves of this training through the organization's skill-based pay system, and informally through its commitment to personal growth and professional development. Similarly, the organization's commitment to job security helps encourage employees to experiment with new ways to work.

Structurally, these plants have a strikingly flat hierarchy, operating with very few supervisory and managerial levels and, therefore, with extremely wide spans of control. Clearly, the responsibilities transferred to the work teams serve to displace at least some of the supervisory and managerial levels, in addition to several of the staff support areas, which are features of more traditional organizational designs.

STS theorists have argued that job characteristics are a property of the collective rather than of the individual. However, the substantive characteristics prescribed by these theorists parallel those which would be expected to be advanced by thinkers sympathetic to other theoretical perspectives on work redesign. Indeed, STS adherents have sometimes explicitly, sometimes implicitly, described the rationale for and the effects of work groups at the level of individual psychology. Generally, the assumptions underlying STS theorizing include the belief that this way of organizing work is intrinsically motivating and satisfying, outcomes evidencing a direct correspondence to those of Hackman and Oldham (1975, 1976, 1980). On this basis, some investigators (Cummings, 1978; Rousseau, 1977) have argued for a synthesis of the two approaches.

The empirical research on the attitudinal and behavioral effectiveness of self-managing work teams, while generally positive, must also be said to be inconclusive.

For example, Cummings and Molloy's (1977) review of 16 case studies involving self-managing work teams indicated that, with reference to the eight that surveyed employee attitudes (the type of variable of interest in this study), five reported improved attitudes, one poorer attitudes, and two that some attitudes improved while others deteriorated. Pasmore, et al. (1982) reviewed 71 studies that described organizations employing self-managing work teams. These authors determined that, in all instances, teams were associated with improved worker attitudes. Clearly, the results of these relatively comprehensive reviews are impressive, perhaps too impressive and, indeed, the quality of much of the supportive research is questionable (Cotton, 1993; Lawler, 1977; Pasmore, et al., 1982; Wall, Kemp, Jackson, and Clegg, 1986). Other studies appear more rigorous methodologically. For example, using quasi-experimental research designs, Wall, et al., (1986) and Cordery, Mueller, and Smith's (1991) studies strongly indicated that employees participating in autonomous work groups report favorable job-specific attitudes relative to their counterparts in traditionally structured jobs. Other, more global attitudes, appear independent of group membership. Interestingly, both studies reported higher voluntary labor turnover with groups.

The literature suggests two additional effects of the STS perspective, increased organizational commitment (Emery,

1959), and improved mental health (Herbst, 1974). Indeed, Herbst (1974) reported that the "starting point of the early coal studies was provided by psychiatric investigations... which gave evidence of an epidemic incidence of psychosomatic disorders" (p. 3). Clearly, the idea was that a change to autonomous group work would reduce these disorders (Wall, et al., 1986). Some research (Gardell, 1971; Karasek, 1979; Wall, Clegg, and Jackson, 1978; Wall and Clegg, 1981) generally supports this belief, while other studies employing mental health as a dependent variable reported little, if any, supportive evidence (Wall, et al., 1986).

Because little empirical data exist directly evaluating the attitudinal efficacy of the interrelated techniques and structures we refer to as a new-design plant, the investigator is left with pieces of a puzzle. While incomplete, these pieces of related research are useful. Specifically, we may cautiously infer from what we know, or believe we know, about the psychological effects of relatively flat hierarchies, self-managing work teams, and organizational emphases on personal and professional growth, that it is reasonable to offer the following hypothesis:

H1c: The organizational characteristics of new-design plants will be positively related to job involvement.

3.4. Financial Participation

In order to operationally address what they perceive to be consequential dysfunctions of industrial society--variously including worker alienation, dissatisfaction, and declining relative domestic productivity--scholars and practitioners alike have increasingly prescribed a number of innovative pay systems. However, the majority of American companies still operate day to day under a set of organizational values that do not support meaningful financial incentive or ownership programs for workers (Markowich, 1994). That the fixed wage is still the private sector's first choice is taken by some as prima facia evidence of its inherent advantages relative to available alternatives. Yet more and more it appears to thoughtful observers that employees need a selfish reason to take that extra step.

Standard incentive systems usually involve a pay-for-performance contingency of some type (e.g., piecework, sales commissions, annual performance bonuses, etc.). There appears to be a consensus in the literature that absolute compensation level is positively related to pay and other satisfactions, as well as indicators of psychological distress and well-being (Adelmann, 1987; Dohrenwend, 1973; Heneman and Schwab, 1975; Kessler, 1982; Kessler and Cleary, 1980; Lawler, 1971; Mullis, 1990; Schwab and Wallace, 1974; Wheaton, 1978). At a theoretical level, it appears as if

there should also be a relationship between pay-for-performance and a variety of psychological and work outcomes. For example, if their work performance is perceived by employees as instrumental to their achieving valued outcomes, productivity, motivation, pay satisfaction (Lawler, 1971), and other less specific work-related satisfactions and attitudes should improve. Indeed, a series of empirical studies have evaluated and ultimately supported the statistical linkage of performance-based compensation schemes with productivity (Blinder, 1990; Guzzo, Jette, and Katzell, 1985; Lawler, 1971) and job satisfaction (see Heneman, Greenberger, and Strasser, 1988), although others have reported opposite (Pritchard, Dunnette, and Jorgenson, 1972; Schwab and Wallace, 1974) or null results (Berger and Schwab, 1980; Farr, 1976) vis-a-vis the latter.

While these incentive systems typically reward individual performance, some tasks require cooperative group behavior. Group-level incentive systems operate under the same basic theory that guides individual incentives. However, if a project's success requires individuals to work together, group-based incentives may be more effective. Incentive structures must therefore be designed to have the flexibility to reward groups if cooperative behavior is required of individual workers. For example, if a particular project requires the contributions of an entire department or some other type of group, it becomes important that

contributors be rewarded for their performance at the level of the group. Pay systems rewarding individuals, in this instance, may result in increased competitiveness at the expense of the cooperative behavior required for successful performance of the task--although group plans have their difficulties also, including the tendency to stimulate "free rider" behavior.

Group incentives may be structured in a variety of ways. Of the major types of group-level systems, perhaps the two most popular in the literature and in practice are gainsharing plans and employee ownership. Each will be described in some detail here.

Gainsharing systems may be divided into those based on "economic productivity" (Scanlon plans), and those based on physical productivity ratios (Rucker plans) and savings in terms of labor hours (Improshare). The Scanlon plan (Scanlon was a labor union leader in the steel industry during the 1930s), requires establishing a productivity standard using the average ratio of payroll expenses to sales, and devising a bonus formula for rewarding improvements in this ratio. If productivity improves, the savings are typically divided per the formula between the organization and its employees. Bonuses of 10-15 percent of base salary are typical (Doyle, 1983). Scanlon plans emphasize employee participation in addition to pay (Lawler, 1986, 1990). Substantive participation in the Scanlon framework may operate through

several mechanisms. Usually, a series of representative committees is established at the departmental level. Such committees meet regularly to identify performance challenges, analyze suggestions for change, and make practical recommendations. Because different products and services have different labor ratios, changes in the product and/or service mix may cause changes in measured "productivity." Obviously, Scanlon bonuses are also affected by changes in product or service prices. Frequent adjustments in the productivity standard may be required.

Rucker plans and Improshare (Improved Productivity Sharing) were developed in response to these difficulties, but with the same ultimate objective, increased productivity. In the late 1940s, Rucker (an economist) realized that since the relationship of labor costs to "value added" (i.e., sales less materials and supplies) is relatively stable over time, the ratio may be used as a baseline from which to measure future productivity improvements, if any. Rucker plans place somewhat less emphasis on the participative experience, and their committee structures are therefore substantially less elaborate. Using Improshare, productivity measurements in the bonus formula are stated in terms of engineered time standards, i.e., the direct and indirect labor hours necessary to produce one unit of product. Productivity improvements are recorded as hours saved. Additional savings

in materials and other "expendables" per unit of output are also sometimes included in the bonus formula. Because the prices of inputs and outputs are entirely excluded, the incentive is unaffected by these market vagaries. It should be noted that since most of these systems today are tailored to a specific organization's human resource and other strategies (Beck, 1992; Markham, Scott, and Little, 1992) the practical structure of a particular incentive-type may vary.

Studies of these systems (the quantity of the empirical research is strongly biased in favor of Scanlon plans) report distinctly encouraging productivity data (Bullock and Lawler, 1984; Cummings and Molloy, 1977; General Accounting Office, 1981; Graham-Moore and Ross, 1983; Kaufman, 1992; Klein, 1987; Long, 1978a, 1978b; Miller and Schuster, 1987; Moore and Ross, 1978; National Commission on Productivity and Work Quality, 1975; New York Stock Exchange Office of Economic Research, 1982; Puckett, 1958; Rosen and Quarrey, 1987; Ross and Hatcher, 1992). Similarly, studies of worker reactions to Scanlon plans have typically reported positive results. For example, Ruh, Johnson, and Scontrino (1973) surveyed employees in 15 discrete areas of six organizations. Membership in a Scanlon plan was highly correlated with job involvement, employee motivation, and identification with the organization. White and Ruh (1973) surveyed 19 plants of six manufacturers with Scanlon plans.

Like Ruh, et al. (1973), they found that involvement, motivation, and identification were all positively and significantly related to membership. Bullock and Perlow (1986), in a longitudinal study, examined the effects of a particular gainsharing plan on a variety of job attitudes over a five-year period. Job involvement, "personal impact," perceived influence, and intrinsic satisfaction all increased following the plan's introduction. Job satisfaction also increased and was marginally significant ($p \leq .06$); organizational involvement and teamwork improved slightly yet insignificantly; trust in management was unchanged in the study. Bullock and Bullock (1982) also analyzed a particular gainsharing intervention longitudinally. They reported sizable improvements in work group openness, effectiveness, and perceptions of leader behavior, results similar to those of Masternak (1993). Smaller but statistically significant improvements in trust in management and upward and downward communication were also reported, all one year after a Scanlon plan was installed in a steel fabrication plant. (See also Bullock and Lawler, 1984; Cummings and Molloy, 1977; Schuster, 1984.)

Clearly, one of the highest visibility approaches to participative management is employee ownership. Employee ownership is a generic term that refers to at least two different types of equity ownership structures: a) companies

in which employees own all or a majority of the shares outstanding; and b) Employee Stock Ownership Plans (ESOPs). Over the last 20 years, ESOPs have become increasingly popular, growing from a mere handful of organizations and employee-owners in the mid-1970s, to approximately 10,000 companies with more than 10 million workers today (Farrell, Smart, and Hammonds, 1989; Pierce and Furo, 1990). While outright worker buyouts receive substantial popular press attention, they actually represent only four percent or less of all ESOPs (General Accounting Office, 1986).

ESOPs work by establishing an employee ownership trust--which has to meet all of the requirements of the Employee Retirement Income Security Act. An ESOP is required to invest primarily in the sponsoring company's stock. Companies contribute either equity or cash to buy stock to the trust. Workers are usually required to keep their stock in the trust until they leave the company (and in some companies until they also reach retirement age), although they may, in some instances, vote or tender their shares.

While theory suggests that, like other incentive systems, a wide variety of psychological and work outcomes may be associated with employee ownership (Tannenbaum, 1983), the literature indicates that the picture is rather less clear (Oliver, 1990). A series of studies have reported that these companies are more productive or more profitable than traditionally capitalized industry comparables (Conte

and Tannenbaum, 1978; General Accounting Office, 1987; Johnson and Whyte, 1977; Long, 1980; Marsh and McAllister, 1981; Rosen and Quarrey, 1987; White, 1991; Woodworth, 1986). Some studies have also reported evidence of enhanced worker commitment, integration and involvement, organizational identification, and a variety of worker satisfactions (Goldstein, 1978; Greenberg, 1980; Long, 1978a, 1978b, 1980; Oliver, 1984; Rhodes and Steers, 1981; Russell, Hochner, and Perry, 1979; Tucker, Nock, and Toscano, 1989). Others have reported null or even negative results (French and Rosenstein, 1984; Hammer, Stern, and Gurdon, 1982; Long, 1981, 1982). Because the empirical evidence indicates that the fact of legal ownership by employees does not uniformly result in the cognitive and affective responses expected, researchers have theorized that these responses may vary with the characteristics of the worker.

Anecdotal and some empirical evidence suggests that individuals differ in the degree to which they are personally influenced by the ownership experience. Some may actually seek to escape the increased voice and responsibility that may be at least perceptually associated with ownership (Klein and Hall, 1988; Long, 1979; Oliver, 1990). Indeed, ownership may be interpreted by some workers as risky, and it may result in other rather gross dysfunctional consequences for certain employee-owners and

they may actually be said to fear aspects of it (Pierce, Rubenfeld, and Morgan, 1991). However, this appears to be an extreme, although understandable response, usually associated with other life circumstances, including retirement.

Perhaps more importantly, the majority research perspective on the many incentive pay and employee ownership systems generally considers the compensated employees and employee-owners as homogeneous groups. This perspective assumes that employees' pay incentives and ownership status per se affects their work attitudes and behavior. Alternatively, a financial perspective vis-a-vis incentive compensation and ownership by employee-shareholders suggests that the dollar value of the incentives and the ownership interest is perhaps more important to the individual. I would expect the work attitudes and behavior of those employees with large wage incentives and sizable equity investments to differ markedly from the attitudes and behavior of those with far smaller contingent payments and more modest personal investments. Simply stated, I believe that those with more at risk to their work performance, to the performance of their pay unit, or the market performance of their company's stock, will have a qualitatively different experience than those with little financial exposure. I also propose that the number of workers in a pay unit will affect the quality of the experience of the

incentivized employee. Smaller pay units or individual incentive systems would be expected to result in a greater sense of personalized control over income, and therefore the perceived ability to personally satisfy one's money needs and/or reduce associated anxiety (Papamarcos and Korman, undated). For instance, considerable laboratory data indicate that if subjects are exposed to aversive stimuli over which they have limited if any control, distress is heightened (Bowers, 1968; Holmes and Houston, 1974; Kanfer and Seidner, 1973; Staub and Kellett, 1972). It also appears that distress may be reduced by introducing individualized control over the stimuli (Averill, 1973; Langer and Rodin, 1976; Miller, 1979; Rodin and Langer, 1977; Thompson, 1981), and there is ample theorizing and empirical evidence supporting a linkage of control and well-being (Abbey, Dunkel-Schetter, and Brickman, 1983; Abramson, Seligman, and Teasdale, 1978; Johnson and Sarason, 1978).

In the research reported here, I suggest that the economic significance that employees and employee-owners attribute to their incentive pay and stockholdings will affect their level of job involvement (see also Klein and Hall, 1988; and Pierce, et al., 1991). Personalized control over one's income is expected to do the same. In this study, the hypothesized significance of incentive pay and equity ownership is indicated by the value of the incentive payments and the market value of the shares owned relative

to the employee's total annual compensation. One's degree of control over income is indexed by the size of the individual's pay unit.

Using this as the theoretical rationale, the following hypothesis is offered:

H1d: Using a financial perspective, incentive pay, individualized control over income, and stockholdership will be positively related to job involvement.

3.5. The Job Characteristics-Job Involvement Linkage

Based on all of the theorizing and empirical findings presented in Chapter 3.1.-4., the following hypothesis will test this study's overall linkage of job characteristics and job involvement:

H1: Jointly, this study's job characteristics will be significantly related to job involvement.

Chapter Four: Individual Differences and Job Involvement

Some authors have argued that job involvement has its basis in prior orientations which workers develop early in life in their cultural or subcultural settings. As discussed, many theorists simply equate job involvement with the Protestant ethic or proxies of it (Blood and Hulin, 1967; Dubin, 1956; Hulin and Blood, 1968; Lodahl, 1964; Lodahl and Kejner, 1965; Siegel and Ruh, 1973; White and Ruh, 1973). Such work orientations or values are likely acquired via reference and other group influences. These values are then carried by workers to the work setting. For example, Kohn and Schooler (1969) have highlighted social class and occupational differences with respect to the relative emphasis placed by the individual on intrinsic versus extrinsic work outcomes.

In the present research, job involvement will be regarded as a psychological state of identification with a specific job, and work involvement as a more general belief state regarding the centrality of the work role in one's life. While it is my sense that considerations of the Protestant ethic, "middle-class norms" and the like fit more comfortably with the latter, and while I reject what I interpret to be the clear intrinsic bias of many of these researchers, I suggest that orienting values are indeed critical to understanding the forces driving job involvement

and job alienation. I just integrate these fundamental work-related values differently into theory.

In 1980, Hofstede argued that "people carry 'mental programs' which are developed in the family in early childhood and reinforced in schools and organizations" (p. 11). Hofstede (1980) believes that each individual's programming is relatively stable over time and results in that person exhibiting more or less the same behavior in similar situations. Further, believing these mental programs to contain a component of national culture, Hofstede (1980) identified the work-related values characterizing 40 countries. He suggested that these values affect human thinking, organizations, and institutions in predictable ways. Based on a survey of the employees of one multinational company, and utilizing theoretical and factor analyses, Hofstede (1980) formulated a four-dimensional empirical model of culture. He identified survey items explaining 49 percent of the country-to-country variance in work-related values. Factors identified via this analysis include: a) power distance; b) individualism versus collectivism; c) uncertainty avoidance; and d) masculinity versus femininity. Hofstede (1980) observed that these factors are surprisingly identical to the key analytical issues identified earlier by Inkeles and Levinson (1954): a) relation to authority--Hofstede (1980) considers this to be synonymous with power distance; b) the individual's concept

of masculinity and femininity--Hofstede (1980) used the same labels as Inkeles and Levinson (1954); c) the relationship between ego and society--what Hofstede (1980) referred to as individualism-collectivism; and d) ways of dealing with conflicts, including the control of aggression and the expression versus inhibition of affect--what Hofstede (1980) referred to as uncertainty avoidance. The validity of Hofstede's factors has been generally accepted in the literature (Hunt, 1981; Triandis, 1982).

4.1. Hofstede's Work-Related Values: An Overview

4.1.1. Power Distance

Power distance references the extent to which members of a society accept that power and all that is associated with it is distributed unevenly. As with all of Hofstede's (1980) work-related values, a society's power distance norm is reflected in the structure and functioning of the society's organizations and institutions, and in the thinking of both its leaders and followers. For instance, in a high power distance society an order of inequality exists in which everyone has his or her rightful place; dependence characterizes the majority of the society's members, and independence the elite minority; superiors and subordinates are differentiated in other-than-hierarchical ways; and power is a basic fact of the society which antedates good or evil. In such a society, powerholders are entitled to

privileges denied the powerless; coercive and referent power are emphasized; others are viewed as a threat to one's power and rarely are to be trusted; and latent conflict characterizes the relationship between the powerful and the powerless. In a low power distance society, beliefs exist that inequality is to be minimized; the interdependence of members replaces the dependence of the majority; superiors and subordinates are considered alike; and all members have equal rights. Additionally, in low power distance societies legitimate and expert power are emphasized; people at various power levels feel less threatened and are more prepared to trust each other; and latent harmony exists between the powerful and the powerless. (See Table 2 for a more complete picture.) Some of the organizational consequences of high power distance include greater centralization; taller hierarchical structures; a larger proportion of supervisory personnel; larger wage differentials; and higher status attaching to white-collar relative to blue-collar jobs. (See Table 3.)

4.1.2. Individualism versus Collectivism

The level of individualism or collectivism characterizing a culture indicates the nature of the relationship between the individual and the collectivity which prevails in that society. High individualism implies a preference for a loosely knit social framework in which

people are supposed to take care of themselves and their immediate families only. Collectivism indicates a preference for a tightly knit social framework in which individuals are emotionally integrated into an extended family or other in-group that will protect them in exchange for unquestioned loyalty. Thus, individualist cultures assume that a person looks primarily after his or her own interests and the interests of the immediate family. This self-orientation, or "I" consciousness, results in an emotional independence of the individual from organizations and institutions; an emphasis on individual initiative, achievement, and rights; and a universalistic feeling that value standards should apply to all. Collectivist cultures are characterized by a "we" consciousness that translates into the emotional dependence of the individual on society; a felt need to belong; the willing subordination of individuality and a private life; and a particularistic belief that value standards differ for in-groups and out-groups. (See Table 4.) Organizationally, highly individualist societies are characterized by a calculative involvement of individuals; policies and practices that allow for individual initiative; market-based selection and advancement systems; the realization that the organization has only a moderate influence on members' well-being; and a sense that organizational policies and practices apply to all. (See Table 5.)

4.1.3. Uncertainty Avoidance

Uncertainty avoidance addresses the extent to which people in a society feel threatened by unstructured or ambiguous situations. This anxiety expresses itself in emotionality and aggressive tendencies, in strict codes of behavior, a belief in absolute truths, and intolerance of deviant ideas and behaviors. In societies high in uncertainty avoidance, the ambiguity inherent in life is experienced as a continuous threat that must be countered. There exists an inner urge to work hard; a belief that conflict and competition unleash aggression and should therefore be avoided; and a strong need for consensus, law and order, and a regulated and secure life. Conversely, in societies low in uncertainty avoidance, life's vagaries are more easily accepted and each day is taken as it comes; hard work is not a virtue per se; conflict and competition can be contained on the level of fair play and used constructively; and there exists a greater willingness to take risks, to dissent, and to live with as few rules as possible. (See Table 6.) The organizational consequences of high uncertainty avoidance include more structured activities and ritualistic behavior; an emphasis on specialization; a generalized belief in experts and their knowledge; the willingness of ordinary individuals to subordinate themselves to authority; and managers who are more task-

oriented in their styles, more involved in details, and less willing to make individual and risky decisions. (See Table 7.)

4.1.4. Masculinity versus Femininity

Hofstede's (1980) choice of the terms masculinity and femininity to differentiate cultures based on the items comprising this factor is unfortunate. Each descriptor carries with it, indeed implies, sex role stereotypes that may be inaccurate and polarizing, and it is my view that there is little requirement for this emotional baggage. In brief, Hofstede's (1980) masculine society is characterized by a high emphasis on achievement; a money and "things" orientation; the independence ideal; sympathy for the strong and for the successful achiever; and the belief that big and fast are beautiful, that men should act assertively, and that women should care for the emotional side of life. It is also one in which sex roles are sharply differentiated. Femininity indicates a society with considerable sex-role overlap. In such a society, both sexes are relationship-oriented and emphasize modesty, caring for the weak, and the spiritual quality of life. The operative ideal is one of service, interdependence, and androgyny. Sex roles are fluid, and any differences in sex roles are not interpreted as also indicating differences in relative power. (See Table 8.) The organizational consequences of a highly masculine

society include young men expecting to have a career, with those who do not perceiving themselves to be failures; organizational interests are seen as a legitimate reason for interfering in people's private life; fewer women are found in better-paying jobs; greater conflict is evident in addition to elevated stress levels; and job restructuring is targeted at permitting individual achievement. (See Table 9.)

4.2. Level of Analysis

Formulae for arriving at Hofstede's (1980) cultural factor scores were evolved through regression analysis. A group, therefore, yields only one score per dimension. The Value Survey Module (VSM), Hofstede's (1980) recommended instrument for studying work-related values, was developed to apply only to samples of respondents from different countries, matched as closely as possible on all aspects except nationality. However, researchers have also conducted within-country studies using the instrument (for example, Singh, 1990). While Hofstede (1990) believes that the VSM will probably adequately also expose differences in regional and ethnic cultures, there is limited evidence that it is suitable for isolating these or any other subcultural differences.

I argue that to search for a single set of scores in a culturally plural society like the United States is itself

erroneous. Alternatively, and in my view preferably, one could identify a distinct variable that cuts across the larger society and determine its meaningfulness at the level of the individual. The individual level of human programming is the truly unique part, and it provides for a wide range of diversity within the same cultural setting. People, I suggest, look for different things on the job. Some seek to influence the realities of their day-to-day work; others are just as willing to be told what to do and when and how to do it. Some seek to challenge the limits of their skills; others seek a sense of task mastery. Some seek to tie their pay to their performance; others seek the certainty of a straight salary in a well-regulated environment. Using Hofstede's (1980) work-related values as an organizing framework for the examination of psychological moderators, I suggest that individual differences qualify the job characteristics-job involvement linkage in specified ways.

4.3. Identifying Personological Proxies for Hofstede's Work-Related Values

4.3.1. Authoritarianism: the Proxy for Power Distance

The construct of authoritarianism has been the recipient of considerable scholarly attention since Adorno, Frenkel-Brunswik, Levinson, and Sanford's The Authoritarian Personality was published in 1950. The authors conceptualized authoritarianism as a basic personality trait

established during childhood socialization, a conceptualization that still has a fair degree of general acceptance (Duckitt, 1985). Allport (1954) described the authoritarian individual as one who finds daily life and "the consequences of personal freedom...unpredictable" (p. 382). He argued that such individuals would look to society's rules and laws for discipline and stability. Allport (1954) specified that "this need for authority reflects a deep distrust of human beings" (p. 382), and characterized the authoritarian individual as wishing to be part of an orderly and powerful society. Indeed, individual differences in this variable have been found to be associated with conformity (Crutchfield, 1955); a desire for certainty and simplicity via a well-ordered, unambiguous world (Rump, 1985); rigidity (Andhra, 1986); and an unwillingness to engage in political protest (Granberg and Corrigan, 1972). Authoritarian persons also are more likely to exhibit aggressivity toward deviants and out-group members; believe in the rightness of power and control, whether personal or societal; show a willingness to submit to strong leadership (Connors and Heaven, 1987); and to endorse harshness and severity (Carroll, Perkowitz, Lurigio, and Weaver, 1987; McGowen and King, 1982; Peterson, Doty, and Winter, 1993), especially in their dealings with those exhibiting attitudes dissimilar to their own (Mitchell and

Byrne, 1973). Indeed, they also more readily endorse the use of physical punishment (Epstein, 1965).

