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Misfit Between Motivational Style and Type of Job Demand as a Factor in Developing Occupational Stress

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ABSTRACT OF THE DISSERTATION

Misfit Between Motivational Style and Type
of Job Demand as a Factor in Developing Occupational Stress

by

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Occupational stress is costly in terms of human suffering and impaired organizational effectiveness. Occupational stress involves the interface between the individual worker and the work environment. The purpose of the study was to analyze the fit between motivational style and the type of job demands as a contributing factor in developing occupational stress symptoms. A literature review of occupational stress models was conducted. The six models compared and contrasted included the Person-Environment fit model (French, Rodgers, & Cobb, 1974), Integrative Transactional Model (Schuler, 1982), Organizational Stress Models (Ivancevich & Matteson, 1987; Parker & DeCotiis, 1983), Facet Analysis Model (Beehr & Newman, 1978), Occupational Stress and Job Performance Model (Motowidlo, Manning, & Packard, 1986), and Structural models (Parasuraman & Alutto, 1984; Cooper & Baglioni, 1988). A

cross sectional study design was used. The sample consisted of 575 deans, associate deans, and chair persons within the California State University system who responded to a mailed questionnaire. Three motivational styles and types of job demands were measured using instruments derived from Porter's motivational theory (1976). Correlational data indicated that misfit was related to perceived work stress and the perception of poor coping ability. Stress-related illnesses were correlated with poor perceived ability to cope. There was an association between misfit and consideration to change jobs as a result of stress at work. The study added support to the Person-Environment fit model and focused on another dimension of occupational stress.

LOMA LINDA UNIVERSITY
School of Public Health

MISFIT BETWEEN MOTIVATIONAL STYLE AND TYPE OF JOB DEMANDS AS A FACTOR IN DEVELOPING OCCUPATIONAL STRESS

by

Arlene Gray Blix

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Each person whose signature appears below certifies that this dissertation in his/her opinion, is adequate in scope and quality as a dissertation for the degree Doctor of Public Health.

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INTRODUCTION

This research study was designed to investigate the impact of the "fit" between the motivational style of the worker and the perceived job demand on occupational stress. Occupational stress is a complex, all pervasive problem that has been the focus of study and research involving many diverse disciplines. It takes its toll in terms of human suffering and economic loss to business, industry and academia. Although many conceptualizations have been propounded there is, unfortunately, little agreement on the processes of occupational stress and how it is best prevented and/or managed.

This study adds another dimension to the current knowledge of occupational stress within the Person-Environment fit (P-E fit) model (French & Rodgers, 1974). This model proposes that occupational stress results from a misfit between the individual worker and the work environment. According to the P-E fit model, a misfit leads to perceived work stress, strain, and physical and psychological illnesses.

Many factors have been studied in testing the various relationships. One dimension, which has been largely overlooked, is that of the worker's motivational style. This study, therefore, focused on the person variable of motivational style, addressing the "need structure" which

stimulates behavior.

This study utilized the motivational theory developed and tested by Porter (1976). Porter suggested that individuals could be placed within one of three styles of motivation: altruistic-nurturing, assertive-directive, and analytic-autonomizing. He proposed that each person has a predominant style reflective of one or a combination of the three styles.

The altruistic-nurturing style is characterized by a person who is trusting and supportive, rewarded by helping and giving. The assertive-directive style describes a preference for leading and directing others in an active way. Analytic-autonomizing refers to a person who is analytical and prefers to be self-directed and self-sufficient.

Porter (1985) designed the Strength Deployment Inventory® (SDI) instrument to identify individual motivational style. It consists of ten statements with three optional endings for each item corresponding with the three styles. Each statement requires that 10 points be distributed among the three options. Total scores are then plotted on a vector diagram to indicate the style which best represents the individual.

Each motivational style demands its own unique rewards and when these compensations meet the individual's needs,

those needs in the workplace. Most often, individuals select careers based on personal preference and as a result find themselves in a misfit between what they prefer and what the job entails.

Pretesting

Although the SDI had received preliminary testing to determine reliability and validity it was designed primarily as an educational tool and had been subjected to substantial clinical validation. The JII had received even less testing than the SDI. Both instruments are based on a forced choice format with the rating of each item somewhat dependent on the other two ratings.

In order to use the SDI and JII instruments with some confidence it was critical to conduct pretesting to further establish validity and reliability. A modified format was designed, with permission from the author, which listed each of the statement options separately to be rated on a scale of 0 to 9 (0 meaning 'not at all like me' and 9 meaning "like me" 90% of the time). The initial project tested the instruments in a study of burnout among 212 registered nurses. The hypothesis was that misfit between motivational style and type of job demand contributed to burnout.

