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The Effects of Person-Job Environment Congruency on Individual and Organizational Outcomes

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THE EFFECTS OF PERSON-JOB ENVIRONMENT CONGRUENCY

ON INDIVIDUAL AND ORGANIZATIONAL OUTCOMES

by

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ABSTRACT

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The purpose of this research was to ascertain the
effects of person-job environment congruency on outcomes
important to individuals and organizations, so that new
personnel decision making strategies can be developed. To
accomplish these aims, the research had two objectives:
(1) to develop an operational model of person-job environment
congruency based on an integration of available research
evidence and (2) to investigate the effectiveness of the
concepts and methods proposed by the model on individual and
organizational criteria of success.

Within a person-job environment congruency model
framework, there are essentially two matching systems. In
the first, the work experiences of an individual are matched
to the requirements of the job. In the second matching
system the preferences of individuals are matched with the
capacity of the work environment to meet or satisfy these
preferences. Based on this conceptualization, it was
hypothesized that in a given job classification, a congruence
between worker experiences with requirements of the job and
worker preferences with conditions of the work environment

will be positively related to job satisfaction and organizational commitment.

Data were collected in this study from two samples in service professions. Each sample contained a norm group and a response group. Information used to develop the job and work environment profiles were obtained from the norm group in each sample. Both experiences and preferences as well as the dependent measures were obtained from the response groups; from this information worker profiles were developed. A congruence index between job and worker profiles was calculated from the two groups of people in each participating sample.

Canonical correlational analyses were used to test the relationship between the worker experiences-job requirements congruence and worker preferences-work environment congruence on the dependent measures of job satisfaction and organizational commitment. Results significantly supported the hypotheses postulated within this study, demonstrating that congruence was related to positive individual and organizational outcomes. The findings of this research were discussed in terms of future research directions and implications for practice were provided.

DEDICATION

To my grandmother, Joan Momary, for her wisdom,
independent thinking, and vision to see ahead of her time.

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CHAPTER ONE

Introduction

In pursuit of increased prediction of employee success in organizations, Industrial-Organizational psychologists have concentrated much of their efforts on the development and validation of techniques used in the selection of new employees. The primary goal of these selection research efforts has been to increase the effectiveness of personnel decision making through the assessment of a wide range of individual differences. Currently, there are three major selection strategies used for personnel decision making. These include: (a) the traditional personnel selection model; (b) statistically oriented prediction models; and (c) organizational systems models.

The traditional personnel selection strategy (e.g., Dunnette, 1966) typically involves measurements of individual abilities using various methods, such as application forms, background questionnaires, tests and interviews. Scores obtained by these procedures are usually evaluated on the basis of some job performance criterion with which each is correlated. High scores on the selection device are believed to indicate that the individual would be a high performer, while low scores would indicate poor performance. Thus, individual difference measures are employed in this

approach to select those persons who possess the "greatest" amount of particular characteristics judged important for success on the job. The traditional selection procedures (derived from the measurement of applicant's knowledge, skills, and abilities) have generally been found to be weak predictors of performance and success on the job. In 1966, Ghiselli reported the average correlation between selection devices and performance to be .23. More recently, Pearlman (1979) reviewed some sixty years of published and unpublished research on clerical selection devices and reported the average validity to be .22. Although Pearlman and others (e.g., Schmidt & Hunter, 1977; Schmidt, Hunter, & Caplan, 1981; Schmidt, Hunter, Pearlman, & Shane, 1979) have argued that these results are misleading underestimates due to the presence of statistical artifacts such as sampling error, range restriction and criterion unreliability, their corrected estimates show only moderate improvement over the uncorrected validities.

Statistically-oriented selection models refer to a variety of nonlinear prediction methods, of which moderated regression, configural scoring, and actuarial pattern analysis are examples. While these procedures often yield higher validity coefficients than more traditional selection models, reviews of nonlinear methods in selection research have identified several problems associated with their use. For example, Zedeck (1971) noted that such prediction systems almost never hold up well upon cross validation. Abrahams

and Alf (1972) have commented on the fact that these procedures require very large sample sizes for adequate statistical power and their utility has rarely been assessed. Overall, the use of statistically-oriented selection models has had minimal predictive success.

Systems models (also known as, person-process-product models) such as those of Campbell, Dunnette, Lawler and Weick (1970) and Dunnette (1963) examine the complex interaction of numerous determinants and consequences of behavior in organizations. For example, Dunnette's (1963) prediction model depicts interactions that may occur between various predictor combinations, different groups or types of individuals, different criterion behaviors, and the consequences of these behaviors relative to performance outcomes. It should be noted that neither of these system models or others like them (e.g., Cirino-Gerena, 1972) have been fully implemented nor adequately evaluated. While conceptually they are appealing, their usefulness in day to day personnel decision making has not been demonstrated with empirical research findings.

Many recent pressures and problems (e.g., legal, criterion, limited validities) have reduced the effectiveness of existing operational selection methods and devices. Current dissatisfaction with state-of-the-art selection methods in predicting success in organizations has diverted attention to placement and classification decision making strategies. Both selection and placement decisions imply

prediction of successful employee behaviors. In selection, a decision is based upon the prediction that a person hired will be more successful than the person who was rejected. In placement, a decision is based on the prediction that an individual will be more successful in one job than another (Cascio, 1982). While selection efforts focus on interpersonal differences and normative measurement systems, placement models are concerned with intrapersonal differences and ipsative measurement as the basis for differential assignment to available jobs.

Recently, the development of placement and classification models for predicting success in organizations has been initiated. The brief review of these models that follows indicates they are not without problems and limitations. For example, Dunnette (1966) describes a payoff-matrix placement model. In this procedure, it is necessary to estimate the expected utility for each individual for each job, and to use the individual-job utility matrix to accomplish the best possible pattern of differential job placement. An inherent problem with this model is that it assumes that all applicants and job openings are present simultaneously. Except in situations that involve staffing a new organization, these assumptions would seldom be met.

Owens (1968, 1971) has postulated a developmental-integrative placement model. Using autobiographical data, the model sorts individuals into subgroups such that each

subgroup displays relatively similar or homogeneous backgrounds of prior experience. Validity of the model is established by examining the relationship between subgroups and some criterion. If distinctive differential behavior is associated with subgroup membership, it would then be possible to assess the individual, match his or her profile with the subprofile he most clearly resembles, and predict probable patterns of behavior (e.g., academic achievements, vocational interests, type of work, style of performance, and rate of advancement). The basic premise here is that subgroups which have behaved similarly in the past also tend to behave similarly in the present and future. Thus it is expected that subgroups would display differential profiles across criterion behaviors.

One model receiving increasing attention is Schoenfeldt's (1974) assessment classification model of manpower utilization. This model incorporates the person-process-product models with the subgroup conception of Owens (1968). Operationally it involves the assessment of individuals, measurement of jobs, and the prediction of job success. According to Schoenfeldt, in the same way individuals are placed into subgroups homogeneous with respect to their past behavior, jobs can be classified into families homogeneous with respect to their psychological requirement. The assessment-classification model is then developed by the use of discriminant analysis to determine the probability of success and satisfaction in a particular

job family, given the individual is a member of a particular life history subgroup. The ultimate objective of the model is the prediction of job success and satisfaction for a new individual whose subgroup is known and who would be performing a job belonging to one of the job families.

The valdiity of Schoenfeldt's (1974) assessment-classification model was demonstrated in a college setting with a large sample of students ($\underline{N}$ = 1,934). Subgroups formed on the basis of autobiographical data collected during the students' freshman year differed significantly with respect to several educational criterion measures (e.g., arts-sciences vs. applied studies, grade point average, etc.) taken four years later, as well as curriculum paths pursued during college. The application and extension of the assessment-classification model has received further support in industrial settings with research conducted by Morrison (1977) and Brush and Owens (1979).

In Morrison's (1977) study, the applicability of the assessment-classification model to placement decisions was tested with 438 blue-collar employees. Eight developmental-interest dimensions were formulated involving life choices, values and interests. The job analysis conducted resulted in the identification of two clusters of positions that were homogeneous within, and differentiated between each other, on relevant job attributes. The first cluster consisted of 102 process operators with more than 6-months service and the second cluster consisted of 148 heavy equipment operators.

Results of the study demonstrated that three psychologically meaningful dimensions maximally differentiated the job families at significant levels. That is, the process operators were more likely to be raised in an urban environment, to have a more favorable self-image, and to prefer standardized work schedules. Although this research provided support for the thesis advanced by the assessment-classification model, it did not use the same kind of subgrouping procedure proposed in the original conceptualization of the model.

More recently, Brush and Owens (1979) applied the assessment-classification model to non-exempt employees ($\underline{N}$ = 1987) of a U.S. oil company. Hierarchical clustering on the basis of an extensive biographical inventory resulted in 18 subgroups of employees, such that within any one subgroup background experiences and interests were similar, and between subgroups they were different. A similar methodology was applied to job analysis data resulting in 19 job families for 939 office and clerical jobs. Significant relationships were found between life history subgroups and a wide range of criteria, including sex, educational level, termination rate, job classification and performance ratings. Overall, the importance of these studies has been in providing initial support for demonstrating relationships between life history subgroups and job families.

In spite of its advantages, the assessment-classification model is too sophisticated and costly as a

personnel decision making strategy for widespread use in the public sector, except in the case of very large corporations. Also, there are several problems in the use of discriminant analysis as a grouping procedure. One problem is the assumption that all present employees are appropriately placed to begin with. Secondly, it assumes that individuals who are similar to one another will work well together. In addition to these problems, several researchers (e.g., Cornelius, Carron, & Collins, 1979; Pearlman, 1980) have indicated that different data analysis techniques for grouping (discriminant analysis, cluster analysis, multidimensional scaling, and factor analysis) will provide different classifications, each with its own advantages and disadvantages. Overall, the procedures involved in applying the assessment-classification model are much too complex and require large numbers of employees all performing the same work. The majority of organizations would not be able to meet these requirements.

This cursory literature review of current selection and placement procedures points to some of the problems and limitations in predicting the success and satisfaction of employees in organizations. The discussion that follows presents some basic reasons why these procedures have been ineffective as personnel decision making strategies.

Historically, selection and placement procedures have been directed toward understanding behavior in organizations in terms of human knowledge, skills and abilities. Any

substantial improvements in predicting success in organizations is not likely to ensue if alternative procedures continue to focus solely on the measurement of these variables. For example, in spite of the widespread belief in the principle that an individual's performance on the job is not a simple function of ability (i.e., how well the person can do the job), it is also dependent on motivation (i.e., a person's willingness to do the job well), personnel selection and placement practices have ignored the motivation or "will do" determinant of job performance. For many years, personnel practices have been aimed at the problem of identifying the "highest" qualified applicants for a job. In times characterized by a deficiency of skills and abilities, such an approach is desirable, for it focuses energies on assessing applicant's knowledge skills and abilities in order to determine who can perform the job most effectively. However, in our contemporary society the problem is not one of deficiency; rather it is one of overabundance and underutilization of already available skills and abilities. The nation's workforce is for the first time in history, basically overeducated and overtrained for the vast majority of available jobs. This claim is frequently supported by pointing to the increasing number of college graduates who are either unemployed or only able to find relatively low level positions. Furthermore, according to the above argument, this phenomenon has resulted in a growing apathy in the workforce as more and more people find

their jobs to be dull, routine, boring and lacking challenge and opportunities for career advancement. Perhaps this situation is best described by Hackman and Oldham (1980):

> ...it seems to us indisputable that numerous jobs in the bowels of organizations have become increasingly simplified and routinized in the course of the last century, even as workers who populate these jobs become generally better educated and more ambitious in their expectations about what life will hold for them. The result is a poor fit between large numbers of people and the work they do. And, the Peter Principle notwithstanding, this misfit usually has developed because the person is too much for the job rather than because the job is too much for the person. Whether these individuals represent a fifth of the workforce or four-fifths is not the question. The fact is that there are millions of individuals in this society for whom work is neither a challenge nor a personally fulfilling part of life. (p. 13)

In addition to the need to assess the motivational or "will do" component in predicting successful behaviors in organizations, several other important variables must be included. For example, Peters and O'Connor (1980) noted that even though the environment has been recognized as a source of influence on the individual's behavior, few researchers

have made any systematic attempt to include it in predicting
success of employees. More recently, Cascio (1982) has
commented on the need for social and situational context
variables to be included in prediction models. He states:

> One of the reasons why classification and placement
> problems are so complex is that many factors
> combine to determine the outcomes of these
> decisions. In fact, the mechanistic placement
> model (assess the individual, assess the
> requirements of the job, find an appropriate match)
> is far too simple. Often, in order to gain insight
> into the individual's behavior, we must also
> consider the social context within which the
> behavior occurs. Thus job behavior can be greatly
> affected by the immediate supervisor, by co-workers
> and by overall organizational climate within which
> a person works. (p. 256)

The discussion above points to several important reasons
for the general lack of success and/or feasibility of
existing personnel decision making strategies. To summarize,
it would appear that current models of predicting success in
organizations have operationally excluded several important
variables (e.g., motivation, work environment, etc.) that
influence behavior. By the traditional assessment of
applicant's knowledge, skills, and abilities, these
procedures have generally predicted that those individuals
with the "greatest" amount of a particular characteristic

will be most successful on the job. This assumption, that having "more" of a particular quality (e.g., knowledge, skill, ability) will lead to greater success is no longer valid. The result has been a poor fit, actually an "overfit" between individuals and the work they perform, producing negative consequences to both individuals and organizations alike. In other words, one of the greatest challenges to the personnel field today is to identify and place, from the many who can do the available jobs, the few who are willing to perform them at a high level of effectiveness. Addressing this challenge will require a major refocusing of selection and placement practices and thinking. At the very least, any new personnel decision making strategy should include the assessment of the congruency or fit between an individual with the requirements of the job and conditions of the work environment. This match is essential if mutual benefits to individuals and jobs are going to be realized in the future.

Overall, this review of the literature has attempted to justify the need for personnel and organizational researchers to combine their efforts and turn their attention to developing innovative prediction models and procedures that will be responsive to the challenges of the future and the shortcomings of the past. The research described herein, represents an initial attempt to start meeting some of these issues and challenges.

Research Objectives

The purpose of the present study was to ascertain the effects of person-job environment congruency on outcomes

important to individuals and organizations, so that new personnel decision making models and strategies can be developed. To accomplish these aims, the reseach had the following two objectives:

(1)   Development of an operational model of person-job environment congruency based on an integration of available research evidence.

(2)   Evaluation of the effectiveness of the concepts and methods proposed by the model on individual and organizational criteria of success.

CHAPTER TWO

A Person-Job Environment Congruency
Approach to Personnel Decision Making

The accumulated evidence in the area of "congruity" models and research seems to have sufficient support to serve as a general frame of reference in developing new directions for personnel decision making models and strategies that can attempt to meet some of the challenges posed in Chapter One. At the very least, the congruency framework appears to hold the most promise for solving the "overfit" problem in existing prediction models. Simply stated, the concept of congruence denotes fit or agreement between various components. The congruency framework suggests that the attainment of individual and organizational outcomes is a function of the fit or agreement between characteristics of individuals and their jobs and work environments. In the next section some exemplary congruency research is reviewed. Following sections present a person-job environment congruency approach for personnel decision making and its associated model and research questions.

Congruency Research Evidence

The research evidence on "congruency" or "matching" approaches stems from several directions, including career research (e.g., Hall, 1976; Holland, 1973; Schein, 1978), work adjustment (e.g., Lofquist & Dawis, 1969; Weiss, Davis,

England, & Lofquist, 1967), organizational entry (e.g.,
Wanous, 1978, 1980), work design (e.g., Hackman & Lawler,
1971; Hackman & Oldham, 1975), and personnel selection (e.g.,
Cleff, 1973). While each of these orientations are quite
diversified, they all share either implicitly or explicitly
the common notion of congruency in explaining behavior in
organizations. Where they differ is in the level at which
congruency is defined and measured, as well as the components
comprising the congruency relationship.

Table 1 presents an overview of the critical components,
level of fit, and research area for each congruency
relationship. A review of the research literature by level
of fit follows.

Individual-Occupation Fit. The career research efforts
(vocational psychology orientation) have taken an
occupational view of predicting success in organizations with
their major emphasis on individual-occupation congruency.
Models in this area (e.g., Hall, 1976; Holland, 1973; Schein,
1978) utilize the congruency concept in "matching" individual
personality orientations (particularly interests) to classify
individuals into broad categories of occupations. For
example, Holland's (1966, 1973) theory of occupational choice
uses a hexagonal model to match six personality types
(realistic, investigative, social, conventional,
enterprising, and artistic) with six corresponding
occupational environments. The central hypothesis in
Holland's theory is that a congruent relationship between an

Table 1

Overview of Congruency Relationships

Level of Fit	Research Area	Congruency Components	Congruency Relationship
Individual-Occupation	Vocational Psychology/ Careers	Individual personality orientations (interests)- broad occupational classes (environments)	A congruent relationship between an individual's personality and work environment leads to improved job satisfaction. e.g. Hall, 1976; Holland, 1973; Schein, 1978
	Theory of Work Adjustment (University of Minnesota)	Individual personality orientations (desires)- reward patterns of occupations	A correspondence between an individual's desires and the reward pattern of the occupation chosen is related to satisfaction at work. e.g. - Lofquist & Dawis, 1969; Betz, Weiss, England & Lofquist, 1966; Tziner & Vardi, 1982

(table continues)

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Level of Fit	Research Area	Congruency Components	Congruency Relationship
Individual-Organization or Individual-Job Situation	Organizational Entry/Organizational Climates	Individual needs (expectations/ preferences) - the realities of organizational climates	A congruency (match) between individual expectations and or preferences with the realities of the climate of the organization joined results in greater job satisfaction, productivity, and reduced turnover. e.g. - Wanous, 1978, 1980; Katzell, 1968; Kotter, 1973; Morse, 1975
		Individual personality- characteristics of the job situation	Organizational climate interacts with individual personality in influencing job satisfaction and performance. e.g., - Downey, Hellriegel, & Slocum, 1975; Pritchard & Kirasick, 1973
Individual-Job Design	Work Redesign	Individual desires- Job Rewards	Individuals working at jobs offering the kinds of rewards they desired are more satisfied, have lower absenteeism rates and are evaluated more positively on performance e.g. - Hackman & Lawler, 1971; Hackman & Oldham, 1980

(table continues)

Level of Fit	Research Area	Congruency Components	Congruency Relationship
Individual-Job Design-Organization	Organizational Behavior	Individual Characteristics - Job Design - Organizational Structure	Job Satisfaction and worker performance varies as a function of the congruence between social system structure, job design and employee growth need strength. e.g. - Porter, Lawler, & Hackman, 1975; Pierce, Dunham & Blackburn, 1979
Individual-Job	Personnel Selection	Individual abilities - Job Requirements	A congruency or "match" between individuals experiences/preferences with the requirements of jobs results in a decreased rate of turnover and increased productivity and performance ratings. e.g. - Cleff, 1973

individual's personality and a work environment leads to improved prospects for job satisfaction. This hypothesis has generally been supported in empirical studies. While the view represented in this model has been effective, it is too broad or "macro" of an approach to be implemented fully in industry for personnel decisions.