Similarly, authoritarianism is a strong factor in explaining the negative stereotyping of jobless persons (Dekker and Ester, 1992); prejudicial attitudes (Crandall and Biernat, 1990; Cunningham, Dollinger, Satz, and Rotter, 1991; Johnson, 1992; Witt, 1989); lesser moral judgement and religiosity (Szmajke, 1991); and greater ethnocentricity (Van-Ijzendoorn, 1989). Finally, although people generally perceive less need satisfaction in highly bureaucratized organizations, such organizations provide greater need satisfaction for high-authoritarians (Rastogi and Pandey, 1987), perhaps because authoritarians more than antiauthoritarians, or equalitarians, are attracted to displays of power (McCann, 1990).

Given this description of authoritarianism, it seems appropriate to employ the construct as a proxy for Hofstede's (1980) power distance variable at the level of the individual. Based on the intrapsychic characteristics of authoritarians and equalitarians, and the inherently anti-bureaucratic and disorderly job characteristics being investigated, it also seems reasonable to offer the following hypotheses:

Hypothesis 2a: Authoritarianism will moderate the job characteristics-job involvement linkage.

Hypothesis $2a_1$: The strength of the relationship between quality circle membership and job involvement will be negatively related to authoritarianism.

Hypothesis $2a_2$: The strength of the relationship between job enrichment/enlargement and job involvement will be negatively related to authoritarianism.

Hypothesis $2a_3$: The strength of the relationship between new-design plants and job involvement will be negatively related to authoritarianism.

Hypothesis $2a_4$: The strength of the relationship between financial participation and job involvement will be negatively related to authoritarianism.

4.3.2. Individualism-Collectivism: the Proxy for Hofstede's Same Factor

Per Wagner's (1995) definition, "individualism is the condition in which personal interests are accorded greater importance than are the needs of groups. Individualists look after themselves and tend to ignore group interests if they conflict with personal desires. The opposite of individualism, collectivism, occurs when the demands and interests of groups take precedence over the desires and needs of individuals. Collectivists look out for the well-being of the groups to which they belong, even if such actions sometimes require that personal interests be disregarded" (p. 153).

During the last 10 years, a large literature has developed as investigators compared people in so-called individualist cultures with others in so-called collectivist cultures--usually identified by relying directly on Hofstede's (1980) analysis. Such studies have addressed varied issues including motivation (Hui and Villareal, 1989;

Howard, Shudo, and Umeshima, 1983; Shamir, 1990), personal and social alienation (Westman, Papamarcos, Cohen, and Korman, undated), preferences regarding and reactions to the distribution of rewards (Bond, Leung, and Wan, 1982; Hui, Triandes, and Yee, 1991; Kim, Park, and Suzuki, 1990; Leung and Bond, 1984; Leung and Iwawaki, 1988; Mann, Radford, and Kanagawa, 1985), ethical judgements (Vitell, Nwachukwu, and Barnes, 1993), entrepreneurship (McGrath, MacMillan, and Scheinberg, 1992; Morris, Avila, and Allen, 1993), preferred approach to conflict resolution (Gire and Carment, 1991; Trubisky, Ting-Toomey, and Lin, 1991), social interaction patterns (Verma, 1985; Wheeler, Reis, and Bond, 1989), and on-the-job performance (Earley, 1993).

Although individualism-collectivism has been extensively conceptualized and discussed in theory-based frameworks, its utility in the organizational sciences has been mostly limited to ideological debate and ecological studies. Unfortunately, precious few attempts have been made to move beyond the level of cultural analysis.

In 1985, Triandes, Leung, Villareal, and Clack suggested that the individualism-collectivism moniker be employed in cross-cultural analysis and that a personality trait they labelled idiocentric-allocentric tendencies be operationalized for use at the psychological level. Extending Hui's (1984) work, Triandes et al. (1985) and Triandes, Bontempo, Villareal, Asai, and Lucca (1988), in a

series of exploratory studies, found that people high in allocentric tendencies are more likely to emphasize the values of cooperation, equality, and honesty, while idiocentrics tend to emphasize the values of equity, a comfortable life, competition, pleasure, and social recognition. Idiocentrics were also shown to be higher in achievement motivation, alienation, and anomie and, in addition, reported greater loneliness. The nomological network linking intuitively likely covariates of allocentricity-idiocentricity is supportive of the theoretical conceptualization Triandes et al. (1985) established as the basis of their studies.

Triandes et al. (1988) suggested that these personal orientations may be directly related to differences in the extent to which individuals accept social dictates, and that this acceptance involves the issue of "fit" between the personal desires of the individual and the normative requirements of society. For instance, Triandes et al. (1985) suggested that allocentric persons living in collectivist cultures likely feel positive about accepting society's norms as their own and do not even consider challenging them. However, idiocentric persons in collectivist cultures may feel ambivalent, perhaps even bitter and resentful about the acceptance of such norms. Thus, they are more likely to challenge the idea that they should comply. Nevertheless, since most people in any

culture do comply, they tend to comply also. Consequently, whereas allocentric individuals in collectivist cultures may experience consistency among the cognitive, affective, and behavioral elements of their social life, idiocentrics in the same setting may experience meaningful discrepancies. In individualist cultures, parallel phenomena may take place. Idiocentric persons in individualist cultures may find it completely natural to disregard, or at least discount to a large extent, the needs of others. However, allocentric people may well sympathize with their in-group. While the former may experience consistency among the elements of their social life, which is governed mostly by hedonistic and social-exchange considerations, the latter may again experience discrepancies.

Based on this general model, the idea that two of the job characteristics investigated in this research serve to integrate the individual into his or her work collectivity while two are "employee-specific" and serve to highlight his or her independence, and understanding that Wagner's (1995) index is scored in the collectivist direction, the following hypotheses are offered:

Hypothesis 2b: Individualism-collectivism will moderate the job characteristics-job involvement linkage.

Hypothesis $2b_1$: The strength of the relationship between quality circle membership and job involvement will be positively related to individualism-collectivism.

Hypothesis $2b_2$: The strength of the relationship between job enrichment/enlargement and job involvement will be negatively related to individualism-collectivism.

Hypothesis $2b_3$: The strength of the relationship between new-design plants and job involvement will be positively related to individualism-collectivism.

Hypothesis $2b_4$: The strength of the relationship between financial participation and job involvement will be negatively related to individualism-collectivism.

4.3.3. Intolerance of Ambiguity: the Proxy for Uncertainty Avoidance

Clearly, the world in which we live is an often ambiguous place rife with uncertainties that we, as individuals wishing to be rational decision-makers, must address on a daily basis. Although various models of decision-making under uncertainty have been formulated over the years, the most widely employed are those derived from subjective expected utility theory (Bonoma and Johnson, 1979; Currim and Sarin, 1983, 1984; Hauser and Urban, 1977, 1979). Expected utility theory predicts, in short, that any ambiguity in the probabilities of realizing given outcomes should be irrelevant in decision-making. For example, given a specified outcome, it is irrelevant to the choice process (i.e., the decision-maker should be indifferent) whether the probability of achieving that outcome is known to be 50 percent, or just thought to be somewhere randomly between 25 and 75 percent, the expected values of the two scenarios are equal. However, empirical evidence indicates that people make decisions differently if there is uncertainty about the probabilities themselves relative to if there is surety,

even if the expected probabilities are precisely the same (Becker and Brownson, 1964; Larson, 1980; MacCrimmon and Larsson, 1979; Slovic and Tversky, 1974; Yates and Zukowski, 1976). Sherman (1974) suggested that the willingness of a person to take a risk with ambiguous odds is related to his or her psychological intolerance of ambiguity.

As a personality trait, tolerance-intolerance of ambiguity was first identified by Frenkel-Brunswick (1949) in the context of his research into the authoritarian personality. Intolerance of ambiguity was associated with prejudice and mental rigidity; tolerance of ambiguity with mental flexibility. Later, Budner (1962) defined the construct somewhat differently as "the tendency to perceive (i.e., interpret) ambiguous situations as sources of threat" (p. 29). He also distinguished intolerance of ambiguity from rigidity. Budner (1962) conceived of intolerance of ambiguity as "a content characteristic of the individual, as a tendency to evaluate particular phenomena in a particular way; rigidity, as a formal characteristic of the individual, as a tendency to manifest certain modes of response irrespective of the phenomena being dealt with" (p. 30). Further, he empirically linked intolerance of ambiguity with the self-rankings of individuals on the bases of conventionality, timidity, religiosity, the idealization of parents, and with relatively favorable attitudes regarding censorship. Intolerance of ambiguity also appears related to

career and academic choices such that those high in intolerance of ambiguity more frequently select careers and academic fields lower in ambiguity and higher in structure than do those low in the construct (Budner, 1962; Tatzel, 1980). Additionally, those high in intolerance of ambiguity have been found to be more intolerant of disagreement (Crandall, 1968) and less willing to purchase newer and atypical products (Blake, Perloff, Zenhausern, and Heslin, 1973).

Intolerance of ambiguity has also been shown to moderate the relationships between role ambiguity and job satisfaction, and role ambiguity and psychological strain. In Keenan and McBain's (1979) study, the correlations between ambiguity and satisfaction, and ambiguity and strain, were higher for those intolerant of ambiguity. Similarly, utilizing meta-analysis to determine whether intolerance of ambiguity is a vulnerability factor in the work role stress-strain relationship, Frone (1990) concluded that the personality characteristic does indeed moderate the effects of role ambiguity; role stress and measures of strain were more strongly and positively related among intolerant employees than among those more tolerant of ambiguity. Such finding is supportive of the moderating influence of the variable on the role ambiguity-psychological outcome relationship. Additionally, because of the ambiguity inherent in quality circle membership, self-

managing, group-based work structures and the like versus the individualized control of daily tasks and rewards, the following hypotheses will be evaluated:

Hypothesis 2c: Intolerance of ambiguity will moderate the job characteristics-job involvement linkage.

Hypothesis $2c_1$: The strength of the relationship between quality circle membership and job involvement will be negatively related to intolerance of ambiguity.

Hypothesis $2c_2$: The strength of the relationship between job enrichment/enlargement and job involvement will be positively related to intolerance of ambiguity.

Hypothesis $2c_3$: The strength of the relationship between new-design plants and job involvement will be negatively related to intolerance of ambiguity.

Hypothesis $2c_4$: The strength of the relationship between financial participation and job involvement will be positively related to intolerance of ambiguity.

4.3.4. Need for Achievement-Need for Affiliation: the Proxy for Masculinity versus Femininity

The theme of achievement is obvious in Hofstede's (1980) descriptions of and findings regarding masculine and feminine societal orientations. For example, he determined that the "different importance of achievement in more masculine versus more feminine societies is definitely reinforced by a difference in rewards...[In feminine] countries, the social rewards for excellence are slight. The material rewards are reduced by equalitarian tax systems" (pp. 295-297). Hofstede (1980) also found that culture-to-culture differences in the emphasis on achievement were evident in school systems, and in associated student suicide

rates. Hofstede (1980) formally defined his masculine versus feminine cultures in a way very similar to that used by McClelland (1961) in distinguishing achieving and affiliative systems. With regard to masculinity, Hofstede's (1980) descriptive phrases "achievement ideal," "performance and growth are important," and "sympathy for the successful achiever" relate quite closely to McClelland's (1961) profile of individuals high in need for achievement (nAch). On the other hand, people with high affiliative needs (nAff) appear to share value systems with the stereotypical residents of Hofstede's (1980) feminine cultures, societies characterized by a "people orientation," a belief that the "quality of life and environment are important," a "service ideal," and "sympathy for the unfortunate."

McClelland (1965, 1985) indicated that high nAch individuals have a strong need for feedback, and prefer situations in which they can take personal responsibility for performance outcomes and in which they can experiment with self-improvement strategies. Indeed, relatively recent research indicates that high nAch individuals appear to prefer outcome-oriented cultures (O'Reilly, Chatman, and Caldwell, 1991) and situations in which success is achieved through personal initiative and performance versus chance or seniority (Miner, 1980; Turban and Keon, 1993). Hofstede (1980), in discussing "humanized" jobs, suggested that "In a masculine culture, a humanized job should give opportunities

for recognition, advancement, and challenge. In a feminine culture, the stress will more be on cooperation and the working atmosphere" (p. 298). Miller and Droge (1986) found that high nAch CEOs were more likely to centralize power and formalize policies and procedures relative to low nAch CEOs. They attributed this pattern to a desire to receive credit for and monitor and control corporate performance, a result in keeping with Hofstede's (1980) empirical association of masculinity with the belief that "individual decisions [are] better than group decisions" (p. 284). Because some organizational characteristics are more likely than others to result in situations attractive to high nAch or nAff individuals, the following hypotheses are offered (Lindgren's, 1976, "NachNaff" scale is scored in the nAch direction, see Chapter 5.3.5.):

Hypothesis 2d: Need for achievement-need for affiliation will moderate the job characteristics-job involvement linkage.

Hypothesis $2d_1$: The relationship between quality circle membership and job involvement will be negatively related to need for achievement-need for affiliation.

Hypothesis $2d_2$: The relationship between job enrichment/enlargement and job involvement will be positively related to need for achievement-need for affiliation.

Hypothesis $2d_3$: The relationship between new-design plants and job involvement will be negatively related to need for achievement-need for affiliation.

Hypothesis $2d_4$: The relationship between financial participation and job involvement will be positively related to need for achievement-need for affiliation.

4.3.5. Individual Differences as Moderators of the Job Characteristics-Job Involvement Linkage

Based on the arguments and evidence presented in support of H2a-d, the following general hypothesis is offered to test the moderating influence of this study's work-related values considered together:

Hypothesis 2: Jointly, psychological proxies for Hofstede's (1980) work-related values will moderate the job characteristics-job involvement linkage.

4.4. The Construct of Self-Esteem

In 1968, Korman highlighted the idea that "self-evaluation may arise in a number of ways. First, one may conceive of a relatively chronic level of self-esteem, i.e., a relatively persistent personality trait that occurs relatively consistently across various situations. Secondly, we may conceive of an individual's self-perceived competence concerning a particular task or job at hand. This may arise as a result of differential learning experiences or the specific characteristics of the moment. Finally, one's self-esteem is also a function of the expectations which others have for us...The rationale for this is that...interpersonal evaluation provides a base of 'reality'" (p. 567) that Korman (1968) suggested we may use as a guide, behaviorally, and I would argue self-evaluatively. So minimally, self-esteem may be described simply as an attitude, the

evaluative ingredient of self-concept (Rosenberg, 1965). Like Korman (1968), Fleming and Courtney (1984), Shavelson, Hubner, and Stanton (1976) and others have expanded this description somewhat to include facets of the self, detailing in hierarchical fashion the specific components and subcomponents that contribute to global self-esteem (Blascovich and Tomaka, 1991). Which level of specificity to choose is dictated by what is theoretically justifiable. Because I have suggested that fundamental orienting values play a moderating role in the job characteristics-job involvement relationship, I believe that global self-evaluations hold the most predictive promise.

Simply stated, the work-related values being investigated in this research may not be equally salient for all subjects. Indeed, for some they may not serve as operative guides or evaluative criteria at all. Generally, it is psychologically wasteful to deliberate at great length before making a choice about which one is indifferent. This is because the choice is essentially meaningless. Just as it may be specious to contrast a person's decision-making style given such a marginally important opportunity set with the way he or she deals with the centrally involving choices in his or her life, so it may be misleading to contrast the correlates of what for some people may be essentially peripheral orienting values with what for others may be deeply established and personally salient. When correlation

is sought between orienting values, situational characteristics, and psychological outcomes based on what are for some people salient values and for others peripheral, the linkages may appear weak, perhaps incongruent on their face. If we are to seek consistency across subjects in the value- and content- and context-based linkages addressed in this paper, it must be sought using values that are at comparable levels in each individual's hierarchy of meaningfulness, or we must look for a moderator or moderators of the relationships being examined.

Korman (1969), using different types of vocational choice situations, tested the hypothesis that self-esteem moderates the choice process. In four separate studies, high self-esteem individuals were shown to be more likely to seek self-fulfillment than were low self-esteem individuals. He suggested that "such differential choice patterns...result from tendencies toward 'balance' where individuals who perceive themselves as need-fulfilling and adequate (i.e., have [high self-esteem]) choose vocational roles where they will have their needs fulfilled and will be adequate. On the other hand, situations of self-perceived need-fulfillment and adequacy are not 'balanced' situations for those who have [low self-esteem]; hence they do not serve as incentives for them" (p. 188). (See also Korman, 1966, 1967.)

Another test that may be employed to differentiate individuals on the basis of self-esteem incorporates the issue of suggestibility or openness to social influence. Weiss and Shaw (1979) found that the judgements of low self-esteem persons with regard to the motivating potential of a job, as measured by Hackman and Oldham's (1975) JDS, were affected not only by the characteristics of the job itself, but also by an awareness of the attitudes of other workers. The perceptions of the high self-esteem subjects were not similarly influenced. Weiss (1977) determined that self-esteem qualifies the strength of the relationship between a subordinate's judgements of his or her supervisor's characteristics and supervisor-subordinate behavior similarity. Modeling was significantly more positive in the low self-esteem workers than in the high. In explaining like findings, Flanders (1968) suggested that individuals with low self-esteem are generally less confident in their own reactions to ambiguous situations and are therefore more likely to imitate others. High self-esteem individuals, with a more generalized confidence in their own responses, are less influenced by models.

Because of all of these tendencies, high self-esteem persons may be more actively involved in shaping the world around them. Indeed, I would expect those high in self-esteem to be more likely to modify existing realities or to select themselves out of situations that they find

undesirable. Low self-esteem individuals on the other hand, people with a limited sense of personal worth and competence, perceive themselves, and therefore their needs, to be only marginally worthwhile if worthwhile at all. Because such people do not use their own needs in making their behavioral choices (Korman, Wittig-Berman, and Lang, 1981) or, I suggest, in judging outcomes, I hypothesize that the moderator effects of the personological variables will be less pronounced in low self-esteem people. Simply because one holds certain values as his or her own does not necessarily imply that these values are important enough to the individual to be operative in daily life. Hypotheses relating self-esteem to the job characteristics-job involvement linkage include:

Hypothesis 3: The moderating influence of the individual difference variables will be qualified by self-esteem.

Hypothesis 3a: The moderating influence of authoritarianism will be positively related to self-esteem.

Hypothesis 3b: The moderating influence of individualism-collectivism will be positively related to self-esteem.

Hypothesis 3c: The moderating influence of intolerance of ambiguity will be positively related to self-esteem.

Hypothesis 3d: The moderating influence of need for achievement-need for affiliation will be positively related to self-esteem.

Chapter Five: Method

5.1. Statistical Procedures

5.1.1. Background

The primary statistical procedure employed in evaluating this study's hypotheses will be moderated multiple regression analysis, a technique developed initially in the context of job redesign studies not unlike this one (Peters and Champoux, 1979).

Clearly, a large body of literature in applied psychology has developed with the primary objective of furthering our understanding of the individual's cognitive, affective, and behavioral responses to the design of work. Increasingly, this literature has also focused on those individual and organizational variables that moderate the linkage of job characteristics and these psychological and behavioral outcomes (Abdel-Halim, 1979; Blood and Hulin, 1967; Bretz, Ash, and Dreher, 1989; Brief and Aldag, 1975; Champoux, 1978, 1980, 1981; Dunham, 1977; Gould, 1979; Griffen, 1979, 1980, 1981; Gurin, et al., 1960; Hackman and Lawler, 1971; Hackman and Oldham, 1975, 1976, 1980; Hulin and Blood, 1968; Katz, 1978a, 1978b; Kemp and Cook, 1983; Melamed, Ben-Avi, Luz, and Green, 1995; Oldham, 1976; Oldham, Hackman, and Pierce, 1976; Pierce, Dunham, and Blackburn, 1979; Rabinowitz, et al., 1977; Robey, 1974; Ruh, et al., 1975; Saal, 1978; Schuler, 1975; Shepard, 1970; Siegel and Ruh, 1973; Sims and Szilagyi, 1976; Staw and

Oldham, 1978; Stone, 1975, 1976; Stone, Mowday, and Porter, 1977; Susman, 1973; Terborg, 1977; Terborg, Richardson, and Pritchard, 1980; Turban and Keon, 1993; Van Maanan and Katz, 1976; Vecchio, 1980, 1981; Wanous, 1974; White and Ruh, 1973). For example, a basic issue in much job redesign research is attitudinal responses to jobs of different character as moderated by individual differences such as higher order need strength (Hackman and Lawler, 1971; Hackman and Oldham, 1975, 1976, 1980; Wanous, 1974). Similarly, in the present study I examine the qualifying influence of several theory-specific moderator variables on the relationships between various job characteristics and job involvement.

A moderator variable is a predictor variable that interacts with another independent variable in accounting for variance in a dependent variable. That is, as the value of the moderator changes, there are systematic changes in the relationship between the other variables. For the last two decades there has been considerable controversy over the statistical procedures used to detect these moderators and describe their effects (Arnold, 1982, 1984; Bartlett, Bobko, Mosier, and Hannan, 1978; Blood and Mullet, 1977; Champoux, 1978, 1980, 1981; Champoux and Peters, 1980; Cohen, 1978; Cohen and Cohen, 1975; Darrow and Kahl, 1984; Dunlap and Kemery, 1988; Owens, 1978; Peters and Champoux, 1979a, 1979b; Peters, O'Connor, and Wise, 1984; Saunders, 1956;

Stone, 1986; Stone and Hollenbeck, 1984, 1989; Stone-Romero and Anderson, 1994; Wise, Peters, and O'Connor, 1984; Zedeck, 1971). While a number of methods have been used to evaluate moderator variables, the subgrouping and moderated multiple regression strategies have appeared in the literature with by far the greatest frequency.

Many of the authors involved in this debate have attempted to describe alternative types of moderator hypotheses and to specify the statistical procedure or procedures appropriate to studying each. For example, Arnold (1982, 1984), Cohen and Cohen (1975) and others distinguished two types of hypotheses that they suggested serve distinctly different scientific purposes, involving either the issue of "differential validity," or of "differential response." With hypotheses referencing the "degree" or strength of the relationship between the independent (x) and dependent (y) variables of interest at different levels of the moderator (z), the authors recommended the formation of subgroups on the basis of the moderator, and the use of correlational analysis. Using this subgrouping strategy, the typical researcher will dichotomize, trichotomize, or otherwise polychotomize his or her data into k subgroups based on the continuous moderator, calculate r_{xy} within each subgroup, and test the resulting k coefficients for equality. Generally, these authors have argued against the use of moderated multiple regression as

an appropriate method for the analysis of this type of moderator. For instance, Blood and Mullet (1977) have argued that the technique is overly conservative and generally incapable of detecting these effects. Alternatively, determining if the "form" of the relationship (i.e., the slope of the regression line) varies with the level of the moderator requires evaluating the statistical significance of the change in R^2 associated with the entry of a first-order interaction term (b_3xz in this example) in the context of the appropriate moderated multiple regression analysis--after entering b_1x and b_2z, b_3xz is entered in a hierarchical step- or stagewise fashion, rejection of the null hypothesis that delta $R^2=0$ provides a basis for inferring the moderating effect of variable z (see Chapter 5.1.2.).

Moderator variables may be either continuous quantitative variables like the five evaluated in this study, or categorical variables such as sex, ethnicity, etc. Ofttimes, researchers have partitioned continuous variables, essentially yielding artificial qualitative variables, by dividing their distributions at some atheoretical break point(s). But serious errors may be made by analyzing continuous moderators in this way (Peters and Champoux, 1979a, 1979b; see also Korman, 1973, Stone-Romero and Anderson, 1994, and Zedeck, 1971, for related difficulties, including the often limitless number of seemingly arbitrary break points for use in partitioning continuous quantitative

data). Additionally, the partitioning of a continuous variable as required by the subgrouping approach substitutes interval control of the moderating factor for the continuous control of the moderated multiple regression model and may introduce error or ambiguity into the analysis (Peters and Champoux, 1979a, 1979b; Stone and Hollenbeck, 1984, 1989), while "willfully throwing away information" (Cohen and Cohen, 1983, p.309). Increasingly, moderated multiple regression analysis is suggested as the analytical procedure that allows one to avoid the sometimes theoretically arbitrary choices required when using subgroups. At the same time, the technique makes more complete use of continuous data, thereby increasing statistical power and the capacity to detect moderator effects (Champoux and Peters, 1980; Cohen, 1965; Cohen and Cohen, 1975, 1983; Pedhazur, 1982; Peters and Champoux, 1979a, 1979b; Stone and Hollenbeck, 1984, 1989; Stone-Romero and Anderson, 1994; Zedeck, 1971).