Reliability was established using Cronbach alpha. For the modified version of the SDI alpha was .79, .81, and .69 for the altruistic-nurturing style, assertive-directive

style, and analytic-autonomizing style respectively. The modified SDI reliabilities were consistent with those established by Porter. The modified JII, with its 15 items, established reliability at .65, .70, and .67 for the altruistic-nurturing style, assertive-directive style, and analytic-autonomizing style respectively. A need to improve the reliabilities on the JII was identified. One of the reasons for the lower correlations might have been the few test items on the instrument.

To improve the reliabilities, a second modification of the JII was made by adding fifteen more statements, five for each of the three different styles. Only minor word changes were made in the modified SDI tool. A second pre-testing of the instruments was done on 156 subjects with notable improvement in the modified JII reliabilities. The alphas were .85 for altruistic-nurturing, .78 for assertive-directive, and .73 for the analytic-autonomizing style. The reliabilities of the modified SDI remained the same.

Factor analyses using Varimax Rotation were conducted on the data from the burnout study to test the theory that there were three distinct factors measured by the instruments. The data was not adequately described by the three-factor model of the modified SDI instrument. The Scree Test suggested that five factors may be a more appropriate fit (See Appendix D).

The five factor model did improve the fit considerably. It separated the two components of the assertive-directive style into assertive and directive as unique qualities (See Appendix D). "Assertive" reflected items which described an individual with high energy and "directive" represented the leadership qualities. The same separation occurred with the analytic-autonomizing style with "analytic" reflecting a distinct quality from "autonomizing". The altruistic-nurturing style remained as one factor. Even though the five-factor model best described the data, it still did not explain all the variance. The three-factor model described the modified JII data set fairly well (See Appendix D). Five factors did not improve the fit.

A confirmatory factor analysis using the EQS program (Bentler, P. M., 1985) showed the three factor model did not adequately fit the data for the SDI ($X^2(85, \underline{N}=198)= 136.09$, $p<.001$). The Bentler-Bonett normed fit index=0.81 which indicated the data departed significantly from the model. Similar findings were observed for the confirmatory factor analysis on the JII ($X^2(87, \underline{N}=198)=179.70$, $p<.001$), with the Bentler-Bonett normed fit index of 0.81.

Although the factor analyses suggest the three factor model leaves a great deal of variance unexplained, the testing of the two instruments demonstrated sufficient reliabilities for use as tools in the study. Further

refinement and testing on the modified versions would be useful.

Overview of Articles for Publication

The sample for the present study was selected because of a personal interest in the California State University (CSU) system and because there have been few research studies on occupational stress among workers in university settings. The group was selected to represent middle management.

Two articles were written as a result of the study. The first article reviewed the literature on occupational stress models to provide a framework for understanding the possible relationships among variables in the occupational stress equation. Six models were selected for review. Recommendations for further research were made. A research article describing the impact of motivational style on occupational stress was prepared as the second article. It adds another dimension to the literature on occupational stress and demonstrates the usefulness of the Person-Environment fit model.

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Occupational Stress Models: A Literature Review

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INTRODUCTION

The occupational health nurse (OHN) is in a prime position to observe the interface between the worker and the work environment. Therefore, it is important that the OHN understand the dynamics of occupational stress and be familiar with the various theories identifying factors which contribute to its development. The purpose of the following review of occupational stress models is to provide an overview of each model to assist the occupational health nurse in assessing occupational stress and in planning preventive and/or interventive strategies to promote worker health. Recommendations for further research in occupational stress are also included.

Stress has been implicated in the etiology of many disease conditions and the work place has clearly been considered a contributing factor (Arndt & Chapman, 1984; House, 1975; Cooper & Payne, 1978). Stress has also been recognized as affecting organizational effectiveness by lower employee performance (McGrath, 1976), absenteeism, tardiness, and turnover (Johnston, 1980; Porter & Steers, 1980). Occupational stress claims have also increased worker's compensation costs (Bond, 1984).

In the literature there is neither consensus on a definition of work place stress nor on the process by which it impacts the health of the worker. Occupational stress, in

this paper, refers to the total process from exposure to stressors to the development of negative consequences. Occupational stress results from an interaction between the worker and the work environment. Occupational stress results from the worker's inability to cope effectively with various job demands (French & Rodgers, 1974). According to stress literature the appraisal of a situation is very individual and determines whether the situation is perceived as stressful or not (Lazarus, De Longis, Folkman, & Gruen, 1985). The appraisal depends on the individual characteristics of the worker and his/her interpretation of environmental conditions.