Overall, the career literature suggests that when the individual's values and career goals are congruent with the organization's needs and goals employee satisfaction and organizational effectiveness are more likely to occur. Conversely, when individual-organizational needs and goals conflict, employee dissatisfaction and organizational ineffectiveness are likely to result (Schein, 1978). The literature on careers suggests that they often do operate in opposition (Connelly, 1979; Hall, 1976; Jelinck, 1979).

A variant of the above kind of research stems from a series of studies conducted at the University of Minnesota (e.g., Betz, Weiss, England, & Lofquist, 1966; Lofquist & Dawis, 1969; Weiss, Dawis, England, & Lofquist, 1967) in conjunction with their theory of work adjustment. The results of these studies have shown that when jobs contain incentives that correspond with individual vocational needs, significant correlations with measures of job satisfaction are found. This research has been very effective in demonstrating that a good "fit" between an individual's desires and the reward pattern of the occupation he or she chooses is related to satisfaction at work.

Using the same measurements employed in the Minnesota studies, Tziner and Vardi (1982) tested a specific hypothesis derived from the work adjustment theory. They postulated that "a congruence between the occupational reward environment of social workers and their occupational needs will be positively related to their level of satisfaction at work" (p. 151). While the results from a canonical correlation analysis significantly, Rc = .89 (p < .01), supported their hypothesis, it is the belief of this author that their computation of the congruency index is both methodologically and conceptually incorrect. Conceptually, congruency indices should reflect a measure of fit or agreement, but in this study they were computed as difference scores (occupational needs-occupational rewards differences). Therefore, the larger the congruency index, the greater the discrepancy between the needs-rewards fit. Following this line of thought, the results of the canonical analysis (correlating difference scores with satisfaction scores) indicates that satisfaction is greater with increasing incongruence rather than congruence.

Individual-Organization or Individual-Job Situation. A second level (see Table 1) at which a congruency relationship may be conceptualized is at the individual-organization or individual-job situation level. Wanous (1978, 1980) has described the entry process in organizations with a model of matching individuals to organizations. Although Wanous and other researchers (e.g., Cleff, 1973) have used the term

"matching," their approach is synonymous with what has been called the "congruency model" in this research. Wanous's model was adapted from the Minnesota studies of vocational adjustment (Lofquist & Dawis, 1969) to depict an organizational focus rather than an occupational theme. While the model shows that individuals and organizations get matched in two ways (individual abilities-job requirements and individual needs-organizational climates), organizational entry research efforts have focused their attention on the second matching system. That is, there have been no empirical tests of the effects of implementing the full model, but several studies have examined the individual needs-organizational climate fit on employee succss outcomes. It should be noted that in these studies, needs are operationally measured as expectations and/or preferences of individuals. The largest proportion of research concerned with organizational entry (e.g., realistic job previews) has explored the role of individual expectations in an attempt to achieve congruence between expectations and reality. The research evidence from these studies (e.g., Wanous, 1973; Weitz, 1956) suggests that "when more realistic information is provided for applicants, those who join the organization do seem to stay longer, have more positive attitudes, and so forth" (Schneider, 1976, p. 460). A brief review of some of their studies that match individuals to organizations follows.

First, a study conducted by Katzell (1968) on nursing students used two questionnaires to measure initial expectations and actual experience eight months later. The findings indicated that the more the students' expectations were confirmed by experience, the less likely they were to drop out of the program.

A second study was conducted by Kotter (1973) to assess the degree of matches in expectations when individuals join a new organization. The subjects in this study were 90 graduates at the MIT Sloan School of Management. According to Kotter, quite a number of positive outcomes were realized as a result of close matches between individuals and organizations. Kotter reports:

> The major research hypothesis that psychological contracts, which are made up primarily of matches in expectations, are related to greater job satisfaction, productivity, and reduced turnover than are other contracts which have more mismatches and less matches. (p. 92)

A third example of matching individuals to organizations is a study conducted by Morse (1975). Because of the experimental nature of this study, it is probably the best example of the results that are likely to occur from a matching procedure. The study's hypothesis was:

> Individuals placed on clerical and hourly jobs to provide a congruence of five personality predispositions and job certainty will tend to

experience psychological adjustment and growth and development at work, represented by a sense of competence, more so than will individuals placed on jobs without reference to that person-job congruence. (p. 847)

Morse tested the matching idea by comparing results of placing on jobs one group of newcomers who were well-matched (both in skills and needs) and placing on jobs another group of newcomers according to the traditional method (concern for skills only). After eight months on the jobs, the group that was matched both in skills and needs were more satisfied and felt more competent than did the group who were matched on skills alone.

The only study that did not find strong results in support of matching individuals to organizations was conducted by Schneider (1975a) in the life insurance industry. In this study, the fit of new agents expectations and preferences to the realities of the climate of the agency they joined was unrelated to the new agents' success (tenure and sales measures). Schneider explains this finding by stating that the questionnaire used in the study did not assess the kinds of organizational rewards the individual could obtain in that environment. Also, the expectation-climate fit is more likely to effect satisfaction on the job rather than criterion measures like sales, which are easily contaminated (e.g., by market and seasonal fluctuations).

While the studies reviewed above were concerned with the individual-organizational or individual-job situation fit, they primarily focused on the congruency between individual expectations with the realities of the climate of the organization. A second line of research has defined the individual-organizational fit in terms of the congruency between an individual's personality with characteristics of the job situation. In these studies, congruency has generally been defined as an interaction effect. That is, they test the proposition that organizational climate interacts with individual personality in influencing job satisfaction and performance. Results from several studies (e.g., Downey, Hellriegal, & Slocum, 1975; Pritchard & Kirasick, 1973) have consistently shown job satisfaction to be a function of the interaction between the personality characteristics of the individual and the perceived environment (organizational climate). To a lesser extent, the congruency notion has held true for job performance. Finally, a study conducted by O'Reilly (1977) tested a personality-job congruency hypothesis using 307 Navy personnel in 10 job categories. Personality measures were used to form two indices of work orientation; expressive, or desiring achievement and self-actualization while on the job, and instrumental, or desiring job security and high financial reward from the job. These orientations were found to interact with the type of job (challenging or nonchallenging) and to affect both job attitudes and performance.

Individual-Job Design. Another level at which congruency may be viewed is the individual-job behavior fit. Studies in this area have examined the fit between required job behavior and individual expectations of what the job demands. Evidence for this congruency relationship comes from the work redesign efforts of Hackman and Lawler (1971) and more recently, Hackman and Oldham (1975, 1980). Although Hackman and Lawler did not conceptualize their research in terms of a congruity model, they showed that people working at jobs offering the kinds of intrinsic rewards they desired were more satisfied, had lower absenteeism rates, and were evaluated more positively on their performance than people with similar desires working at jobs that could not fulfill those desires. An important finding in the work redesign research was that people working at "fulfilling" jobs were not necessarily more productive or satisfied; it was the congruency or fit between person and job that was the determinant of successful work behaviors.

Individual-Job Design-Organization. Recent attempts to integrate the organizational structure and job design literatures (e.g., Morse & Lorsch, 1970; Lawler, 1971; Neimiroff & Ford, 1976; Porter, Lawler, & Hackman, 1975) has resulted in several congruency models. Each of these models suggests that the attainment of individual and organizational outcomes is contingent upon an organization-job design-individual fit. For example, the Porter, Lawler, and Hackman (1975) model predicts that job satisfaction and

worker performance should vary as a function of the congruence between the organization, job design, and individual characteristics.

Porter et al.'s predictions were examined in a study conducted by Pierce, Dunham, and Blackburn (1979). An eight cell congruency framework for social system structure (mechanistic-organic), job design (simple-complex), and employee growth need strength (low-high) was used in this study to predict employee satisfaction, motivation, and performance of 398 employees of an insurance company. As predicted, employee satisfaction was highest for persons in the organic-complex-high condition. Two-way interaction effects (social system structure X job design and job design X growth need strength) were also found to be significant. The researchers concluded, "these findings support the need for a systems congruency framework for understanding and predicting the responses of members of work organizations" (Pierce, Dunham, & Blackburn, 1979, p. 239).

Individual-Job. The last area of research concerning the congruency concept and the one most relevant to the present study has been in the context of personnel selection. Here, the emphasis traditionally has been on the individual ability-job requirement fit. While the application of a congruity model in this context has logical appeal and can potentially be useful as a personnel decision making strategy, there is minimal published research evidence. To the knowledge of this author, the research evidence on a

congruency or matching approach to the selection process consists solely of an anecdotal report by Cleff (1973) and one published research study (Ash, Levine, & Edgell, 1979).

Cleff (1973) reports the results of several unpublished studies on a computer-assisted job matching system. His anecdotal report does not provide complete details on the methodology of any study reviewed. Nevertheless, claims are made for rather impressive relationships between job turnover, productivity, supervisory ratings and the magnitude of the "Job Match Index," a computerized index of profile similarity between an incumbent's experience/preference scores on 16 dimensions of work (categorized according to data, people and things) and scores on the same dimensions derived from a description of the incumbent's job. For example, one of Cleff's studies was conducted at "a very famous eastern hotel." According to Cleff:

> Of 24 employees in 20 different job categories--all picked at random--for the above-medium matched people, the turnover rate was 0. The turnover rate among the below-median matched people was 62%.
> (p. 91)

In another study at a "major eastern utility," Cleff compared the SET tests (Short Employment Tests) to the job matching system. He reports that the SET rests were negative predictors of turnover probability, that is, the higher a person scored on the SET, the higher the probability of turnover. However, "the job-matching system very clearly

discriminated between the high turnover group and the low turnover group, with the high-matched people having a higher probability of staying on the job." (Cleff, 1973, p. 92). Supervisory ratings of performance and a self-report measure of job satisfaction were also collected in this study. A negative correlation was found between SET test scores and satisfaction, whereas a positive relationship was found between satisfaction and the job match index. Both the SET test scores and the job match index were positively related to performance ratings.

While it is unfortunate that Cleff's work is limited in terms of methodological descriptions, sample sizes and published research evidence, if taken at face value the studies suggest that a congruence model can be an effective predictor of both individual and organizational outcomes. As Dunnette and Borman (1979) stated about Cleff's work in their annual review article on personnel selection and classification systems:

> We would like to see the methodology tested more
> widely and by other investigators. Certainly these
> first results show promise. (p. 485)

Since the reporting of Cleff's (1973) original work only one other study on the matching or congruency approach to selection has been published. In this study, Ash, Levine, and Edgell (1979) addressed the impact of ethnicity on congruence index scores. A matching procedure for selection of clerical personnel (based on task and working condition

preferences of applicants) was studied for the impact of ethnicity among a sample of 200 White, 200 Black, and 200 Hispanic applicants. Applicants were requested to report how much they liked or disliked each task or condition, whereas supervisors of jobs having vacancies rated each task and condition in terms of its presence in and importance for the job. "Although a number of statistically significant relationships between task/condition preferences and ethnicity were observed, the magnitude of effect of ethnicity on preferences for singular job conditions and tasks seemed to be near zero in most cases" (Ash et al., 1979, p. 35). That is, the data reported in this study suggest an absence of adverse impact in the operational use of a congruency selection procedure.

In sum, the accumulated evidence in the area of "congruency models" and research reviewed above has sufficient support to provide a theoretical and operational framework for the development of new personnel decision making strategies. The question of concern is at what level should congruency be defined and what components should be included in the congruency relationship to maximally predict success. Personnel researchers (e.g., Dunnette, 1982; Fine, 1975) have advocated a congruency approach to personnel decisions (e.g., selection and placement) that utilizes the individual ability-job requirements fit, while organizational researchers (e.g., Downey, Hellriegel, & Slocum, 1975; Porter, Lawler, & Hackman, 1975) have postulated that the

individual motivation (needs)-work environment fit is essential to predicting employee success in organizations. It seems logical at this point to integrate and combine both the individual differences and organizational behavior orientations of predicting work behaviors. The present study represents an initial attempt to accomplish this aim by assessing the effects of person-job environment congruency on individual and organizational outcomes. Based on the above findings and arguments, the basic components of a person-job environment congruency model are identified and research questions proposed by the model are presented.

Person-Job Environment Congruency Framework

The purpose of the present study is to ascertain the effects of person-job environment congruency on individual and organizational outcomes. Figure 1 represents a model of the person-job environment congruity framework. The central concept of person-job environment congruence is the notion of "fit" or congruence between an individual, job, and work environment. This fit depends essentially on the congruence between two characteristics of jobs and two characteristics of individuals.

In the model, jobs are described in terms of both their requirements and work environment. Job requirements refer to the types of tasks, skills, and knowledge required to perform the job from the viewpoint of the organization. The work environment is the work context or organizational milieu surrounding the job. Included in the work environment are
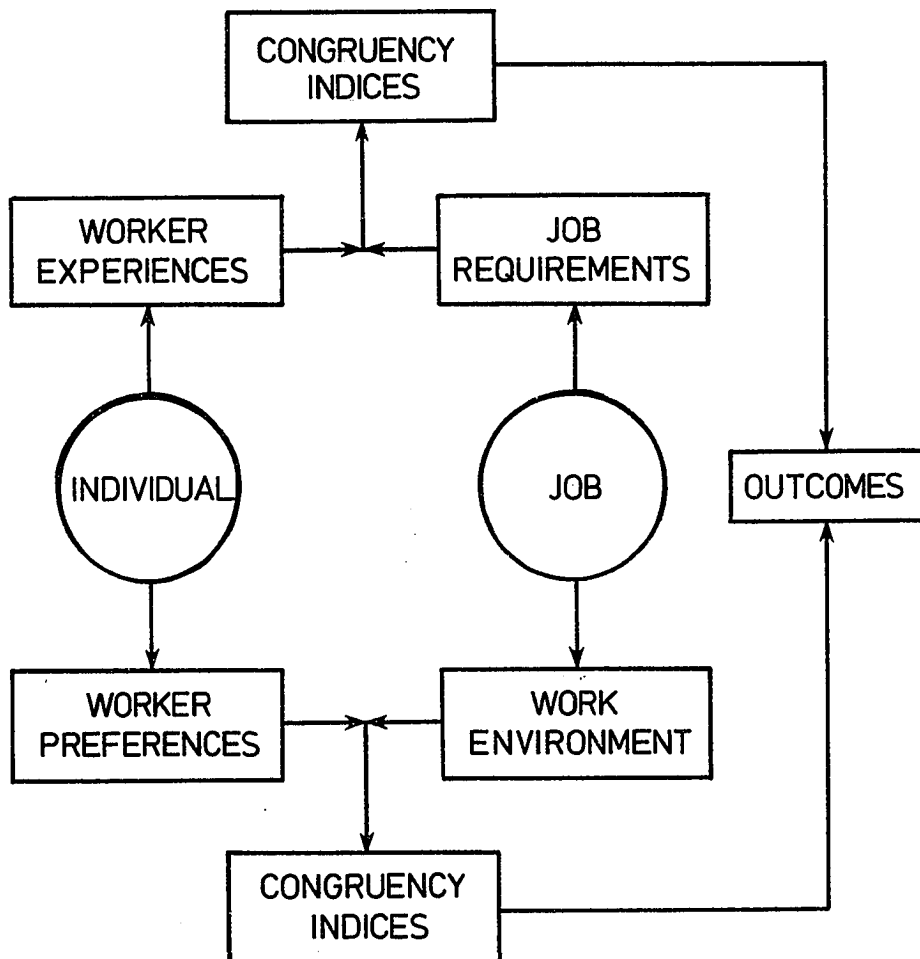
Figure 1. A Person-Job Environment Congruency Model

dimensions of the social and physical environment, reward systems and features of the organizational structure.

Individual characteristics include experiences and preferences. Worker experiences refer to the capabilities that the individual has acquired, and represent the things individuals can do or have done in the past. The notion here is that if individuals have done something in the past, they could do it in the target job if it is required on the job (Arvey, McGowen, & Horgan, 1981; Schmidt & Caplan, 1979). Worker preferences are the things people want to fulfill in their jobs. While experiences indicate if an individual "can do" the work, preferences influence the individual's "willingness" to perform the work.

Within this congruity framework, there are essentially two matching systems. In the first, the work experiences of an individual are matched to the requirements of the job. In the second matching system the preferences of individuals are matched with the capacity of the work environment to meet or satisfy these preferences. Operationally, matching is established through the use of congruency indices. A congruency index is a statistical function of the degree of fit or similarity between parallel measures of an employee and a particular job. Congruency between these two matching systems influences both individual and organizational outcomes. Outcomes represent both attitudinal criteria as well as indicators of employee effectiveness. In Figure 1, these criteria include job satisfaction and organizational commitment.