While moderated multiple regression is now invariably recommended for use in investigating instances of differential response, both the subgrouping and moderated multiple regression strategies are still generally seen as appropriate techniques for determining if the strength of a relationship between two variables differs across levels of a third. Based on their analysis of the relative power of these strategies to detect the two types of moderators, Stone-Romero and Anderson (1994) found "that the strength or

degree of relationship between two variables is just as appropriately indexed or described by the magnitude of regression coefficients...as it is by zero-order correlation coefficients" (p.355), and "encourage the use of [moderated multiple regression, and] strongly discourage researchers from using the [subgrouping] strategy" (p.359) in virtually all applications involving a continuous moderator. Likewise, the American Psychological Association, Division of Industrial-Organizational Psychology (1980) recommended that moderated multiple regression is "acceptable, and even preferable in many situations" (p. 10) traditionally thought to require use of the subgrouping technique. Stone and Hollenbeck concluded in 1984 that "It should thus be clear that the assessment of 'differential validity' requires neither the computation of product-moment correlation coefficients nor tests of their equality...Put simply, moderated regression yields information not only about the 'form' of a relationship, but also about the 'degree' of a relationship across various levels of a moderator variable" (p.199). Subsequently, these same authors asserted "that there is no sound basis for the view that different statistical procedures are needed to detect form- and degree-type moderators" (1989, p.9). (See also Bartlett, et al., 1978; Bobko and Bartlett, 1978; Cohen and Cohen, 1975; Ghiselli, 1964; Ghiselli, Campbell, and Zedeck, 1981; Hays, 1973; Katzell and Dyer, 1977, 1978; Linn, 1978; Marascuilo,

1971; Neter and Wasserman, 1974; Peters, et al., 1984; Saunders, 1956). Because this paper's hypotheses H1, H1a-d, H2 and H2a-d are stated in terms of differential response, and H3 and H3a-d in terms of differential validity, bridging this procedural divide simplifies the required analysis.

Clearly, moderated multiple regression is the preferred strategy today for use with continuous moderators. Furthermore, multiple regression analysis will accommodate different types of moderator variables and increasing levels of complexity (such as will be required in this study).

5.1.2. Moderated Multiple Regression Analysis

A simple linear regression is defined with reference to a single independent variable (x):

$$y=a+bx \quad \text{(Eq.1)}$$

Saunders (1956) introduced a second variable (z) which is believed by the analyst to moderate the influence of the original independent variable:

$$y=a+b_1x+(b_2+b_3x)z \quad \text{(Eq.2)}$$

Eq.2 may be restated:

$$y=a+b_1x+b_2z+b_3xz \quad \text{(Eq.3)}$$

where y is the estimated dependent variable, x the independent variable, and z the moderator.

In order to describe the more complex analysis required in this study, I will introduce a third predictor variable,

z', hypothesized to qualify the effect of the primary moderator:

$$y=a+b_1x+b_2z+b_3xz+(b_4+b_5x+b_6z+b_7xz)z' \quad \text{(Eq.4)}$$

Eq.4 may also be restated:

$$y=a+b_1x+b_2z+b_3xz+b_4z'+b_5xz'+b_6zz'+b_7xzz' \quad \text{(Eq.5)}$$

where y is the estimated dependent variable, x the independent, z the primary moderator, and z' the secondary moderator.

Additionally, in the instance of this study's general model, the variables included in Eq.5, except z', actually represent classes of variables to be entered in stages. Specifically, the variables of Eq.5 will be redefined to include the four job characteristics assessed via the IEP (x_i), the four individual difference variables employed as primary moderators of the job characteristics-job involvement linkage (z_j), and the self-esteem variable (z') investigated as a moderator of the influence of the primary moderators. Thus, the multiple regression equation including all of this study's required restrictions is described by:

$$y=a+b_{1i}x_i+b_{2j}z_j+b_{3ij}x_iz_j+b_4z'+b_{5i}x_iz'+b_{6j}z_jz'+b_{7ij}x_iz_jz' \quad \text{(Eq.6)}$$

Each additional term, or restriction, incorporated in this equation represents a testable hypothesis with reference to the alternative equation that does not include the restriction (Cohen and Cohen, 1975). Any equation with all of the salient restrictions included is referred to as the "full" model, and the equation without the particular

restriction subject to test is referred to as the "restricted", or "reference" model. For example, to test the significance of this study's individual differences, considered jointly in their hypothesized role as moderators of the job characteristics-job involvement linkage, the R^2 associated with the full model, $y=a+b_{1i}x_i+b_{2j}z_j+b_{3ij}x_iz_j$, will be statistically compared to the R^2 associated with the restricted model $y=a+b_{1i}x_i+b_{2j}z_j$. In order to examine the overall influence of self-esteem as a secondary moderator in the general analysis, the R^2 statistic associated with Eq.6 will be contrasted to the R^2 of the restricted model (in this instance, Eq.6 exclusive of the $b_{7ij}x_iz_jz'$ series of second-order interactions). The associated change in R^2 provides a basis for judging how much an incremental independent variable or set of independent variables contributes additionally to explained variance (Cohen, 1978; Cohen and Cohen, 1975; Kerlinger and Pedhazur, 1973; Pedhazur, 1982; Saunders, 1956; Zedeck, 1971). Specifically, the statistical significance of the additional restriction in any of the full versus restricted models is tested by:

$$F=((R_F^2-R_R^2)/(v_F-v_R))/((1-R_F^2)/v_F) \quad \text{(Eq.7)}$$

where R_F^2 and R_R^2 represent the squared multiple correlations, and v_F and v_R the number of independent linear restrictions (degrees of freedom) in the full and restricted models, respectively. The resulting F value is evaluated at v_F-v_R, and v_F degrees of freedom.

5.1.3. General and Discrete Analyses

In this study, the term "general analysis" will refer to those evaluative procedures that consider all of the individual difference variables jointly, in other words as a class. The term "discrete analysis" will refer to those statistical investigations that consider the individual differences severally, meaning one at a time. While I expect that the general analysis will allow empirical statements to be made regarding the effects of, for example, the job characteristics considered together, and the individual differences generally, the rather large number of variables entered into Eq.6 and its derivatives will make it difficult to statistically identify the influence of any particular job characteristic or first- or second-order interaction. Dividing the general model into a series of discrete analyses will better illuminate the specific effect, if any, of each interaction term. Moreover, owing to the tendency of moderated multiple regression analysis to give priority to main effects relative to interaction effects, the variance accounted for by the first- and especially the second-order interaction terms is likely to be small. This will probably be true even in situations such as this one where power is adequate and the population interaction size is believed moderate (O'Connor, Rudolf, and Peters, 1980). Therefore, an alpha level of $p \leq .10$ will be used to determine statistical significance.

In summary, the general analysis will be used to evaluate this study's overall model, i.e., the statistical significance of the job characteristics analyzed jointly and severally (H1 and H1a-d, respectively), the influence of the primary moderators (H2), and the importance of self-esteem vis-a-vis the effects of the individual differences (H3). The discrete analyses will be used to identify which particular first- and second-order interactions (H2a-d and H3a-d, respectively) are significantly related to job involvement.

General Analysis

In this study's general analysis the four job characteristics quantified via the IEP will be entered in Step 1. I hypothesized that the substantive denial of job-related freedom and opportunities to develop a sense of membership may be a job-alienating experience. Conversely, opportunities to exercise a degree of control with regard to the substance of one's work life, and establish a sense of belonging to the larger organization, may result in greater job involvement. H1 (the effect of the job characteristics considered together) will be evaluated by the F statistic associated with Eq.8, and H1a-d (which consider the job characteristics individually) by the significance test of the respective x_i regression coefficient:

$$y=a+b_{1i}x_i \quad \text{(Eq.8)}$$

Step 2 simply controls for the variance associated with the series of individual difference variables. Step 2 (Eq.9) is designed to isolate any moderator effect of the group of personological variables for analysis in Step 3:

$$y=a+b_{1i}x_i+b_{2j}z_j \quad \text{(Eq.9)}$$

Step 3 tests H2, the influence of the individual difference variables as a type of moderator of the job characteristics-job involvement linkage. In H2, I suggested that the overall relationship between the situational variables and job involvement is qualified by the individual differences as a class. H2 is investigated by statistically evaluating the change in R^2 associated with adding the $b_{3ij}x_iz_j$ term to Eq.9:

$$y=a+b_{1i}x_i+b_{2j}z_j+b_{3ij}x_iz_j \quad \text{(Eq.10)}$$

Step 4 tests H3 in which I hypothesized that the operative salience of one's work-related value system is determined, in part, by the extent to which one perceives oneself, and likewise one's needs, as being important. By adding the $b_{7ij}x_iz_jz'$ series to Eq.10 after controlling for self-esteem's main effect (b_4z') and any interactions between self-esteem and the job characteristics ($b_{5i}x_iz'$) or individual differences ($b_{6j}z_jz'$), I isolate its ability to qualify the moderating influence of the individual difference variables (or work-related values):

$$y=a+b_{1i}x_i+b_{2j}z_j+b_{3ij}x_iz_j+b_4z'+b_{5i}x_iz'+b_{6j}z_jz'+b_{7ij}x_iz_jz' \quad \text{(Eq.6)}$$

Discrete Analysis

Subsequent to evaluating the overall model by way of this general analysis, the larger overall model will be disaggregated into a series of models, each focusing on a specific individual difference variable. In Step 1 of each of the discrete statistical analyses, the four job characteristics will be entered, substantively replicating the results of Step 1 in the general analysis (see Eq.8).

Step 2 controls for the variance accounted for by the subject individual difference variable:

$$y=a+b_{1i}x_i+b_2z \quad \text{(Eq.11)}$$

By adding $b_{3i}x_iz$ to Eq.11 and evaluating the change in R^2, Step 3 tests $H2_{a-d}$, the effects of each individual difference variable in its hypothesized role as a moderator of the job characteristics-job involvement linkage:

$$y=a+b_{1i}x_i+b_2z+b_{3i}x_iz \quad \text{(Eq.12)}$$

Step 4 simply controls for the main effect of the secondary moderator (b_4z'), and the variance associated with the first-order interactions of self-esteem and the individual difference variable being evaluated (b_5zz') and the job characteristics ($b_{6i}x_iz'$). Step 4 is simply designed to isolate any second-order interactions for analysis in Step 5:

$$y=a+b_{1i}x_i+b_2z+b_{3i}x_iz+b_4z'+b_5zz'+b_{6i}x_iz' \quad \text{(Eq.13)}$$

By adding $b_{7i}x_izz'$ to Eq.13, Step 5 tests H3a-d. This series of hypotheses suggested that the importance of the

specific individual difference being investigated is determined, in part, by one's level of self-esteem:

$$y=a+b_{1i}x_i+b_2z+b_{3i}x_iz+b_4z'+b_5zz'+b_{6i}x_iz'+b_{7i}x_izz' \quad \text{(Eq.14)}$$

The directionality of the individual coefficients confirmatory of each of this study's hypotheses is detailed in Table 10.

5.2. Subjects

Data were collected from 451 ethnically, occupationally, and organizationally diverse subjects. Three hundred and thirty-nine of the respondents were pursuing MBA degrees at a major northeastern university. Seventy-two were undergraduates at the same school. Forty were pursuing executive MBAs at another, highly prestigious northeastern university. All of the respondents were employed, 333 on a full-time basis. One hundred and forty-five defined their job as professional (staff); 62 as sales/service; 59 as managerial; 48 as clerical/secretarial; 44 as professional (other); 37 as administrative; and 23 as supervisory. Thirty-three were distributed over a number of other categories. On average the respondents were 28 years of age with over five years of full-time work experience and just over three years in their current job. Their average annual income approximated 38,500 dollars, and their average household income 48,000 dollars.

Data were collected via questionnaires. Three hundred and seventy-five were distributed to be completed as part of an anonymous in-class exercise. Three hundred and fifty-four of these were completed and returned, a response rate of 94 percent. Three hundred and seventy-two were distributed to be completed voluntarily and outside of class. Of these, 97 were completed and returned, a response rate of 26 percent. The overall response rate was 60 percent.

5.3. Measures

5.3.1. The Measurement of Job Involvement

Problematically, there is little agreement in the literature regarding just what job involvement is. Based on the conceptual arguments appearing earlier (see Chapter 2.1.), supportive empirical evidence (Blau, 1985, 1986, 1987, 1988; Blau, et al., 1993; Kanungo, 1982), and a high level of face validity, Kanungo's (1982) job involvement measure will be used in this study.

Blau (1985, 1987, 1988) pointed out that many of Kanungo's (1982) items are based on Lodahl and Kejner's (1965) original job involvement index. Although that instrument is perhaps the most popular of such measures, it will not be employed in this paper because of the associated conceptual difficulties already discussed, and because factor stability problems have been uncovered with both Lodahl and Kejner's (1965) 20-item instrument (Schwyhart and

Smith, 1972; Wood, 1974) and its 6-item derivative (Cummings and Bigelow, 1976; Lawler and Hall, 1970).

With the objective of developing instruments to assess involvement with each of two distinct contexts (one's particular job, and work itself), Kanungo (1982) employed three different measurement techniques, questionnaire, semantic differential, and graphic. Questionnaire items that directly reflect a cognitive state of psychological identification with either one's job or work itself were identified through a search of the existing measures of involvement and alienation. The convergent and discriminant validities of the job and work involvement measures were investigated embedding the two contexts and three measurement formats in Campbell and Fiske's (1959) multitrait-multimethod matrix. Campbell and Fiske (1959) detailed a somewhat complex but highly compelling validation methodology. Within their design, validation is viewed as both convergent, involving "confirmation by independent measurement procedures," and discriminant, meaning "that tests can be invalidated by too high correlations with other tests from which they were intended to differ" (p. 81). They suggested that "in order to estimate the relative contributions of trait and method variance, more than one trait as well as more than one method must be employed in the validation process. [A matrix is then structured that] presents all of the intercorrelations resulting when each of

several traits is measured by each of several methods" (p. 81). While clearly this is the design at its optimum, even with the limitations imposed by a suboptimal world, the multitrait-multimethod matrix continues to be an important tool. The validity of each of the job involvement instruments was supported in this analysis.

In order to determine the dimensionality of the six involvement scales, the survey items were factor analyzed, again using each of the questionnaire, semantic differential, and graphic formats. Each analysis yielded the interpretable factors of job and work involvement, suggesting that the items in each of the job and work involvement scales assess a single belief state. Additionally, Blau's (1985) empirical analyses "suggest that job involvement is a unidimensional construct which can be operationalized in terms of...psychological identification" (p. 19), and that Kanungo's (1982) "is a slightly 'purer' operationalization of [this] conceptualization of job involvement than is the short-form Lodahl and Kejner (1965) measure" (p. 26).

Alphas achieved using Kanungo's (1982) 10-item measure or derivatives of it evidence adequate internal consistencies: .87 (Kanungo, 1982); .84 (Blau, 1986) using the entire measure; .78, .84, and .74 (Blau, 1987) again using all 10 items in each instance; .80 (Blau, 1988) using a six-item scale; and .83 (Blau, et al., 1993) using seven

items. Also, a test-retest coefficient of .85 resulted from two administrations of the 10-item measure three weeks apart (Kanungo, 1982). Kanungo's (1982) instrument is included in Appendix A.

5.3.2. The Measurement of Authoritarianism

Adorno et al. (1950) designed a scale intended primarily to measure ethnic prejudice and prefascist tendencies. Although the instrument was never called an "authoritarianism" measure by Adorno et al. (1950), it has since commonly been referred to as such. However, it is a controversial instrument measuring a controversial variable to say the very least. "This instrument and its modifications have been used in hundreds of studies, sometimes wisely but often without much appreciation of what the scale does and (more importantly) does not measure" (Christie, 1991). Since it correlates with such variables as prejudice, right-wing political beliefs, and similar topics, it immediately attracted the attention of social scientists. By relating these attitudes to an underlying personality variable, the F scale promised a unifying concept. Indeed, the F scale has become one of the most widely used measures of the past 40 years (Christie, 1991). However, with reference to authoritarianism in general and the F scale in particular, some see the operational carriage before the conceptual horse. Duckitt (1989), in a critique of what he

considers inappropriately reductionistic psychological conceptualizations of authoritarianism, determined that "the literature...more or less adopted the F scale as an operational definition of authoritarianism. To all intents and purposes authoritarianism simply became a personality dimension measured by the F scale" (p. 65). Moreover, the desirability and acquiescence biases evident using the early F scale, and its tendency to correlate quite significantly with other attitude measures, indices of socio-economic status, and education, but only very tenuously with measures of interpersonal behavior, strengthened scholarly distrust. However, the introduction of balanced F scales and subsequent theoretical analyses have addressed many of the difficulties raised in the earlier empirical studies.

In 1955, in his study of electoral choice, Lane developed and validated a very short F scale designed for use in survey research (Appendix B). Interested in unidimensionality, Lane (1955) used a Guttman analysis of 10 modified F scale items. Four items were identified using Guttman criteria. Basically, the instrument asks subjects to report their agreement, or lack thereof, with statements operationalizing authoritarian attitudes. In brief, Lane (1955) reported those high in authoritarianism to be less tolerant of ambiguity, more ethnocentric, more projective, more moralistic, and tougher in their attitudes on foreign affairs relative to equalitarian types. Christie (1991), in

a comprehensive review of general measures of authoritarianism, concluded that Lane's (1955) "would appear to be the best short form of the F scale currently available for use in large cross-sectional studies" (p. 556).

5.3.3. The Measurement of Individualism-Collectivism

Currently in widespread use are three related instruments assessing this construct. Perhaps the highest-profile of the measures is that of Triandes et al., who in 1988, building on the work of Triandes, et al. (1985), devised a measure of a psychological variable that parallels Hofstede's (1980) individualism-collectivism at the personological level. This three-dimensional instrument, which quantifies one's allocentric-idiocentric tendencies, derived from a factor analysis of 158 items. The first dimension is comprised of 12 items written to assess self-reliance and competitiveness. The second is made up of 10 items written by Hui (1988) to assess one's concern for others in one's in-group. The third factor has seven items that measure the perceived divide between oneself and one's in-group.

Wagner and Moch's (1986) is also a three-dimensional conceptualization. Their questionnaire is comprised of three items written to measure individualist-collectivist beliefs, three that assess individualist-collectivist values, and four that index individualist-collectivist norms.

Erez and Early's (1987) measure, based on Hofstede's (1980) work and used in a comparative analysis of goal-setting strategies, is a single scale made up of four items written to quantify individualist-collectivist cultural values.

Wagner (1995), in an attempt to measure personal differences in individualism-collectivism, reported the results of a factor analysis that used all of the items in each of the three instruments discussed above:

> [Factor] one consisted of one item from Erez and Early and four items from Triandes and colleagues that assessed personal independence and self-reliance; factor two incorporated five items from Triandes and colleagues that addressed the importance accorded to competitive success; factor three included the three items from Wagner and Moch that concerned the value attached to working alone; factor four was made up of the four items from Wagner and Moch that measured norms about the subordination of personal needs to group interests; and factor five consisted of the three items from Wagner and Moch that assessed beliefs about the effects of personal pursuits on group productivity (p. 161).

Coefficient alpha reliabilities for the factors were: personal independence and self-reliance, .72; importance of competitive success, .79; value of working alone, .83; subordination of personal needs, .80; and effects of personal pursuits on group productivity, .76. Factor analysis of data from a second administration of the questionnaire replicated the five-factor solution. Wagner's

(1995) index, included in Appendix C, will be accepted for use in this paper.

5.3.4. The Measurement of Intolerance of Ambiguity

The literature, following Budner (1962), generally treats intolerance of ambiguity as a stable personality trait, suggesting that any instrument used to quantify the variable should provide rather steady measurements over time. The construct has often been assessed using Budner's (1962) intolerance of ambiguity scale (Appendix D), and that is the measure to be used in this research.

Budner's (1962) is a 16-item instrument designed to tap particular types of responses to particular types of ambiguous situations. Several researchers have examined the reliability of Budner's (1962) index, including Budner himself in his original research, and achieved the same test-retest reliability of .85 for follow-ups ranging from two weeks to two months (Budner, 1962; Robinson and Shaver, 1973). By contrast, two studies of college students yielded test-retest correlations of .73 over two and one-half and six-month intervals (Sidanius, 1978, and Tatzel, 1980, respectively). In a study of entering medical students, Sobal and DeForge (1992) found a test-retest correlation of .64 between administrations over six to nine weeks, and coefficient alphas of .64 and .63 for the first and second administrations, respectively. In other studies, internal

reliability was generally lower than test-retest reliability. Alpha equalled .52 in the Thompson, Mann, and Harris (1981) study of college students, .62 in DeForge and Sobal's (1989) research with medical students, and .56 in Dollinger's (1983) sample of entrepreneurs. However, a distinction must be made between two different types of reliability: a) reliability in the sense of item homogeneity; and b) reliability in the sense of measurement stability (Sidanius, 1988). Budner's (1962) instrument is acknowledged to be multidimensional in character, and this will often produce lesser item homogeneity and therefore lower internal consistency reliability estimates. However, with multidimensional instruments a test-retest reliability coefficient rather than a homogeneity index is the appropriate method of ascertaining reliability, and these results appear to be quite adequate psychometrically.

The scale's validity is supported by sizable and statistically significant correlations with three other intolerance of ambiguity measures, the: Coulter Scale, r=.36; Walk Scale, r=.54; and Princeton Scale, r=.50 (Budner, 1962; Robinson and Shaver, 1973). Validation data also include correlations with the rankings of individuals on the basis of all of the self-descriptive and career and academic choice analyses described earlier (see Chapter 4.3.3.). Sidanius (1988) concluded that "of all of the instruments purporting to measure [intolerance of ambiguity,

Budner's (1962)]...has clearly the best documented and most consistent degree of construct validity known in the literature" (p. 312).

5.3.5. The Measurement of Need for Achievement-Need for Affiliation

To measure the constructs nAch and nAff, Lindgren (1976) constructed a questionnaire based on Gough's (1965) Adjective Check List. Lindgren's (1976) is a forced-choice questionnaire with 30 pairs of self-descriptive adjectives consistent with either nAch or nAff. (Lindgren's, 1976, instrument is included in Appendix E.) It is generally agreed by personality researchers that nAch and nAff are negatively correlated (Heckhausen, 1967), and the incompatible characteristics of nAch and nAff have been demonstrated by Schneider and Green (1977). This view appears defensible from a intuitive perspective as well: The individual who is highly motivated to achieve, and who has a true interest in trying and improving his or her skill, is enabled to do so to the extent that he or she avoids entanglement in dependency relationships which threaten to interfere with achievement (Lindgren, 1976).

Because of the origins of the test's items, it was labelled the "NachNaff Scale," although in order to forestall response sets, its administrative title is "Prevailing Mood Questionnaire." The test is usually scored

in the nAch direction, but its forced-choice design means that subtracting the nAch score from 30 yields a subject's nAff score.

The split-half reliability of the NachNaff was estimated to be .80, and the test-retest correlation was .88 (Lindgren, 1976). Supporting the validity of the instrument, it successfully identified young, immigrant Chinese-speaking males as high in nAch; in a bank setting, tellers' NachNaff scores were significantly and positively correlated with supervisors' ratings (r=.32; Lindgren, 1976); and bank employees were found to be higher in nAch than university undergraduates (Lindgren, 1976; Smither and Lindgren, 1978). NachNaff scores were also significantly correlated with grade-point averages for both males and females (r=.49 and r=.27, respectively; Sid and Lindgren, 1982), and were determined to positively correlate with females' Strong Vocational Interest Blank scores in high-status career fields that were judged to emphasize individual initiative, and negatively with fields in which affiliative behavior is valued--only weak results characterized the sample of males (Sid and Lindgren, 1982). In addition, university athletes involved in sports characterized by individual competition tended to score higher on the NachNaff than did athletes involved in team sports (Smither, 1978). Finally, expectant mothers scored lower in nAch than did female undergraduates (Lindgren, 1976; Lindgren, Figone, Korhonen, Alvarez, and

Yu, 1976), and NachNaff differentiated students by academic major in that males generally scored higher in nAch if they were business majors and lower if they were psychology majors, while females scored higher if they were psychology majors and lower if business (Sid and Lindgren, 1981). Thus, it appears that NachNaff scores reflect intergroup differences in nAch and nAff that would be predicted by theory.

5.3.6. The Measurement of Self-Esteem

Global self-esteem will be measured using Rosenberg's (1965) 10-item index (Appendix F). The Self-Esteem Scale (SES) is the most popular measure of global self-esteem appearing in the literature (Blascovich and Tomaka, 1991). Typically using a four-point, Likert-type response format, subjects are asked to indicate their level of agreement or disagreement with statements relating to their perceived self-worth and competence. Likert-type formats employing five- or seven-point scales, resulting in broader ranges of SES scores, are also popular.

In their factor analysis of the SES, Dobson, Goudy, Keith, and Powers (1979) obtained a coefficient alpha of .77, and Fleming and Courtney (1984), in their test of the Shavelson, et al. (1976) hierarchical multifaceted model of self-esteem, reported a slightly higher .88. Silber and Tippett (1965) achieved a test-retest correlation of .85

after a two-week interval, while Fleming and Courtney (1984) reported a test-retest correlation of .82 with a one-week interval.

Based on a review of the literature, the SES appears quite clearly empirically related to various constructs theoretically associated with self-esteem. For example, Lorr and Wunderlich (1986) reported that the SES correlated .65 with self-confidence, and .39 with popularity. Reynolds (1988) found a correlation of .38 between the SES and overall academic self-concept, with correlations between the SES and specific facets of academic self-concept ranging from .18 to .40. Fleming and Courtney (1984) reported that the SES correlated .78 with general self-regard, .51 with social confidence, and .35 and .42 with self-reported academic ability and physical appearance, respectively. In addition, these authors found negative relationships between the SES and several personal adjustment constructs intuitively associated with low self-esteem. For example, the SES correlated -.64 with anxiety, -.59 with depression, and -.43 with anomie.

Considerable discriminant ability is likewise evidenced. Reynolds (1988) failed to find significant correlations between the SES and locus of control (-.04), grade point average (.10), and Scholastic Aptitude Test verbal, quantitative, and overall scores (-.06, .10, and .01, respectively). Fleming and Courtney (1984) also

determined the SES to be statistically independent of sex (.10), full-time work experience (.07), parental status (.09), birth order (.02), grade point average (.01), and vocabulary (-.04), and that the SES is psychometrically adequate.

Following a review of the instruments currently in general use for assessing self-esteem, Blascovich and Tomaka (1991) concluded that "the SES is the standard against which new measures are evaluated. Its ease of administration, scoring and brevity underlie our recommendation for the use of the SES as a straightforward estimate of positive or negative feelings about the self" (p. 123).