Six models were selected for review. They represent current concepts of occupational stress and portray the interrelationships among relevant variables.

THE PERSON-ENVIRONMENT FIT MODEL

The Person-Environment fit (P-E fit) model is a process theory frequently employed as a framework for research (French, Rodgers, & Cobb, 1974; Lofquist and Dawis, 1969). The model is based on motivational theory which emphasizes the interrelationships of the person and the environment (Lewin, 1951). The P-E fit model suggests that adjustment to and coping with stress is a result of the "goodness of fit" between the characteristics of the person and the elements of the environment.

This model views any misfit between the worker and the work environment as contributing to occupational stress. Occupational stress is experienced to the degree that the job does not meet the worker's needs and/or the job demands are incongruent with the individual's abilities.

There are two basic types of demands: internal which describe the individual's needs, values, and motives and external which describe role requirements. Internal demands must be met by factors in the environment and external demands are supplied by individual capabilities. The interdependence of "demands" and "supplies" is central to the theory. Each derives its importance from its relationship to the other. P-E fit results from an interaction between the person and the environment rather than as a consequence caused by each independently. The broken lines in Figure 1 represent the interactive process. The model assumes that a discrepancy in the fit between the

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Insert Figure 1 about here

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person and environment will lead to perceived stress which if unresolved will produce psychological and/or physiological strain.

Distinction is made between the objective and subjective reality with a notation of "o" for the objective

person and environment and "s" for the subjective person and environment. The objective environment refers to the physical and social environment external to the person and is independent of the individual's perception of it. The subjective environment is determined by the individual's perceptions of the objective environment.

Likewise, the objective person is the "real" individual and the subjective person refers to self-perception, or self-concept. From these variables four discrepancy scores can be calculated to describe the degree of congruence or fit: the objective fit, subjective fit, contact with reality, and accuracy of self-assessment. Objective P-E fit (F_o) describes the fit between the objective person and the objective work environment. Subjective P-E fit (F_s) refers to the fit between the subjective person and the subjective environment. The discrepancy between the objective environment and the individual's perception of it is referred to as "contact with reality" (R). Similarly, a discrepancy between the objective person and the individual's subjective perception of self is termed "accuracy of self-assessment" (A).

A good fit occurs when the worker's needs are met in the work environment and, concurrently, the worker provides the abilities required by the work environment (Harrison, 1980). Prolonged good fit may enhance the individual's sense

of worth and competence (Morse, 1975). To the extent that positive self-worth promotes a healthy lifestyle, the individual's physical health may also be improved (Becker, Drachman, & Kirscht, 1974).

A poor fit can lead to several types of strain in the worker. Strain is defined as any deviation the person's normal functioning. Strain may result from the stress of either too little or too much of a characteristic--on either side of perfect fit.

Examples of psychological strains include job dissatisfaction, anxiety, depression, or complaints of insomnia and restlessness. Physiological strains include high blood pressure and elevated serum cholesterol. Behavioral strain is manifested in behaviors such as increased smoking, over-eating, or frequent visits to a health office. Strain which continues over a period of time may lead to a variety of illnesses, both mental and physical (Cooper & Payne, 1980).

As misfit leads to strain and illness, the individual may attempt to improve the fit between self and the work environment through the use of coping and/or defense mechanisms. Coping refers to attempts at altering the objective environment or person with the goal of improving the fit between the two. Defense mechanisms, on the other hand, seek to alter the perception of the objective

environment and the objective self or to distort the perception of P-E fit. While the use of defense mechanisms may lead to an improvement in subjective fit and lower levels of stress and resultant strain, their use may also diminish the individual's contact with reality and distort self-assessment (Binder, Mayman, & Doehrman, 1974).

Several representative correlational studies have demonstrated support of the P-E fit model (Blau, 1981; Caplan, Cobb, French, Harrison, & Pinneau, 1975; Chemers, Hays, Rhodewalt, & Wyoscki, 1985; Furnham & Schaeffer, 1984; Matteson & Ivancevich, 1982). They illustrate the role of misfit as a contributing factor in developing occupational strain and confirm the importance of congruence of the worker and the work environment.