Job satisfaction can be defined as an affective response of the worker to his or her job and can be viewed as a result or consequence of the worker's experience on the job in relation to his or her own values, that is, what the worker wants or expects from it (Smith, Hulin, & Kendal, 1969). From the organization's viewpoint, job satisfaction may make a positive contribution to the organization's goals in several ways. For instance, more satisfied employees may have more favorable attendance patterns and be more willing to remain with the organization. For individuals, job satisfaction contributes to their physical and mental health.

Organizational commitment refers to the nature of an individual's relationship to an organization, such that a highly committed member will demonstrate (a) a strong desire to remain a part of the organization, (b) a willingness to exert high levels of effort on behalf of the organization, and (c) a definite belief in acceptance of the values and goals of the organization (Mowday, Porter, & Steers, 1982). Commitment differs from job satisfaction in that it is a more global construct, reflecting a general affective response to the organization as a whole. "Commitment emphasizes attachment to the employing organization, including its goals and values, whereas satisfaction emphasizes the specific task environment where an employee performs his or her duties" (Mowday, Porter, & Steers, 1982, p. 28). All of these components comprising the person-job environment congruence model are defined in Table 2.

Table 2

Definitions of Person-Job Environment Congruency Model
Components

Model Component	Definition
Individual	The characteristics of individuals in work organizations.
Job	The work to be performed by individuals to produce an output and/or service provided by an organization.
Experiences	Worker experiences represent the things individuals can do or have done in the past.
Preferences	Worker preferences are the things people want to fulfill in their jobs.
Job Requirements	The types of tasks, skills, and knowledge demands required to produce an output or service.
Work Environment	The work context or organizational milieu surrounding the job.
Congruency Index	A statistical function of the degree of fit or similarity between parallel measures of an employee and a particular job.
Outcomes	Criteria or indicators of employee reactions and effectiveness.
Job Satisfaction	An affective response of the worker to his or her job.
Organizational Commitment	The relative strength of an individual's identification with and involvement in a particular organization (Mowday, Porter, & Steers, 1982.)

Individuals who achieve positive outcomes are viewed as effective by the organization because they are contributing to the organization's goals. Failure to achieve these outcomes can result in substantial monetary and psychological costs to both individuals and organizations alike.

Congruency Research Hypotheses

Based on the person-job environment conceptualization discussed above, it is anticipated that in a given job classification, the congruence between the two matching systems will lead to greater success and work satisfaction. While this concept is intuitively reasonable, it suffers from lack of empirical evidence. Knowledge of the effects of person-job environment congruency is essential if new methods of predicting success in organizations are going to be developed which increase the effectiveness of personnel decision making. Therefore, this research was aimed at examining the effects of several congruency relationships on individual and organizational outcomes. These hypotheses are broadly summarized below:

(1) Congruence between worker experiences and requirements of the job will be positively related to job satisfaction and organizational commitment.

(2) Congruence between worker preferences and conditions of the work environment will be positively related to job satisfaction and organizational commitment.

CHAPTER THREE

Method

Methdology Overview

The methodology for implementing and testing the person-job environment congruency model and research questions is basically a procedure for determining the fit or congruence between individuals and jobs. In this procedure, individuals are described in terms of both a worker experience profile and worker preference profile. Jobs are described in terms of a job requirements profile and work environment profile. Then, the individual profiles and job profiles are matched using a congruency index (degree of similarity or fit). Finally, the nature of the relationships between the congruency indices and both the individual and organizational outcomes (dependent measures) are assessed. Figure 2 represents the flow of activities that were necessary for implementing and testing the person-job environment congruency research questions. The job and work environment analyses and the worker experience and preference assessment phase are discussed in the measures section of the current chapter. The remaining phases, which include the development of job and worker profiles, computation of congruency indices and the testing of congruency hypotheses are discussed in Chapter 4 (Results).
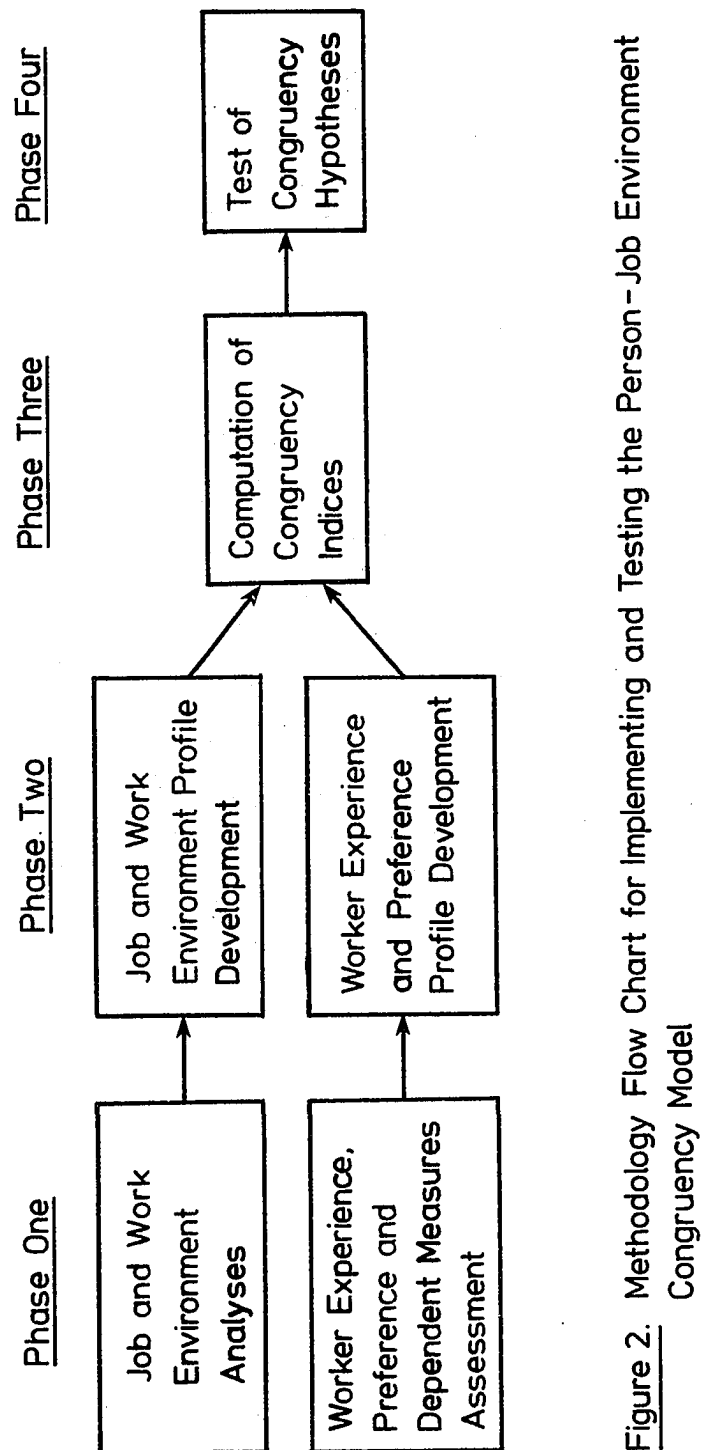
Figure 2. Methodology Flow Chart for Implementing and Testing the Person-Job Environment Congruency Model

The methodology for testing the effects of person-job environment congruency on individual and organizational outcomes requires a measure of actual job requirements and work environment conditions and a measure of individual experiences and preferences. A simple paired subjective measurement is not methodologically appropriate because of people's difficulty in differentiating between (1) experiences and job requirements, and (2) their preferences and the conditions of the work environment. In order to circumvent this problem, congruency indices were calculated from two groups of randomly selected people in each participating sample (job classification). The job requirements and work environment profiles were obtained from a norm group within each job classification. Both experiences and preferences as well as the dependent measures were obtained from a response group within the same job classification. The characteristics of the participating samples are described in the next section.

Samples

To achieve the objectives outlined above, it was necessary to collect data from fairly well-defined job classes. In other words, a sufficient number of individuals performing the same job and having communality in their work environment was required. To provide a strong test of the model and methodology, it was desirable to represent two distinct job classifications. Thus, data were collected in this study from two samples, each containing a norm group and a response group.

In the first sample, data were collected from clerks
employed by a major supermarket chain located in the
northeast. The norm group for this sample, used for
assessing the requirements of the job and conditions of the
work environment, consisted of 122 individuals. The response
group, consisting of 278 individuals, was used to obtain an
assessment of worker's experiences and preferences as well as
the dependent measures.

The second sample was comprised of 26 individuals in the
norm group and 89 in the response group. These individuals
were all nurses (RN's) from a regional hospital also located
in the northeast. Descriptive characteristics of both the
clerk sample and nurse sample are shown respectively in
Tables 3 and 4.

Measures

There were two questionnaire packages used in this
study. The Job and Work Environment Questionniare was
completed by the norm group in each sample and the Worker
Experience and Preference Questionnaire was completed by the
response groups. Each of these questionnaire packages are
described below.

Job and Work Environment Questionnaire

The Job and Work Environment Questionnaire is comprised
of four parts with sections designed to measure job
requirements, the work environment, and biographical
information (see Appendix A).

Table 3

Descriptive Characteristics of the Clerk Sample

Characteristic	Response Group %	Norm Group %
Age		
Under 20	24.5	20.5
20-29	44.2	43.4
30-39	12.9	13.9
40-59	8.6	13.1
50-59	7.2	5.7
60 or over	2.5	1.6
Sex		
male	39.2	48.4
female	60.4	50.0
Education		
Grade School	1.4	1.6
Some High School	9.4	12.3
High School Degree	34.5	40.2
Some Business College or Technical School	8.6	6.6
Some College	25.5	27.9
Business College or Technical School Degree	5.4	4.1
College Degree	13.7	4.9
Advanced Degree	1.1	0.8
Job Tenure		
Less than 1 year	18.3	16.4
1 to 2 years	25.2	21.3
3 to 5 years	28.1	26.2
6 to 10 years	14.7	17.2
More than 10 years	13.7	17.2
Organizational Tenure		
Less than 1 year	15.8	15.6
1 to 2 years	24.5	18.9
3 to 5 years	25.5	25.4
6 to 10 years	17.3	20.5
More than 10 years	16.9	18.0

Table 4

Descriptive Characteristics of the Nurse Sample

Characteristic	Response Group %	Norm Group %
Age		
Under 20	--	--
20-29	12.4	11.5
30-39	34.8	30.8
40-59	36.0	46.2
50-59	15.7	11.5
60 or over	1.1	--
Sex		
male	3.4	--
female	94.3	100.0
Education		
Grade School	--	--
Some High School	--	--
High School Degree	1.1	--
Some Business College or Technical School	2.2	3.8
Some College	25.8	34.6
Business College or Technical School Degree	20.2	26.9
College Degree	50.6	30.8
Advanced Degree	--	3.8
Job Tenure		
Less than 1 year	11.2	3.8
1 to 2 years	15.7	30.8
3 to 5 years	31.5	26.9
6 to 10 years	20.2	15.4
More than 10 years	21.3	11.5
Organizational Tenure		
Less than 1 year	11.2	7.7
1 to 2 years	10.1	26.9
3 to 5 years	24.7	30.8
6 to 10 years	23.6	11.5
More than 10 years	30.3	11.5

Job Requirements. Job requirements were measured in terms of the importance of job elements (activities) for successful job performance. The items were drawn and adapted from the Position Analysis Questionnaire (PAQ) developed by McCormick, Jeanneret, and Mecham (1969a). The PAQ is a structured worker-oriented job analysis instrument that consists of 194 items or job elements applicable to a wide variety of jobs. The PAQ is divided into several sections or divisions including: information input (where and how the worker gets the information he uses in performing the job); mental processes (the reasoning, decision making and information processing activities involved in performing the job); work output (physical activities the worker performs and the tools and devices he uses); and relationships with other persons required in performing the job. The job divisions and subsections utilized in the present study for assessing job requirements, as well as some illustrative items are presented in Table 5.

While the major dimensions of the PAQ presented in Table 5 are conceptual divisions, several empirical studies of the PAQ's dimensionality have been conducted, producing generally similar findings. In all of these studies, the researchers have factor analyzed the interelement correlation matrix for various types of jobs. The elements within each of the major divisions are factored separately, with an additional analysis performed on all items taken together. The original study (McCormick, Jeanneret, and Mecham, 1969b) identified 27

Table 5

Position Analysis Questionnaire Job Divisions

Job Division	Illustrative Item

1. Information Input:
 	
  a. Sources of job information
 	
  b. Sensory and perceptual processes.
 	
  c. Estimation Activities
	Information Input:
	
	  a. Reading (books, reports office notes, job instructions, etc.).
	  b. Recognizing sound patterns (Morse code, heart beats, engine not running properly,etc.).
	  c. Estimating time (time to make a delivery, to service a piece of equipment, etc.).

2. Mental Processes:
 	
  a. Decision making and reasoning
 	
  b. Information processing
	Mental Processes:
	
	  a. The level of decision making typically involved in the job.
	  b. Analyzing information (interpreting financial reports, diagnosing an illness, etc.).

3. Work Output:
 	
  a. Manipulation/manual activities.
 	
  b. Use of physical devices and equipment
	Work Output:
	
	  a. Controlling or guiding materials being processed.
	  b. Precision hand tools.

4. Interpersonal Relationships:
 	
  a. Communicating information
  b. Personal Contact
 	
  c. Supervision and responsibility
	Interpersonal Relationships:
	
	  a. Interviewing.
	
	  b. Middle management (division or district managers).
	  c. Supervision given.

divisional factors and five general (i.e., across all items)
factors. A second study conducted by Marquardt and McCormick
(1974) found 31 within division factors and 14 general
factors. In a more recent study, McCormick, Mecham, and
Jeanneret (1977) report 32 divisional factors and 13 general
factors. Given the large numbers of jobs on which these
results were based, the factors involved would seem to
constitute stable descriptions of job activity dimensions.

In the present study, norm group respondents rated in
checklist form each of the PAQ job requirement items as they
pertained to the specified job (e.g.,clerk, nurse) using the
six point scale presented below:

Rating Scale

Importance to This Job
0 Does not apply
1 Very minor
2 Low
3 Average
4 High
5 Extreme

In rating the importance of each of the items the respondents
were instructed to consider such factors as the amount of
time spent, the possible influence on overall job performance
if the worker does not perform the activity, etc. It should
also be noted that several of the job requirement items
(e.g., supervision, responsibility) used special rating
scales.

In sum, items adapted from the PAQ were chosen to
measure job requirements in this study for several important

reasons. The PAQ has consistently shown good psychometric properties, it is applicable to a wide range of jobs, and it has statistically (factor-analyzed) derived scoring procedures. Finally, recent research (e.g., Levine, Ash, Hall & Sistruck, 1983; Smith & Hakel, 1979) has indicated that there is little difference between analyst sources in terms of their ability to analyze reliably a job using the PAQ.

Work Environment. As stated earlier, the work environment is the work context or organizational milieu surrounding the job. Due to the broad nature of this concept, several dimensions (variables) were assessed using different scales in the work environment analysis. First, the extent to which various job related outcomes (both intrinsic and extrinsic) are present or provided for in the work environment were assessed. Respondents indicated the extent to which job related outcomes were present in the work environment of the job they were rating on a six-point scale ranging from 0-5 (where 0 = none and 5 = very great extent). Items for this scale were adapted from the Job Rating Form developed by Hackman and Oldham (1975) and included intrinsic outcomes such as opportunities for stimulating and challenging work and personal growth and development, as well as extrinsic outcomes such as job security and salary and benefits.

Next, scales for describing the work situation and environment within which individuals work were provided. In

particular, the social, situational and physical aspects of the work environment were analyzed, with items adapted from the PAQ.

Finally, the extent to which the job characteristics of skill variety, task identity, task significance, autonomy, feedback, dealing with others and friendship opportunities were present or provided for in the work environment were assessed. Items for this scale were adapted from the Job Rating Form (JRF) developed by Hackman and Oldham (1975). This instrument is essentially a variation of the Job Diagnostic Survey (Hackman & Oldham, 1975) adapted for use by raters in rating the extent to which the needs or preferences of individuals would be expected to be fulfilled on any given job. Hackman and Oldham (1975) have shown that incumbent employees, external observers and supervisors are able to agree quite well in describing different jobs in relation to the presence of work environment factors.

Personal Characteristics. The final section of the Job and Work Environment Questionnaire consisted of items requesting the following biographical information from the respondents; job title, department, sex, age, job tenure, organizational tenure and education.

Worker Experience and Preference Questionnaire

The Worker Experience and Preference Questionnaire is comprised of six parts with item sections designed to measure worker experiences, worker preferences, organizational commitment, job satisfaction and personal characteristics (see Appendix B).

Worker Experiences. Worker experiences were measured by
a self-assessment questionnaire (checklist) format that asked
each individual to indicate the extent to which they have had
experience in the job activities characterized by the job
elements of the Position Analysis Questionnaire (PAQ). In
other words, the dimensions and items measuring worker
experiences (e.g., information input, work output, mental
processes, etc.) were parallel to those assessing job
requirements in the Job and Work Environment Questionnaire.
While the use of self-assessment has been a subject of debate
in the personnel literature, several authors (e.g., Levine,
Flory, & Ash, 1977; Primoff, 1980) have recommended their use
when employees rate themselves on the specific aspects of
work behavior which constitute successful job performance.

For each experience job activity rated, a brief
definition was provided. Individuals were asked to indicate
on the six point scale presented below how much experience
they have had in each of the activities.

Rating Scale

0 None
1 Very Limited
2 Limited
3 Moderate
4 Considerable
5 Very Extensive

Worker Preferences. The dimensions measuring worker
preferences and tolerances for various contexts in which the
work is performed were parallel to those assessing the work

environment in the Job and Work Environment Questionnaire. A brief review of these dimensions follows. First, respondents indicated their reward preferences with various intrinsic and extrinsic job outcomes on the scale developed by Hackman and Oldham (1975) in the Job Diagnostic Survey.