5.3.7. The Measurement of Job Characteristics

Job characteristics will be assessed using the IEP. This instrument, included in Appendix G, was designed with the goal of quantifying the level of employee participation characterizing a given job in a timely, inexpensive, and straightforward fashion. A three-step preliminary validation procedure was employed in the development of this index.

First, to achieve a level of consensual validity, recognized experts in the field of organizational studies were solicited regularly during the IEP's development. These experts made major contributions to the project.

Second, after a first draft of the questionnaire was finished, it was administered to a group of 85 students

about to graduate from a prestigious northeastern university's executive MBA program. These students, with an average of 10 years of business experience and an average annual compensation package of over 100,000 dollars, were asked not only to complete the survey, but to comment on its clarity, completeness, and anything else they thought needed to be added, deleted, or modified in any way. Many of the 34 questionnaires completed (a 40 percent response rate) were returned with helpful comments and suggestions. Two adjustments were made to the survey instrument based on this feedback. A similar, but slightly less formal pretesting exercise was conducted at four regional colleges and universities in the New York City area using both employed undergraduate and MBA students, samples with somewhat less practical experience. Their comments substantially mirrored those of the executive MBA respondents.

Finally, four fictitious jobs were developed and scored using the IEP. One was structured to be reflective of a job rich in participation; another was developed to reflect a more traditional scientific-management orientation with its routinized tasks and formalized hierarchical structure; and two others were designed to fall in-between the two pure types, one closer to the high-participation end of the continuum, one nearer the traditional end. Each was then translated into narrative form. A very simple rating scale was developed, and the management faculty at a large

northeastern university were asked to opine as to the level of participation experienced by the employees in each of the fictitious jobs. Fifty faculty members were asked to complete the exercise, 12 responses were received and analyzed (a 24 percent response rate). Based on a one-way ANOVA, the results were statistically significant at the .01 level. Using Tukey's method, significance at the .05 level was achieved in four of the six comparisons. In the two failing to achieve significance, the critical value "w" was so near the differences in means that, ceteris paribus, virtually any increase in sample size would have yielded a significant result for all comparisons. So it appears as if the experts not only rank-ordered the narratives correctly, but could differentiate any two in terms of the level of construct.

Chapter Six: Results and Discussion

6.1. Results

Empirical results evidence a level of support for this study's general hypotheses. Participative job content and context factors appear statistically and operationally related to job involvement (H1). Modest support is also found for the interactionist perspective. Results indicate that the overall job characteristics-job involvement linkage is qualified by the individual difference variables jointly considered (H2). Lastly, it was hypothesized in H3 that self-esteem would affect the moderating influence of the personological variables. However, the class of second-order interactions entered into this study's general analysis failed to achieve statistical significance after controlling for the direct and first-order interactive effects of the job characteristics and individual differences. Subsidiary hypotheses showed similar supportive or null results. No relationships opposite those predicted were detected.

6.1.1. Correlational Analysis

Zero-order correlations among the variables used in this study's analyses are reported in Table 11. Each of the job characteristics evaluated is positively and significantly related to job involvement. The prospective moderators, authoritarianism, individualism-collectivism, intolerance of ambiguity, and nAch-nAff show varying degrees

of covariance with the independent and dependent variables. All of the relationships are of reasonable size to be used in multiple moderated regression analyses. Following Zedeck (1971), of the four primary moderators, intolerance of ambiguity would appear to have the greatest, and individualism-collectivism the least potential as a moderator. Budner's (1962) variable is bivariately independent of job involvement (r=.-.01, n.s.) and limitedly related to the other predictors. Individualism-collectivism is moderately related to both the dependent variable (r=-.27, $p \leq .01$) and authoritarianism (r=-.28, $p \leq .01$), although neither correlation is at a problematic level.

6.1.2. Moderated Multiple Regression Analyses

Hypothesis 1, and Hypotheses 1a-d

In H1 and H1a-d, I suggested that the substantive denial of job-related freedom and opportunities to develop a sense of membership may itself be a job-alienating experience. Likewise, opportunities to exercise a degree of control with regard to the substance of one's work life and establish a sense of belonging to the larger organization may result in greater job involvement. This study's job characteristics were hypothesized to relate jointly (H1) and severally (H1a-d) to job involvement.

Supportive of H1, the job characteristics entered in Step 1 of the general analysis (Table 12) and evaluated

using the F statistic associated with Eq.8 (Chapter 5.1.3.) are positively and significantly related to job involvement. Quality circles, job enrichment/enlargement, new-design plants, and financial participation accounted for approximately 10 percent of the variance in the dependent variable (R^2=.10, $p \leq .01$).

In H1a, H1b, H1c, and H1d I tested the individual regression coefficients associated with the simultaneous entry of the job characteristics:

Quality Circles

Based on my review of the theoretical and empirical literature, I indicated that the efficacy of employing quality circles to improve worker attitudes remains uncertain. Although the conceptual literature suggests that improved worker attitudinal and behavioral outcomes are associated with participating in a quality circle, the limited empirical findings are not entirely supportive of this theorizing. Indeed, in at least one quasi-experimental study (Steel, et al., 1990) quality circle members were lower in job involvement than were non-members. However, the results of the research reported in this paper support H1a (Table 12) and indicate quite clearly that quality circle membership is significantly and positively related to job involvement ($p \leq .01$). While counter to Steel, et al. (1990), this finding is at least partly, and in some instances

completely in keeping with the work of others, including Barra (1983), Bradley and Hill (1987), Dillon (1985), Hackman and Oldham (1980), Kelly (1985), Locke and Schweiger (1979), Marks, et al. (1986), Schwartz and Comstock (1979), and Steel and Lloyd (1988). Quality circle membership, and the character of that membership (i.e., the individual's role within the quality circle and the group's general level of activity), appear reliably associated with a job-involved employee.

Job Enrichment/Enlargement

This study's empirical results are also supportive of the theory as it relates to job enrichment/enlargement (H1b, Table 12). Job involvement appears positively and significantly associated with enrichment/enlargement ($p \leq .01$). Similarly, the quasi-experimental studies of Bhagat and Schassie (1980), Frank and Hackman (1975), Griffeth (1985), Hackman, et al. (1978), Maher and Overbagh (1971), Orpen (1979), Rosenbach and Zawacki (1989), and Wall, et al. (1990) highlighted the utility, with reference to worker attitudes, of this job characteristic. Of course others, using similar methodologies, have reported mixed, or even negative results (Griffen, 1991; Lawler, et al., 1973; Locke, et al., 1976). However, based on the findings of the present research, relatively objectively evaluated horizontal and vertical specialization appears associated

with increased worker alienation, and job enrichment/enlargement with greater employee involvement.

New-Design Plants

Generally, the assumptions underlying STS theorizing include the belief that this way of organizing work is intrinsically motivating and satisfying, likely correlates of job involvement as conceptualized by Kanungo (1979, 1982). However, the empirical research, while mostly positive, must also be said to be inconclusive (for instance, see Cummings and Molloy, 1977, and critiques of the quality of much of the supportive research by Cotton, 1993; Lawler, 1977; Pasmore, et al., 1982; and Wall, et al., 1986). In this study, the zero-order correlation of new-design plants with job involvement is positive and statistically significant ($r=.10$, $p \leq .05$). However, the variable fails to achieve significance when considered together with the other participative structures in the more rigorous multiple regression analysis (Table 12). This result is opposite those of Wall, et al., (1986), and Cordery, et al. (1991), whose quasi-experimental studies strongly indicated that employees participating in autonomous work groups (the basic building blocks of new-design plants) report favorable job-specific attitudes relative to their counterparts in traditionally structured jobs. Perhaps these seemingly contradictory outcomes may be

reconciled by considering the nature of the multivariate design used in the research reported here. Evaluating this study's job characteristics bivariately supports the statistical linkage of new-design plants and job involvement. Evaluating the effects of relatively flat hierarchies, self-managing work teams and the like while simultaneously controlling for the influence of the other job characteristics indicates that the variable's explanatory value is better contributed by one or more of the other characteristics. Because little, if any, additional empirical data exist in the literature directly evaluating the efficacy of the interrelated systems we refer to as a new-design plant, these results must be interpreted cautiously. However, we may infer that, at least preliminarily, the real-world effectiveness of this particular organizational design is questionable.

Financial Participation

Scholars and practitioners alike have increasingly prescribed a variety of innovative pay systems to counter what they see as a dissatisfied, alienated, and relatively unproductive workforce. At a theoretical level it appears as if there should be a relationship between pay-for-performance and a number of psychological outcomes related to this study's dependent variable. Indeed, a series of empirical studies have evaluated and ultimately supported

the statistical linkage of performance-based compensation schemes with, for example, job satisfaction (see Heneman, et al., 1988), although several others have reported opposite (Pritchard, et al., 1972; Schwab and Wallace, 1974) or null results (Berger and Schwab, 1980; Farr, 1976).

While these incentive systems typically reward individual performance, some tasks require cooperative group behavior, and incentive structures must be designed to have the flexibility to reward groups if cooperative behavior is required of individual workers. Of the major types of group-level systems, the two most popular, gainsharing plans and employee ownership, were described in some detail, operationalized, and evaluated in this research.

In a departure from the majority research perspective which generally considers compensated employees and employee-owners to be homogeneous groups, this study used a financial perspective vis-a-vis incentive compensation and ownership by employee-shareholders. I suggested that the relative dollar value of the incentives and the ownership interest is a salient issue. I hypothesized that the level of job involvement characterizing those employees with large wage incentives and sizable equity investments would be greater than the level of involvement of those with far smaller contingent payments and more modest personal investments. I also proposed that the number of workers in a pay unit would affect the quality of the experience of the

incentivized employee. Smaller pay units or individual incentive systems were expected to result in a greater sense of personalized control over income, and therefore the perceived ability to personally satisfy one's money needs and/or reduce associated anxiety.

Results were consistent with this view; financial participation as defined is positively and significantly related to job involvement ($p \leq .01$). I believe that these results (considered in conjunction with the related findings of Bullock and Perlow, 1986; Bullock and Bullock, 1982; Goldstein, 1978; Greenberg, 1980; Long, 1978a, 1978b, 1980; Masternak, 1993; Oliver, 1984; Rhodes and Steers, 1981; Ruh, et al., 1973; Russell, et al., 1979; Tucker, et al., 1989; and White and Ruh, 1973), tentatively indicate that those with more at risk to their own work performance, to the performance of their pay unit, or the market performance of their company's stock, have a qualitatively different experience than those with little financial exposure. Additionally, the personalized control of income appears salient with reference to involvement. Similar results were reported earlier by Papamarcos and Korman (undated) and replicated here. Having one's economic fate in one's hands seems to be fairly consistently interpreted as an involving experience in that one is left "in control" of one's income with an enhanced ability to satisfy one's money needs.

Hypothesis 2, and Hypotheses 2a-d

H1 and H1a-d addressed those independent variables directly related to job design. It was argued that the subject participative management techniques represent a more or less universal prescription for increasing job involvement and therefore decreasing worker alienation. In H2 and H2a-d, these general relationships were evaluated in a somewhat different, more complex, yet perhaps more realistic way.

In 1980, Hofstede empirically identified the work-related values characterizing 40 countries. He suggested that these values affect human thinking and behavior in predictable ways. Using an interactionist perspective (see Endler and Magnusson, 1976; Schneider, 1983; and Terborg, 1981), and Hofstede's (1980) work-related values as an organizing framework for the examination of psychological moderators, I suggested that individual differences qualify the job characteristics-job involvement linkage in particular ways.

Supportive of H2, after controlling for the main effects of the job characteristics and individual differences in Steps 1 and 2 of the general analysis (R^2=.20, Table 21), the first-order interactions (job characteristics x individual differences) contributed a statistically significant increase in the variance accounted for in the dependent measure (delta R^2=.04, $p \leq .10$).

Subsequently disaggregating this general hypothesis in H2a-d (Tables 13-16), intolerance of ambiguity (H2c) and nAch-nAff (H2d) appear to be the individual differences with the greatest influence on the direct effects of the job characteristics (delta R^2=.01, $p \leq .10$, and delta R^2=.02, $p \leq .10$, respectively):

Intolerance of Ambiguity

Using Budner's (1962) conceptualization of intolerance of ambiguity as "the tendency to perceive (i.e., interpret) ambiguous situations as sources of threat" (p.29), marginal support was found for H2c (Table 15). After partialling the direct effects of the job characteristics and Budner's (1962) variable, the associated first-order interactions accounted for a significant addition to explained variance (delta R^2=.01, $p \leq .10$). However, while statistically significant, the practical utility of this variable is questionable--a one percent increase in variance accounted for. Further particularizing the effects of the variable, statistical support was found for $H2c_4$. Evaluating the regression coefficients associated with the individual interaction terms in Table 15, intolerance of ambiguity reliably interacts with the financial participation variable ($p \leq .05$), impacting its relationship with job involvement. As hypothesized, greater control over income appears incrementally more important to those less willing to take

risks. These results are consistent with and extend the previous studies of Blake, et al. (1973), Budner (1962), Crandall (1968), Frone (1990), Keenan and McBain (1979), and Tatzell (1980). $H2c_1$, $H2c_2$, and $H2c_3$ were unsupported statistically in this analysis; intolerance of ambiguity did not interact with any other job-related factor in affecting involvement.

Need for Achievement-Need for Affiliation

McClelland (1965, 1985) indicated that high nAch individuals evidence a strong need for feedback, and prefer situations in which they can take personal responsibility for performance outcomes and experiment with self-improvement strategies. Indeed, some research (Miner, 1980; Turban and Keon, 1993) has indicated that high nAch individuals appear to prefer situations in which success is achieved through personal initiative and performance versus chance or seniority. Similarly, Miller and Droge (1986) found that high nAch CEOs were more likely to centralize power and formalize policies and procedures relative to low nAch CEOs. They attributed this pattern to a desire to receive credit for and monitor and control corporate performance. Because some organizational characteristics are more likely than others to result in situations attractive to high nAch or nAff individuals, I hypothesized that nAch-nAff would qualify the job characteristics-job involvement

linkage (H2d). While H2d received marginal support in the discrete analytic series (delta R^2=.02, $p \leq .10$, Table 16), of the subsidiary hypotheses, only $H2d_2$ was supported at a statistically significant level ($p \leq .05$). Specifically, high-nAch workers relative to high-nAff employees appear to see enriched and enlarged jobs as having a greater probability of meeting their personal needs. Null results characterize the first-order interactions of nAch-nAff with quality circles, new-design plants, and financial participation.

Other First-Order Interactions

While no support was found for the moderating roles of authoritarianism or individualism-collectivism, two subsidiary hypotheses were supported. $H2a_2$ received statistical support ($p \leq .05$, Table 13). This hypothesis suggested that authoritarians relative to equalitarians will respond negatively to job enrichment/enlargement, perceiving jobs with wide latitude to be antithetical to their desire for a structured and orderly world. Supportive of $H2b_3$, individualism-collectivism also appears to qualify the linkage of new-design plants and job involvement ($p \leq .05$, Table 14). Interestingly, although the situational variable itself did not achieve statistical significance in the general analysis, it appears to operate in a more subtle fashion. This indicates that the importance of these

innovative factories and offices may only be made obvious by considering the individual worker.

Hypothesis 3, and Hypotheses 3a-d

H3 suggested that the work-related values being investigated in this research may not be equally salient for all subjects. Indeed, for some they may not serve as operative guides or evaluative criteria at all. In 1969, Korman, using different types of vocational choice situations, tested the hypothesis that self-esteem moderates the choice process. Korman's (1969) results indicated that high self-esteem individuals are more likely to seek self-fulfillment than are low self-esteem individuals. Because of these and similar results in the literature, high self-esteem persons were hypothesized in this study to be more actively involved in evaluating their world, and to be more likely to judge harshly those work situations perceived as being incongruent with their needs. Low self-esteem individuals on the other hand, people with a limited sense of personal worth, perceive themselves, and therefore their needs, to be only marginally worthwhile if worthwhile at all. Because such people do not use their own needs in making their behavioral choices (Korman, et al., 1981) or, I suggest, in judging outcomes, I hypothesized that the influence of individual differences in work-related values would be less strong in these individuals. However, this

study's findings indicate that self-esteem does little to influence the effects of the primary moderators (delta R^2=.04, n.s., Table 21). The interactive effects of the personological variables are only marginally more pronounced in high self-esteem people--and only in the disaggregated analysis used to test H3's subsidiary hypothesis H3c ($p \leq .10$, Table 19).

6.2. Discussion

This study extended earlier research into job involvement by investigating the main and interactive effects of selected job characteristics and individual differences using relatively objectively assessed situational factors, a somewhat more complex integrative framework, and a series of moderated multiple regression analyses. Summarizing, it appears that there are four sets of findings in these analyses. First is the strong support evidenced for the job characteristics-job involvement linkage. The job content and context factors evaluated in this research appear statistically and operationally related to job involvement. Second, the influence on this linkage of individual differences in work-related values is statistically supported, yet at a much more modest level. This study's results indicate that advocates of the interactionist perspective may be overly enthusiastic in emphasizing the criticality of individual differences to the

relationship between job characteristics and employee responses. Third is the very limited influence of self-esteem on the effects of the personological variables. Considered in conjunction with the relatively weak support for the role of personality as a moderator of the job characteristics-job involvement linkage, these psychological differences just do not appear all that important from a job design perspective. And fourth, methodologically I believe that these findings highlight the efficacy of using multivariate research designs. Based on the findings reported here, these analytic designs must be utilized before we make definitive statements regarding the importance of job experience of any type for variables such as job involvement. Job experience, or at least some kinds of job experience, may be a source of perceived fulfillment of one's needs. However, while quality circles, job enrichment/enlargement, new-design plants, and financial participation each evidenced a statistically significant relationship with job involvement in the correlational analysis, the introduction of statistical controls reduced the strength of the new-design plants variable below statistical significance. Thus, while I believe that this study may have identified findings of some practical moment as to sources of involvement in daily work life, I also believe that we must continue to rigorously evaluate these possibilities before making any stronger inferences.

However, it does appear clear that multivariate techniques are superior to bivariate analyses in identifying which job characteristics, which individual differences, and which combinations have the most predictive promise vis-a-vis job involvement and related cognitive and affective states.

In this study I hypothesized that job involvement would be highest if: a) there were opportunities for the worker to exercise a degree of control over his or her day-to-day work life; b) there were opportunities for the worker to establish a sense of belongingness, or of being personally integrated into the larger organization; c) the characteristics of a particular employee's job were congruent with his or her work-related values; and d) the worker uses his or her own needs as evaluative criteria.

Tests were performed to evaluate this model's general linkages as well as particular main effects and first- and second-order interactions. This study's findings support the effectiveness, with reference to job involvement, of the subject participative management interventions generally, and quality circles, job enrichment/enlargement, and financial participation specifically. Statistically, each of these three innovations appears to make an independent contribution to the organizational objective of a job-involved workforce. These results are particularly impressive when one considers that relatively objectified job characteristics were used as predictors (for instance,

see Crampton and Wagner, 1994). Additionally, it should be noted that the statistical relationship between social-structural and psychological phenomena will usually be less strong than that between social-structural conditions, or between psychological states (Kohn, 1976). Thus, the findings reported here are probably quite conservatively stated.

This study's results also indicate that advocates of the interactionist perspective may be overly enthusiastic in emphasizing the criticality of individual differences to the linkage of job characteristics and employee responses. Because the work-related values examined in this study appear to have only a modest systematic influence on employee reactions to the character of a job, their effects may be overemphasized in the theoretical and bivariate empirical literature. In the present research, the qualifying influence of authoritarianism, individualism-collectivism, intolerance of ambiguity, and nAch-nAff was limited to four percent of job involvement's variance. Of course, once again the relatively objectively evaluated job characteristics and the inherently conservative statistical procedure employed in this study make these results somewhat more weighty, although obviously much more evidence is required before concluding that these work-related values exert any generalizable influence on the job characteristics-job involvement linkage. On the other hand,

while individuals were differentially responsive to this study's job characteristics at the margin only, they were quite positive in their response to these characteristics directly. Based on the sometimes contradictory research in this area, these results appear quite plausible; quality circles, job enrichment/enlargement, and financial participation appear to be relatively consistently seen by workers as having the potential to fulfill their job-related needs.

While results are supportive of two of this study's three major hypotheses, one must be extremely cautious in interpreting the causality of these relationships. Moderator effects are symmetrical in that we may describe personality as moderating the effects of organizational characteristics, or organizational characteristics as moderating the effects of personality. For all of the theoretical reasons explicated, I chose to describe these results in terms of work-related values moderating the effects of job characteristics on involvement. But even with reference to the direct relationships evaluated, it may be argued that self-reported job characteristics are influenced by one's level of job involvement, reversing even the hypothesized main effects. This reversal may be due to perceptual bias in that the highly job-involved may be more likely to perceive and/or report a higher degree of participative character in their job, while people high in alienation may simply take a

darker view of the immediate content of their job and the context in which it is performed. That is, it may be that individuals describe their job in a way that justifies an existing sense of involvement or alienation. This inappropriate view of the substance of one's job may itself create a greater feeling of either psychological state (Westman, Cohen, Korman, and Papamarcos, undated). Thus, it may also be that job involvement is a "feedback variable," both a cause and an effect of job characteristics and/or psychological states. For instance, research has indicated that general positive affect may influence cognitive evaluations (Caldwell and O'Reilly, 1982; Isen, Clark, Shalker, and Karp, 1978; O'Reilly, Parlette, and Bloom, 1980), and behavior (Cunningham, Steinberg, and Grev, 1980). Or the theoretical reversal may be substantive in that workers do not randomly assign themselves to job conditions. Involved workers may actively seek responsibilities others try to avoid. The job-alienated may be less likely to desire or try to achieve jobs with the characteristics investigated in this study. Alternatively, supervisors may simply be less responsive to the needs of alienated employees, or they may just see them as being incapable of handling a job with, for instance, real decision-making responsibilities (see also Schneider, 1978). Likely, some or all of these influences are operative. We therefore need to empirically investigate these perceptual and/or substantive influences. We also need

to consider the possibility that these relationships are reciprocal and that the causal arrow flies both ways. Unfortunately, this study's data do not allow me to test these alternative explanations. However, future research into organizational characteristics and psychological outcomes should consider these possibilities.

Another caveat to be observed in interpreting these results is that this study's moderated multiple regression analyses were designed to evaluate specific types of main and interaction effects, ones for which the relationships of job characteristics, individual differences, and job involvement are best modeled using exponents of 1 for each x_i and z_j predictor. Thus, while it was beyond the immediate parameters of this research to evaluate the many relationships for other types of effects, other types are possible. One example of this is the instance in which a relationship may be better modeled by a predictor or predictors with exponents of 2, implying curvilinearity.

It is also possible that other moderators of the job characteristics-job involvement linkage may be more effective at helping us to understand who responds and who is indifferent to the participative interventions investigated in this research. For instance, Katz (1978a, 1978b) has explored the moderating influence of job longevity with some interesting findings. He illustrated that the relationship of job characteristics (skill variety,

task identity, task significance, autonomy, and feedback) and job satisfaction is particularly strong after a few years. However, the relationship weakens considerably with longer job tenure. Katz (1978a, 1978b) suggested that employees may ultimately become overly familiar with their job and unresponsive to its character. If this dynamic is also operative vis-a-vis the job characteristics-job involvement relationship, it may well be that the main effects evaluated in this research will be moderated by job longevity. It may also be reasonable to speculate that the influence of the moderators may be greater in employees of shorter job tenure. Indeed, Katz (1978b) demonstrated that job longevity affected the moderating influence of growth need strength, especially for employees with high growth needs in the early stages of job tenure--although Kemp and Cook (1983) questioned the generalizability of the entire job longevity thesis. It is also possible that there will be instances in which a job would objectively be expected to be highly involving, but because of intolerable working conditions of one type or another, poor pay, job insecurity, or other factors, the expected psychological result is partly or completely offset (Deci, Connell, and Ryan, 1989; Oldham, et al., 1976). The participative initiatives which are the foci of this study may provide some buffer against grossly aversive conditions, but exactly how effective they would be is questionable.

A further temporal consideration was raised by Likert (1967) in related theorizing and empirical work. He described four management systems, Systems 1-4. System 1 is also known as Exploitive Authoritative; System 4 is labelled Participative Group. Systems 2 and 3, Benevolent Authoritative and Consultative, respectively, are "Authoritative" systems along with System 1; System 4 is a "Participative" system. Likert (1967) asserted, and presented evidence in support of the efficacy of moving organizations to System 4. Importantly, he made extensive use of three broad classes of variables: a) causal; b) intervening; and c) end-result. The causal variables are independent variables which determine the course of developments within an organization and indirectly the results achieved by the organization. They include the structure of the organization, management's policies, decisions, business and leadership strategies, skills, and behavior. The intervening variables reflect the internal health of the organization, e.g., the loyalties, attitudes, motivations, performance goals, and perceptions of all members and their collective capacity for effective interaction, communication, and decision-making. The end-result variables are the dependent variables which reflect the achievements of the organization, such as its productivity, costs, scrap rate, and earnings.

In his review of the literature, Likert (1967) found that some studies have reported a sizable relationship between the system of management and the productivity of the organization, while other studies reported no relationship. What accounts for the failure to consistently find the expected relationship between these variables? The variable which Likert (1967) believed important is time. Similarly, time would be expected to be a factor in the relationships explored in the present study. Job characteristics (causal variables) would be expected to precede in time the intervening variable of job involvement. Lastly, quantifiable organizational achievements would be expected to follow the psychological gains or losses of the workers. (Conversely, Griffin, 1991, investigated the effects of work redesign efforts on perceptual, attitudinal, and behavioral variables. While the performance measures generally followed this pattern, the attitudinal variables--job satisfaction and organizational commitment--initially improved, but rapidly declined to their previous levels.) Therefore, in the interest not only of further establishing the causal linkages implied in this paper, but of blocking out the "noise" associated with a simultaneous assessment of the independent and dependent variables and exploring the robustness of the results, it becomes important to study these relationships longitudinally before drawing definitive

theoretical conclusions or making prescriptions for practice (see also Lawler, 1977).