INTEGRATIVE TRANSACTIONAL MODEL OF OCCUPATIONAL STRESS

Another model exploring person and environment fit is described by Schuler, (1982). He defines stress as an on-going feeling of uncertainty about something which the individual considers important (Schuler, 1982). Schuler's model focuses on interrelationships and responses within an identified time frame. The model views relationships as reciprocal. The components have multidimensional causality and can be viewed either as causes or effects (Lazarus, 1978).

This model focuses on three components: the

environmental stressors, individual characteristics, and the responses of the individual. Environmental stressors in the workplace include job qualities, relationships, organizational structure, physical qualities, career development opportunities, and change. Individual responses occur at three different levels and parallel Selye's (1956) stages of stress and adaptation. Individual characteristics determine the fit and moderate the responses. Individuals engage in one of four styles of coping: information seeking, direct action, inhibition of action and intrapsychic processes (Lazarus, 1978).

Along with long term physiological responses the worker may also manifest such negative behaviors as turnover, absenteeism, poor performance, and job dissatisfaction. Schuler believes the type of stressor influences the psychological and behavioral responses but not the physiological response. No research studies were found testing the model.

FACET ANALYSIS MODEL

Beehr and Newman (1978) proposed a model based on the person and environment variables but do not calculate the degree of fit. They defined occupational stress as any situation in which job-related factors interact with the worker in a way which leads to a deviation from the individual's normal functioning. The model presented in

Figure 2 includes three perspectives--personal, environmental, and the person-environment interaction. Beehr

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Insert Figure 2 about here

& Newman (1978) suggest that variables can serve as independent, dependent, intervening, or moderating variables. The role they play depends on the time period or the segment of events sampled and studied.

The model focuses on the process by which the person and environment interact with each other to affect individual responses to potential stressors. Responses lead to individual psychological, physical, and behavioral consequences for the individual and may be either negative or positive. The organizational consequences are studied simultaneously with the human consequences to determine the impact on organizational effectiveness. Various possible responses to coping with stress by the individual, organization, or third parties are included in the adaptive response facet.

The time facet considers the duration of stress as critical in determining the consequences of a stressful event. The authors also developed a sequential model which added dimensions to reflect long-term consequences and responses. No studies were found which tested the model.

OCCUPATIONAL STRESS AND JOB PERFORMANCE

A model (Motowidlo, Manning, & Packard, 1986) has been developed to explain the relationship of occupational stress to job performance. Like the previously described models it also focuses on the person and environment variables. Stress is defined as an intervening variable which has antecedent causes and behavioral consequences. The model limits its scope to subjective stress and its negative impact on job performance.

They view subjective occupational stress as caused by events that occur at work. Figure 3 depicts the relationship between subjective stress and performance. The theory presumes that subjective stress leads to affective states such as anxiety, hostility, and depression which in turn lead to a decline in job performance. Subjective stress is seen as directly proportional to the frequency and intensity

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Insert Figure 3 about here

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of the stressful events at work. The duration of the stress is not included in the model but would be related to frequency. The frequency that stressful events occur at work is determined by external work conditions and individual characteristics.

Stressful events may be more common in some job

situations than others and workers may behave in ways which either increase or decrease the frequency of the events. While the frequency of events is dependent on both job conditions and worker characteristics, the model suggests that the intensity of the stressful event is only affected by the individual characteristics of the worker. Intensity is believed to reflect individual characteristics which predispose some workers to react more strongly to a broad range of work stressors. This means that workers who find certain work events intensely stressful are also more likely to perceive other events as extremely stressful. The individual characteristics selected for integration into the model are job experience, Type A behavior pattern, and fear of negative evaluation.

Exploratory research on 104 hospital nurses conducted to empirically test the model (Motowidlo, et al., 1986) examined the relationships between 45 stressful events, work conditions, individual characteristics, subjective stress, affect, and job performance. The findings revealed that stressful events were causally related to the nurses feeling stressed. Stress was perceived as greater for those events that were more frequent and more intense. The study gave some support for the notion that events are caused jointly by conditions in the work setting and by worker characteristics that predispose to behaving in ways that

precipitate stressful events.

STRUCTURAL MODELS

One structural model dealing with the person and environment (Parasuraman & Alutto, 1984) presents a multivariate causal model of occupational stress. The model conceives of contextual, role-related, and personal variables as antecedent conditions potentially influencing job stressors. The job stressors are considered to be capable of causing stress reactions, referred to as "felt stress." Job satisfaction and organizational commitment were selected to represent second level attitudinal outcomes of job stress (Bedeian & Armenakis, 1981; Beehr & Newman, 1978; Van Sell, Brief, & Schuler, 1981). Performance and job turnover were investigated as important organizational behavioral outcomes. The arrows in Figure 4 illustrate proposed directional relationships among the variables.