Next, measures of worker preferences and tolerances for various social, physical and situational contexts in which work can be performed were assessed. Again, items were adapted from the PAQ for these scales.

Finally, worker preferences for the job characteristics of skill variety, task identity, task significance, autonomy, feedback, dealing with others and friendship opportunities were assessed. The items were adapted from the Sims, Szilagyi, and Keller (1976) Job Characteristics Inventory and the Hackman and Oldham (1975) Job Diagnostic Survey.

Organizational Commitment. Employee commitment to the organization was measured by the 15-item Organizational Commitment Questionnaire (OCQ) developed by Porter, Steers, Mowday, and Boulian (1974). Included in this instrument are items pertaining to the various definition components of commitment: i.e., loyalty toward the organization, willingness to exert high levels of effort on behalf of the organization, and acceptance of the organization's values and goals. Each item of the questionnaire asks the respondent to express his or her agreement or disagreement with the statement on a seven-point Likert scale, ranging from "strongly agree" to "strongly disagree." Several items are

negatively phrased and reverse-scored in an effort to reduce response bias.

Job Satisfaction. This scale contains 20 items covering different facets of job satisfaction (e.g., growth and development, job security, compensation, supervision, co-workers, working conditions, promotional opportuniies, etc.). The items were adapted from both the Minnesota Satisfaction Questionnaire (Weiss, Davis, England, & Lofquist, 1967) and the Job Diagnostic Survey (Hackman & Oldham, 1975) to ensure adequate representation of both intrinsic attributes of the job and extrinsic or job context attributes. Respondents were asked to use a seven-point Likert scale ranging from 1 to 7 (where 1 = extremely dissatisfied and 7 = extremely satisfied) to report their level of satisfaction with each one of the 20 items.

Personal Characteristics. The final section of the Worker Experience and Preference Questionnaire consisted of items requesting the following biographical information from the respondents: job title, department, sex, age, job tenure, and organizational tenure.

Procedure

The questionnaires were distributed by a mail-out procedure. Participating organizations provided the names and addresses of employees for each sample. In an effort to increase the response rate, recommendations of Heberlein and Baumgartner (1978) as well as Sudman and Bradburn (1982) on conducting mailed surveys were followed. These researchers

have identified several factors affecting response rates to
mailed questionnaires. They found that three contacts with
respondents is optimal, that a specific population (such as
employees) are more likely to respond than the general
population, that there is very little relationship between
questionnaire length and response rate, and that the salience
of the questionnaire is most important.

Several days prior to the mailing of the questionnaire
packets letters were sent to the participants in the study
from a high-level representative of the organization. This
letter informed participants that a study was being conducted
and that their participation was important. It explained
that the questionnire packets they were about to receive were
both developed and administered by an academic researcher,
not an employee of the organization. The general purpose of
the study as well as the importance of the questionnaire for
the researcher and organization were stressed. Participants
were assured confidentiality of responses, and their
participation, while urged, was voluntary.

Next, the questionnaire packets were mailed to the
participants, along with a cover letter from the researcher
and instructions explaining the nature of the questionnaires.
In the instructions (see Appendix A & B), the sections of the
questionnaire were described. It was pointed out that there
were no right or wrong answers. Since several different
rating scales were used throughout the questionnaire,
specific instructions were provided at the start of each

section. Participants were thanked for their cooperation and complete confidentiality and anonymity were assured. All questionnaires were returned in a prepaid envelope addressed to the reseacher at Old Dominion University.

Finally, after the questionnaires had been mailed for 10-14 days a follow-up letter was sent from the researcher to all participants urging them to complete and return the questionnaires if they had not already done so. If they had completed the questionnaires, the letter thanked them for their particiption.

In the clerk sample, 900 questionnaire packets were mailed to the response group and 400 to the norm group. Of these, 287 or 31.88 percent were returned by the response group and 125 (31.25%) were returned from the norm group. Usable questionnaires were retained from 278 respondents in the response group and 122 respondents in the norm group, yielding a response rate of 30.88 percent and 30.50 percent, respectively.

A total of 300 questionnaires were mailed to the nurse response group and 100 to the norm group. Of these, 104 or 34.66% percent were returned from the response group, yielding 89 usable questionnaires, and 32 (32.00%) were returned from the norm group, resulting in 26 usable questionnaires.

CHAPTER FOUR

Results

The description and results of the analyses used to test the person-job environment congruency research questions are presented below. Each section describes the analytical procedures used in the present study according to the order in which they occurred. In the first section, the development of the job and worker profiles are discussed. Here, job dimension scores and dimension statistics are presented. The following section describes the computation of the congruency indices. In the final section, the analyses and findings of the relationship between the congruency indices and the dependent measures (individual and organizational outcomes) are presented.

Development of Job and Worker Profiles

As stated earlier, the norm group in each sample was used to establish the job profile from the information obtained with the Job Requirement and Work Environment Questionnaire. The data from the Worker Experience and Preference Questionnaire were used in developing worker profiles.

Job Profiles. The job profiles consisted of dimensions describing both the job requirements and work environment for each of the jobs in question. The dimensions and their

associated scoring procedures used in the present study were those statistically derived (based on factor analysis) from McCormick et al.'s work (1972, 1974) on the PAQ and Hackman and Oldham's work (1980) on the JDS.

For each of the research-based dimensions describing the job requirements and work environment, dimension scores were derived from the importance ratings given to the items in the Job Requirements and Work Environment Questionnaire. The dimension scores represent the consensual or average perceptions of the norm group toward the jobs in question. They were computed for each job classification (clerk and nurse) by summing the items within each of the dimensions and then dividing by the number of items summed. Internal consistency reliability coefficients were computed for each job dimension score, using Cronbach's Alpha. These reliability coefficients are reported in Table 6. They ranged from .922 for the Relationships with Others dimension to .686 for Extrinsic Outcomes. An overall inspection of Table 6 indicates that the reliability of the dimension scores are reasonably high, with 7 of the 11 coefficients being greater than .80.

The job profile for the job requirements and work environment dimension scores are found in Tables 7 and 8 for the clerk and nurse samples, respectively. Several important factors should be noted in the profile information. For instance, the low standard deviation values of the dimension scores indicates that there was substantial agreement among

Table 6

Summary of Internal Consistency Reliability Coefficients for
Job Dimensions

Dimension	Alpha
Job Requirements:	
Information Input	.906
Mental Processes	.878
Work Output	.904
Relationships with Other Persons	.922
Work Environment:	
Intrinsic Outcomes	.913
Extrinsic Outcomes	.686
Job Context (personal & social)	.820
Job Demands	.760
Job Context (physical working conditions)	.780
Job Characteristics	.805
Other Characteristics	.786

Table 7

Job and Work Environment Profile for the Clerk Sample

Dimension	M	SD
Job Requirements:		
1. Information Input	1.338	0.720
a. Sources of Job Information	1.601	0.784
b. Sensory and Perceptual Processes	1.020	0.902
c. Estimation Activities	1.112	0.942
2. Mental Processes	1.533	0.909
a. Information Processing	1.057	1.128
b. Decision Making	2.127	0.831
c. Education	2.500	0.947
3. Relationship with Other Persons	1.599	0.863
a. Communicating Information	1.197	0.982
b. Personal Contacts	2.053	0.892
4. Work Output	1.389	0.734
a. Manual/manipulation activities	2.180	1.170
b. Uses of Devices & Equipment	0.831	0.577
5. Supervision	1.248	1.577
6. Responsibility	1.721	0.902
Work Environment:		
1. Intrinsic Outcomes	2.225	1.193
2. Extrinsic Outcomes	3.027	0.886
3. Personal Context	1.957	1.020
4. Job Demands	2.394	0.888

(table continues)

Dimension	M	SD
5. Physical Context	0.986	0.738
6. Responsibility	3.562	1.139
7. Supervision	2.727	0.913
8. Job Structure	2.058	0.934
9. Criticality of Position	3.645	1.175
10. Job Characteristics:		
a. Skill Variety	2.478	0.930
b. Task Identity	3.431	0.805
c. Task Significance	3.523	0.921
d. Autonomy	3.036	0.898
e. Feedback	3.044	0.774
f. Dealing with Others	3.592	0.755
g. Friendship Opportunities	3.787	1.166

Table 8

Job and Work Environment Profile for the Nurse Sample

Dimension	M	SD
Job Requirements:		
1. Information Input	2.038	0.936
a. Sources of Job Information	2.367	0.916
b. Sensory and Perceptual Processes	2.038	1.054
c. Estimation Activities	1.423	1.219
2. Mental Processes	3.235	0.582
a. Information Processing	2.992	0.875
b. Decision Making	3.538	0.498
c. Education	5.962	1.248
3. Relationship with Other Persons	2.781	0.630
a. Communicating Information	3.028	0.676
b. Personal Contacts	2.497	0.138
4. Work Output	1.602	0.916
a. Manual/manipulation activities	2.228	1.285
b. Uses of Devices & Equipment	1.148	0.770
5. Supervision	2.423	1.604
6. Responsibility	1.920	1.152
Work Environment:		
1. Intrinsic Outcomes	3.500	0.849
2. Extrinsic Outcomes	2.938	0.647
3. Personal Context	3.128	0.880
4. Job Demands	3.363	0.702

(table continues)

	Dimension	M	SD
5.	Physical Context	0.685	0.630
6.	Responsibility	4.538	0.582
7.	Supervision	3.115	0.864
8.	Job Structure	3.077	1.129
9.	Criticality of Position	4.115	1.033
10.	Job Characteristics:		
	a. Skill Variety	4.173	0.594
	b. Task Identity	3.097	0.903
	c. Task Significance	4.440	0.448
	d. Autonomy	3.640	0.962
	e. Feedback	3.340	0.664
	f. Dealing with Others	4.413	0.464
	g. Friendship Opportunities	3.538	1.067

members of the norm group in both samples when rating both the importance of the job requirements and the conditions of the work environment. Also, diagnostic inspection of the tables suggests some important characteristics of each job classification.

Based on the mean dimension scores presented in Table 7, one finds that the clerk norm group perceived the job requirement dimensions of decision making, education, personal contacts and manual/manipulation activities to be the most important to perform the job. The use of equipment and devices received the lowest importance ratings by the clerk norm group. In terms of dimensions describing the work environment, the clerk job was seen as providing a moderate to considerable amount of extrinsic job outcomes (e.g., job security, salary and fringe benefits) responsibility and criticality or importance of position. The environment was also perceived as having limited personal and physical constraints on job incumbents. Finally, the job characteristics of task identity, autonomy, and feedback were present to a moderate extent, while task significance, dealing with others and friendship opportunities were present to a greater extent in the work environment of clerks.

The mean dimension scores presented in Table 8 reveal the job requirement dimensions of decision making, education, and communicating information to be most important in performing the job activities required of nurses. The nurse norm group perceived their work environment as moderately

providing intrinsic outcomes (e.g., stimulating and challenging work); demanding; high in responsibility and critical in terms of performance; and low in terms of physical constraints in the environment. In terms of the job characteristics, all were perceived to be present to at least a moderate extent, but the environment was perceived as particularly promoting in terms of skill variety, task significance and dealing with others.

Worker Profiles. In order to make comparisons (e.g. estimate congruency) between worker experiences with job requirements and worker preferences with conditions of the work environment, the same dimensions and procedures used in developing job profiles were employed to establish worker profiles. In other words, for each of the dimensions, items were summed and averaged in order to compute dimension scores for each individual in the response groups. The summary statistics for the dimensions comprising the worker experience and preference profile are presented in Table 9 for the clerk sample and Table 10 for the nurse sample.

In addition to dimension scores describing workers experiences and preferences, scores on the dependent measures of job satisfaction and organizational commitment were also computed for each worker in the response groups.

The items on both the Job Satisfaction scale and Organizational Commitment scale were factor analyzed using a principal components solution with varimax rotation.

Table 9

Summary Statistics for Worker Experience and Preference
Dimensions (Clerk Sample)

Dimension	M	SD
Job Requirements:		
1. Information Input	1.657	0.905
a. Sources of Job Information	1.996	0.962
b. Sensory and Perceptual Processes	1.398	1.091
c. Estimation Activities	1.245	1.088
2. Mental Processes	1.818	0.925
a. Information Processing	1.405	1.281
b. Decision Making	2.334	0.810
c. Education	4.242	1.638
3. Relationship with Other Persons	1.904	0.937
a. Communicating Information	1.393	1.104
b. Personal Contacts	2.482	0.956
4. Work Output	1.676	0.864
a. Manual/manipulation activities	2.258	1.153
b. Uses of Devices & Equipment	1.274	0.863
5. Supervision	1.769	1.839
6. Responsibility	1.985	0.991
Worker Preferences:		
1. Intrinsic Outcomes	4.204	0.721
2. Extrinsic Outcomes	4.272	0.651
3. Personal Context	2.515	0.958
4. Job Demands	3.219	0.929

(table continues)

	Dimension		$\underline{M}$	$\underline{SD}$
5.	Physical Context		1.183	0.852
6.	Responsibility		3.665	0.837
7.	Supervision		3.101	0.861
8.	Job Structure		3.274	1.079
9.	Criticality of Position		3.185	1.010
10.	Job Characteristics:			
	a.	Skill Variety	4.045	0.924
	b.	Task Identity	4.309	0.800
	c.	Task Significance	3.561	0.920
	d.	Autonomy	3.752	0.961
	e.	Feedback	3.751	0.899
	f.	Dealing with Others	3.708	0.926
	g.	Friendship Opportunities	3.926	0.930

Table 10

Summary Statistics for Worker Experience and Preference
Dimensions (Nurse Sample)

Dimension	M	SD
Worker Experience:		
1. Information Input	2.237	0.896
a. Sources of Job Information	2.564	0.817
b. Sensory and Perceptual Processes	2.193	1.171
c. Estimation Activities	1.681	1.208
2. Mental Processes	3.338	0.662
a. Information Processing	2.966	1.038
b. Decision Making	3.803	0.432
c. Education	6.169	0.968
3. Relationship with Other Persons	3.261	0.768
a. Communicating Information	3.164	0.843
b. Personal Contacts	3.372	0.832
4. Work Output	1.881	0.927
a. Manual/manipulation activities	2.495	1.199
b. Uses of Devices & Equipment	1.472	0.855
5. Supervision	3.742	1.489
6. Responsibility	2.753	1.017
Worker Preferences:		
1. Intrinsic Outcomes	4.460	0.621
2. Extrinsic Outcomes	3.948	0.657
3. Personal Context	3.045	0.689
4. Job Demands	3.539	0.642

(table continues)

Dimension	M	SD
5. Physical Context	0.830	0.587
6. Responsibility	4.056	0.646
7. Supervision	3.337	0.656
8. Job Structure	3.854	0.716
9. Criticality of Position	3.494	0.740
10. Job Characteristics:		
a. Skill Variety	4.197	0.706
b. Task Identity	4.388	0.611
c. Task Significance	4.039	0.692
d. Autonomy	4.292	0.625
e. Feedback	3.772	0.803
f. Dealing with Others	3.663	0.862
g. Friendship Opportunities	3.494	0.824

Internal consistency reliability coefficients (Cronbach's Alpha) were determined for each of the identified factors.

Based on these factor analyses, scores on the dependent measures were derived by summing and averaging all items with substantial loadings (greater than .30) for each identified factor. The results of these factor analyses are reported in Appendix C.

The 20-item Job Satisfaction Scale resulted in a four factor solution, with items measuring satisfaction with intrinsic outcomes, extrinsic outcomes, compensation/job security, and co-workers. The descriptive statistics for the job satisfaction scale are presented in Table 11.

The factor analysis of the 15-item Organizational Commitment scale revealed a two-factor solution. The first factor was comprised of items concerning belief or commitment to the organizations goals and values. The second factor might be interpreted as a "method factor," due to the fact that all the reversely scored items loaded on this factor. However, these items conceptually reflect a distinct dimension of organizational commitment, namely commitment to stay with the organization. For this reason items loading on this factor were retained for further analyses. The summary statistics for the Organizational Commitment scale are reported in Table 12.

Computation of Congruency Indices

Using the mean dimension scores on the job and work environment profiles, a congruence index was developed for

Table 11

Descriptive Statistics for the Job Satisfaction Scale

Scale	Number of Items	Clerk Sample			Nurse Sample		
		Mean	SD	Alpha	Mean	SD	Alpha
Factor 1: Intrinsic	7	4.021	1.439	.93	5.174	1.257	.92
Factor 2: Extrinsic	5	4.251	1.399	.87	4.636	1.330	.87
Factor 3: Compensation/ Security	4	5.188	1.123	.75	4.744	1.168	.81
Factor 4: Co-Workers	2	5.453	1.152	.71	5.478	1.055	.73

Table 12

Descriptive Statistics for the Organizational Commitment Scale

Scale	Number of Items	Clerk Sample		Nurse Sample		
		Mean	SD	Mean	SD	Alpha
Factor 1: Value Commitment	9	4.587	1.334	4.644	1.140	.91
Factor 2: Commitment	6	4.724	1.079	4.719	1.230	.71

each individual in the response groups on each dimension. In other words, to assess the congruency between worker experiences and preferences with job requirements and conditions of the work environment, a comparison of the normative dimension scores comprising the job profiles with each individual's dimension scores had to be made. The measure of profile similarity used in the present study to assess congruency was the generalized Pythagorean distance measure (D) proposed by Osgood and Suci (1952) and Cronbach and Gleser (1953) and advocated by Nunnally (1978). This measure was selected because it considers all three informational aspects of a profile: level (mean score of an individual over the variables in the profile), dispersion (standard deviation of scores for each individual), and shape (the rank order of scores for each individual).

Canonical Analysis

The major research questions proposed in this study were:

1) Congruence between worker experiences and requirements of the job will be positively related to job satisfaction and organizational commitment.