Another caution we need to recognize relates to the generalizability of these results to other samples. While the overall model evaluated in this study offers some promise for future research, the results achieved thus far should be regarded as tentative. The generalizability of this study's results is limited by its sample. Students are an example of a sample of people who may identify more strongly with their university, or their "next job," rather than with their present job. However, all of this study's subjects were employed, the majority were graduate students, and all of the undergraduates were upper-level students. Further, the mean job involvement score of this student sample is actually just slightly higher than the mean scores reported by Kanungo (1982) during the original development of his measurement instrument. Lastly, because all of the subjects also live in or near major urban centers, this could have restricted or skewed the range of work-related values. However, the subjects were ethnically, occupationally, and organizationally diverse, minimizing this threat to a degree. Because it is important that samples be selected to include sufficient variance in the x_i and z_j predictors to provide a fair test of the interaction hypotheses, this type of diversity is especially desirable.

Of course, additional research using other work samples is obviously required.

Finally, it has been suggested that both theorists and corporate managers often fail to regard high-involvement management as anything more than a series of unrelated initiatives, ignoring possible interdependencies (Dulworth, et al., 1990; Hackman and Oldham, 1975; Lawler, 1986; Mintzberg, 1973; Russell, 1988). What evidence there is tends to support this assertion. Kanter, et al. (1986) surveyed 1,618 members of the American Management Association to determine where these innovations were appearing. Eighty-three percent reported little use of them. Papamarcos (1992) also found limited practical acceptance of the tools of participative management. Russell (1988) determined that "employee participation in decision making, despite numerous well-documented successes, remains too upsetting to corporate traditions and power structures to have gained much of a toehold in the conventional capitalist firm" (p. 384). But is such incrementalism effective? Or, is it true as Russell (1988) indicated that "what we have...is a motley assortment of extremely modest reforms. And it is becoming increasingly obvious to the advocates of most of these innovations that none of them can take you very far alone...Only when a multifaceted approach to increased employee participation...is made a permanent part of the culture of the firm, can more than trivial and short-lived

improvements be expected to result" (p. 390). Likewise, Dulworth, et al. (1990), Hackman and Oldham (1975), Lawler (1986), and Mintzberg (1983) have argued that participative programs will fail absent supportive changes throughout the organization. High-involvement management may need to be viewed as an interrelated complex of management tools. Future research, using the IEP or similar measure and additive and/or multiplicative models, should test their interdependence.

In conclusion, continued study of high-involvement management appears warranted. By understanding and enhancing the participative experience, organizations may help develop a more stable, emotionally healthy, and therefore productive workforce.

6.3. Future Research Directions

While the relatively objective conditions of work evaluated in this study clearly appear to affect one's level of job involvement, it would be interesting to look for any spillover effect into other life realms. For instance, Papamarcos and Korman (undated) examined the same independent variables assessed using the same instrument (the IEP). Using bivariate and multivariate methods, these authors related the "employee-specific" job characteristics of job enrichment/enlargement and financial participation to feelings of self-estrangement. Unanswered is the question of

the independence of these two sets of results. For instance, does job involvement contribute to a sense of personal fulfillment? Does a feeling of personal fulfillment allow one to be less judgmental with regard to the conditions of one's employment? Or are these independent relationships? Longitudinal studies may help us to better understand this possible dynamic.

Additionally, with reference to the present research it is important to realize that only a single time period was used to evaluate what I earlier suggested may be a series of relationships in which temporal considerations figure heavily. Future research should also attempt to replicate this study's findings over time. Moreover, previous research (Rabinowitz and Hall, 1981) has suggested that the factors influencing job involvement may change over an individual's career. As Blau (1987) has indicated, research which tracks the individual longitudinally is important to furthering our understanding of what factors affect job involvement, as well as other work attitudes and behavior.

Finally, the multivariate techniques and objectified independent variables used here do not correspond to, and I believe represent a true advance relative to much of the literature. The statistical methods were deliberately selected to reflect a wider perspective and a greater awareness that it is useful and sometimes necessary to utilize higher levels of complexity in one's analytic

framework if one wishes to comprehend the fullness of, for instance, job involvement's antecedents. Similarly, relatively objective job characteristics were used as predictors to better understand the operative influence of these initiatives. This is not to say that every study must employ multiple regression analysis or objective predictors, but it is to say that if we use bivariate techniques and subjectively assessed variables exclusively, additional caveats must be observed in interpreting our results. It is my belief that we must be more aware of the variety and multiplicity of influencing factors in our analyses, and the problematic nature of entirely subjective judgements.

It may be reasonable to conclude that, with these limitations, the participative experience has a positive influence on quality of work life. What must still be explored is: a) the extent to which workers themselves contribute to their work experience either by uniquely interpreting their job's character, or behaving in a way that brings substance to their involved or alienated state; b) the degree to which other job characteristics and/or individual differences contribute to our understanding of the relationships evaluated in this research--additionally, the effect size and significance level associated with the entry of the personological controls in Step 2 of the general analysis (delta R^2=.10, $p \leq .01$, Table 21) suggest that there may be utility in simultaneously evaluating these

variables as independent predictors of job involvement and as qualifiers of the effects of the characteristics of one's job; c) the extent to which workers' involvement affects motivationally important job attitudes, and ultimately translates into improved performance on the shop floor; and d) any comprehensive research making a claim of practicality must examine the costs associated with these participative initiatives relative to the benefits that are likely to be realized. We clearly have a tendency to emphasize the positive results of these studies while ignoring a variety of very real costs associated with change efforts (see Lawler, 1986).

Table 1
Issues Defining the Four Dimensions of the Index of the Objective Circumstances of Employee Participation

a) Quality Circles
- -Is the respondent a member of a quality circle or some other type of formal problem-solving group?
- -If so, how often does it meet, what are its responsibilities, and how many members does it have?

b) Job Enrichment/Enlargement
- -To what extent does vertical and horizontal specialization characterize the respondent's job?

c) New-Design Plants
- -How many people are employed in the respondent's work unit?
- -How tall is the work unit's hierarchy?
- -How egalitarian is the work unit's pay scale?
- -Is the respondent a member of a self-managing work team or some other type of autonomous work group?
- -If so, what are the responsibilities of the group, and how many members does it have?
- -If the respondent is a member of a team or group, does it have a defined area of "ownership?"
- -To what extent does the organization seek to meet the personal and professional needs of the respondent?
- -To what extent does the work unit offer the respondent job security?

d) Financial Participation
- -Is the respondent eligible for incentive compensation?
- -If so, how important is it in the context of his/her total compensation package? What is the respondent's ability to influence compensation outcomes?
- -Does the respondent know what he/she has to do in his/her job in order to be considered a good performer? Is adequate feedback provided?
- -What is the importance of the respondent's ownership interest in the corporation relative to his/her total compensation package?

Table 2
The Power Distance Societal Norm*

Low PDI	High PDI
Inequality in society should be minimized.	There should be an order of inequality in this world in which everyone has his rightful place; both high and low are protected by this order.
All should be interdependent.	A few should be independent; most should be dependent.
Hierarchy means an inequality of roles, established for convenience.	Hierarchy means existential inequality.
Subordinates are people like me.	Superiors consider subordinates as being of a different kind.
Superiors are people like me.	Subordinates consider superiors as being of a different kind.
The use of power should be legitimate and is subject to the judgement between good and evil.	Power is a basic fact of society which antedates good or evil. Its legitimacy is irrelevant.
All should have equal rights.	Powerholders are entitled to special privileges.
Powerful people should try to look less powerful than they are.	Powerful people should try to look as powerful as possible.
Stress on reward, legitimate and expert power.	Stress on coercive and referent power.
The system is to blame.	The underdog is to blame.
The way to change a social system is to redistribute power.	The way to change a social system is by dethroning those in power.
People at various power levels feel less threatened and more prepared to trust others.	Other people are a potential threat to one's power and rarely can be trusted.

Latent harmony exists between the powerful and the powerless.	Latent conflict exists between the powerful and the powerless.
Cooperation among the powerless can be based on solidarity.	Cooperation among the powerless is difficult to bring about because of low faith in people.

* Adapted from Hofstede (1980)

Table 3
The Power Distance Societal Norm:
Consequences for Organizations*

Low PDI	High PDI
Less centralization.	Greater centralization.
Flat organizational hierarchies.	Tall organizational hierarchies.
Smaller proportion of supervisory personnel.	Larger proportion of supervisory personnel.
Smaller wage differentials.	Larger wage differentials.
High qualification of lower strata.	Low qualification of lower strata.
Manual work has the same status as clerical work.	White-collar jobs are valued more highly than are blue-collar jobs.

* Adapted from Hofstede (1980).

Table 4
The Individualism versus Collectivism Societal Norm*

Low IDV (Collectivist)	High IDV
In society, people are born into extended families or clans which protect them in exchange for loyalty.	In society, everyone is supposed to take care of him- or herself and his or her immediate family.
"We" consciousness.	"I" consciousness.
Collectivity orientation.	Self orientation.
Identity is based in the social system.	Identity is based in the individual.
Emotional dependence of the individual on organizations and institutions.	Emotional independence of the individual from organizations and institutions.
Emphasis on belonging; membership ideal.	Emphasis on individual initiative and achievement; leadership ideal.
Private life is invaded by organizations and clans to which one belongs; opinions are predetermined.	Everyone has a right to a private life and opinion.
Expertise, order, duty, security provided by the extended family or other in-group.	Autonomy, variety, pleasure, individual financial security.
Belief in group decisions.	Belief in individual decisions.
Value standards differ for in-groups and out-groups; particularism.	Value standards should apply to all; universalism.

* Adapted from Hofstede (1980).

Table 5
The Individualism versus Collectivism Societal Norm: Consequences for Organizations*

Low IDV (Collectivist)	High IDV
The involvement of individuals with organizations is primarily moral.	The involvement of individuals with organizations is primarily calculative.
Employees expect organizations to look after them like a family.	Organizations are not expected to look after employees from the cradle to the grave.
Organizations have great influence on members' well-being.	Organizations have moderate influence on members' well-being.
Employees expect organizations to defend their interests.	Employees are expected to defend their own interests.
Policies and practices are based on loyalty and sense of duty.	Policies and practices should allow for individual initiative.
Promotion from inside; localism.	Promotion from both inside and outside; cosmopolitanism.
Promotion based on seniority.	Promotion based on market value.
Less emphasis on fashionable management ideas.	Managers try to be up-to-date and endorse modern management ideas.
Policies and practices vary with relationships.	Policies and practices apply to all.

* Adapted from Hofstede (1980).

Table 6
The Uncertainty Avoidance Societal Norm*

Low UAI	High UAI
The uncertainty inherent in life is more easily accepted and each day is taken as it comes.	The uncertainty inherent in life is felt as a continuous threat that must be countered.
Ease, lower stress.	Higher anxiety and stress.
Time is free.	Time is money.
Hard work is not a virtue per se.	Inner urge to work hard.
Weaker superegos.	Stronger superegos.
Aggressive behavior is frowned upon.	Aggressive behavior of self and others is accepted more readily.
Less emotionality.	Greater emotionality.
Conflict and competition can be contained on the level of fair play and used constructively.	Conflict and competition can unleash aggression and should therefore be avoided.
More acceptance of dissent.	Strong need for consensus.
Deviance is not felt as threatening; greater tolerance.	Deviant persons and ideas are seen as dangerous; intolerance.
Less nationalism.	Greater nationalism.
Less conservatism.	Greater conservatism; emphasis on law and order.
More willingness to take risks in life.	Greater concern with security in life.
Achievement defined in terms of recognition.	Achievement defined in terms of security.
Relativism, empiricism.	Search for ultimate, absolute truths and values.
There should be as few rules as possible.	Need for written rules and regulations.

If rules cannot be kept, we should change them.	If rules cannot be kept, we are sinners and should repent.
Belief in generalists and common sense.	Belief in experts and their knowledge.
The authorities are there to serve the citizens.	Ordinary citizens are incompetent versus the authorities.

* Adapted from Hofstede (1980).

Table 7
The Uncertainty Avoidance Societal Norm: Consequences for Organizations*

Low UAI	High UAI
Less structuring of activities.	Greater structuring of activities.
Fewer written rules.	More written rules.
More generalists.	Larger number of specialists.
Organizations can be pluriform.	Organizations should be as uniform as possible; standardization.
Managers are more involved in strategy.	Managers are more involved in details.
Managers are more interpersonally oriented and flexible in their style.	Managers are more task-oriented and consistent in their style.
Managers are more willing to make individual and risky decisions.	Managers are less willing to make individual and risky decisions.
Higher labor turnover.	Lower labor turnover.
More ambitious employees.	Less ambitious employees.
Lower satisfaction scores.	Higher satisfaction scores.
Less power derives from the control of uncertainty.	More power derives from the control of uncertainty.
Less ritual behavior.	More ritual behavior.

* Adapted from Hofstede (1980).

Table 8
The Masculinity versus Femininity Societal Norm*

Low MAS (Feminine)	High MAS
People orientation.	Money and things orientation.
The quality of life is important.	Performance and growth are important.
Work to live.	Live to work.
Service ideal.	Achievement ideal.
Interdependence ideal.	Independence ideal.
Intuition.	Decisiveness.
Sympathy for the unfortunate.	Sympathy for the successful achiever.
Levelling: Don't try to be better than others.	Excelling: Try to be the best.
Small and slow are beautiful.	Big and fast are beautiful.
Men need not be assertive but can also take caring roles.	Men should behave assertively and women should care.
Sex roles in society should be fluid.	Sex roles in society should be sharply differentiated.
Differences in sex roles should not imply differences in power.	Men should dominate in all settings.
Unisex and androgyny ideal.	Machismo ideal.

* Adapted from Hofstede (1980).

Table 9
The Masculinity versus Femininity Societal Norm: Consequences for Organizations*

Low MAS (Feminine)	High MAS
Some young men and women want careers; others do not.	Young men expect to have a career; those who don't see themselves as failures.
Organizations should not interfere in a worker's private life.	Organizational interests are a legitimate reason for interfering in a worker's private life.
More women are found in better-paying jobs.	Fewer women are found in better-paying jobs.
Lower job stress.	Higher job stress.
Less conflict.	Greater conflict.
High appeal of job restructuring permitting group integration.	High appeal of job restructuring permitting individual achievement.

* Adapted from Hofstede (1980).

Table 10
Summary of this Study's Hypotheses
by Job Characteristic and Individual Difference

	QC[1]	JEE[2]	NDP[3]	FP[4]
H1: Main Effects (Job Characteristics)	+	+	+	+
H2: First-Order Interactions (Individual Differences x Job Characteristics)				
a: Authoritarianism	-	-	-	-
b: Individualism-Collectivism	+	-	+	-
c: Intolerance of Ambiguity	-	+	-	+
d: Need for Achievement-Need for Affiliation	-	+	-	+
H3: Second-Order Interactions (Self-Esteem x Individual Differences x Job Characteristics)				
a: Authoritarianism	-	-	-	-
b: Individualism-Collectivism	+	-	+	-
c: Intolerance of Ambiguity	-	+	-	+
d: Need for Achievement-Need for Affiliation	-	+	-	+

Table 11
Descriptive Statistics and Correlation Matrix

	Mean	S.D.	(1)	(2)
Job Involvement (1)	35.2	10.8		
Quality Circles (2)	20.8	35.7	.22**	
Job Enrichment/Enlargement (3)	52.4	25.6	.15**	.08
New-Design Plants (4)	47.3	15.3	.10*	.24**
Financial Participation (5)	33.4	21.8	.20**	.08
Authoritarianism (6)	17.2	4.1	.18**	.12*
Individualism-Collectivism (7)	89.6	12.8	-.27**	-.02
Intolerance of Ambiguity (8)	52.6	9.5	-.01	.02
nAch-nAff (9)	15.2	5.7	.18**	.02
Self-Esteem (10)	59.0	8.5	.01	.07

	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1)							
(2)							
(3)							
(4)	.14**						
(5)	.02	.13**					
(6)	-.09	.17**	.04				
(7)	.10*	.03	.02	-.28**			
(8)	-.18**	-.04	-.03	.19**	-.22**		
(9)	.20**	.10*	.02	.11*	-.13**	-.24**	
(10)	.09	.06	.05	.00	.20**	-.14**	.24**

* $p \leq .05$
** $p \leq .01$

Table 12
Moderated Multiple Regression Analysis
(n=451)

	R^2	Delta R^2	B[a]
Job Characteristics:	.10***	.10***	
Quality Circles			.0592***
Job Enrichment/Enlargement			.0531***
New-Design Plants			.0081
Financial Participation			.0868***

[a] Unstandardized regression coefficient from the full model
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

Table 13
Moderated Multiple Regression Analysis
(n=451)

	R^2	Delta R^2	B[a]
Job Characteristics:	.10***	.10***	
Quality Circles (QC)			.0010
Job Enrichment/Enlargement (JEE)			.2485***
New-Design Plants (NDP)			.1104
Financial Participation (FP)			.0647***
Control:	.13***	.03***	
Authoritarianism (F)			1.2251***
Authoritarianism x Job Characteristics:	.14***	.01	
F x QC			.0033
F x JEE			-.0110**
F x NDP			-.0069
F x FP			.0007

[a] Unstandardized regression coefficient from the full model
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

Table 14
Moderated Multiple Regression Analysis
(n=451)

	R^2	Delta R^2	B[a]
Job Characteristics:	.10***	.10***	
Quality Circles (QC)			.1574*
Job Enrichment/Enlargement (JEE)			.1341
New-Design Plants (NDP)			-.4735**
Financial Participation (FP)			.1061
Control:	.18***	.08***	
Individualism-Collectivism (I-C)			-.4305***
Individualism-Collectivism x Job Characteristics:	.19***	.01	
I-C x QC			-.0011
I-C x JEE			-.0008
I-C x NDP			.0054**
I-C x FP			-.0002

[a] Unstandardized regression coefficient from the full model
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

Table 15
Moderated Multiple Regression Analysis
(n=451)

	R^2	Delta R^2	B[a]
Job Characteristics:	.10***	.10***	
Quality Circles (QC)			-.0130
Job Enrichment/Enlargement (JEE)			.1450
New-Design Plants (NDP)			-.0190
Financial Participation (FP)			-.1857
Control:	.10***	.00	
Intolerance of Ambiguity (IoA)			-.1361
Intolerance of Ambiguity x Job Characteristics:	.11***	.01*	
IoA x QC			.0014
IoA x JEE			-.0017
IoA x NDP			.0005
IoA x FP			.0052**

[a] Unstandardized regression coefficient from the full model
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

Table 16
Moderated Multiple Regression Analysis
(n=451)

	R^2	Delta R^2	B[a]
Job Characteristics:	.10***	.10***	
Quality Circles (QC)			.1072***
Job Enrichment/Enlargement (JEE)			-.0580
New-Design Plants (NDP)			.0679
Financial Participation (FP)			.1461**
Control:	.12***	.02***	
Need for Achievement-Affiliation (nAch-nAff)			.3608
Need for Achievement-Affiliation x Job Characteristics:	.14**	.02*	
nAch-nAff x QC			-.0032
nAch-nAff x JEE			.0065**
nAch-nAff x NDP			-.0047
nAch-nAff x FP			-.0042

[a] Unstandardized regression coefficient from the full model
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

Table 17
Moderated Multiple Regression Analysis
(n=451)

	R^2	Delta R^2	B[a]
Job Characteristics:	.10***	.10***	
Quality Circles (QC)			-.0664
Job Enrichment/Enlargement (JEE)			-.7371
New-Design Plants (NDP)			-.1738
Financial Participation (FP)			-.1873
Control:	.13***	.03***	
Authoritarianism (F)			-2.9024
Authoritarianism x Job Characteristics:	.14***	.01	
F x QC			-.0035
F x JEE			.0400
F x NDP			.0186
F x FP			.0308
Controls:	.15***	.01	
Self-Esteem (SE)			-1.1158
SE x F			.0693
SE x QC			.0010
SE x JEE			.0167
SE x NDP			.0048
SE x FP			.0039
Self-Esteem x Authoritarianism x Job Characteristics:	.16***	.01	
SE x F x QC			.0001
SE x F x JEE			-.0009
SE x F x NDP			-.0004
SE x F x FP			-.0005

[a] Unstandardized regression coefficient from the full model
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

Table 18
Moderated Multiple Regression Analysis
(n=451)

	R^2	Delta R^2	B[a]
Job Characteristics:	.10***	.10***	
Quality Circles (QC)			-.0361
Job Enrichment/Enlargement (JEE)			-1.2311
New-Design Plants (NDP)			-1.0640
Financial Participation (FP)			1.7457
Control:	.18***	.08***	
Individualism-Collectivism (I-C)			-1.1527
Individualism-Collectivism x Job Characteristics:	.19***	.01	
I-C x QC			-.0012
I-C x JEE			.0142
I-C x NDP			.0158
I-C x FP			-.0178
Controls:	.20***	.01	
Self-Esteem (SE)			-.8439
SE x I-C			.0123
SE x QC			.0041
SE x JEE			.0234
SE x NDP			.0098
SE x FP			-.0287
Self-Esteem x Individualism-Collectivism x Job Characteristics:	.21***	.01	
SE x I-C x QC			.0000
SE x I-C x JEE			-.0003
SE x I-C x NDP			-.0002
SE x I-C x FP			.0003

[a] Unstandardized regression coefficient from the full model
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

Table 19
Moderated Multiple Regression Analysis
(n=451)

	R^2	Delta R^2	B[a]
Job Characteristics:	.10***	.10***	
Quality Circles (QC)			-.0324
Job Enrichment/Enlargement (JEE)			1.9484***
New-Design Plants (NDP)			-1.2635
Financial Participation (FP)			-.9686
Control:	.10***	.00	
Intolerance of Ambiguity (IoA)			-.3012
Intolerance of Ambiguity x Job Characteristics:	.11***	.01*	
IoA x QC			-.0021
IoA x JEE			-.0386***
IoA x NDP			.0293
IoA x FP			.0200
Controls:	.12***	.01	
Self-Esteem (SE)			-.0619
SE x IoA			.0017
SE x QC			.0006
SE x JEE			-.0306**
SE x NDP			.0206
SE x FP			.0126
Self-Esteem x Intolerance of Ambiguity x Job Characteristics:	.14***	.01*	
SE x IoA x QC			.0001
SE x IoA x JEE			.0006***
SE x IoA x NDP			-.0005
SE x IoA x FP			-.0002

[a] Unstandardized regression coefficient from the full model
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

Table 20
Moderated Multiple Regression Analysis
(n=451)

	R^2	Delta R^2	B[a]
Job Characteristics:	.10***	.10***	
Quality Circles (QC)			-.2372
Job Enrichment/Enlargement (JEE)			.0453
New-Design Plants (NDP)			.2693
Financial Participation (FP)			.7784*
Control:	.12***	.02***	
Need for Achievement-Affiliation (nAch-nAff)			2.2764
Need for Achievement-Affiliation x Job Characteristics:	.14***	.02*	
nAch-nAff x QC			.0037
nAch-nAff x JEE			-.0044
nAch-nAff x NDP			-.0041
nAch-nAff x FP			-.0398
Controls:	.15***	.01	
Self-Esteem (SE)			.4923
SE x nAch-nAff			-.0325
SE x QC			.0063
SE x JEE			-.0018
SE x NDP			-.0036
SE x FP			-.0112
Self-Esteem x Need for Achievement-Affiliation x Job Characteristics:	.16***	.01	
SE x nAch-nAff x QC			-.0001
SE x nAch-nAff x JEE			.0002
SE x nAch-nAff x NDP			.0000
SE x nAch-nAff x FP			.0006

[a] Unstandardized regression coefficient from the full model
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

Table 21
Moderated Multiple Regression Analysis
(n=451)

	R^2	Delta R^2	B[a]
Job Characteristics:	.10***	.10***	
Quality Circles (QC)			1.1551
Job Enrichment/Enlargement (JEE)			.1711
New-Design Plants (NDP)			-7.1567**
Financial Participation (FP)			2.4853
Controls:	.20***	.10***	
Authoritarianism (F)			-3.2456
Individualism-Collectivism (I-C)			-1.7475
Intolerance of Ambiguity (IoA)			-1.6764
Need for Achievement-Affiliation (nAch-nAff)			-.2067
Individual Differences x Job Characteristics:	.24***	.04*	
F x QC			-.0078
F x JEE			.0781*
F x NDP			.0161
F x FP			-.0285
I-C x QC			-.0078
I-C x JEE			.0111
I-C x NDP			.0375*
I-C x FP			-.0236
IoA X QC			-.0089
IoA x JEE			-.0430**
IoA x NDP			.0641*
IoA x FP			.0095
nAch-nAff x QC			-.0150
nAch-nAff x JEE			-.0162
nAch-nAff x NDP			.0433
nAch-nAff x FP			-.0165
Controls:	.26***	.02	
Self-Esteem (SE)			-4.1047
SE x F			.0691
SE x IC			.0221
SE x IoA			.0224
SE x nAch-nAff			.0011

Table 21 (continued)