Insert Figure 4 about here

The authors tested the model on 217 workers in a food processing company. The results indicated that 25 of the 30 direct paths were significant ($p=.05$). Felt stress and organizational commitment were found to be most predictive of turnover. Felt stress increased turnover and work tenure diminished it. It is interesting to note that job

satisfaction had no effect on turnover. Personal variables were found to have a stronger influence on job stressors than more role-related variables. A major finding was that felt stress and low organizational commitment directly contributed to voluntary termination and may be better predictors of turnover than job satisfaction.

Another study conducted by Cooper and Baglioni (1988) used a structural model approach to develop a theory linking occupational stress and mental health. They concluded that there was a relationship among job stressors, coping techniques, Type A behaviors, and mental health.

ORGANIZATIONAL STRESS MODELS

Two organizational stress models are presented. One model was developed using the P-E fit framework (Ivancevich and Matteson, 1980; 1987) and is displayed in Figure 5. In addition to including the individual characteristics of the worker and the work environment the authors include the extraorganizational environment in their model.

Insert Figure 5 about here

The model contributes to the occupational stress literature by emphasizing the potential organizational stressors which may lead to decrements of performance. The model has not yet been tested.

Parker and DeCotiis (1983) propose an organizational model which also focuses on organizational stress but deemphasizes the variable of worker. They suggest that individual variables may account for little variance in stress reactions to a work situation. In fact, they postulate that the approach which sensitizes workers to the existence of occupational stress may be harmful if the individual has no means of removing the source(s) of stress. They suggest the increased awareness may actually increase the feeling of stress. They recommend first priority be given to diagnosing and dealing with organizational stress as the prime causative factor.

The model places the major responsibility for job stress on the work environment, not the worker. The model is presented in Figure 6. The authors view occupational stress as multidimensional and limit its conceptualization to the **felt** response of discomfort to environmental stimuli. They advocate self-report measurements to best reflect the subjective nature of stress.

Insert Figure 6 about here

They suggest the first outcome of occupational stress is the actual perception of it and is expected to dissipate if the stressor is removed immediately or if the individual

successfully copes with it. When job stress is intense and/or prolonged second-level outcomes may be expected, and are considered to be the consequences of job stress rather than stress per se.

Parker and DeCotiis (1983), in a study designed to partially test their model, evaluated 367 managers of a major restaurant chain. Results of the study indicated that the pressure of time (time stress) and anxiety were the two most important dimensions in defining job stress. Anxiety and time stress were both significantly related to each of the model's five organizational stressor categories. Second-level outcomes were not measured in this study.

DISCUSSION:

No common conceptual definition of the terms stress, stressor and strain exist among the researchers although this presentation has attempted to be consistent. The authors are cautious and tentative in their conclusions and recommend the need for further testing. Studies testing the models have been cross-sectional in design making it impossible to establish cause and effect.

Most of the studies were of small or non-representative groups limiting the ability to generalize the findings to larger groups. There also seems to be confusion as to whether variables serve as antecedents of stress, as stress indicators, or both.

Several potential measurement problems have been identified. Most measurements were of the self-report nature, thus leading to possible biases. Some authors (Parker and DeCotiis, 1983) argue that self-report measurements are preferred to adequately reflect the subjective nature of occupational stress. Others advocate the use of physiological stress measurements (Ganster, Mayes, Sime & Tharp, 1982; Gardner, 1982; Jackson & Schuler, 1985). It would be most comprehensive to include both objective and subjective criteria. Measurement errors may be compounded by the use of discrepancy scores (e.g. P-E fit models), because of the magnification of the score's components (Blau, 1981). Confounding may also result when measures on one dimension influence measures on other dimensions of P-E fit. The contamination may lead to underestimating the variance accounted for by the fit (Cooper & Payne, 1980).

Blau (1981) questions the construct validity of the P-E fit model. He expresses concern that because misfit occurs with either an oversupply or an undersupply of factor(s), findings may be misleading if they don't include both dimensions. For many of the needs, oversupply or undersupply would not logically exist. In others, such as job complexity, insufficient job complexity as well as too much job complexity may be stress producing (Harrison, 1978). It

may also be questioned whether discrepancies due to oversupply would indicate occupational stress to the same degree as undersupply.