2) Congruence between worker preferences and conditions of the work environment will be positively related to job satisfaction and organizational commitment.

Since the data required to answer these questions included two sets of variables--congruence indices (D measures) and the dependent measures (factor-based scales)--canonical correlation as developed by Hottelling (1936) was chosen as

the principal analysis technique. Canonical correlation ($\underline{R}c$) is interpreted as the maximum correlation between two sets of variables. It is an extension of linear multiple regression to problems involving multiple criterion variables. Either set of variables can be considered as predictors or criteria in canonical correlation. Basically, the criterion variables and the predictor variables are weighted simultaneously, by means of two sets of regression weights, to arrive at two variates which correlate as highly as possible with each other. In this way, the method yields two sets of weights or regression coefficients (one for each set of variables) which can be used to obtain predicted scores for each individual on each set of variables.

In sum, the canonical correlation is the correlation between the two predicted scores (or canonical variates), predicted from the two sets of variables. The standardized regression coefficients for each set of variables indicate which variables contribute most to the relationship between the two sets of variables.

Clerk Sample. Table 13 presents the results of the canonical correlation analysis for the Clerk sample. For each of the significant maximum canonical correlations, regression coefficients for the congruence index dimensions and job satisfaction are presented in Tables 14 and 16 and regression coefficients for the congruence index dimensions and organizational commitment are presented in Tables 15 and 17.

Table 13

Summary of Maximum Canonical Correlations for The Clerk Sample

Congruency Index Dimension	Dependent Measure	Maximum Canonical correlation
Worker Experiences-Job Requirements	Job Satisfaction	.409**
	Organizational Commitment	.330**
Worker Preferences-Work Environment:		
1. Job Outcomes (Rewards)	Job Satisfaction	.150
	Organizational Commitment	.109
2. Environment	Job Satisfaction	.301
	Organizational Commitment	.282*
3. Job Characteristics	Job Satisfaction	.477**
	Organizational Commitment	.270

*$p < .05$
**$\underline{p} < .01$

Table 14

Regression Coefficients for Job Satisfaction and Worker
Experiences-Job Requirements Congruency (Clerk Sample)

Regression Coefficients: Experience-Requirement Dimensions (D indices)	Canonical Variate
1. Information Input	0.125
2. Mental Processes	-0.126
3. Education	-2.324
4. Work Output	-0.051
5. Relationships with Others	-0.134
6. Supervision	3.057
7. Responsibility	0.726
Job Satisfaction	
1. Intrinsic	-1.292
2. Extrinsic	0.325
3. Compensation/Security	0.295
4. Co-workers	0.054

Table 15

Regression Coefficients for Organizational Commitment and
Worker Experiences-Job Requirements Congruency (Clerk Sample)

Regression Coefficients:	
Experience-Requirement Dimensions (D indices)	Canonical Variate
1. Information Input	0.046
2. Mental Processes	0.271
3. Education	6.764
4. Work Output	0.035
5. Relationships with Others	0.295
6. Supervision	-7.522
7. Responsibility	0.438
Organizational Commitment	
1. Value Commitment	1.155
2. Commitment to Stay	-0.338

Table 16

Regression Coefficients for Job Satisfaction and Worker
Preferences-Work Environment Congruency (Clerk Sample)

Regression Coefficients:

Job Characteristics (D indices)	Canonical Variate 1	Canonical Variate 2
1. Skill Variety	-0.151	-0.972
2. Task Identity	-0.179	0.089
3. Task Significance	-0.130	0.712
4. Autonomy	0.002	0.132
5. Feedback	0.042	-0.247
6. Dealing with Others	0.155	0.247
7. Friendship Opportunities	0.955	-0.060
Job Satisfaction		
1. Intrinsic	-0.343	1.025
2. Extrinsic	-0.035	0.131
3. Compensation/Security	0.134	-0.109
4. Co-workers	1.098	-0.231

Table 17

Regression Coefficients for Organizational Commitment and
Worker Preferences-Work Environment Congruency (Clerk Sample)

Regression Coefficients:

Environment Dimensions (D indices)	Canonical Variate
1. Personal Context	0.099
2. Job Demands	0.327
3. Physical Context	0.210
4. Responsibility	0.324
5. Supervision	-0.437
6. Job Structure	-0.714
7. Criticality of Position	0.136
Organizational Commitment	
1. Value Commitment	1.134
2. Commitment to Stay	-0.384

The canonical correlation between worker experiences-job requirements congruency and job satisfaction was significant (Rc = .409, p < .01). The largest regression coefficients (see Table 14) for experience-requirement congruency were for the dimensions of supervision (3.057) and Education (-2.324). For job satisfaction, intrinsic satisfaction (-1.292) made the largest contribution.

The congruence between worker experiences and requirements of the job was also significantly related (Rc = .330, p < .01) to organizational commitment. Once again, supervision (-7.522) and education (6.764) had the largest regression coefficients (see Table 15), as well as value commitment.

The results of the canonical correlation analysis for worker preferences-work environment congruency and job satisfaction produced two significant canonical correlations (see Table 16). The first set produced a canonical correlation coefficient of .477 (p < .01), and the second canonical correlation was .249 (p < .05). Examination of the regression coefficients for the two pairs of canonical variates shows that opportunities for friendship (0.955) and satisfaction with co-workers (1.095) had the largest contribution to the first canonical variate. Skill variety (-0.972), task significance (0.712) and intrinsic satisfaction (1.025) made the largest contribution for the second canonical variate.

Finally, the canonical correlation between worker preferences-work environment congruency and organizational commitment was significant (Rc = .282, p < .05). The largest regression coefficient (see Table 17) for preference-environment congruency was for job structure (-0.714) with relatively large regression coefficients for the dimensions of supervision (-0.437), job demands (0.327), and responsibility (0.324). For organizational commitment, the largest regression coefficient was for value commitment (1.134).

Nurse Sample. Results of the canonical correlation analysis for the nurse sample are shown in Table 18. The canonical correlation between worker experiences-job requirements congruency and job satisfaction was significant (Rc = .580, p < .05). As in the clerk sample, the largest regression coefficients (see Table 19) were for Education (-7.430), Supervision (6.884) and Intrinsic Satisfaction (1.157). There was no significant maximum canonical correlation found between worker experiences-job requirements congruency and organizational commitment.

The congruence between worker preferences and conditions of the work environment was significantly related (Rc = .524, p < .01) to job satisfaction. Examination of the regression coefficients (see Table 20) shows that dealing with others (0.939) and intrinsic satisfaction (0.832) made the largest contribution. There were also relatively large regression coefficients for skill variety (0.534), feedback (0.427),

Table 18

Summary of Maximum Canonical Correlations for the Nurse Sample

Congruency Index Dimension	Dependent Measure	Maximum Canonical Correlation
Worker Experiences-Job Requirements	Job Satisfaction	.580*
	Organizational Commitment	.332
Worker Preferences-Work Environment:		
1. Job Outcomes (Rewards)	Job Satisfaction	.161
	Organizational Commitment	.247
2. Environment	Job Satisfaction	.346
	Organizational Commitment	.387
3. Job Characteristics	Job Satisfaction	.524**
	Organizational Commitment	.327

*$p < .05$
**$\underline{p} < .01$

Table 19

Regression Coefficients for Job Satisfaction and Worker
Experiences-Job Requirements Congruency (Nurse Sample)

Regression Coefficients: Experience-Requirement Dimensions (D indices)	Canonical Variate
1. Information Input	0.528
2. Mental Processes	0.118
3. Education	-7.430
4. Work Output	0.455
5. Relationships with Others	0.524
6. Supervision	6.884
7. Responsibility	0.001
Job Satisfaction	
1. Intrinsic	1.157
2. Extrinsic	-0.298
3. Compensation/Security	-0.907
4. Co-workers	0.131

Table 20

Regression Coefficients for Job Satisfaction and Worker
Preferences-Work Environment Congruency (Nurse Sample)

Regression Coefficients:

Job Characteristics (D indices)	Canonical Variate
1. Skill Variety	0.534
2. Task Identity	0.233
3. Task Significance	0.214
4. Autonomy	0.214
5. Feedback	0.427
6. Dealing with Others	0.939
7. Friendship Opportunities	0.333
Job Satisfaction	
1. Intrinsic	0.832
2. Extrinsic	0.335
3. Compensation/Security	0.191
4. Co-workers	1.124

friendship opportunities (0.333) and extrinsic satisfaction (0.335). Finally, there was no significant maximum canonical correlation found between worker preferences-work environment congruency and organizational commitment.

Summary of Analyses. For the clerk and nurse samples, the maximum canonical correlation between worker experiences-job requirements congruency and job satisfaction varied from .409 to .580, indicating that about 18% to 34% of the variance in one set of variables is predictable from the other. Interestingly enough, the regression coefficients for both job classifications were very similar, with supervision, education, and intrinsic satisfaction making the largest contributions.

The maximum canonical correlation between worker preferences-work environment congruency and job satisfaction was .477 for the clerk sample and .524 for the nurse sample. These results indicate that about 23% to 27% of the variance is common to the two sets of variables. In this relationship, several of the job characteristics and intrinsic satisfaction made the largest contribution.

Only for the clerk sample was there a significant relationship between congruency and organizational commitment. The maximum canonical correlation between worker experiences-job requirements and organizational commitment was .330 and for worker preferences-work environment congruency and organizational commitment, the correlation was .282.

CHAPTER FIVE

Discussion and Conclusion

The purpose of the present study was to investigate the effects of person-job environment congruency on individual and organizational outcomes, so that new personnel decision making strategies can be developed. To accomplish these aims, the study had two major objectives. The first one was to develop an operational model of person-job environment congruency based on an integration of available research evidence. A review of current selection and placement decision making models indicated limited success and/or feasibility in predicting employee success in organizations. Two major reasons for this general lack of success were identified. First, limited predictive ability was attributed to the fact that current models of predicting success in organizations have operationally excluded several important variables (e.g., work environment) that influence behavior in organizations. Secondly, for the most part, these models have been based on the assumption that individuals having "more" of a particular characteristic (e.g., knowledge, skill, ability) will be the most successful on the job. This assumption has resulted in a poor fit (actually an "overfit") between individuals and the work they perform, producing negative consequences to both individuals and organizations

alike. To overcome these problems, the operational model utilized in the present study was based on the assessment of the congruency between an individual's experiences with the requirements of the job, as well as an individual's preferences with the capacity of the work environment to meet or satisfy these preferences.

The second objective of the present study was to demonstrate the effectiveness of the concepts and methods proposed by the model on individual and organizational criteria. Specifically, the major research hypotheses put forth in this study were: (1) a congruence between worker experiences and requirements of the job will be postively related to job satisfaction and organizational commitment, and (2) a congruence between worker preferences and conditions of the work environment will be positively related to job satisfaction and organizational commitment. A brief summary of the research findings are discussed below. Later sections discuss the limitations in interpreting the findings from the present study, as well as implications for future research.

As proposed, the hypothesis that a congruence between worker experiences with job requirements will be positively related to job satisfaction was significantly supported in both samples. The results of the canonical correlation analysis yielded coefficients ($\underline{R}c$ = .409, $\underline{R}c$ = .580) that accounted for more variance than traditional prediction models have produced in the past (e.g., r = .23). These

findings suggest that job satisfaction and the congruence between experiences-job requirements are related. In both samples it was demonstrated that a congruence or fit on the education congruency index was highly related to intrinsic job satisfaction. This finding is interesting to note due to the fact that traditionally a match between an individual's experiences with requirements of the job was thought only to influence performance criteria. The results of this study suggest that the experience-job requirements congruency relationship also affects job satisfaction, which is an important outcome to both individuals and organizations.

As hypothesized, a congruence between worker preferences with conditions of the work environment was also significantly related to job satisfaction. In both samples, the variables comprising the congruency relationship were the job characteristics and intrinsic job satisfaction. Congruence was not found to be related significantly to job satisfaction for either the job outcomes (e.g., rewards) dimensions or the environment dimensions (e.g. physical). This finding suggests that further research is needed to determine which variables (dimensions) comprising the congruency relationship will effect various individual and organizational outcomes. It is possible that a congruence on external or extrinsic variables such as the physical work environment will influence performance outcomes while a congruence on intrinsic variables (e.g., job characteristics) more directly influences job satisfaction.

Significant support for the hypothesis that organizational commitment and the congruence between worker experiences with requirements of the job are related was only found in the clerk sample. Once again, a congruence on the education dimension had the greatest influence on organizational commitment. In regards to the worker preferences-work environment relationship with organizational commitment, only congruency on the environment (e.g. physical) dimension was significantly related to organizational commitment. This finding further reiterates the fact that more research is required to identify and relate the components in a congruency relationship with various individual and organizational outcomes. The findings of this study suggest that a congruence or a fit on intrinsic dimensions influence outcomes such as job satisfaction that are important to individuals, while congruency on external or extrinsic dimensions are more likely to affect organizational criteria, such as commitment. Overall, the findings have supported the research questions put forth in this study, thus providing additional value to the person-job environment congruency concept.

Research Limitations

The findings of the present study must be viewed in light of several limitations. First, as in most applied research efforts there were organizational constraints imposed during the data collection phase of the research. For example, in the nurse sample, the small sample size was a

result of the limited number of subjects (employees) scheduled for inclusion in the study. The lack of significance for the congruence-organizational commitment relationship is one possible consequence of the relatively small sample size.

Another organizational constraint imposed in both samples concerned the nature of criterion (outcome) measures collected. Only subjective (e.g., job satisfaction) measures were permitted. It would certainly be desirable if future research were to evaluate the effectiveness of congruency relationships against other objective types of criterion measures (e.g., performance, turnover, etc.).

A final organizational constraint concerned the data collection procedure of the study. Both participating organizations requested the study to be conducted through a mail-out procedure. Mailed surveys typically produce small to moderate response rates and raise questions regarding sample representation. It is hoped that the generalizability of the findings in this study will be improved by future investigations which test the concept and methods elaborated on in this study on individuals working in different types of jobs at different organizational levels.

Another shortcoming of this research was that the dynamic or temporal aspect of person-job environment congruency was not observed. Since both jobs and individuals are going to change over time, future investigations should include the assessment of longitudinal data to determine the dynamics of person-job environment congruency.

One final limitation of this research concerns the lack of measured variance reflected in the congruency indices. Basically, the subjects in this study were congruent on the dimensions measured. What still remains to be tested in further research is the difference realized in various individual and organizational outcomes from groups of individuals that are congruent on the experience and preference dimensions compared to non-congruent individuals with an "overfit" or "underfit."

Implications for Future Research and Practice

The results of this study have direct implications for future research and practice. There are several areas in which research efforts can be directed to improve the concepts and methodology put forth in this study. Although several areas for further investigation have already been noted, the discussion presented below suggests some additional directions for research and practice.

First, research is needed to determine if congruency must be achieved in both matching systems (the experience-job requirements and the preferences-work environment) in order for positive outcomes to be realized. In the event that both systems need to be congruent, this would lend further support for the inclusion of both ability and motivational components in prediction models.

Further research is also needed to refine the operational aspects of the person-job environment concepts and methodology proposed in this study. For example, it

needs to be determined if further research in this area can be supported using other instruments. Also, a more precise quantitative definition of congruence needs to be established.

The person-job environment congruency model and methodology that will be refined as a result of this study and further research efforts have many applications and benefits to important facets of personnel and organizational psychology. In addition to providing useful information for selection and placement decisions, other applications to an organization include job descriptions and classifications, career development, and human resources planning and information systems. The model and methodology described in this study also possesses the capacity to be cost effective and feasible. In addition to being operationally amenable to computerization, they are based on content validity and self-assessment procedures. Levine, Flory and Ash (1977) have indicated that the use of self assessments may serve to alleviate the problem of employee challenges to the organization's personnel systems, challenges that can result in costly litigation for an organization.

Before the benefits discussed above can be fully realized, further knowledge of the effects of person-job environment congruency is necessary. It is hoped that the concepts described in this study will serve as a frame of reference in developing new personnel decision making strategies that increase both individual and organizational effectiveness.

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APPENDICES

APPENDIX A

Job and Work Environment Questionnaire

A 1 Instructions

A 2 Questionnaire

A 3 Item Identification Key

Job and Work Environment Questionnaire

Instructions

The questionnaire you are about to complete is a structured job and work environment survey that can be used for analyzing positions or jobs of many different types. You are asked to rate the job requirements and work environment of your current job or position. For example, if you are a cashier, you would be rating the job of cashier on the attached questionnaire. Please make sure to indicate which job you are rating by filling in the job title below.

The questionnaire is comprised of four major parts. Each part is further divided into several sections which describe some general work activity, work condition, or job characteristic. In most cases examples are given to illustrate the "main idea" of the activity described. However, these examples are intended only to help illustrate the idea and represent only a few of the possible examples that could characterize the job activity.

For each section of the questionnaire, provision is made for using "a rating scale." Several different rating scales are used throughout the questionnaire. Specific instructions are given at the start of each section. Please read them carefully.

Your individual answers will be kept completely confidential. Please try to make your description of the job listed above as accurate and as objective as you possibly can.

Thank you for your cooperation.

Note on Importance Ratings

Each of the items in the questionnaire which uses the "Importance to this Job" scale is to be rated in terms of how important the activity described in the item is to the completion of the job. Consider such factors as amount of time spent, the possible influence on overall job performance if the worker does not properly perform the activity, etc.

JOB TITLE OF POSITION BEING RATED: _____

PART ONE

SECTION 1

Rate each of the following items in terms of HOW IMPORTANT the activity is as a source of information in performing the job.

RATING SCALE

Importance to This Job
0 Does not apply
1 Very minor
2 Low
3 Average
4 High
5 Extreme

____ 1. Reading (books, reports, office notes, job instructions, etc.)

____ 2. Using numerical materials (tables of numbers, accounts, price lists, etc.)

____ 3. Using graphic materials (pictures, drawings, blueprints, diagrams, maps, tracings, x-ray films, TV pictures, etc.)