	R^2	Delta R^2	B[a]
SE x QC			-.0126
SE x JEE			.0001
SE x NDP			.1089*
SE x FP			-.0469
Self-Esteem x Individual Differences x Job Characteristics:	.30***	.04	
SE x F x QC			.0002
SE x F x JEE			-.0015**
SE x F x NDP			-.0002
SE x F x FP			.0004
SE x I-C x QC			.0001
SE x I-C x JEE			-.0002
SE x I-C x NDP			-.0005
SE x I-C x FP			.0004*
SE x IoA X QC			.0001
SE x IoA x JEE			.0007***
SE x IoA x NDP			-.0011*
SE x IoA x FP			-.0001
SE x nAch-nAff x QC			.0001
SE x nAch-nAff x JEE			.0004
SE x nAch-nAff x NDP			-.0007
SE x nAch-nAff x FP			.0003

[a] Unstandardized regression coefficient from the full model
* $p \leq .10$
** $p \leq .05$
*** $p \leq .01$

Appendix A

On the line to the right of each statement, please write the number which best indicates the extent to which you agree or disagree with the statement. If you:

strongly agree.....indicate 1
agree..... 2
agree more than disagree..... 3
neither agree nor disagree..... 4
disagree more than agree..... 5
disagree..... 6
strongly disagree..... 7

1) The most important things that happen to me involve my present job _____

2) To me, my job is only a small part of who I am _____

3) I am very much involved personally in my job _____

4) I live, eat and breathe my job _____

5) Most of my interests are centered around my job _____

6) I have very strong ties with my present job which would be very difficult to break _____

7) Usually I feel detached from my job _____

8) Most of my personal life goals are job-oriented _____

9) I consider my job to be very central to my existence _____

10) I like to be absorbed in my job most of the time _____

Appendix B

On the line to the right of each statement, please write the number which best indicates the extent to which you agree or disagree with the statement. If you:

strongly agree.....indicate 1
agree..... 2
agree more than disagree..... 3
neither agree nor disagree..... 4
disagree more than agree..... 5
disagree..... 6
strongly disagree..... 7

1) What young people need most of all is strict discipline by their parents _____

2) Most people who don't get ahead just don't have enough will power _____

3) A few strong leaders could make this country better than all the laws and talk _____

4) People sometimes say that an insult to your honor should not be forgotten. Do you agree or disagree with that? _____

Appendix C

On the line following each statement, please write the number which best indicates the extent to which you agree or disagree with the statement. If you:

strongly agree.....indicate 1
agree..... 2
agree more than disagree..... 3
neither agree nor disagree..... 4
disagree more than agree..... 5
disagree..... 6
strongly disagree..... 7

1) Only those who depend on themselves get ahead in life _____

2) To be superior a person must stand alone _____

3) If you want something done right you've got to do it yourself _____

4) What happens to me is my own doing _____

5) In the long run the only person you can count on is yourself _____

6) Winning is everything _____

7) I feel that winning is important in both work and games _____

8) Success is the most important thing in life _____

9) It annoys me when other people perform better than I do _____

10) Doing your best isn't enough; it is important to win _____

11) I prefer to work with others in a group rather than working alone _____

12) Given the choice, I would rather do a job where I can work alone rather than doing a job where I have to work with others in a group _____

13) Working with a group is better than working alone _____

14) People should be made aware that if they are going to be part of a group then they are sometimes going to have to do things they don't want to do _____

15) People who belong to a group should realize that they're not always going to get what they personally want _____

16) People in a group should realize that they sometimes are going to have to make sacrifices for the sake of the group as a whole _____

17) People in a group should be willing to make sacrifices for the sake of the group's well-being _____

18) A group is more productive when its members do what they want to do rather than what the group wants them to do _____

19) A group is most efficient when its members do what they think is best rather than doing what the group wants them to do _____

20) A group is more productive when its members follow their own interests and concerns _____

Appendix D

On the line following each statement, please write the number which best indicates the extent to which you agree or disagree with the statement. If you:

strongly agree.....indicate 1
agree..... 2
agree more than disagree..... 3
neither agree nor disagree..... 4
disagree more than agree..... 5
disagree..... 6
strongly disagree..... 7

1) An expert who doesn't come up with a definite answer probably doesn't know too much _____

2) There is really no such thing as a problem that can't be solved _____

3) A good job is one where what is to be done and how it is to be done are always clear _____

4) In the long run it is possible to get more done by tackling small, simple problems rather than large and complicated ones _____

5) What we are used to is always preferable to what is unfamiliar _____

6) A person who leads an even, regular life in which few surprises or unexpected happenings arise, really has a lot to be grateful for _____

7) I like parties where I know most of the people more than ones where all or most of the people are complete strangers _____

8) The sooner we all acquire similar values and ideals the better _____

9) I would like to live in a foreign country for a while _____

10) People who fit their lives to a schedule probably miss most of the joy of living _____

11) It is more fun to tackle a complicated problem than to solve a simple one _____

12) Often the most interesting and stimulating people are those who don't mind being different and original _____

13) People who insist upon a yes or no answer just don't know how complicated things really are _____

14) Many of our most important decisions are based upon insufficient information _____

15) Teachers or supervisors who hand out vague assignments give a chance for one to show initiative and originality _____

16) A good teacher is one who makes you wonder about your way of looking at things _____

Appendix E

Consider the adjectives in each of the pairs that follow and check one adjective in each pair that best describes your characteristically prevailing mood. Work rapidly, put down first impressions, do not worry about contradictory responses. Remember to check one adjective in each pair. When you are finished, you should have 30 check marks.

aggressive___	1	___warm
alert___	2	___trusting
sociable___	3	___ambitious
dominant___	4	___talkative
thoughtful___	5	___capable
efficient___	6	___appreciative
cheerful___	7	___enthusiastic
conscientious___	8	___kind
cooperative___	9	___independent
good-natured___	10	___industrious
intelligent___	11	___considerate
resourceful___	12	___loyal
helpful___	13	___enterprising
pleasant___	14	___assertive
persistent___	15	___contented
planful___	16	___relaxed
mature___	17	___forceful
peaceable___	18	___opportunistic
praising___	19	___persevering
determined___	20	___self-controlled
busy___	21	___accepting

enjoys gossip___	22	___future-oriented
works best with others___	23	___works best alone
curious___	24	___ambitious
neighborly___	25	___independent
thorough___	26	___understanding
accurate___	27	___friendly
ingenious___	28	___sympathetic
enthusiastic___	29	___generous
kind___	30	___planful

Appendix F

On the line to the right of each statement, please write the number which best indicates the extent to which you agree or disagree with the statement. If you:

strongly agree.....indicate 1
agree..... 2
agree more than disagree..... 3
neither agree nor disagree..... 4
disagree more than agree..... 5
disagree..... 6
strongly disagree..... 7

1) I feel that I am a person of worth, at least on an equal basis with others _____

2) I feel that I have a number of good qualities _____

3) All in all, I am inclined to feel that I am a failure _____

4) I am able to do things as well as most other people _____

5) I feel I do not have much to be proud of _____

6) I take a positive attitude toward myself _____

7) On the whole, I am satisfied with myself _____

8) I wish I could have more respect for myself _____

9) I certainly feel useless at times _____

10) At times I think I am no good at all _____

Appendix G

Please indicate the appropriate answer or fill in the blank

Please note: Several of the questions in this survey use the term "work unit." Work unit refers to the part of your company with which you identify most strongly. It may be that you feel a very strong affiliation with your corporation, or perhaps you identify more strongly with your division, subsidiary, plant or office, or your department. Please complete the questionnaire accordingly.

1) The "work unit" with which I identify most strongly is:

a. my corporation _____
b. my division _____
c. my subsidiary _____
d. my plant or office _____
e. my department _____
f. my self-managing work team or autonomous work group _____

2) Approximately how many people are employed in your "work unit"? _____

3) What is the number of supervisory and managerial levels between you and your "work unit's" senior manager? (For example, if your boss is also your work unit's senior manager, the answer is 1. If your boss reports to your work unit's senior manager, the answer is 2, etc.) _____

4) Are you a member of a quality circle or some other type of formal problem-solving group? Please circle either YES or NO.

(If NO, please skip to Question 5)

a. Approximately how often does your quality circle or problem-solving group meet? Please check one:

1. daily _____
2. weekly _____
3. twice a month _____
4. monthly _____
5. quarterly _____
6. semi-annually _____
7. annually _____
8. never or almost never _____

b. Approximately how many employees are in your quality circle or problem-solving group? _____

c. Does your circle or group have any spending authority? In other words, does your circle or group have the authority to spend some of the organization's money in order to achieve its goals? Please circle either YES or NO.

5) Are you a member of a self-managing work team or some other type of autonomous work group? Please circle either YES or NO.

(If NO, please skip to Question 6)

a. Approximately how many members does your work team or group have? _____

b. Does your team or group have a defined work area? (For instance, its own room, or an area identified by lines on the floor or some other type of physical boundary.) Please circle either YES or NO.

c. When you are working, can you easily see and communicate with some or all of the other members of your work team or group? Please circle either YES or NO.

d. Is there job rotation in your work team or group? In other words, do the members of your team or group exchange jobs with one another at regular intervals? Please circle either YES or NO.

e. For which of the following is your work team or group responsible? Please check the appropriate items:

1. work methods (how the team or group gets its job done) _____
2. scheduling work (including how much work the team or group actually gets done) _____
3. task assignments (who on the work team or group does what job) _____
4. quality control/inspection (of the team or group's work product or service) _____
5. maintenance of the team or group's work area _____
6. ordering or purchasing materials or equipment needed to get the team or group's job done _____
7. selecting the team or group's leader _____
8. hiring/firing decisions (within the work team or group) _____

(continued on next page)

9. training new members of the work team or group _____
10. deciding how much each member of the work team or group gets paid _____

6) For which of the following items are YOU responsible in your job? Please check the appropriate items:

a. when you begin and end work each day _____
b. scheduling your work (including how much work you actually do) _____
c. what tasks you perform on any given day _____
d. work methods (in other words, how you get your job done) _____
e. quality control/inspection of your work (either product or service) _____
f. maintenance of your work area _____
g. ordering or purchasing materials or equipment needed to get your job done _____
h. seeking solutions to problems you encounter in your job _____
i. advising or training less experienced employees _____

7) How often do you receive feedback, either formally or informally, regarding your performance? Please check one:

a. daily _____
b. weekly _____
c. twice a month _____
d. monthly _____
e. quarterly _____
f. semi-annually _____
g. annually _____
h. never or almost never _____

8) Which, if any, of the following types of job-related training have you received from your company? Please check the appropriate items:

a. interpersonal-skills training _____
b. training in economic or financial analysis _____
c. decision-making skills training _____
d. technical training (how to do your job or other jobs) _____
e. leadership training _____
f. training in the use of statistical techniques _____

9) Approximately how many repetitions of your task do you perform in the average day? (For instance, while an assembly line worker may perform his or her task several hundred times in the average day, a teacher or supervisor may perform his or her task several times a day, and senior managers, airline pilots, or surgeons may perform their tasks only once a day on average.) _____

10) Are you eligible for skill-based pay? In other words, are you paid for the number of tasks you are CAPABLE OF PERFORMING in addition to the task you are currently performing? Please circle either YES or NO.

11) Are you eligible for incentive compensation? (Such as a performance-based bonus, gainsharing, profit sharing, or a commission of some type.) Please circle either YES or NO.

(If NO, please skip to Question 12)

a. Approximately what percentage of your total annual compensation do you receive through these incentives? (For example, if you earn $30,000 a year and $10,000 of the $30,000 is received in the form of a bonus, then the answer is 10,000/30,000 = 33.3%.) Please indicate either the ratio (in this example 10,000/30,000) or the percentage (in this example 33.3%). _____

b. Which of the following is the MOST important determinant of how much incentive compensation you receive? Please check one:

1. your performance on the job _____
2. the performance of your self-managing work team or group _____
3. the performance of your department _____
4. the performance of your plant or office _____
5. the performance of your subsidiary, division, or corporation _____

(If you answered "1" or "2," please skip to Question 12)

c. Approximately how many employees are in the department, plant or office, or subsidiary, division, or corporation to which you are referring? _____

12) Are management issues (such as organizational performance, strategy, forecasts, or changes in policies) discussed with or communicated to the employees of your company once a year or more? Please circle either YES or NO.

13) Approximately what multiple of your total annual compensation does your "work unit's" (remember the definition!) senior manager earn? (For example, if you earn $10,000 and your work unit's senior manager earns $30,000, then the answer is 30,000/10,000 = 3.) Please indicate either the ratio (in this example 30,000/10,000) or the multiple (in this example 3). _____

14) What is the approximate market value of the stock that you own in your company as a percentage of your total annual compensation? (This calculation should include any stock held FOR you, for instance, in an Employee Stock Ownership Plan--an ESOP. (For example, if you own $10,000 worth of stock in your corporation and you earn $30,000 per year, then the answer is 10,000/30,000 = 33.3%.) Please indicate either the ratio (in this example 10,000/30,000) or the percentage (in this example 33.3%). _____

15) Approximately what percentage of your "work unit's" employees do you think will be laid-off or otherwise involuntarily terminated in the next 12 months? (For example, if your work unit currently has 100 employees and you think that approximately 15 will be laid-off in the next 12 months, then the answer is 15/100 = 15%.) Please indicate either the ratio (in this example 15/100) or the percentage (in this example 15%). _____

16) Which, if any, of the following training programs designed to help individual employees meet the stress of contemporary life does your company offer? Please check the appropriate items:

a. stress-management programs _____
b. career-planning/development programs _____
c. personal-development programs _____
d. assertiveness-training programs _____
e. treatment or counseling for drug or alcohol abuse _____
f. psychological counseling _____
g. other (please specify) _____

References

Abbey, A., Dunkel-Schetter, C., and Brickman, P. (1983). Handling the stress of looking for a job in law school: The relationship between intrinsic motivation, internal attributions, relations with others, and happiness. Basic and Applied Social Psychology, 4, 263-278.

Abdel-Halim, A.A. (1979). Individual and interpersonal moderators of employee reactions to job characteristics: A reexamination. Personnel Psychology, 32, 121-137.

Abramson, L.Y., Seligman, M.E.P., and Teasdale, J.D. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 87, 49-74.

Adelmann, P.K. (1987). Occupational complexity, control, and personal income: Their relation to psychological well-being in men and women. Journal of Applied Psychology, 72, 4, 529-537.

Adorno, T.W., Frenkel-Brunswick, E., Levinson, D.J., and Sanford, R.N. (1950). The authoritarian personality. New York, New York: Harper and Row.

Aiken, M. and Hage, J. (1966). Organizational alienation: A comparative analysis. American Sociological Review, 31, 497-507.

Aldag, R.J., Barr, S.H., and Brief, A.P. (1981). Measurement of perceived task characteristics. Psychological Bulletin, 90, 415-431.

Allport, G.W. (1943). The ego in contemporary psychology. Psychological Review, 50, 451-476.

Allport, G.W. (1947). The psychology of participation. Psychological Review, 52, 117-132.

Allport, G.W. (1954). The nature of prejudice. Reading, Massachusetts: Addison-Wesley.

American Psychological Association, Division of Industrial-Organizational Psychology (1980). Principles for the validation and use of personnel selection procedures (2nd Ed.). Berkley, California: Author.

Argyris, C. (1957). Personality and organization. New York, New York: Harper.

Arnold, H.J. (1982). Moderator variables: A clarification of conceptual, analytic, and psychometric issues. Organizational Behavior and Human Performance, 29, 143-174.

Arnold, H.J. (1984). Testing moderator variable hypotheses: A reply to Stone and Hollenbeck. Organizational Behavior and Human Performance, 34, 214-224.

Ashforth, B.E. (1989). The experience of powerlessness in organizations. Organizational Behavior and Human Decision Processes, 43, 207-242.

Averill, J.R. (1973). Personal control over aversive stimuli and its relationship to stress. Psychological Bulletin, 80, 4, 286-303.

Babbage, C. (1832). On the economy of machinery and manufacturers. Philadelphia, Pennsylvania: Carey and Lea.

Barra, R. (1983). Putting quality circles to work: A practical strategy for boosting productivity and profits. New York, New York: McGraw-Hill.

Bartlett, C.J., Bobko, P., Mosier, S.B., and Hannan, R. (1978). Testing for fairness with a moderated regression strategy: An alternative to differential analysis. Personnel Psychology, 31, 223-241.

Bass, B.M. (1965). Organizational psychology. Boston, Massachusetts: Allyn and Bacon.

Beck, D. (1992). Implementing a gainsharing plan: What companies need to know. Compensation and Benefits Review, 24, 21-33.

Becker, S.W. and Brownson, F.O. (1964). What price ambiguity? Or the role of ambiguity in decision making. Journal of Political Economy, 72, 62-73.

Berger, C.J. and Schwab, D.P. (1980). Pay incentives and pay satisfaction. Industrial Relations, 19, 2, 206-211.

Bhagat, R.S. and Schassie, M.B. (1980). Effects of changes in job characteristics on some theory-specific attitudinal outcomes: Results from a naturally occurring quasi-experiment. Human Relations, 33, 297-313.

Blake, B.F., Perloff, R., Zenhausern, R., and Heslin, R. (1973). The effect of intolerance of ambiguity upon product perceptions. Journal of Applied Psychology, 58, 2, 239-243.

Blascovich, J. and Tomaka, J. (1991). Measures of self-esteem. In Robinson, J.P., Shaver, P.R., and Wrightsman, L.S. (Eds.), Measures of personality and social psychological attitudes, 115-160. San Diego, California; Academic Press.

Blau, G.J. (1985). A multiple study investigation of the dimensionality of job involvement. Journal of Vocational Behavior, 27, 19-36.

Blau, G.J. (1986). Job involvement and organizational commitment as interactive predictors of tardiness and absenteeism. Journal of Management, 12. 4, 577-584.

Blau, G.J. (1987). Using a person-environment fit model to predict job involvement and organization commitment. Journal of Vocational Behavior, 30, 240-257.

Blau, G.J. (1988). Further exploring the meaning and measurement of career commitment. Journal of Vocational Behavior, 32, 284-297.

Blau, G.J., Paul, A., and St. John, N. (1993). On developing a general index of work commitment. Journal of Vocational Behavior, 42, 298-314.

Blinder, A.S. (1990). Pay, participation, and productivity: A report on the evidence. Brookings Review, 8, 33-38.

Blauner, R. (1964). Alienation and freedom: The factory worker and his industry. Chicago, Illinois: University of Chicago Press.

Blood, M.R. (1969). Work values and job satisfaction. Journal of Applied Psychology, 33, 456-459.

Blood, M.R. and Hulin, C.L. (1967). Alienation, environmental characteristics, and worker responses. Journal of Applied Psychology, 51, 284-290.

Blood, M.R. and Mullet, G.M. (1977). Where have all the moderators gone: The perils of Type II error (Tech. Rep. No. 11). Georgia Institute of Technology, College of Industrial Management, Atlanta.

Bobko, P. and Bartlett, C.J. (1978). Subgroup validities: Differential definitions and differential prediction. Journal of Applied Psychology, 63, 12-14.

Bond, M.H., Leung, K., and Wan, K.C. (1982). How does cultural collectivism operate? The impact of task and maintenance contributions on reward distribution. Journal of Cross-Cultural Psychology, 13, 186-200.

Bonoma, T.V. and Johnston, W.J. (1979). Decision making under uncertainty: A direct measurement approach. Journal of Consumer Research, 6, 177-191.

Bowers, K. (1968). Pain, anxiety, and perceived control. Journal of Consulting and Clinical Psychology, 32, 596-602.

Bradley, K. and Hill, S. (1987). Quality circles and managerial interests. Industrial Relations, 26, 1, 68-82.

Brief, A.P. and Aldag, R.J. (1975). Employee reactions to job characteristics: A constructive replication. Journal of Applied Psychology, 60, 182-186.

Budner, S. (1962). Intolerance of ambiguity as a personality variable. Journal of Personality, 30, 29-50.

Bullock, R.J. and Bullock, P.F. (1982). Gainsharing and Rubik's cube: Solving system problems. National Productivity Review, 2, 1, 396-407.

Bullock, R.J. and Lawler, E.E. (1984). Gainsharing: A few questions, and fewer answers. Human Resource Management, 23, 23-40.

Bullock, R.J. and Perlow, R. (1986). The effects of gainsharing on fundamental job attitudes. Academy of Management best papers proceedings, 229-233. Chicago, Illinois: Academy of Management.

Caldwell, D.F. and O'Reilly, C.A. (1982). Task perceptions and job satisfaction: A question of causality. Journal of Applied Psychology, 67, 361-369.

Campbell, D.T. and Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 56, 2, 81-105.

Carroll, J.S., Perkowitz, W.T., Lurigio, A.J., and Weaver, F.M. (1987). Sentencing goals, causal attributions, ideology, and personality. Journal of Personality and Social Psychology, 52, 1, 107-118.

Champoux, J.E. (1978). A preliminary examination of some complex job scope-growth need strength interactions. Proceedings of the Academy of Management, 38, 59-63.

Champoux, J.E. (1980). A three sample test of some extensions to the job characteristics model of work motivation. Academy of Management Journal, 23, 466-479.

Champoux, J.E. (1981). The moderating effect of work context satisfactions on the curvilinear relationship between job scope and affective response. Human Relations, 34, 6, 503-515.

Champoux, J.E. and Peters, W.S. (1980). Applications of moderated regression in job design research. Personnel Psychology, 33, 759-783.

Christie, R. (1991). Authoritarianism and related constructs. In J.P. Robinson, P.R. Shaver, and L.S. Wrightsman (Eds.), Measures of personality and social psychological attitudes, 501-572. New York, New York: Academic Press.

Cohen, J. (1965). Some statistical issues in psychological research. In B.B. Wolman (Ed.), Handbook of clinical psychology. New York, New York: McGraw-Hill.

Cohen, J. (1978). Partialled products are interactions; partialled powers are curve components. Psychological Bulletin, 85, 858-866.

Cohen, J. and Cohen, P. (1975). Applied multiple regression /correlational analysis for the behavioral sciences. Hillsdale, New Jersey: Erlbaum.

Cohen, J. and Cohen, P. (1983). Applied multiple regression /correlational analysis for the behavioral sciences (2nd Ed.). Hillsdale, New Jersey: Erlbaum.

Connors, J. and Heaven, P.C. (1987). Authoritarianism and just world beliefs. Journal of Social Psychology, 127, 3, 345-346.

Conte, M.A. and Tannenbaum, A.S. (1978). Employee-owned companies: Is the difference measurable. Monthly Labor Review, 101, 23-28.

Cooper, M.R., Morgan, B.S., Foley, P.M., and Kaplan, L.B. (1979). Changing employee values: Deepening discontent? Harvard Business Review, 1, 117-125.

Cordery, J.L., Mueller, W.S., and Smith, L.M. (1991). Attitudinal and behavioral effects of autonomous group working: A longitudinal field study. Academy of Management Journal, 34, 464-476.

Corlett, J.A. (1988). Alienation in capitalist society. Journal of Business Ethics, 7, 699-701.

Cotton, J.L. (1993). Employee involvement: Methods for improving performance and work attitudes. Newbury Park, California: Sage Publications.

Cotton, J.L., Vollrath, D.A., Froggatt, K.L., Lengnick-Hall, M.L., and Jennings, K.R. (1988). Employee participation: Diverse forms and different outcomes. Academy of Management Journal, 13, 8-22.

Crampton, S.M. and Wagner, J.A., III (1994). Percept-percept inflation in microorganizational research: An investigation of prevalence and effect. Journal of Applied Psychology, 79, 1, 67-76.

Crandall, J.E. (1968). Effects of need for approval and intolerance of ambiguity upon stimulus preference. Journal of Personality, 36, 67-83.

Crandall, C.S. and Biernat, M. (1990). The ideology of anti-fat attitudes. Journal of Applied Social Psychology, 20, 3, 227-243.

Crutchfield, R. (1955). Conformity and character. American Psychologist, 10, 191-198.

Cummings, T.G. (1978). Self-regulating work groups: A socio-technical synthesis. Academy of Management Review, 3, 625-634.

Cummings, T.G. and Bigelow, J. (1976). Satisfaction, job involvement, and intrinsic motivation: An extension of Lawler and Hall's factor analysis. Journal of Applied Psychology, 61, 523-525.

Cummings, T.G. and Molloy, E.S. (1977). Improving productivity and the quality of work life. New York, New York: Praeger.

Cunningham, J.A., Dollinger, S.J., Satz, M., and Rotter, N.S. (1991). Personality correlates of prejudice against AIDS victims. Bulletin of the Psychometric Society, 29, 2, 165-167.

Cunningham, M., Steinberg, J., and Grev, R. (1980). Wanting to and having to help: Separate motivations for positive mood and guilt-induced helping. Journal of Personality and Social Psychology, 38, 181-192.

Currim, I.S. and Sarin, R.K. (1983). A procedure for measuring and estimating consumer preferences under uncertainty. Journal of Marketing Research, 20, 249-256.

Currim, I.S. and Sarin, R.K. (1984). A comparative evaluation of multiattribute consumer preference models. Management Science, 30, 543-561.

Darrow, A.L. and Kahl, D.R. (1982). A comparison of moderated regression techniques considering strength of effects. Journal of Management, 8, 2, 35-47.

Davis, L. (1957). Job design and productivity: A new approach. Personnel, 33, 418-430.

Deci, E.L., Connell, J.P., and Ryan, R.M. (1989). Self-determination in a work organization. Journal of Applied Psychology, 74, 4, 580-590.

DeForge, B.R. and Sobal, J. (1989). Intolerance of ambiguity in students entering medical school. Social Science and Medicine, 28, 869-874.

Dekker, P. and Ester, P. (1992). Authoritarianism and beliefs about the unemployed. Politics and the Individual, 2, 1, 13-28.