Five of the six models of occupational stress focus on the worker and work environment and their interrelationships in producing occupational stress. The Person-Environment fit model is the most frequently cited framework for research and has received more empirical testing than any of the other models. It outlines the basic premise that the person and the environment are critical components in understanding the dynamics of stress.

The fit between the person and environment helps to define occupational stress in the P-E fit model (French, Rodgers, & Cobb, 1974), the Integrated Transactional Model (Schuler, 1980), and Ivancevich & Matteson's Organizational Stress Model (1987). All of the other models, except the model by Parker & DeCotiis (1983), focus on the worker and work environment but do not measure the degree of fit between each of the respective characteristics.

The Organizational Stress model by Parker and DeCotiis (1983) concentrates exclusively on organizational characteristics and limits the inclusion of worker characteristics to those which affect the organization.

IMPLICATIONS FOR FUTURE RESEARCH

Despite the fact that there are several models describing different conceptualizations of occupational stress there is still further research needed to expand the knowledge of its dynamics. The following research recommendations are suggested: (1) Develop diagnostic tools to accurately reflect the possible causative factors, moderating variables, and consequences for the worker and organization because intervention depends on an adequate assessment. (2) Develop psychometrically defensible measurements including subjective and objective criteria for worker and organizational characteristics. Avoid measuring independent and dependent variables that appear to measure a single concept. (3) Conduct longitudinal studies that track the effect of changes in the work environment to distinguish between cause and effect. (4) Use an interdisciplinary approach to study the many dimensions of occupational stress. (5) Include operational definitions which are rigorous and consistent. (6) Plan a systematic approach whereby variables are tested and new variables identified. (7) Investigate actual work environments implicated in producing occupational stress including "natural changes" in field settings. (8) Test occupational stress models on male and female workers representing a range of ages and occupations. (9) Identify the nature and strength of

relationships between job stress and possible consequences. (10) Consider weighting stressors to determine if they all have an equally negative impact on the individual worker. (11) In the P-E fit model study P and E causes and consequences simultaneously as they have interdependent effects. Also include the importance of a particular misfit for the individual worker to see if some discrepancies have a greater impact on stress outcomes than others. (12) Investigate the impact of life events on occupational stress. (13) Design intervention strategies to address both work redesign and stress management techniques. (14) Develop well-designed evaluation tools to determine the effectiveness of intervention strategies at the organizational and worker levels.

This paper provides an overview for those not very familiar with the concept of occupational stress. For those either directly or indirectly involved in the area, it is hoped that some issues were raised and information presented to further expand knowledge and to stimulate future research activities.

Armed with adequate knowledge the occupational health nurse has an opportunity to make a positive impact in the area of occupational stress. The close relationships with management and labor place the nurse in an instrumental position to make observations, communicate findings, and

plan collaboratively to meet the needs of both workers and management.