____ 4. Using patterns and related devices (stencils, templates, patterns, etc.)

____ 5. Using visual displays (dials, gauges, signal lights, radar scopes, speedometers, clocks, etc.)

____ 6. Using measuring devices (rulers, calipers, tire pressure gauges, scales, thermometers, etc.)

____ 7. Observing and listening to mechanical devices in use (tools, equipment, machinery, etc.)

____ 8. Observing things you are working with (materials, parts or objects, such as bread dough being cut, metal being welded, boxes being inspected, etc.)

____ 9. Observing features of nature (landscapes, fields, geological samples, plants, cloud formulations, or other features of nature)

____ 10. Observing or inspecting human-made features of the environment (buildings, dams, highways, bridges, docks, railroads, etc.)

____ 11. Observing the behavior of people or animals

____ 12. Observing the events or circumstances around you (flow of traffic, movement of materials, airport control tower operations, etc.)

____ 13. Viewing art, decorations, etc. (paintings, sculpture, jewelry, window displays, etc.)

____ 14. Listening to spoken information (instructions, conversations, interviews, meetings, discussion, etc.)

____ 15. Listening to sounds other than someone speaking (signals, horns, whistles, musical instruments, engine sounds, etc.)

SECTION 2

Rate HOW IMPORTANT each of the following abilities and activities are to the completion of the job. Again use the numbers 0 to 5.

RATING SCALE

Importance to This Job
- 0 Does not apply
- 1 Very minor
- 2 Low
- 3 Average
- 4 High
- 5 Extreme

_____ 16. Using distance vision (watching things at distances beyond arm's reach)

_____ 17. Using depth perception (judging the distance from yourself to the object, or the distance between objects, as in running a crane, operating a dentist drill, etc.)

_____ 18. Using color perception (telling the difference between things by colors)

_____ 19. Recognizing sound patterns (Morse code, heart beats, engine not running properly, etc.)

_____ 20. Recognizing sounds by loudness, pitch or tone quality (tuning pianos, repairing sound systems, etc.)

_____ 21. Body movement sensing (detecting changes in the direction or speed at which you are moving, without sight or hearing, as in flying aircraft, working in a submarine, etc.)

_____ 22. Body balancing (walking on steel beams, climbing high poles, working on steep roofs, etc.)

_____ 23. Judging conditions or quality (antique dealer, appraiser, jeweler, used car dealer, coin dealer, etc.)

_____ 24. Inspecting (grading or finding defects)

_____ 25. Estimating speed of moving parts (the revolutions per minute of a motor, the speed at which a lathe turns, etc.)

_____ 26. Estimating speed of moving objects (the speed of vehicles, speed of materials moving on a conveyor belt, etc.)

_____ 27. Estimating speed of processes (chemical reactions, assembly operations, timing of food preparation, etc.)

_____ 28. Estimating quantity (number of board feet of lumber in a log, weight of a steer, number of bacteria in an area looking through a microscope, etc.)

_____ 29. Estimating size (height of a tree, measurements of a box, etc.)

____ 30. Estimating time (time to make a delivery, to service a piece of equipment, etc.)

____ 31. Combining information (weather forecaster using different pieces of information to prepare a weather report, pilot using different bits of information to fly a plane, scientist developing a new theory, etc.)

____ 32. Analyzing information (interpreting financial reports, determining why an automobile engine will not run, diagnosing an illness, etc.)

____ 33. Gathering, grouping, or classifying information (preparing reports, filing correspondence, etc.)

____ 34. Coding or decoding (reading Morse code, translating foreign languages, shorthand, etc.)

____ 35. Transcribing (copying meter readings in a record book, entering transactions in a ledger, etc.)

____ 36. Setting up or adjusting equipment (setting up a lathe or drill press, adjusting an engine carburetor, etc.)

____ 37. Using hands directly to change things (using the hands directly to change or alter or to modify materials, products, etc. For example, wrapping packages, forming pottery at a wheel, etc.)

____ 38. Controlling or guiding materials being processed (operating a sewing machine, operating a jig saw, etc.)

____ 39. Assembling or disassembling (putting parts together to form a complete item, or taking an item apart)

____ 40. Arranging or positioning (placing objects, materials, persons, animals, etc., in a specific position or arrangement)

____ 41. Feeding/off-bearing (feeding materials into a machine or removing materials from a machine or piece of processing equipment)

____ 42. Physically handling objects, materials, animals, human beings, etc. (loading or unloading trucks, farming activities, taking care of babies in an nursery, etc.)

____ 43. Highly skilled body coordination activities (athletics, dancing, etc.)

____ 44. Finger manipulation (making careful finger movements in various types of activities, such as the use of precision tools, watches, playing the piano, etc.)

____ 45. Hand-arm manipuation (activities involving hand and arm movements, as might be used in reparing automobiles, packaging products, etc.)

____ 46. Hand-arm steadiness (steady hand and arm movements, as might be necessary in using a welding torch or in performing surgery, etc.)

____ 47. Eye-hand/foot coordination (the coordination of hand and/or foot movements and what is seen)

____ 48. Limb movement without using visual control (movement of body limbs from one position to another without the use of vision)

____ 49. Hand-ear coordination (the coordination of hand movements with sounds of instructions that are heard)

____ 50. Advising (using legal, financial, scientific, technical, clinical, spiritual, or other professional principles to counsel or guide individuals)

____ 51. Negotiating (dealing with others to reach an agreement or solution, for example, labor bargaining, diplomatic relations, etc.)

____ 52. Persuading (influencing others, as in selling or political campaigning)

____ 53. Teaching

____ 54. Interviewing

____ 55. Exchanging routine information (giving and receiving information as might be done by a ticket agent, taxi-cab dispatcher, etc.)

____ 56. Exchanging specialized information (giving and receiving specialized information, as might be done in a professional committee meeting, or as engineers do when discussing a product design, etc.)

____ 57. Public speaking

____ 58. Writing (letters, reports, memos, articles, etc.)

____ 59. Signaling (hand signals, horns, whistles, bells, lights, etc.)

____ 60. Code communications (telegraph, cryptography, shorthand, etc.)

____ 61. Entertaining (performing to amuse or entertain others)

____ 62. Serving or catering (performing personal services, or attending the needs of others, for example, waiting on tables, hairdressing, etc.)

____ 63. Supervising non-employees (students, campers, patients, etc.)

____ 64. Coordinating activities (social director, committee chair, etc.)

____ 65. Serving as a staff member (advising, consulting, and giving other types of assistance to management personnel, for example, legal advisor, accountant, etc.)

SECTION 3

This section lists types of individuals with whom the worker might have to have personal contact with in order to perform the job. Rate the **IMPORTANCE** of contact with each of the types of individuals listed below. Continue using the same rating scale.

RATING SCALE

Importance to This Job
0 Does not apply
1 Very minor
2 Low
3 Average
4 High
5 Extreme

____ 66. Executives of officials (government administrators, corporation vice-presidents, plant superintendent, etc.)

____ 67. Middle management (division or district managers)

____ 68. Supervisors (first level supervisors, office managers, etc.)

____ 69. Professional personnel (doctors, lawyers, scientists, engineers, professors, teachers, etc.)

____ 70. Semi-professional personnel (technicians, draftspersons, designers, photographers, surveyors, etc.)

____ 71. Personnel engaged in office work (clerks, bookkeepers, receptionists, etc.)

____ 72. Skilled and unskilled workers

____ 73. Sales personnel

____ 74. Purchasing agents (individuals who buy for companies)

____ 75. Customers (as in stores or restaurants)

____ 76. The general public (such as with whom police officers, park attendants, etc., might come in contact with)

____ 77. Students, trainees, or apprentices

____ 78. Clients, patients, or individuals being counseled

____ 79. Special interest groups (stockholders, property owners, lobbyists, etc.)

SECTION 4

Use the numbers from 0 to 5 to indicate **HOW IMPORTANT** using each of the following devices or pieces of equipment are to the completion of the job.

RATING SCALE

Importance to This Job
0 Does not apply
1 Very minor
2 Low
3 Average
4 High
5 Extreme

____ 80. Precision hand tools (engraver's tools, watchmaker's tools, surgical instruments, etc.)

____ 81. Other hand tools (hammers, wrenches, knives, scissors, etc.)

____ 82. Long-handle tools (hoes, rakes, shovels, picks, axes, brooms, etc.)

____ 83. Handling devices or tools (tongs, ladles, dippers, forcepts, etc., used for moving or handling objects and materials)

____ 84. Hand-held precision power tools (dentist drills, welding equipment, etc.)

____ 85. Other hand-held power tools (ordinary power saws, drills, sanders, clippers, etc.)

____ 86. Writing and drawing instruments (pens, pencils, artist's brushes, drafting equipment, etc.)

____ 87. Applicators (brushes, rags, paint rollers, used in applying solutions, materials, etc.)

____ 88. Technical devices (cameras, stop watches, slide rulers, etc.)

____ 89. Processing machines and equipment (used to process or modify parts, objects, materials, etc.)

____ 90. Controls: used continuously (controls requiring continuous adjustment or manipulation, for example, accelerator, steering wheel, etc.)

____ 91. Controls: not used continuously (controls used to start or stop, to set positions on a machine etc.)

____ 92. Keyboard devices (pianos, typewriters, adding machines, etc.)

____ 93. Highway or rail vehicles (automobiles, trucks, buses, trains, etc.)

____ 94. Powered mobile equipment (forklifts, self propelled lawn movers, tractors, etc.)

____ 95. Powered water vehicles (ships, motor boats, etc.)

_____ 96. Air or space vehicles (planes, helicopters, gliders, etc.)

_____ 97. Human-moved mobile equipment (hand-pushed lawn movers, wheel barrows, floor polishers, etc.)

_____ 98. Operating equipment (cranes, hoists, elevators, etc.)

_____ 99. Remote-controlled equipment (conveyor systems, etc.)

SECTION 5

Select one of the responses for each of the following questions. Mark your answer in the blank beside each statement which corresponds to the value you choose.

____100. Decision making level: What is the level of decision making typically involved in the job?
1. **Very Limited** ("decisions" such as must be made in pasting labels on cartons, putting items on shelves in a warehouse, etc.)
2. **Limited** ("decisions" such as those made in greasing a car or dispatching a taxi)
3. **Intermediate** ("decisions" such as those made in ordering office supplies several months in advance, determining what is wrong with an automobile engine, setting up machine tools for operation, etc.)
4. **Substantial** (such as deciding who will be promoted, who will be hired or fired, if property will be purchased, etc.)
5. **Very Substantial** ("decisions" such as recommending major surgery, selecting the location of a new plant, or approving a corporation's annual budget)

____101. Reasoning in problem solving: What is the level of reasoning that is required of the worker in applying knowledge, experience and judgment to problems?
1. **Very Limited** (use of common sense to carry out uninvolved instructions, as might be done by a janitor or a delivery person)
2. **Limited** (use of some experience or training, such as a sales clerk, a postal carrier, a keypunch operator, or an electrician's apprentice might use)
3. **Intermediate** (use of relevant principles to solve practical problems, such as might be required in farming, drafting, or carpentry)
4. **Substantial** (use of logic or scientific thinking to define problems, collect information, establish facts and draw valid conclusions, as might be used by a mechanical engineer, a personnel director, or the manager of a store, etc.)
5. **Very Substantial** (use of principles of logic or scientific thinking to solve a wide range of intellectual and practical problems, as might be done by a research chemist, a nuclear engineer, a corporate president, or the manager of a large plant)

____102. Amount of planning: How much planning or scheduling is the worker required to do?
1. **Very Little** (little planning of your own activities, as in selling tickets at theater, working on an assembly line, etc.)
2. **Little** (some planning required, but not a great deal, as in delivering milk, working as a janitor, etc.)
3. **Average Amount** (for example, a carpenter who must plan the best way to build a house, the planning that must be done by a taxi dispatcher, etc.)
4. **Considerable** (for example, a supervisor who must plan what the workers must do, a teacher who must prepare lectures, etc.)
5. **Large Amount** (for example, a department store manager, an executive who must plan the activities of different groups, an architect, etc.)

____103. Level of mathematics: What is the highest level of mathematics that the individual must understand as required by the job?
1. Simple counting, addition and subtraction of numbers
2. Multiplication and division of numbers
3. Use of fractions, decimals, percentages
4. Use of algebra, geometry, trigonometry, or statistics
5. Advanced use of calculus, factor analysis, probability theory, etc.

____104. Education: What is the level of knowledge typically acquired through formal education that is required to perform this job?
1. Grade School
2. Some High School
3. High School Degree
4. Some Business College or Technical School
5. Some College (other than business or technical school)
6. Business College or Technical School Degree
7. College Degree
8. Advance Degree (M.S., Ph.D., M.D., L.L.D., etc.)

____105. Supervision given: Indicate the number of persons that a person holding this job would directly supervise.
0 None
1. 1 or 2 workers
2. 3 to 5 workers
3. 6 to 8 workers
4. 9 to 12 workers
5. 13 or more workers

____106. Property responsibility: How much property would a person holding this job be responsible for in their work?
1. Very little (less than $50.00)
2. Little ($50.00 to $500.00 worth)
3. Moderate amount ($501.00 to $5,000.00 worth)
4. Substantial amount ($5,001.00 to $25,000.00 worth)
5. Very substantial amount (more than $25,000.00 worth)

____107. Personnel responsibility: Indicate the total number of personnel for whom the person holding this job is directly or indirectly responsible.
0 None
1. 10 or fewer workers
2. 11 to 50 workers
3. 51 to 250 workers
4. 251 to 750 workers
5. 751 or more workers

PART TWO

The following are a list of job related outcomes that could be present in any work environment. Use the numbers 0 to 5 to indicate the extent to which each is present in the job you are rating.

RATING SCALE

0 None
1 Very Limited Extent
2 Limited
3 Moderate Extent
4 Considerable
5 Very Great Extent

____ 1. High respect and fair treatment from a supervisor

____ 2. Stimulating and challenging work

____ 3. Chances to exercise independent thought and action

____ 4. Great job security

____ 5. Very friendly co-workers

____ 6. Opportunities to learn new things

____ 7. High salary and good fringe benefits

____ 8. Opportunities to be creative and imaginative

____ 9. Quick promotions

____ 10. Opportunities for personal growth and development

____ 11. A sense of worthwhile accomplishment

PART THREE

SECTION 1

This section lists various types of demands that the job situation may impose upon workers, usually requiring that they adapt to these in order to perform their work satisfactorily. Rate the following items in terms of **HOW IMPORTANT** they are as part of the job you're rating.

RATING SCALE

Importance to this Job
0 Does not apply
1 Very minor
2 Low
3 Average
4 High
5 Extreme

____ 1. Frustrating situations (situations in which you would become frustrated because your attempts to do something might be hindered or obstructed)

____ 2. Unpleasant personal contacts (some types of police work, handling certain mental patients, etc.)

____ 3. Personal sacrifice in the service of others (as might be required by a policeman, minister, social workers, etc.)

____ 4. Disagreement or conflict situations (as might be involved in labor negotiations, enforcement of unpopular policy, etc.)

____ 5. Distractions (telephone calls, interruptions and disturbances from others, etc.)

____ 6. Civic Obligations or Responsibilities

____ 7. Competition (with other individuals or groups for such things as promotions, financial rewards, recognition, etc.)

____ 8. Vigilance (need to be constantly alert and aware of any change in a situation)

____ 9. Time Pressures (for example, rush hours in a restaurant, urgent time deadlines, etc.)

____ 10. Need to keep job knowledge current (continually learning new developments related to the job)

____ 11. Responsibility for the safety of others

____ 12. Physical exertion (as needed for moving objects, lifting, etc.)

____ 13. Traveling (which requires one to be aware from home overnight and/or longer)

SECTION 2

Use the numbers from 0 to 5 to indicate the extent of working time the worker is engaged in the following activities or under the following circumstances.

RATING SCALE

0 None
1 Very Limited
2 Limited
3 Moderate
4 Substantial
5 Almost Continuously

_____ 14. Sitting

_____ 15. Standing

_____ 16. Walking or running

_____ 17. Climbing (for example, housepainter, telephone repair, etc.)

_____ 18. Kneeling or stooping (or other body positions which may be uncomfortable or awkward)

_____ 19. Working indoors in high temperatures (conditions in which you may be uncomfortable, such as boiler rooms, around furnaces, etc.)

_____ 20. Working indoors in low temperatures (conditions in which you would be definitely cold even though you wore heavy clothing, such as refrigerated rooms, etc.)

_____ 21. Working outdoors (under different weather conditions)

_____ 22. Working in contaminated air (dust, fumes, smoke, bad odors, etc.)

_____ 23. Working with vibrating equipment (equipment that vibrates the whole body or body limbs; driving a tractor or truck, operating an air hammer, etc.)

_____ 24. Working under poor lighting conditions (not enough light, excessive glare, etc.)

_____ 25. Working under dirty conditions (garbages, foundries, coal mines, highway construction, furnace cleaning, etc.)

_____ 26. Working in awkward or small work spaces (conditions in which the body is cramped or uncomfortable)

SECTION 3

Select one of the responses for each of the following questions. Mark your answer in the blank beside each statement which corresponds to the value you choose.

_____ 27. General responsibility: Indicate the degree of general or overall responsibility associated with whatever activities are involved in the job.
1. Very Little
2. Little
3. Average Amount
4. Substantial
5. Very Substantial

_____ 28. Supervision received: What is the level of supervision the worker typically receives?
1. Close supervision, including job assignments and close observation of work
2. General supervision
3. General guidance, but quite independent of others
4. Very little direction or guidance
5. No supervision

_____ 29. Job Structure: Indicate the amount of "structure" of the job, that is, the degree to which the job activities are predetermined for the worker by the nature of the work.
1. Almost no change from a predetermined work routine (working on an assembly line, etc.)
2. Little change from the work routine (bookkeeping, stocking items in a warehouse, etc.)
3. Certain work must be done, but workers can determine their own schedule or routine (carpenter, automobile mechanic, etc.)
4. Little routine work (most of the decisions made by the worker, for example, store manager, industrial engineer, etc.)
5. No routine (a wide variety of problems must be dealt with, and workers would determine their own solutions, for example, corporation vice-president, research chemist, etc.)