Dillon, J.L. (1985). Quality circles: The Sperry approach. In Y.K. Shetty and V.M. Buehler (Eds.), Productivity and quality through people: Practices of well-managed companies, 271-273. New York, New York: Quorum.

Dobson, C., Goudy, W.J., Keith, P.M., and Powers, E. (1979). Further analysis of Rosenberg's Self-esteem Scale. Psychological Reports, 44, 639-641.

Dohrenwend, B.S. (1973). Social status and stressful life events. Journal of Personality and Social Psychology, 9, 203-214.

Dollinger, M.J. (1983). Use of Budner's intolerance of ambiguity measure for entrepreneurial research. Psychological Reports, 53, 1019-1021.

Doyle, R.J. (1983). Gainsharing and productivity: A guide to planning, implementation, and development. New York, New York: AMACOM.

Dubin, R. (1956). Industrial workers' worlds: A study of the "central life interests" of industrial workers. Social Problems, 3, 131-142.

Duckitt, J.H. (1985). Social class and F scale authoritarianism: A reconsideration. High School Journal, 68, 279-286.

Duckitt, J.H. (1989). Authoritarianism and group identification: A new view of an old construct. Political Psychology, 10, 1, 63-84.

Dulworth, M.R., Landen, D.L., and Usilaner, B.L. (1990). Employee involvement systems in U.S. corporations: Right objectives, wrong strategies. National Productivity Review, 9, 141-156.

Dunham, R.B. (1977). Reactions to job characteristics: Moderating effects of the organization. Academy of Management Journal, 20, 42-65.

Dunlap, W.P. and Kemery, B.R. (1988). Effects of predictor intercorrelations and reliabilities on moderated multiple regression. Organizational Behavior and Human Decision Processes, 41, 248-258.

Earley, P.C. (1993). East meets West meets Mideast: Further explorations of collectivistic and individualistic work groups. Academy of Management Journal, 36, 2, 319-348.

Eichar, D.M. and Thompson, J.L.P. (1986). Alienation, occupational self-direction, and worker consciousness. Work and Occupations, 13, 1, 47-65.

Emery, F.E. (1959). Characteristics of sociotechnical systems. Tavistock Institute of Human Relations, Doc. 527.

Emery, F.E. and Trist, E.L. (1965). The causal texture of organizational environments. Human Relations, 18, 21-32.

Endler, N.S. and Magnusson, D. (1976). Toward an interactional psychology of personality. Psychological Bulletin, 83, 5, 956-974.

Epstein, R. (1965). Authoritarianism, displaced aggression, and social status of the target. Journal of Personality and Social Psychology, 2, 585-589.

Erez, M. and Earley, P.C. (1987). Comparative analysis of goal setting strategies across cultures. Journal of Applied Psychology, 72, 658-665.

Farr, J.L. (1976). Task characteristics, reward contingency, and intrinsic motivation. Organizational Behavior and Human Performance, 16, 294-307.

Farrell, C., Smart, T., and Hammonds, K.H. (1989, March 20). Suddenly, blue chips are red-hot for ESOPs. Business Week, 144.

Fayol, H. (1949). General and industrial management, trans. C. Storrs. London: Pitman Publishing.

Flanders, J.P. (1968). A review of research on imitative behavior. Psychological Bulletin, 69, 5, 316-337.

Fleming, J.S. and Courtney, B.E. (1984). The dimensionality of self-esteem, II. Hierarchical facet model for revised measurement scales. Journal of Personality and Social Psychology, 46, 404-421.

Frank, L.L. and Hackman, J.R. (1975). A failure of job enrichment: The case of the change that wasn't. Journal of Applied Behavioral Science, 11, 413-436.

French, J.L. and Rosenstein, J. (1984). Employee ownership, work attitudes, and power relationships. Academy of Management Journal, 27, 861-869.

Frenkel-Brunswick, E. (1949). Intolerance of ambiguity as an emotional and perceptual personality variable. In J.S. Bruner and D. Krech (Eds.), Perception and personality: A symposium. Durham, North Carolina: Duke University Press.

Fried, Y. and Ferris, G.R. (1987). The validity of the job characteristics model: A review and meta-analysis. Personnel Psychology, 40, 287-322.

Frone, M.R. (1990). Intolerance of ambiguity as a moderator of the occupational role stress-strain relationship: A meta-analysis. Journal of Organizational Behavior, 11, 309-320.

Gannon, M.J. and Hendrickson, D.H. (1973). Career orientation and job satisfaction among working wives. Journal of Applied Psychology, 57, 339-340.

General Accounting Office (1981). Productivity sharing programs: Can they contribute to productivity improvement? (AFMD-81-22). Gaithersburg, Maryland: Author.

General Accounting Office (1986). Employee stock ownership plans: Benefits and costs of ESOP tax incentives for broadening stock ownership (GAO/PEMD-87-8). Washington, D.C.: Author.

General Accounting Office (1987). Employee stock ownership plans: Little evidence of effects on corporate performance (GAO/PEMD-88-1). Washington, D.C.: Author.

Ghiselli, E.E. (1964). Theory of psychological measurement. New York, New York: McGraw-Hill.

Ghiselli, E.E., Campbell, J.P., and Zedeck, S. (1981). Measurement theory for the behavioral sciences. San Francisco, California: Freeman.

Gire, J.T. and Carment, D.W. (1991). Dealing with disputes: The influence of individualism-collectivism. The Journal of Social Psychology, 133, 81-95.

Goldstein, S. (1978). Employee share ownership and motivation. Journal of Industrial Relations, 20, 311-330.

Goodman, P.S., Rose, J.H., and Furcon, J.E. (1970). Comparison of motivational antecedents of the work performance of scientists and engineers. Journal of Applied Psychology, 54, 491-495.

Gorn, G.J. and Kanungo, R.N. (1980). Job involvement and motivation: Are intrinsically motivated managers more job involved? Organizational Behavior and Human Performance, 26, 265-277.

Gough, H.G. (1965). The adjective check list. Palo Alto, California: Consulting Psychologists Press.

Gould, S. (1979). Age, job complexity, and performance. Journal of Vocational Behavior, 14, 209-223.

Graham-Moore, B.E. and Ross, T.L. (1983). Productivity gain sharing. Englewood Cliffs, New Jersey: Prentice-Hall.

Granberg, D. and Corrigan, G. (1972). Authoritarianism, dogmatism, and orientations toward the Vietnam war. Sociometry, 35, 468-476.

Greenberg, E.S. (1980). Participation in industrial decision making and work satisfaction: The case of producer cooperatives. Social Science Quarterly, 60, 4, 551-569.

Griffeth, R.W. (1985). Moderation of the effects of job enrichment by participation: A longitudinal field experiment. Organizational Behavior and Human Decision Processes, 35, 73-93.

Griffin, R.W. (1980). Relationships among individual, task design, and leader-behavior variables. Academy of Management Journal, 23, 665-683.

Griffin, R.W. (1981). A longitudinal investigation of task characteristics relationships. Academy of Management Journal, 24, 99-113.

Griffin, R.W. (1988). Consequence of quality circles in an industrial setting: A longitudinal assessment. Academy of Management Journal, 31, 338-358.

Griffin, R.W. (1991). Effects of work redesign on employee perceptions, attitudes, and behaviors: A long-term investigation. Academy of Management Journal, 34, 425-435.

Guion, R. (1958). Industrial morale--the problem of terminology. Personnel Psychology, 11, 59-61

Gurin, G., Veroff, J., and Feld, S. (1960). Americans view their mental health. New York, New York: Basic Books.

Guzzo, R.A., Jette, R.D., and Katzell, R.A. (1985). The effects of psychologically based intervention programs on worker productivity: A meta-analysis. Personnel Psychology, 38, 275-291.

Hackman, R.C. (1969). The motivated working adult. New York, New York: American Management Association.

Hackman, J.R. and Lawler, E.E., III (1971). Employee reactions to job characteristics. Journal of Applied Psychology, 55, 3, 259-286.

Hackman, J.R. and Oldham, G.R. (1975). Development of the job diagnostic survey. Journal of Applied Psychology, 60, 2, 159-170.

Hackman, J.R. and Oldham, G.R. (1976). Motivation through the design of work: Test of a theory. Organizational Behavior and Human Performance, 16, 250-279.

Hackman, J.R. and Oldham, G.R. (1980). Work redesign. Reading, Massachusetts: Addison-Wesley.

Hackman, J.R., Pearce, J.L., and Wolfe, J.C. (1978). Effects of changes in job characteristics on work attitudes and behaviors: A naturally occurring quasi-experiment. Organizational Behavior and Human Performance, 21, 289-304.

Halaby, C.N. and Weakliem, D.L. (1989). Worker control and attachment to the firm. American Journal of Sociology, 95, 3, 549-591.

Hall, D.T. and Lawler, E.E., III (1970). Job characteristics and pressures and the organizational integration of professionals. Administrative Science Quarterly, 15, 271-281.

Hall, D.T. and Mansfield, R. (1971). Organizational and individual response to external stress. Administrative Science Quarterly, 16, 533-547.

Hammer, T., Stern, R., and Gurdon, M. (1982). Workers' ownership and attitudes towards participation. In F. Lindenfeld and J. Rothschild-Whitt (Eds.), Workplace democracy and social change, 87-108. Boston, Massachusetts: Porter Sargent.

Hauser, J.R. and Urban, G.L. (1977). A normative methodology for modeling consumer response to innovations. Operations Research, 24, 4, 579-619.

Hauser, J.R. and Urban, G.L. (1979). Assessment of attribute importances and consumer utility functions: von Neumann Morgenstern Theory applied to consumer behavior. Journal of Consumer Research, 5, 251-262.

Hays, W.L. (1973). Statistics for the social sciences. New York, New York: Holt, Rinehart, and Winston.

Heckhausen, H. (1967). The anatomy of achievement motivation. New York, New York: Academic Press.

Heneman, R.L., Greenberger, D.B., and Strasser, S. (1988). The relationship between pay-for-performance perceptions and pay satisfaction. Personnel Psychology, 41, 745-759.

Heneman, , H.G., III and Schwab, D.P. (1975). Work and rewards. In D. Yoder and H.G. Heneman, Jr. (Eds.), Motivation and commitment, 1-21. Washington, D.C.: Bureau of National Affairs.

Herbst, P.G. (1974). Socio-technical design: Strategies in multidisciplinary research. London: Tavistock.

Herzberg, F. (1966). Work and the nature of man. New York, New York: World.

Herzberg, F., Mausner, B., and Snyderman, B. (1959). The motivation to work. New York, New York: John Wiley.

Hofstede, G, (1980). Culture's consequences. Beverly Hills, California: Sage.

Hofstede, G. (1990). A reply and comment on Joginder P. Singh: 'Managerial culture and work-related values in India.' Organization Studies, 11, 1, 103-106.

Holmes, D.S. and Houston, B.K. (1974). Effectiveness of situation redefinition and affective isolation in coping with stress. Journal of Personality and Social Psychology, 29, 212-218.

House, R.J. and Wigdor, L.A. (1967). Herzberg's dual-factor theory of job satisfaction and motivation: A review of the evidence and a criticism. Personnel Psychology, 20, 4, 369-389.

Howard, A., Shudo, K., and Umeshima, M. (1983). Motivation and values among Japanese and American managers. Personnel Psychology, 36, 883-898.

Hui, C.H. (1984). Individualism-collectivism: Theory, measurement, and its relation to reward allocation. Unpublished doctoral dissertation, University of Illinois at Urbana-Champaign.

Hui, C.H. (1988). Measurement of individualism-collectivism. Journal of Research on Personality, 22, 17-36.

Hui, C.H., Triandes, H.C., and Yee, C. (1991). Cultural differences in reward allocation: Is collectivism the explanation? British Journal of Social Psychology, 30, 145-157.

Hui, C.H. and Villareal, M.J. (1989). Individualism-collectivism and psychological needs. Journal of Cross-Cultural Psychology, 20, 310-323.

Hulin, C. and Blood, M.R. (1968). Job enlargement, individual differences, and worker responses. Psychological Bulletin, 69, 1, 41-55.

Hunt, J.W. (1981). Applying American behavioural science: Some cross-cultural implications. Organizational Dynamics, 10, 1, 55-62.

Inkeles, A. and Levinson, D.J. (1954). National character: The study of modal personality and social systems. In G. Lindzey (Ed.), Handbook of social psychology, 975-1020. Cambridge, Massachusetts: Addison-Wesley.

Jenkins, D. (1978). The truth at Volvo. Management Today, 84-89.

Johnson, S.D. (1992). Anti-Arabic prejudice in "Middletown." Psychological Reports, 70, 3, 811-818.

Johnson, J.H. and Sarason, I.G. (1978). Life stress, depression, and anxiety: Internal-external control as a moderator variable. Journal of Psychosomatic Research, 22, 205-208.

Johnson, A.G. and Whyte, W.F. (1977). The Mondragon system of worker production cooperatives. Industrial and Labor Relations Review, 31, 18-30.

Jones, A.P., James, L.R., and Bruni, J.R. (1975). Perceived leadership behavior and employee confidence in the leader as moderated by job involvement. Journal of Applied Psychology, 60, 146-149.

Kanfer, F.H. and Seidner, M.L. (1973). Self-control: Factors enhancing tolerance of noxious stimulation. Journal of Personality and Social Psychology, 25, 381-389.

Kanter, R.M., Summers, D.V., and Stein, B.A. (1986). The future of workplace alternatives. Management Review, 75, 7, 30-33.

Kanungo, R.N. (1979). The concepts of alienation and involvement revisited. Psychological Bulletin, 86, 1, 119-138.

Kanungo, R.N. (1982). Work alienation. New York, New York: Praeger Publishers.

Karasek, R.A., Jr. (1979). Job demands, decision latitude, and mental strain: Implications for job redesign. Administrative Sciences Quarterly, 24, 285-308.

Katz, R. (1978a). Job longevity as a situational factor in job satisfaction. Administrative Science Quarterly, 23, 204-223.

Katz, R. (1978b). The influence of job longevity on employee reactions to task characteristics. Human Relations, 31, 703-725.

Katzell, R.A. and Dyer, F.J. (1977). Differential validity revived. Journal of Applied Psychology, 62, 137-145.

Katzell, R.A. and Dyer, F.J. (1978). On differential validity and bias. Journal of Applied Psychology, 63, 19-21.

Kaufman, R.T. (1992). The effects of Improshare on productivity. Industrial and labor Relations, 45, 311-322.

Keenan, A. and McBain, G.D.M. (1979). Effects of Type A behavior, intolerance of ambiguity, and locus of control on the relationship between role stress and work-related outcomes. Journal of Occupational Psychology, 52, 277-285.

Kelly, J.E. (1978). A reappraisal of sociotechnical systems theory. Human Relations, 12, 1069-1099.

Kelly, J.E. (1985). Quality circles in Fort Collins: A municipal perspective and experience. Public Personnel Management, 14, 4, 401-408.

Kemp, N.J. and Cook, J.D. (1983). Job longevity and growth need strength as joint moderators of the task design-job satisfaction relationship. Human Relations, 36, 10, 883-898.

Kerlinger, F.N. and Pedhazur, E.J. (1973). Multiple regression in behavioral research. New York, New York: Holt.

Kessler, R.C. (1982). A dissaggregation of the relationship between socio-economic status and psychological distress. American Sociological Review, 47, 752-764.

Kessler, R.C. and Cleary, P.D. (1980). Social class and psychological distress. American Sociological Review, 45, 463-478.

Kim, K.I., Park, H.J., and Suzuki, N. (1990). Reward allocations in the United States, Japan, and Korea: A comparison of individualistic and collectivistic cultures. Academy of Management Journal, 33, 188-198.

Klein, K.J. (1987). Employee stock ownership and employee attitudes: A test of three models. Journal of Applied Psychology, 72, 319-332.

Klein, K.J. and Hall, R.J. (1988). Correlates of employee satisfaction with stock ownership: Who likes an ESOP most? Journal of Applied Psychology, 73, 630-638.

Kohn, M.L. (1976). Occupational structure and alienation. American Journal of Sociology, 82, 111-130.

Kohn, M.L. and Schooler, C. (1969). Class, occupation, and orientation. American Sociological Review, 34, 659-678.

Kohn, M.L. and Schooler, C. (1982). Job conditions and personality: A longitudinal assessment of their reciprocal effects. American Journal of Sociology, 87, 1257-1286.

Kopelman, R.E. (1985). Job redesign and productivity: A review of the evidence. National Productivity Review, 4, 237-255.

Korman, A.K. (1966). The self-esteem variable in vocational choice. Journal of Applied Psychology, 50, 479-486.

Korman, A.K. (1967). Self-esteem as a moderator of the relationship between self-perceived abilities and vocational choice. Journal of Applied Psychology, 51, 65-67.

Korman, A.K. (1968). Self-esteem, social influence, and task performance: Some tests of a theory. Proceedings, 76th Annual Convention, American Psychological Association.

Korman, A.K. (1969). Self-esteem as a moderator in vocational choice: Replications and extensions. Journal of Applied Psychology, 53, 3, 188-192.

Korman, A.K. (1973). On the development of contingency theories of leadership: Some methodological considerations and a possible alternative. Journal of Applied Psychology, 58, 3, 384-387.

Korman, A.K. and Korman, R.W. (1980). Career success/personal failure: Alienation in management. Englewood Cliffs, New Jersey: Prentice-Hall.

Korman, A.K., Wittig-Berman, U., and Lang, D. (1981). Career success and personal failure: Alienation in professionals and managers. Academy of Management Journal, 24, 2, 342-360.

Lane, R.E. (1955). Political personality and electoral choice. American Political Science Review, 49, 173-190.

Langer, E.J. and Rodin, J. (1976). The effects of choice and enhanced personal responsibility for the aged: A field experiment in an institutional setting. Journal of Personality and Social Psychology, 34, 191-198.

Larson, J.R., Jr. (1980). Exploring the external validity of a subjectively weighted utility model of decision-making. Organizational Behavior and Human Performance, 26, 293-304.

Lawler, E.E., III (1969). Job design and employee motivation. Personnel Psychology, 22, 426-435.

Lawler, E.E., III (1971). Pay and organizational effectiveness: A psychological view. New York, New York: McGraw-Hill.

Lawler, E.E., III (1973). Motivation in work organizations. Monterey, California: Brooks\Cole.

Lawler, E.E., III (1977). Adaptive experiments: An approach to organizational behavior research. Academy of Management Review, 2, 576-585.

Lawler, E.E., III (1978). The new plant revolution. Organizational Dynamics, 6, 3, 2-12.

Lawler, E.E., III (1986). High-involvement management: Participative strategies for improving organizational performance. San Francisco, California: Jossey-Bass.

Lawler, E.E. III (1990). The new plant revolution revisited. Organizational Dynamics, 19, 2, 5-14.

Lawler, E.E., III, Hackman, J.R., and Kaufman, S. (1973). Effects of job redesign: A field experiment. Journal of Applied Social Psychology, 3, 49-62.

Lawler, E.E., III and Hall, D.T. (1970). Relationship of job characteristics to job involvement, satisfaction, and intrinsic motivation. Journal of Applied Psychology, 54, 4, 305-312.

Lawler, E.E., III and Ledford, G.E. (1985). Skill based pay. Personnel, 62, 9, 30-37.

Leana, C.R., Locke, E.A., and Schweiger, D.M. (1990). Fact and fiction in analyzing research on participative decision making: A critique of Cotton, Vollrath, Froggatt, Lengnick-Hall, and Jennings. Academy of Management Review, 15, 1, 137-146.

Lee, C. and Schuler, R. (1982). A constructive replication and extension of a role and expectancy perception model of participation in decision making. Journal of Occupational Psychology, 55, 109-118.

Leung, K. and Bond, M.H. (1984). The impact of cultural collectivism on reward allocation. Journal of Personality and Social Psychology, 4, 793-804.

Leung, K. and Iwawaki, S. (1988). Cultural collectivism and distributive behavior. Journal of Cross-Cultural Psychology, 19, 1, 35-49.

Likert, R. (1961). New patterns of management. New York, New York: McGraw-Hill.

Likert, R. (1967). The human organization. New York, New York: McGraw-Hill.

Lindgren, H.C. (1976). Measuring need to achieve by NachNaff scale--a forced-choice questionnaire. Psychological Reports, 39, 907-910.

Lindgren, H.C., Figone, J., Korhonen, R., Alvarez, W., and Yu, R. (1976). Measuring the need to achieve: A new, brief questionnaire approach. Paper presented at the Western Psychological Association convention, Los Angeles, California.

Linn, R.L. (1978). Single-group validity, differential validity, and differential prediction. Journal of Applied Psychology, 63, 507-512.

Livingston, D.T. and Henry, J.B. (1980). The effects of stock ownership plans on corporate profits. Journal of Risk and Insurance, 47, 491-505.

Locke, E.A. and Schweiger, D.M. (1979). Participation in decision-making: One more look. In L.L. Cummings and B.M. Staw (Eds.), Research in organizational behavior, Vol. 1, 265-339. Greenwich, Connecticut: JAI.

Locke, E.A., Schweiger, D.M., and Latham, G.P. (1986). Participation in decision making: When should it be used? Organizational Dynamics, 14, 65-79.

Locke, E.A., Sirota, D., and Wolfson, A.D. (1976). An experimental case study of the successes and failures of job enrichment in a government agency. Journal of Applied Psychology, 61, 701-711.

Lodahl, T. (1964). Patterns of job attitudes in two assembly technologies. Administrative Science Quarterly, 8, 482-519.

Lodahl, T.M. and Kejner, M. (1965). The definition and measurement of job involvement. Journal of Applied Psychology, 49, 1, 24-33.

Long, R.J. (1978a). The effects of employee ownership on organizational identification, employee job attitudes, and organizational performance: A tentative framework and empirical findings. Human Relations, 31, 29-48.

Long, R.J. (1978b). The relative effects of share ownership vs. control on job attitudes in an employee-owned company. Human Relations, 31, 753-763.

Long, R.J. (1979). Desires for and patterns of worker participation in decision making after conversion to employee ownership. Academy of Management Journal, 22, 611-617.

Long, R.J. (1980). Job attitudes and organizational performance under employee ownership. Academy of Management Journal, 23, 726-737.

Long, R.J. (1981). The effects of formal employee participation in ownership and decision making on perceived and desired patterns of organizational influence: A longitudinal study. Human Relations, 34, 847-876.

Long, R.J. (1982). Worker ownership and job attitudes: A field study. Industrial Relations, 21, 196-215.

Lorr, M. and Wunderlich, R.A. (1986). Two objective measures of self-esteem. Journal of Personality Assessment, 50, 18-23.

MacCrimmon, K.R. and Larsson, S. (1979). Utility theory: Axioms versus 'paradoxes.' In M. Allais and O. Hagen (Eds.), Expected utility and the Allais Paradox. Dordrecht, The Netherlands: D. Reidel.

Maddi, S.R. (1967). The existential neurosis. Journal of Abnormal Psychology, 72, 311-325.

Maddi, S.R., Kobasa, S.C., and Hoover, M. (1979). An alienation test. Journal of Humanistic Psychology, 19, 4, 73-76.

Maddi, S.R., Kobasa, S.C., and Hoover, M. (Undated). The alienation test: A structured measure of a multidimensional subjective state. Unpublished research, University of Chicago.

Maher, J.R. and Overbagh, W.B. (1971). Better inspection performance through job enrichment. In J.R. Maher (Ed.), New perspectives in job enrichment, 79-89. New York, New York: Van Nostrand Reinhold.

Mann, L., Radford, M., and Kanagawa, C. (1985). Cross-cultural differences in children's use of decision rules: A comparison between Japan and Australia. Journal of Personality and Social Psychology, 49, 1557-1564.

Marascuilo, L.A. (1971). Statistical methods for behavioral science research. New York, New York: McGraw-Hill.

Markham, S.E., Scott, K.D., and Little, B.L. (1992). National gainsharing study: The importance of industry differences. Compensation and Benefits Review, 24, 34-45.

Markowich, M.M. (1994). Does money motivate? Compensation and Benefits Review, 26, 1, 69-72.

Marks, M.L., Mervis, P.H., Hackett, E.J., and Grady, J.F. (1986). Employee participation in a quality circle program: Impact on quality of work life, productivity, and absenteeism. Journal of Applied Psychology, 71, 61-69.

Marsh, T.R. and McAllister, D.E. (1981). ESOPs tables: A survey of companies with employee stock ownership plans. Journal of Corporation Law, 6, 551-623.

Marx, K. (1964). Early writings. Edited and translated by T.B. Bottomore. New York, New York: McGraw-Hill.

Masternak, R.L. (1993). Gainsharing boosts quality and Productivity at a BF Goodrich plant. National Productivity Review, 12, 2, 225-238.

McCann, S.J. (1990). Authoritarianism and preference for the presidential candidate perceived to be higher on the power motive. Perceptual and Motor Skills, 70, 2, 577-578.

McClelland, D.C. (1961). The achieving society. Princeton, New Jersey: D. Van Nostrand Company.

McClelland, D.C. (1965). Toward a theory of motive acquisition. American Psychologist, 20, 321-333.

McClelland, D.C. (1985). Human motivation. Glenview, Illinois: Scott, Foresman.

McGowen, R. and King, G.D. (1982). Effects of authoritarian, antiauthoritarian, and egalitarian legal attitudes on mock juror and jury decisions. Psychological Reports, 51, 1067-1074.

McGrath, R.G., MacMillan, I.C., and Scheinberg, S. (1992). Elitists, risk-takers, and rugged individualists? An exploratory analysis of cultural differences between entrepreneurs and non-entrepreneurs. Journal of Business Venturing, 7, 2, 115-135.

Melamed, S., Ben-Avi, I., Luz, J., and Green, M.S. (1995). Objective and subjective work monotony: Effects on job satisfaction, psychological distress, and absenteeism in blue-collar workers. Journal of Applied Psychology, 80, 1, 29-42.