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Figure 1

Person-Environment Fit Model

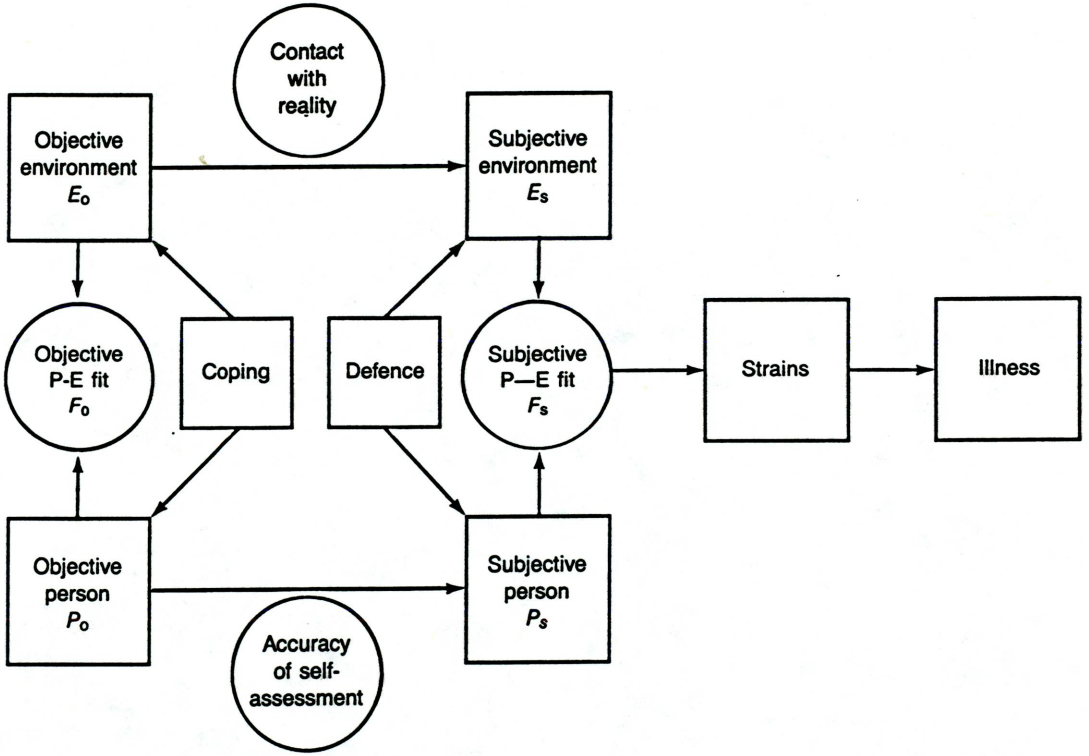

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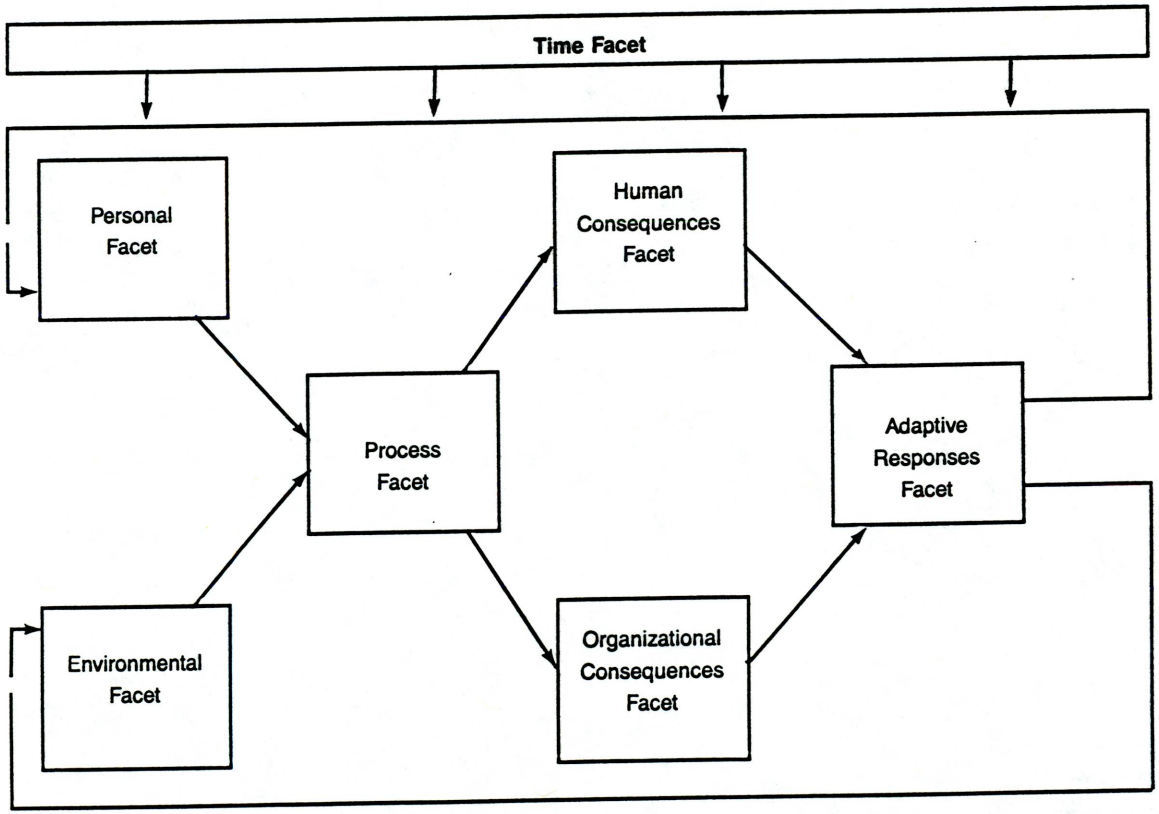
Figure 2