_____ 30. Criticality of position: Indicate the degree to which the performance of activities associated with this job are critical in terms of their possible effects on the organizational operations, assets, reputation, etc.
1. Very Low
2. Low
3. Moderate
4. High
5. Very High

Listed below are a number of statements which could be used to describe a job.

You are to indicate whether each statement is an <u>accurate</u> description of the job you are rating.

Once again, please try to be <u>objective</u> as you can in deciding how accurately each statement describes the job--regardless of your own feelings about that job.

Write a number in the blank beside each statement, based on the following scale:

<u>How accurate is the statement in describing the job you are rating?</u>

1- - - - - -2- - - - - -3- - - - - - 4- - - - - - 5
Very   Inaccurate   Uncertain   Accurate   Very
Inaccurate   Accurate

____ 1. The job requires a person to use a number of complex or sophisticated skills.

____ 2. The job requires cooperative work with other people.

____ 3. The job is arranged such that a person does not have the chance to do an entire piece of work from beginning to end.

____ 4. Just doing the work required by the job provides many chances for a person to figure out how well he or she is doing.

____ 5. The job is quite simple and repetitive.

____ 6. The job can be done adequately by a person working alone.

____ 7. The supervisors and co-workers on the job almost never give a person any "feedback" about how well he or she is doing the work.

____ 8. This job is one where a lot of other people can be affected by how well the work gets done.

____ 9. The job denies a person any chance to use his or her personal initiative or discretion in carrying out the work.

____ 10. Supervisors often let the person know how well they think he or she is performing the job.

____ 11. The job provides a person with the chance to finish completely any work he or she starts.

____ 12. The job itself provides very few clues about whether or not the person is performing well.

____ 13. The job gives a person considerable opportunity for independence and freedom in how he or she does the job.

____ 14. The job itself is not very significant or important in the broader scheme of things.

Use this scale to respond to statements 15-22.

$$1- - - - -2- - - - -3- - - - -4- - - - -5$$

Very little   Moderate   Very Great
Extent   Extent   Extent

____ 15. To what extent does the job require a person to work closely with other people (either "clients" or people in related jobs in the organization)?

____ 16. How much autonomy is there in the job? That is, what extent does the job permit a person to decide on his or her own how to go about doing the work?

____ 17. To what extent does the job involve doing a "whole" and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small part of the overall piece of work, which is finished by other people or by automatic machines?

____ 18. How much variety is there in the job? That is, to what extent does the job require a person to do many different things at work, using a variety of his or her skills and talents?

____ 19. In general, how significant or important is the job? That is, are the results of the person's work more likely to significantly affect the lives or well-being of other people?

____ 20. To what extent do managers or co-workers let the person know how well he or she is doing on the job?

____ 21. To what extent does doing the job itself provide the person with information about his or her work performance? That is, does the actual work itself provide clues about how well the person is doing aside from any "feedback" co-workers or supervisors may provide?

____ 22. How much opportunity is there on the job to meet individuals with whom friendships can develop?

SECTION 2
BIOGRAPHICAL BACKGROUND

The following is needed for data analysis purposes only.

1. What is your OWN job title? _____

2. What department do YOU work in? _____

3. Sex: _____ Male _____ Female

4. Age (check one):

_____	under 20	_____	40-59
_____	20-29	_____	50-59
_____	30-39	_____	60 or over

6. How long have you been in your present job? (check one)
    _____ less than 1 year
    _____ 1 to 2 years
    _____ 3 to 5 years
    _____ 6 to 10 years
    _____ more than 10 years

7. How long have you been employed by your present organization? (check one)
    _____ less than 1 year
    _____ 1 to 2 years
    _____ 3 to 5 years
    _____ 6 to 10 years
    _____ more than 10 years

8. Education Level Completed (check one):
    _____ Grade School
    _____ Some High School
    _____ High School Degree
    _____ Some Business College or Technical School
    _____ Some College (other than business or technical school)
    _____ Business College or Technical School Degree
    _____ College Degree
    _____ Advanced Degree (M.S., Ph.D., M.D., L. L. D., etc.)

END OF SURVEY

THANK YOU FOR YOUR ASSISTANCE

Item Identification Key for the Job and Work Environment Questionnaire

Part One: Job Requirements

   I. Section One
      A. Information Input (sources of job
         information)   Items 1-15

  II. Section Two
      A. Information Input (Sensory processes;
         estimation)   Items 16-30
      B. Mental Processes (information processing)   Items 31-35
      C. Work Output (manual/manipulation)   Items 36-49
      D. Relationships with Other Persons
         (communicating information)   Items 50-65

 III. Section Three
      A. Relationships with Other Persons
         (personal contacts)   Items 66-79

  IV. Section Four
      A. Work Output (uses of devices and
         equipment)   Items 80-99

   V. Section Five
      A. Mental Processes (decision making;
         education)   Items 100-104
      B. Supervision   Item 105
      C. Responsibility   Items 106,107

Part Two: Job Outcomes

   I. Section One
      A. Intrinsic Outcomes   Items 2,3,6,8,10,11
      B. Extrinsic Outcomes   Items 1,4,5,7,9

Part Three: Work Environment

   I. Section One
      A. Job Context (personal & social)   Items 1-6
      B. Job Demands   Items 7-13

  II. Section Two
      A. Job Context (physical working conditions)   Items 14-26

III. Section Three
    A. Responsibility   Item 27
    B. Supervision   Item 28
    C. Job Structure   Item 29
    D. Criticality of Position   Item 30

IV. Section Four - Job Characteristics (col. 26-47)
    A. Skill Variety   Items 1,5*,18
    B. Task Identity   Items 3*,11,17
    C. Task Significance   Items 8,14*,19
    D. Autonomy   Items 9*,13,16
    E. Feedback   Items 4,7*,10,
                                                           12*,20,21
    F. Dealing with Others   Items 2,6*,15
    G. Friendship Opportunities   Items 22

*Reversed before scoring

Part Four: Biographical Information

    A. Job Title
    B. Department
    C. Sex
    D. Age
    E. Job Tenure
    F. Organizational Tenure
    G. Education

APPENDIX B

Worker Experience and Preference Questionnaire

Worker Experience and Preference Questionnaire

Instructions

The purpose of this questionnaire is to obtain a measure of your work experiences and preferences. Every individual has different experiences and preferences so there are no-right-or-wrong answers.

The questionnaire is comprised of six major parts described below.

PARTS ONE, TWO and THREE are divided into several sections which list many types of activities and situations found in the world of work. You are to rate these activities and situations in terms of how much you prefer each one or how much experience you have had with each.

In rating the work activities and situations in these sections, do not attempt to relate your responses directly to any specific job or occupation. Rather, consider each item separately and indicate the level of your experience and your preference in the activity or situation as part of any job that you might consider.

PARTS FOUR and FIVE are designed to obtain your perceptions and reactions to your PRESENT job and work organization. This information helps us to understand how people feel about their jobs.

PART SIX gathers background information about you. This information will be used to create group statistics on the data obtained in this questionnaire.

For each section of the questionnaire, provision is made for using "a rating scale." Several different rating scales are used throughout the questionnaire. Specific-instructions-are-given-at the-start-of-each-section. Please read them carefully.

Your individual answers will be kept completely confidential. Please answer each item as honestly and frankly as possible.

Thank you for your cooperation.

PART ONE
SECTION 1

Information is needed to perform any type of work, and that information can come from many different sources. Use the numbers from 0 to 5 on the rating scale to mark HOW MUCH EXPERIENCE you have had in each of the following activities to obtain the "information" needed in your work. Mark your answer on the blank beside each statement which corresponds to the value you choose.

RATING SCALE

0 None
1 Very Limited
2 Limited
3 Moderate
4 Considerable
5 Very Extensive

____ 1. Reading (books, reports, office notes, job instructions, etc.)

____ 2. Using numerical materials (tables of numbers, accounts, price lists, etc.)

____ 3. Using graphic materials (pictures, drawings, blueprints, diagrams, maps, tracings, x-ray films, TV pictures, etc.)

____ 4. Using patterns and related devices (stencils, templates, patterns, etc.)

____ 5. Using visual displays (dials, gauges, signal lights, radar scopes, speedometers, clocks, etc.)

____ 6. Using measuring devices (rulers, calipers, tire pressure gauges, scales, thermometers, etc.)

____ 7. Observing and listening to mechanical devices in use (tools, equipment, machinery, etc.)

____ 8. Observing things you are working with (materials, parts or objects, such as bread dough being cut, metal being welded, boxes being inspected, etc.)

____ 9. Observing features of nature (landscapes, fields, geological samples, plants, cloud formulations, or other features of nature)

____ 10. Observing or inspecting human-made features of the environment (buildings, dams, highways, bridges, docks, railroads, etc.)

____ 11. Observing the behavior of people or animals

____ 12. Observing the events or circumstances around you (flow of traffic, movement of materials, airport control tower operations, etc.)

_____ 13. Viewing art, decorations, etc. (paintings, sculpture, jewelry, window displays, etc.)

_____ 14. Listening to spoken information (instructions, conversations, interviews, meetings, discussion, etc.)

_____ 15. Listening to sounds other than someone speaking (signals, horns, whistles, musical instruments, engine sounds, etc.)

SECTION 2

Rate **HOW MUCH EXPERIENCE** you have had in each of the following abilities and activities in your work. Again use the numbers 0 to 5.

RATING SCALE

0 None
1 Very Limited
2 Limited
3 Moderate
4 Considerable
5 Very Extensive

____ 16. Using distance vision (watching things at distances beyond arm's reach)

____ 17. Using depth perception (judging the distance from yourself to the object, or the distance between objects, as in running a crane, operating a dentist drill, etc.)

____ 18. Using color perception (telling the difference between things by colors)

____ 19. Recognizing sound patterns (Morse code, heart beats, engine not running properly, etc.)

____ 20. Recognizing sounds by loudness, pitch or tone quality (tuning pianos, repairing sound systems, etc.)

____ 21. Body movement sensing (detecting changes in the direction or speed at which you are moving, without sight or hearing, as in flying aircraft, working in a submarine, etc.)

____ 22. Body balancing (walking on steel beams, climbing high poles, working on steep roofs, etc.)

____ 23. Judging conditions or quality (antique dealer, appraiser, jeweler, used car dealer, coin dealer, etc.)

____ 24. Inspecting (grading or finding defects)

____ 25. Estimating speed of moving parts (the revolutions per minute of a motor, the speed at which a lathe turns, etc.)

____ 26. Estimating speed of moving objects (the speed of vehicles, speed of materials moving on a conveyor belt, etc.)

____ 27. Estimating speed of processes (chemical reactions, assembly operations, timing of food preparation, etc.)

_____ 28. Estimating quantity (number of board feet of lumber in a log, weight of a steer, number of bacteria in an area looking through a microscope, etc.)

_____ 29. Estimating size (height of a tree, measurements of a box, etc.)

_____ 30. Estimating time (time to make a delivery, to service a piece of equipment, etc.)

_____ 31. Combining information (weather forecaster using different pieces of information to prepare a weather report, pilot using different bits of information to fly a plane, scientist developing a new theory, etc.)

_____ 32. Analyzing information (interpreting financial reports, determining why an automobile engine will not run, diagnosing an illness, etc.)

_____ 33. Gathering, grouping, or classifying information (preparing reports, filing correspondence, etc.)

_____ 34. Coding or decoding (reading Morse code, translating foreign languages, shorthand, etc.)

_____ 35. Transcribing (copying meter readings in a record book, entering transactions in a ledger, etc.)

_____ 36. Setting up or adjusting equipment (setting up a lathe or drill press, adjusting an engine carburetor, etc.)

_____ 37. Using hands directly to change things (using the hands directly to change or alter or to modify materials, products, etc. For example, wrapping packages, forming pottery at a wheel, etc.)

_____ 38. Controlling or guiding materials being processed (operating a sewing machine, operating a jig saw, etc.)

_____ 39. Assembling or disassembling (putting parts together to form a complete item, or taking an item apart)

_____ 40. Arranging or positioning (placing objects, materials, persons, animals, etc., in a specific position or arrangement)

_____ 41. Feeding/off-bearing (feeding materials into a machine or removing materials from a machine or piece of processing equipment)

_____ 42. Physically handling objects, materials, animals, human beings, etc. (loading or unloading trucks, farming activities, taking care of babies in an nursery, etc.)

_____ 43. Highly skilled body coordination activities (athletics, dancing, etc.)

_____ 44. Finger manipulation (making careful finger movements in various types of activities, such as the use of precision tools, watches, playing the piano, etc.)

_____ 45. Hand-arm manipuation (activities involving hand and arm movements, as might be used in reparing automobiles, packaging products, etc.)

_____ 46. Hand-arm steadiness (steady hand and arm movements, as might be necessary in using a welding torch or in performing surgery, etc.)

_____ 47. Eye-hand/foot coordination (the coordination of hand and/or foot movements and what is seen)

_____ 48. Limb movement without using visual control (movement of body limbs from one position to another without the use of vision)

_____ 49. Hand-ear coordination (the coordination of hand movements with sounds of instructions that are heard)

_____ 50. Advising (using legal, financial, scientific, technical, clinical, spiritual, or other professional principles to counsel or guide individuals)

_____ 51. Negotiating (dealing with others to reach an agreement or solution, for example, labor bargaining, diplomatic relations, etc.)

_____ 52. Persuading (influencing others, as in selling or political campaigning)

_____ 53. Teaching

_____ 54. Interviewing

_____ 55. Exchanging routine information (giving and receiving information as might be done by a ticket agent, taxi-cab dispatcher, etc.)

_____ 56. Exchanging specialized information (giving and receiving specialized information, as might be done in a professional committee meeting, or as engineers do when discussing a product design, etc.)

_____ 57. Public speaking

_____ 58. Writing (letters, reports, memos, articles, etc.)

_____ 59. Signaling (hand signals, horns, whistles, bells, lights, etc.)

_____ 60. Code communications (telegraph, cryptography, shorthand, etc.)

_____ 61. Entertaining (performing to amuse or entertain others)

_____ 62. Serving or catering (performing personal services, or attending the needs of others, for example, waiting on tables, hairdressing, etc.)

_____ 63. Supervising non-employees (students, campers, patients, etc.)

_____ 64. Coordinating activities (social director, committee chair, etc.)

_____ 65. Serving as a staff member (advising, consulting, and giving other types of assistance to management personnel, for example, legal advisor, accountant, etc.)

SECTION 3

Different jobs require you to associate with different types of individuals. **HOW MUCH EXPERIENCE** have you had in dealing with the following types of individuals in your work? Continue using the same rating scale.

RATING SCALE

0 None
1 Very Limited
2 Limited
3 Moderate
4 Considerable
5 Very Extensive

____ 66. Executives or officials (government administrators, corporation vice-presidents, plant superintendent, etc.)

____ 67. Middle management (division or district managers)

____ 68. Supervisors (first level supervisors, office managers, etc.)

____ 69. Professional personnel (doctors, lawyers, scientists, engineers, professors, teachers, etc.)

____ 70. Semi-professional personnel (technicians, draftspersons, designers, photographers, surveyors, etc.)

____ 71. Personnel engaged in office work (clerks, bookkeepers, receptionists, etc.)

____ 72. Skilled and unskilled workers

____ 73. Sales personnel

____ 74. Purchasing agents (individuals who buy for companies)

____ 75. Customers (as in stores or restaurants)

____ 76. The general public (such as with whom police officers, park attendants, etc., might come in contact with)

____ 77. Students, trainees, or apprentices

____ 78. Clients, patients, or individuals being counseled

____ 79. Special interest groups (stockholders, property owners, lobbyists, etc.)

SECTION 4

Use the numbers from 0 to 5 to indicate **HOW MUCH EXPERIENCE** you have had in using each of the following devices or pieces of equipment in your work.

RATING SCALE

0 None
1 Very Limited
2 Limited
3 Moderate
4 Considerable
5 Very Extensive

____ 80. Precision hand tools (engraver's tools, watchmaker's tools, surgical instruments, etc.)

____ 81. Other hand tools (hammers, wrenches, knives, scissors, etc.)

____ 82. Long-handle tools (hoes, rakes, shovels, picks, axes, brooms, etc.)

____ 83. Handling devices or tools (tongs, ladles, dippers, forcepts, etc., used for moving or handling objects and materials)

____ 84. Hand-held precision power tools (dentist drills, welding equipment, etc.)

____ 85. Other hand-held power tools (ordinary power saws, drills, sanders, clippers, etc.)

____ 86. Writing and drawing instruments (pens, pencils, artist's brushes, drafting equipment, etc.)

____ 87. Applicators (brushes, rags, paint rollers, used in applying solutions, materials, etc.)

____ 88. Technical devices (cameras, stop watches, slide rulers, etc.)

____ 89. Processing machines and equipment (used to process or modify parts, objects, materials, etc.)

____ 90. Controls: used continuously (controls requiring continuous adjustment or manipulation, for example, accelerator, steering wheel, etc.)

____ 91. Controls: not used continuously (controls used to start or stop, to set positions on a machine etc.)

____ 92. Keyboard devices (pianos, typewriters, adding machines, etc.)

____ 93. Highway or rail vehicles (automobiles, trucks, buses, trains, etc.)

____ 94. Powered mobile equipment (forklifts, self propelled lawn movers, tractors, etc.)

_____ 95. Powered water vehicles (ships, motor boats, etc.)

_____ 96. Air or space vehicles (planes, helicopters, gliders, etc.)

_____ 97. Human-moved mobile equipment (hand-pushed lawn movers, wheel barrows, floor polishers, etc.)

_____ 98. Operating equipment (cranes, hoists, elevators, etc.)

_____ 99. Remote-controlled equipment (conveyor systems, etc.)

SECTION 5

Select one of the responses for each of the following questions. Mark your answer in
the blank beside each statement which corresponds to the value you choose.