Merrihue, W.V. and Katzell, R.A. (1955). ERI--yardstick of employee relations. Harvard Business Review, 33, 6, 91-99.

Michaels, R.E., Cron, W.L., Dubinsky, A.J., and Joachimsthaler, E.A. (1988). Influence of formalization on the organizational commitment and work alienation of salespeople and industrial buyers. Journal of Marketing Research, 25, 376-383.

Miller, G.A. (1967). Professionals in bureaucracy: Alienation among industrial scientists and engineers. American Sociological Review, 32, 755-768.

Miller, S.M. (1979). Controllability and human stress: Method, evidence, and theory. Behavior Research and Therapy, 17, 287-306.

Miller, D. and Droge, C. (1986). Psychological and traditional determinants of structure. Administrative Science Quarterly, 31, 539-560.

Miller, C.S. and Schuster, M.H. (1987). A decade's experience with the Scanlon plan: A case study. Journal of Occupational Behaviour, 8, 167-174.

Miner, J.B. (1980). Theories of organizational behavior. Hinsdale, Illinois: Dryden Press.

Mintzberg, H. (1983). Structure in fives: Designing effective organizations. Englewood Cliffs, New Jersey: Prentice-Hall.

Mitchell, H.E. and Byrne, D. (1973). The defendant's dilemma: Effects of jurors' attitudes and authoritarianism on judicial decisions. Journal of Personality and Social Psychology, 25, 123-129.

Moore, B.E. and Ross, T.L. (1978). The Scanlon way to improved productivity. New York, New York: Wiley.

Morris, M.H., Avila, R.A., and Allen, J. (1993). Individualism and the modern corporation: Implications for innovation and entrepreneurship. Journal of Management, 19, 3, 595-612.

Mullis, R.J. (1990). Measures of economic well-being as predictors of psychological well-being. Social indicators research, 26, 119-135.

Nash, A. (1976). Job satisfaction: A critique. In B.J. Widick (Ed.), Auto work and its discontents, 61-88. Baltimore, Maryland: Johns Hopkins University Press.

National Commission on Productivity and Work Quality (1975). A plant-wide productivity plan in action: Three years of experience with the Scanlon plan. Washington, D.C.: Government Printing Office.

Neter, J. and Wasserman, W. (1974). Applied linear statistical models. Homewood, Illinois: Irwin.

New York Stock Exchange (1982). People and productivity: A challenge to corporate America. New York, New York: Author.

O'Connor, E.J., Rudolf, C.J., and Peters, L.H. (1980). Individual differences and job redesign reconsidered: Where do we go from here? Academy of Management Review, 5, 2, 249-254.

Oldham, G.R. (1976). Job characteristics and internal motivation: The moderating effect of interpersonal and individual variables. Human Relations, 29, 559-564.

Oldham, G.R., Hackman, J.R., and Pearce, J.L. (1976). Conditions under which employees respond positively to enriched work. Journal of Applied Psychology, 61, 393-403.

Oliver, N. (1984). An examination of organizational commitment in six workers' co-operatives in Scotland. Human Relations, 37, 29-46.

Oliver, N. (1990). Work rewards, work values, and organizational commitment in an employee-owned firm: Evidence from the U.K. Human Relations, 43, 513-526.

O'Reilly, C.A. and Caldwell, D.F. (1979). Informational influence as a determinant of perceived task characteristics and job satisfaction. Journal of Applied Psychology, 64, 157-165.

O'Reilly, C.A., III, Chatman, J., and Caldwell, D.F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. Academy of Management Journal, 34, 487-516.

O'Reilly, C.A., Parlette, G.N., and Bloom, J.R. (1980). Perceptual measures of task characteristics: The biasing effects of differing frames of reference and job attitudes. Academy of Management Journal, 23, 118-131.

Orpen, C. (1979). The effects of job enrichment on employee satisfaction, motivation, involvement, and performance: A field experiment. Human Relations, 32, 189-217.

Ouchi, W. (1981a). Organizational paradigms: A commentary on Japanese management and Theory Z organizations. Organizational Dynamics, 9, 4, 36-43.

Ouchi, W. (1981b). Theory Z. Reading, Massachusetts: Addison-Wesley.

Owens, W. (1978). Moderators and subgroups. Personnel Psychology, 31, 243-247.

Papamarcos, S.D. (1992). Powerlessness and alienation. Paper presented at the Organizational Studies Research Conference, The City University of New York.

Papamarcos, S.D. and Korman, A.K. (undated). The self at work: Occupational characteristics, fulfillment, and alienation.

Pasmore, W., Francis, C., Haldeman, J., and Shani, A. (1982). Sociotechnical systems: A North American reflection on empirical studies of the seventies. Human Relations, 35, 12, 1179-1204.

Pedhazur, E.J. (1982). Multiple regression in behavioral research. New York, New York: Holt, Rinehart, and Winston.

Peters, W.S. and Champoux, J.E. (1979a). The use of moderated regression in job redesign decisions. Decision Sciences, 10, 85-95.

Peters, W.S. and Champoux, J.E. (1979b). The role and analysis of moderator variables in organizational research. In R.T. Mowday and R.M. Steers (Eds.), Research in organizations: Issues and controversies, 239-253. Santa Monica, California: Goodyear Publishing Company.

Peters, L.H. and O'Connor, E.J. (1980). Situational constraints and work outcomes: The influence of a frequently overlooked construct. Academy of Management Review, 5, 391-397.

Peters, L.H., O'Connor, E.J., and Wise, S.L. (1984). The specification and testing of useful moderator hypotheses. In G. Ferris and T. Bateman (Eds.), Method and analysis in organizational research, 128-139. Reston, Virginia: Reston.

Peterson, B.E., Doty, R.M., and Winter, D.G. (1993). Authoritarianism and attitudes toward contemporary issues. Personality and Social Psychology Bulletin, 19, 2, 174-184.

Pierce, J.L. and Dunham, R.B. (1976). Task design: A literature review. Academy of Management Review, 1, 83-97.

Pierce, J.L., Dunham, R.B., and Blackburn, R.S. (1979). Social systems structure, job design, and growth need strength: A test of a congruency model. Academy of Management Journal, 22, 223-240.

Pierce, J.L. and Furo, C.A. (1990). Employee ownership: Implications for management. Organizational Dynamics, 18, 3, 32-43.

Pierce, J.L., Rubenfeld, S.A., and Morgan, S. (1991). Employee ownership: A conceptual model of process and effects. Academy of Management Review, 16, 121-144.

Pritchard, R.D., Dunnette, M.G., and Jorgenson, D.O. (1972). Effects of perceptions of equity and inequity on worker performance and satisfaction. Journal of Applied Psychology, 66, 75-94.

Puckett, E.S. (1958). Productivity achievements--A measure of success. In F.G. Lesieur (Ed.), The Scanlon plan: A frontier in labor-management cooperation, 109-117. Boston, Massachusetts: MIT Press.

Rabinowitz, S. and Hall, D.T. (1977). Organizational research on job involvement. Psychological Bulletin, 84, 2, 265-288.

Rabinowitz, S., Hall, D.T., and Goodale, J.G. (1977). Job scope and individual differences as predictors of job involvement: Independent or interactive? Academy of Management Journal, 20, 273-281.

Rastogi, R. and Pandey, J. (1987). The effects of organizational structure and personality characteristics on perceived need satisfaction. Indian Psychological Review, 32, 2, 13-18.

Reynolds, W.M. (1988). Measurement of academic self-concept in college students. Journal of Personality Assessment, 52, 223-240.

Rhodes, S.R. and Steers, R.M. (1981). Conventional vs. worker-owned organizations. Human Relations, 34, 1013-1035.

Roberts, K.H. and Glick, W. (1981). The job characteristics approach to task design: A critical review. Journal of Applied Psychology, 66, 193-217.

Robinson, J.P. and Shaver, P.R. (1973). Measures of social psychological attitudes. Ann Arbor, Michigan: Institute for Social Research.

Rodin, J. and Langer, E.J. (1977). Long-term effects of a control-relevant intervention with the institutionalized aged. Journal of Personality and Social Psychology, 35, 897-902.

Rosen, C.M. and Quarrey, M. (1987). How well is employee ownership working? Harvard Business Review, 65, 5, 126-132.

Rosenbach, W.E. and Zawacki, R.A. (1989). Participative work redesign: A field study in the public sector. Public Administration Quarterly, 13, 112-121.

Rosenberg, M. (1965). Society and the adolescent self image. Princeton, New Jersey: Princeton University Press.

Rosner, M. and Putterman, L. (1991). Factors behind the supply and demand for less alienating work, and some international illustrations. Journal of Economic Studies, 18, 1, 18-41.

Ross, T.L. and Hatcher, L. (1992). Gainsharing drives quality improvement. Personnel Journal, 71, 11, 81-89.

Rousseau, D.M. (1977). Technological differences in job characteristics, employee satisfaction, and motivation: A synthesis of job design research and sociotechnical systems theory. Organizational Behavior and Human Performance, 19, 18-42.

Ruh, R.A., Johnson, R.H., and Scontrino, M.P. (1973). The Scanlon plan, participation in decision making, and job attitudes. Journal of Industrial and Organizational Psychology, 1, 36-45.

Ruh, R.A., White, J.K., and Wood, R.R. (1975). Job involvement, values, personal background, participation in decision making, and job attitudes. Academy of Management Journal, 18, 2, 300-312.

Rump, E.E. (1985). Personality ramifications of attitude to authority: Studies in Australia and Italy. High School Journal, 68, 4, 287-292.

Russell, R. (1988). Forms and extent of employee participation in the contemporary United States. Work and Occupations, 15, 4, 374-395.

Russell, R., Hochner, M., and Perry, S.E. (1979). Participation, influence, and worker ownership. Industrial Relations, 18, 3, 330-341.

Saal, F.E. (1978). Job involvement: A multivariate approach. Journal of Applied Psychology, 63, 1, 53-61.

Salancik, G.R. and Pfeffer, J. (1977). An examination of need satisfaction models of job satisfaction. Administrative Science Quarterly, 22, 427-454.

Saleh, S.D. and Hosek, J. (1976). Job involvement: Concepts and measurements. Academy of Management Journal, 19, 2, 213-224.

Saunders, D.R. (1956). Moderator variables in prediction. Educational and Psychological Measurement, 16, 209-222.

Saunders, C.B., O'Neill, H.M., and Jensen, O.W. (1986). Alienation in corporate America: Fact or fable? Journal of Business Ethics, 5, 285-289.

Schacht, R. (1971). Alienation. New York, New York: Anchor.

Schneider, B. (1983). Interactional psychology and organizational behavior. In B.M. Staw and L.L. Cummings (Eds.), Research in Organizational Behavior (Vol. 5). Greenwich, Connecticut: JAI Press.

Schneider, F.W. and Green, J.E. (1977). Need for affiliation and sex as moderators of the relationship between need for achievement and academic performance. Journal of School Psychology, 15, 269-277.

Schneider, B., Hall, D.T., and Nygren, H.T. (1971). Self image and job characteristics as correlates of changing organizational identification. Human Relations, 24, 397-416.

Schregle, J. (1970). Forms of participation in management. Industrial Relations, 9, 117-122.

Schuler, R.S. (1975). Role perceptions, satisfaction, and performance: A partial reconciliation. Journal of Applied Psychology, 60, 683-687.

Schuler, R.S. (1980). A role and expectancy perception model of participation in decision making. Academy of Management Journal, 23, 331-340.

Schuster, M.H. (1984). The Scanlon plan: A longitudinal analysis. Journal of Applied Behavioral Science, 20, 23-38.

Schwab, D.P., DeVitt, H.W., and Cummings, L.L. (1971). A test of the adequacy of the two-factor theory as a predictor of self-report performance effects. Personnel Psychology, 24, 293-303.

Schwab, D.P. and Wallace, M. (1974). Correlates of employee satisfaction with pay. Industrial Relations, 13, 78-89.

Schwyhart, W., and Smith, P. (1972). Factors in the job involvement of middle managers. Journal of Applied Psychology, 56, 227-233.

Seeman, M. (1959). On the meaning of alienation. American Sociological Review, 24, 783-791.

Shamir, B. (1990). Calculations, values, and identities: The sources of collectivistic work motivation. Human Relations, 43, 4, 313-332.

Shavelson, R.J., Hubner, J.J., and Stanton, G.C. (1976). Self-concept: Validation of construct interpretations. Review of Educational Research, 46, 407-441.

Shepard, J.M. (1970). Functional specialization, alienation, and job satisfaction. Industrial and Labor Relations Review, 23, 207-219.

Shepard, J.M. (1971). Automation and alienation: A study of office and factory workers. Cambridge, Massachusetts: MIT Press.

Sherman, R. (1974). The psychological difference between ambiguity and risk. Quarterly Journal of Economics, 88, 166-169.

Sid, A.K.W. and Lindgren, H.C. (1981). Sex differences in achievement and affiliation motivation among undergraduates majoring in different academic fields. Psychological Reports, 48, 539-542.

Sid, A.K.W. and Lindgren, H.C. (1982). Achievement and affiliation motivation and their correlates. Educational and Psychological Measurement, 42, 1213-1218.

Sidanius, J. (1978). Intolerance of ambiguity and socio-political ideology: A multidimensional analysis. European Journal of Social Psychology, 8, 215-235.

Sidanius, J. (1988). Intolerance of ambiguity, conservatism, and racism--whose fantasy, whose reality? A reply to Ray. Political Psychology, 9, 2, 309-316.

Siegel, L. (1969). Industrial Psychology. Homewood, Illinois: Irwin.

Siegel, A.L. and Ruh, R.A. (1973). Job involvement, participation in decision making, personal background and job behavior. Organizational Behavior and Human Performance, 9, 318-327.

Silber, E. and Tippitt, J. (1965). Self-esteem: Clinical assessment and measurement validation. Psychological Reports, 16, 1017-1071.

Sims, H.P. and Szilagyi, A.D. (1976). Job characteristics relationships: Individual and structural moderators. Organizational Behavior and Human Performance, 17, 211-230.

Singh, J.P. (1990). Managerial culture and work-related values in India. Organization Studies, 11, 1, 75-101.

Slovic, P. and Tversky, A. (1974). Who accepts Savage's Axiom? Behavioral Science, 19, 6, 368-373.

Smith, A. (1776). The wealth of nations.

Smith, C.S. and Brannick, M.T. (1990). A role and expectancy model of participative decision-making: A replication and theoretical extension. Journal of Organizational Behavior, 11, 91-104.

Smither, R. (1978). Achievement motivation and participation in intercollegiate sports. Unpublished master's thesis, San Francisco State University.

Smither, R. and Lindgren, H.C. (1978). Achievement need, salary grade, age, and sex among bank employees. Psychological Reports, 42, 334.

Sobal, J. and DeForge, B.R. (1992). Reliability of Budner's intolerance of ambiguity scale. Psychological Reports, 71, 1, 15-18.

Staub, E. and Kellett, D.S. (1972). Increasing pain tolerance by information about aversive stimuli. Journal of Personality and Social Psychology, 21, 198-203.

Staw, B.M. and Oldham, G.R. (1978). Reconsidering our dependent variables--A critique and empirical study. Academy of Management Journal, 21, 539-559.

Steel, R.P., Jennings, K.R., and Lindsey, J.T. (1990). Quality circle problem solving and common cents: Evaluation study findings from a United States federal mint. Journal of Applied Behavioral Science, 26, 365-381.

Steel, R.P. and Lloyd, R.F. (1988). Cognitive, affective, and behavioral outcomes of participation in quality circles: Conceptual and empirical findings. Journal of Applied Behavioral Science, 24, 1, 1-17.

Steel, R.P. and Mento, A.J. (1986). Impact of situational constraints on subjective and objective criteria of managerial performance. Organizational Behavior and Human Decision Processes, 37, 254-265.

Steel, R.P. and Shane, G.S. (1986). Evaluation research on quality circles: Technical and analytical implications. Human Relations, 39, 449-468.

Steers, R.M. and Mowday, R.T. (1977). The motivational properties of tasks. Academy of Management Review, 2, 645-658.

Stone, E.F. (1975). Job scope, job satisfaction, and the Protestant ethic: A study of enlisted men in the U.S. navy. Journal of Vocational Behavior, 7, 215-234.

Stone, E.F. (1976). The moderating effect of work-related values on the job scope-job satisfaction relationship. Organizational Behavior and Human Performance, 15, 147-167.

Stone, E.F. (1986). Research methods in industrial and organizational psychology: Selected issues and trends. In C.L. Cooper and I. Robertson (Eds.), International review of industrial and organizational psychology, 305-334. London: Wiley.

Stone, E.F. and Hollenbeck, J.R. (1984). Some issues associated with the use of moderated regression. Organizational Behavior and Human Performance, 34, 195-213.

Stone, E.F. and Hollenbeck, J.R. (1989). Clarifying some controversial issues surrounding statistical procedures for detecting moderator variables: Empirical evidence and related matters. Journal of Applied Psychology, 74, 3-10.

Stone, E.F., Mowday, R., and Porter, L. (1977). Higher order need strengths as moderators of the job scope-job satisfaction relationship. Journal of Applied Psychology, 62, 466-471.

Stone-Romero, E.F. and Anderson, L.E. (1994). Relative power of moderated multiple regression and the comparison of subgroup correlation coefficients for detecting moderating effects. Journal of Applied Psychology, 79, 3, 354-359.

Susman, G.I. (1973). Job enlargement: Effects of culture on worker responses. Industrial Relations, 12, 1-15.

Schwartz, G.E. and Comstock, V.C. (1979). One firm's experience with quality circles. Quality Progress, 12, 14-16.

Tannenbaum, A.S. (1983). Employee-owned companies. In L.L. Cummings and B.M. Staw (Eds.), Research in organizational behavior (Vol. 5), 235-268. Greenwich, Connecticut: JAI.

Tatzel, M. (1980). Tolerance for ambiguity in adult college students. Psychological Reports, 47, 377-378.

Taylor, F.W. (1911). The principles of scientific management. New York, New York: Harper.

Terborg, J.R. (1977). Validation and extension of an individual differences model of work performance. Organizational Behavior and Human Performance, 18, 188-216.

Terborg, J.R. (1981). Interactional psychology and research on human behavior in organizations. Academy of Management Review, 6, 4, 569-576.

Terborg, J.R., Richardson, P., and Pritchard, R.D. (1980). Person-situation effects in the prediction of performance: An investigation of ability, self-esteem, and reward contingencies. Journal of Applied Psychology, 65, 574-583.

Thompson, T. (1981, February). Volvo's team manufacturing concept for assembly and test. Assembly Engineering, 44-47.

Thompson, C.A. and Blau, G.J. (1993). Moving beyond traditional predictors of job involvement: Exploring the impact of work-family conflict and overload. Journal of Social Behavior and Personality, 8, 4, 635-646.

Thompson, E.G., Mann, I.T., and Harris, L.J. (1981). Relationship among cognitive complexity, sex, and spatial task performance in college students. British Journal of Psychology, 72, 249-256.

Triandes, H.C. (1982). Review of Culture's consequences: International differences in work-related values. Human Organization, 41, 86-90.

Triandes, H.C., Bontempo, R., Villareal, M.J., Asai, M., and Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. Journal of Personality and Social Psychology, 54, 2, 323-338.

Triandes, H.C., Leung, K., Villareal, J., and Clack, F.L. (1985). Allocentric versus idiocentric tendencies: Convergent and discriminant validation. Journal of Research in Personality, 19, 395-415.

Trist, E.L. (1981). The sociotechnical perspective. In A.H. Van de Ven and W.F. Joyce (Eds.), Perspectives on organization design and behavior, 19-75. New York, New York: John Wiley.

Trist, E.L. and Bamforth, K.W. (1951). Some social and psychological consequences of the long wall method of goal setting. Human Relations, 4, 3-38.

Trubisky, P., Ting-Toomey, S., and Lin, S.L. (1991). The influence of individualism-collectivism and self-monitoring on conflict styles. International Journal of Intercultural Relations, 15, 65-84.

Tucker, J., Nock, S.L., and Toscano, D.J. (1989). Employee ownership and perceptions of work. Work and Occupations, 16, 26-42.

Turban, D.B. and Keon, T.L. (1993). Organizational attractiveness: An interactionist perspective. Journal of Applied Psychology, 78, 2, 184-193.

Van-Ijzendoorn, M.H. (1989). Moral judgement, authoritarianism, and ethnocentricity. Journal of Social Psychology, 129, 1, 37-45.

Van Maanan, J. and Katz, R. (1976). Individuals and their careers: Some temporal considerations for work satisfaction. Personnel Psychology, 29, 601-616.

Vecchio, R.P. (1980). Worker alienation as a moderator of the job quality-job satisfaction relationship: The case of racial differences. Academy of Management Journal, 23, 479-486.

Vecchio, R.P. (1981). Situational and behavioral moderators of subordinate satisfaction with supervision. Human Relations, 34, 947-963.

Verma, J. (1985). The ingroup and its relevance to individual behavior: A study of collectivism and individualism. Psychologica, 28, 173-181.

Vitell, S.J., Nwachukwu, S.L., and Barnes, J.H. (1993). The effects of culture on ethical decision-making: An application of Hofstede's typology. Journal of Business Ethics, 12, 10, 753-760.

Vredenburgh, D.J. and Sheridan, J.E. (1979). Individual and occupational determinants of life satisfaction and alienation. Human Relations, 32, 12, 1023-1038.

Vroom, V.H. (1962). Ego-involvement, job satisfaction, and job performance. Personnel Psychology, 15, 159-177.

Vroom, V.H. (1964). Work and motivation. New York, New York: John Wiley.

Wagner, J.A., III (1995). Studies in individualism-collectivism: Effects on cooperation in groups. Academy of Management Journal, 38, 1, 152-172.

Wagner, J.A., III and Moch, M.K. (1986). Individualism-collectivism: Concept and measurement. Group and Organization Studies, 11, 3, 280-304.

Walker, C.R. (1950). The problem of the repetitive job. Harvard Business Review, 28, 54-58.

Wall, T.D. and Clegg, C.W. (1981). A longitudinal field study of group work redesign. Journal of Occupational Behavior, 2, 31-49.

Wall, T.D., Clegg, C.W., and Jackson, P.R. (1978). An evaluation of the job characteristics model. Journal of Occupational Psychology, 51, 183-196.

Wall, T.D., Corbett, J.M., Martin, R., Clegg, C.W., and Jackson, P.R. (1990). Advanced manufacturing technology, work design, and performance: A change study. Journal of Applied Psychology, 75, 691-697.

Wall, T.D., Kemp, N.J., Jackson, P.R., and Clegg, C.W. (1986). Outcomes of autonomous work groups: A long-term field experiment. Academy of Management Journal, 29, 280-304.

Walton, R.E. (1972). How to counter alienation in the plant. Harvard Business Review, 50, 70-81.

Walton, R.E. (1985). From control to commitment in the workplace. Harvard Business Review, 63, 76-84.

Wanous, J.P. (1974). Individual differences and reactions to job characteristics. Journal of Applied Psychology, 59, 616-622.

Warr, P., Cook, J., and Wall, T. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. Journal of Occupational Psychology, 52, 129-148.

Weiner, Y. and Gechman, A.S. (1977). Commitment: A behavioral approach to job involvement. Journal of Vocational Behavior, 10, 47-52.

Weissenberg, P. and Gruenfeld, L.W. (1968). Relationship between job satisfaction and job involvement. Journal of Applied Psychology, 52, 469-473.

Weiss, H.M. (1977). Subordinate imitation of supervisor behavior: The role of modeling in organizational socialization. Organizational Behavior and Human Performance, 19, 89-105.

Weiss, H.M. and Shaw, J.B. (1979). Social influences on judgements about tasks. Organizational Behavior and Human Performance, 24, 126-140.

Westman, M., Papamarcos, S.D., Cohen, Y., and Korman, A.K. (undated). Work empowerment and fulfillment in individualistic and affiliative cultures.

Wheaton, B. (1978). The sociogenesis of psychological disorder: Reexamining the causal issues with longitudinal data. American Sociological Review, 43, 383-403.

Wheeler, L., Reis, H.T., and Bond, M.H. (1989). Collectivism-individualism in everyday social life: The middle kingdom and the melting pot. Journal of Personality and Social Psychology, 57, 79-86.

White, J.K. (1978). Individual differences and the job quality-worker response relationship: Review, integration, and comments. Academy of Management Review, 3, 267-280.

White, J.B. (1991, May, 24). GM struggles to get Saturn car on track after rough launch. Wall Street Journal, 1, 12.

White, J.K. and Mitchell, T.R. (1979). Job enrichment versus social cues: A comparison and competitive test. Journal of Applied Psychology, 64, 1-9.

White, J.K. and Ruh, R.A. (1973). Effects of personal values on the relationship between participation and job attitudes. Administrative Science Quarterly, 18, 506-514.

Wickert, F.R. (1951). Turnover, and employees' feelings of ego-involvement in the day-to-day operations of a company. Personnel Psychology, 4, 185-197.

Wise, S.L., Peters, L.H., and O'Connor, E.J. (1984). Identifying moderator variables using multiple regression: A reply to Darrow and Kahl. Journal of Management, 10, 227-236.

Witt, L.A. (1989). Authoritarianism, knowledge of AIDS, and affect toward persons: Implications for health education. Journal of Applied Social Psychology, 19, 7, 599-607.

Wood, D.A. (1974). Effect of worker orientation differences on job attitude correlates. Journal of Applied Psychology, 59, 54-60.

Woodworth, W.P. (1986). Managing from below. Journal of Management, 12, 391-402.

Zedeck, S. (1971). Problems with the use of "moderator" variables. Psychological Bulletin, 76, 295-310.