_____100. Decision making level: What level of decisions have you had to make in
your work?
1. **Very Limited decisions** (such as must be made in pasting labels on cartons, putting
items on shelves in a warehouse, etc.)
2. **Limited decisions** (such as those made in greasing a car or dispatching a taxi)
3. **Intermediate decisions** (such as those made in ordering office supplies several
months in advance, determining what is wrong with an automobile engine, setting up
machine tools for operation, etc.)
4. **Substantial** (such as deciding who will be promoted, who will be hired or fired, if
property will be purchased, etc.)
5. **Very Substantial** (such as recommending major surgery, selecting the location of a
new plant, or approving a corporation's annual budget)

_____101. Reasoning in problem solving: Which of the following reasoning levels has your work
required?
1. **Very Limited** (use of common sense to carry out uninvolved instructions, as might be
done by a janitor or a delivery person)
2. **Limited** (use of some experience or training, such as a sales clerk, a postal
carrier, a keypunch operator, or an electrician's apprentice might use)
3. **Intermediate** (use of principles to solve practical problems, such as might be
required in farming, drafting, or carpentry)
4. **Substantial** (use of logic or scientific thinking, as might be used by a mechanical
engineer, a personnel director, or the manager of a store, etc.)
5. **Very Substantial** (use of principles of logic or scientific thinking to solve a wide
range of problems, as might be done by a research chemist, a nuclear engineer, a
corporate president, or the manager of a large plant)

_____102. Amount of planning: How much planning or scheduling have you had to do in your work?
1. **Very Little** (little planning of your own activities, as in selling tickets at
theater, working on an assembly line, etc.)
2. **Little** (some planning required, but not a great deal, as in delivering milk, working
as a janitor, etc.)
3. **Average Amount** (for example, a carpenter who must plan the best way to build a
house, the planning that must be done by a taxi dispatcher, etc.)
4. **Considerable** (for example, a supervisor who must plan what the workers must do, a
teacher who must prepare lectures, etc.)
5. **Large Amount** (for example, a department store manager, an executive who must plan
the activities of different groups, an architect, etc.)

_____103. Level of mathematics: What is the highest level of mathematics you have had to use in
your work?
1. Simple counting, addition and subtraction of numbers
2. Multiplication and division of numbers
3. Use of fractions, decimals, percentages
4. Use of algebra, geometry, trigonometry, or statistics
5. Advanced use of calculus, factor analysis, probability theory, etc.

____104. Education: What is the highest level of education that you have completed?
1. Grade School
2. Some High School
3. High School Degree
4. Some Business College or Technical School
5. Some College (other than business or technical school)
6. Business College or Technical School Degree
7. College Degree
8. Advance Degree (M.S., Ph.D., M.D., L.L.D., etc.)

____105. Supervision given: How many workers have you <u>directly</u> supervised in your work?
0. None
1. 1 or 2 workers
2. 3 to 5 workers
3. 6 to 8 workers
4. 9 to 12 workers
5. 13 or more workers

____106. Property responsibility: How much property have you been responsible for in your work?
1. Very little (less than $50.00)
2. Little ($50.00 to $500.00 worth)
3. Moderate amount ($501.00 to $5,000.00 worth)
4. Substantial amount ($5,001.00 to $25,000.00 worth)
5. Very substantial amount (more than $25,000.00 worth)

____107. Personnel responsibility: How many total personnel have you been responsible for in your work?
0 None
1. 10 or fewer workers
2. 11 to 50 workers
3. 51 to 250 workers
4. 251 to 750 workers
5. 751 or more workers

PART TWO

Listed below are a number of characteristics which could be present on any job. People differ about how much they would like to have each one present in their own jobs. We are interested in learning HOW MUCH YOU PERSONALLY WOULD LIKE to have each one present in your job. Using the scale below, please indicate the <u>degree</u> to which you WOULD LIKE to have each characteristic present in your job.

NOTE: the numbers on this scale are different from those used in previous scales.

```
        1- - - -2- - - -3- - - -4- - - -5- - - -6- - - -7
   Would like            Would like            Would like
   having this           having this           having this
   only a moderate       very much             EXTREMELY
   amount (or less)                            much
```

_____ 1. High respect and fair treatment from my supervisor

_____ 2. Stimulating and challenging work

_____ 3. Chances to exercise independent thought and action in my job

_____ 4. Great job security

_____ 5. Very friendly co-workers

_____ 6. Opportunities to learn new things from my work

_____ 7. High salary and good fringe benefits

_____ 8. Opportunities to be creative and imaginative in my work

_____ 9. Quick promotions

_____ 10. Opportunities for personal growth and development in my job

_____ 11. A sense of worthwhile accomplishment

PART THREE

SECTION 1

The following are a list of job situations or job requirements. Use the numbers from
0 to 5 to indicate HOW MUCH you would be <u>willing to accept</u> in your work.

RATING SCALE

0 None
1 Very Little
2 Little
3 Moderate Amount
4 Considerable
5 Large Amount

____ 1. Frustrating situations (situations in which you would become frustrated
          because your attempts to do something might be hindered or obstructed)

____ 2. Unpleasant personal contacts (some types of police work, handling certain
          mental patients, etc.)

____ 3. Personal sacrifice in the service of others (as might be required by a
          policeman, minister, social workers, etc.)

____ 4. Disagreement or conflict situations (as might be involved in labor
          negotiations, enforcement of unpopular policy, etc.)

____ 5. Distractions (telephone calls, interruptions and disturbances from others,
          etc.)

____ 6. Civic Obligations or Responsibilities

____ 7. Competition (with other individuals or groups for such things as
          promotions, financial rewards, recognition, etc.)

____ 8. Vigilance (need to be constantly alert and aware of any change in a
          situation)

____ 9. Time Pressures (for example, rush hours in a restaurant, urgent time
          deadlines, etc.)

____ 10. Need to keep job knowledge current (continually learning new developments
          related to the job)

____ 11. Responsibility for the safety of others

____ 12. Physical exertion (as needed for moving objects, lifting, etc.)

____ 13. Traveling (which requires one to be aware from home overnight and/or
          longer)

SECTION 2

Use the numbers from 0 to 5 to indicate **HOW MUCH** of your working time you would be <u>willing to spend</u> in the following activities or under the following circumstances.

RATING SCALE

0 None
1 Very Limited
2 Limited
3 Moderate
4 Substantial
5 Almost Continuously

____ 14. Sitting

____ 15. Standing

____ 16. Walking or running

____ 17. Climbing (for example, housepainter, telephone repair, etc.)

____ 18. Kneeling or stooping (or other body positions which may be uncomfortable or awkward)

____ 19. Working indoors in high temperatures (conditions in which you may be uncomfortable, such as boiler rooms, around furnaces, etc.)

____ 20. Working indoors in low temperatures (conditions in which you would be definitely cold even though you wore heavy clothing, such as refrigerated rooms, etc.)

____ 21. Working outdoors (under different weather conditions)

____ 22. Working in contaminated air (dust, fumes, smoke, bad odors, etc.)

____ 23. Working with vibrating equipment (equipment that vibrates the whole body or body limbs; driving a tractor or truck, operating an air hammer, etc.)

____ 24. Working under poor lighting conditions (not enough light, excessive glare, etc.)

____ 25. Working under dirty conditions (garbages, foundries, coal mines, highway construction, furnace cleaning, etc.)

____ 26. Working in awkward or small work spaces (conditions in which the body is cramped or uncomfortable)

SECTION 3

Select one of the responses for each of the following questions. Mark your answer in the blank beside each statement which corresponds to the value you choose.

____ 27. General responsibility: How much general responsibility would you want in your work?
1. Very Little
2. Little
3. Average Amount
4. Substantial
5. Very Substantial

____ 28. Supervision received: How much supervision would you want to receive in your work?
1. Close supervision, including job assignments and close observation of your work
2. General supervision
3. General guidance, but quite independent of others
4. Very little direction or guidance
5. No supervision

____ 29. Job Structure: To what extent would you want to follow a routine, or have your work outlined for you:
1. Almost no change from a predetermined work routine (working on an assembly line, etc.
2. Little change from the work routine (bookkeeping, stocking items in a warehouse, etc.
3. Certain work must be done, but you can determine your own schedule or routine (carpenter, automobile mechanic, etc.)
4. Little routine work (most of the decisions made by you, for example, store manager, industrial engineer, etc.)
5. No routine (a wide variety of problems must be dealt with, and you would determine your own solutions, for example, corporation vice-president, research chemist, etc.)

____ 30. Criticality of position: Some positions in a company are especially critical. If not filled properly, such things as a company's earnings or reputation might seriously suffer. With this in mind, what degree of criticality would you want your job to have?
1. Very Low
2. Low
3. Moderate
4. High
5. Very High

SECTION 4

The following are a list of job characteristics. Use the numbers 0 to 5 to rate HOW MUCH of each you would want present in your job.

```
_____
```

RATING SCALE

0 None
1 Very Limited
2 Limited
3 Moderate Amount
4 Considerable
5 Large Amount

```
_____
```

_____ 31. Feedback from your supervisor on how well you are doing on the job

_____ 32. A job where a lot of other people can be affected by how well the work gets done

_____ 33. The opportunity to do a number of different tasks

_____ 34. Freedom to do pretty much what you would want to do on the job

_____ 35. The opportunity to find out how well you are doing on a job

_____ 36. The opportunity to get to know other people in your job

_____ 37. Variety in your job

_____ 38. Opportunity for independent thought and action

_____ 39. The opportunity to complete work you start

_____ 40. A job where the quality of your work impacts on others

_____ 41. The opportunity to develop close friendships in your job

_____ 42. Meeting with others in your work

_____ 43. A job that requires a lot of cooperative work with others

_____ 44. The opportunity to do a job from beginning to end (i.e., the chance to do a whole job)

_____ 45. Feedback from individuals other than supervisors

PART FOUR

In this section of the questionnaire you are to indicate <u>how you personally feel about</u> <u>the organization you are currently working for.</u> Write a number in the blank beside each statement, based on the following scale:

HOW MUCH DO YOU AGREE WITH THE STATEMENT?

```
1- - - - -2- - - - -3- - - - -4- - - - -5- - - - -6- - - - -7
Strongly  Disagree  Slightly  Neutral  Slightly  Agree  Strongly
Disagree            Disagree            Agree            Agree
```

_____ 1. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.

_____ 2. I talk up this organization to my friends as a great organization to work for.

_____ 3. I feel very little loyalty to this organization.

_____ 4. I would accept almost any type of job assignment in order to keep working for this organization.

_____ 5. I find that my values and the organization's values are very similar.

_____ 6. I am proud to tell others that I am part of this organization.

_____ 7. I could just as well be working for a different organization as long as the type of work were similar.

_____ 8. This organization really inspires the best in me in the way of job performance.

_____ 9. It would take very little change in my present circumstances to cause me to leave this organization.

_____ 10. I am extremely glad I chose this organization to work for over others I was considering at the time I joined.

_____ 11. There is not much to be gained by sticking with this organization's policies on important matters. relating to its employees.

_____ 12. Often, I find it difficult to agree with this organization's policies on important matters relating to its employees.

_____ 13. I really care about the fate of this organization.

_____ 14. For me, this is the best of all organizations for which to work.

_____ 15. Deciding to work for this organization was a definite mistake on my part.

PART FIVE

Now please indicate how **SATISFIED** you are with each aspect of <u>your current job</u> listed below.   Once again, write the appropriate number in the blank beside each statement, based on the   following scale:

<u>HOW SATISFIED ARE YOU WITH THIS ASPECT OF YOUR JOB?</u>

```
1- - - - - -2- - - - - -3- - - - - -4- - - - - -5- - - - - -6- - - - - -7
```
| Extremely | Dissatisfied | Slightly | Neutral | Slightly | Satisfied | Extremely |
| Dissatisfied | | Dissatisfied | | Satisfied | | Satisfied |

____   1. The amount of job security I have

____   2. The amount of pay and fringe benefits I receive

____   3. The amount of personal growth and development I get in doing my job

____   4. The people I talk to and work with on my job

____   5. The degree of respect and fair treatment I receive from my work

____   6. The feeling of worthwhile accomplishment I get from doing my job

____   7. The chance to get to know other people while on the job

____   8. The amount of support and guidance I receive from my supervisor

____   9. The degree to which I am fairly paid for what I contribute to the organization

____ 10. The amount of independent thought and action I exercise in my job

____ 11. How secure things look for me in the future of the organization

____ 12. The amount of challenge in my job

____ 13. The overall quality of supervision I receive in my work

____ 14. The importance and status of my job

____ 15. The praise I get for doing a good job

____ 16. The working conditions

____ 17. The chances for being promoted

____ 18. The chance to do different things from time to time

____ 19. The chance to do something that makes use of my abilities

____ 20. The chance to try my own methods of doing the job

PART SIX

BIOGRAPHICAL BACKGROUND

The following information is needed for data analysis purposes only.

1. Job title: _____

2. Department: _____

3. Organization: _____

4. Sex: _____ Male _____ Female

5. Age (check one):

    _____ under 20   _____ 40-49

    _____ 20-29   _____ 50-59

    _____ 30-39   _____ 60 or over

6. How long have you been in your present job? (check one)

    _____ less than 1 year

    _____ 1 to 2 years

    _____ 3 to 5 years

    _____ 6 to 10 years

    _____ more than 10 years

7. How long have you been employed by your present organization?

    _____ less than 1 year

    _____ 1 to 2 years

    _____ 3 to 5 years

    _____ 6 to 10 years

    _____ more than 10 years

END OF SURVEY

THANK YOU FOR YOUR ASSISTANCE

Item Identification Key for the Worker Experience
and Preference Questionnaire

Part One: Worker Experiences

   I. Section One
      A. Information Input (sources of job
          information)   Items 1-15

  II. Section Two
      A. Information Input (sensory processes;
          estimation)   Items 16-30
      B. Mental Processes (information processing)   Items 31-35
      C. Work Output (manual/manipulation)   Items 36-49
      D. Relationships with Other Persons
          (communicating information)   Items 50-65

 III. Section Three
      A. Relationships with Other Persons
          (personal contacts)   Items 66-79

  IV. Section Four
      A. Work Output (uses of devices and
          equipment)   Items 80-99

   V. Section Five
      A. Mental Processes (decision making;
          education)   Items 100-104
      B. Supervision   Item 105
      C. Responsibility   Items 106,107

Part Two: Reward Preferences

   I. Section One
      A. Intrinsic Rewards   Items 2,3,6,8,10,11
      B. Extrinsic Rewards   Items 1,4,5,7,9

Part Three: Worker Preferences

   I. Section One
      A. Job Context (personal & social)   Items 1-6
      B. Job Demands   Items 7-13

  II. Section Two
      A. Job Context (physical working conditions)   Items 14-26

III. Section Three
    A. Responsibility   Item 27
    B. Supervision   Item 28
    C. Job Structure   Item 29
    D. Criticality of Position   Item 30

IV. Section Four - Job Characteristics
    A. Skill Variety   Items 33,37
    B. Task Identity   items 39,44
    C. Task Significance   items 32,40
    D. Autonomy   Items 34,38
    E. Feedback   Items 31,35,45
    F. Dealing with Others   Items 42,43
    G. Friendship Opportunities   Items 36,41

Part Four: Organizational Commitment   Items 1,2,3*,4,5,6,
7*,8,9*,10,11*,12*,
13,14,15*

*Reversed before scoring

Part Five: Job Satisfaction   Items 1-20

Part Six: Biographical Information

    A. Job Title
    B. Department
    C. Sex
    D. Age
    E. Job Tenure
    F. Organizational Tenure

APPENDIX C

Supplementary Statistics

C 1 Factor Analysis of the Job Satisfaction Questionnaire

C 2 Factor Analysis of the Organizational Committement Questionnaire

Factor Analysis of the Organizational
Commitment Questionnaire (N = 367)

Item	Factor 1	Factor 2
1	0.58789	0.25745
2	0.76091	0.33227
3	0.22399	0.51543
4	0.51708	0.08645
5	0.59570	0.84179
6	0.84829	0.27790
7	0.09686	0.34647
8	0.64977	0.26151
9	0.19927	0.50818
10	0.65655	0.32132
11	0.22215	0.61987
12	0.30647	0.54657
13	0.64097	0.36400
14	0.75263	0.32957
15	0.51909	0.37981
% Variance	90.2	9.8
Eigenvalue	6.2005	0.67106

Factor Analysis of the Job Satisfaction Questionnaire
(N = 367)

Item	Factor 1	Factor 2	Factor 3	Factor 4
1	0.31374	0.19304	0.43078	-0.11132
2	0.00429	-0.00564	0.81089	0.12628
3	0.65625	0.29690	0.18522	0.35843
4	0.15149	0.20772	0.12693	0.67669
5	0.35881	0.52492	0.12440	0.42726
6	0.67703	0.30051	0.00208	0.32588
7	0.27592	0.19839	0.09620	0.52565
8	0.29467	0.73492	0.12253	0.17311
9	0.01726	0.14068	0.75578	0.18962
10	0.73616	0.25331	0.03763	0.20105
11	0.46985	0.30474	0.38545	0.04504
12	0.79371	0.19674	0.05800	0.28498
13	0.33011	0.70416	0.06194	0.20511
14	0.68119	0.26359	0.10559	0.30041
15	0.40792	0.62190	0.06397	0.21428
16	0.22545	0.51513	0.23600	0.27103
17	0.52665	0.44013	0.26275	0.05362
18	0.72647	0.25974	0.14605	0.09397
19	0.81395	0.22430	0.04072	0.16016
20	0.67904	0.38495	0.07674	0.01648
% Variance	73.9	12.6	7.7	5.7
Eigenvalue	8.83208	1.50681	0.92285	0.68303