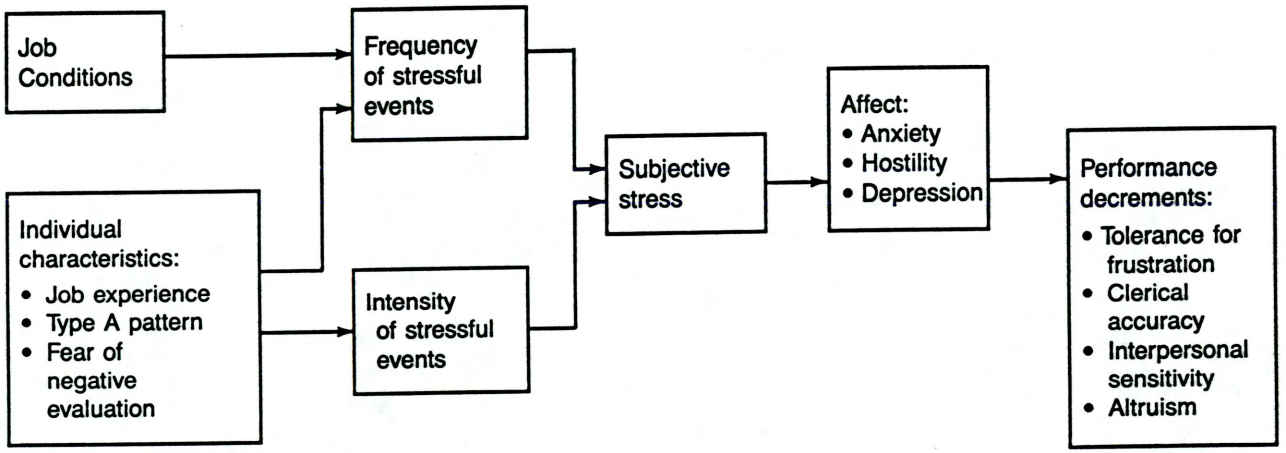
Facet Analysis Model



NOTE: From "Job stress, employee health and organizational effectiveness: A facet analysis, model, and literature review" (p. 677), by T. A. Beehr & J. E. Newman, 1978, in *Personnel Psychology,* 31: 665-699. Reprinted by permission.

Figure 3

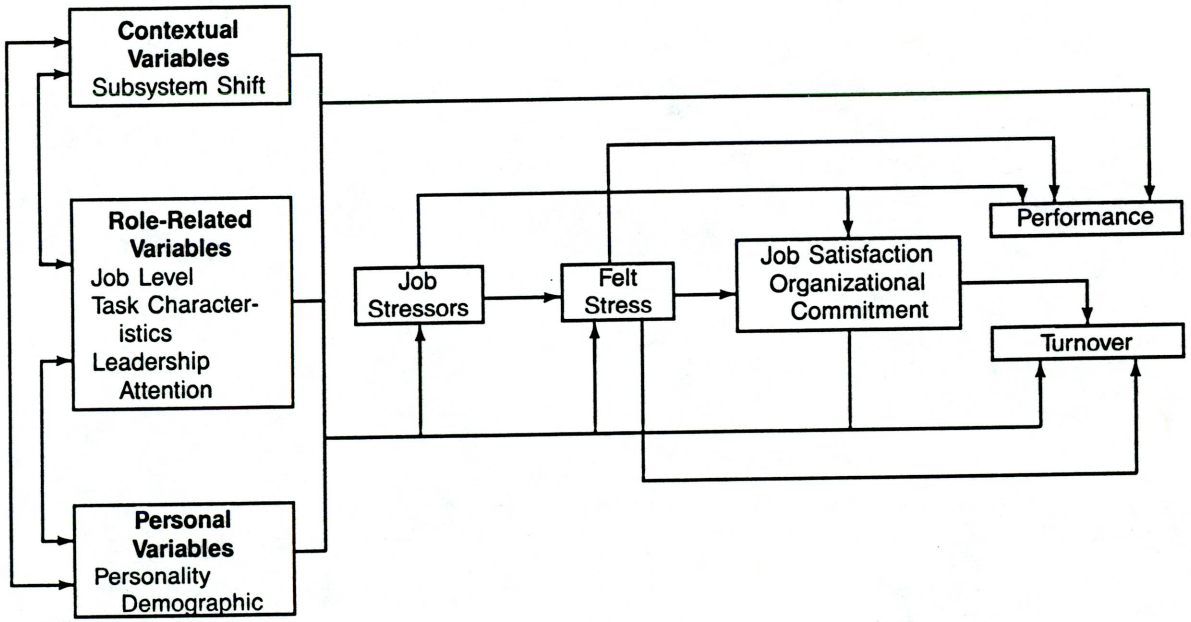
Model of Occupational Stress and Job Performance



NOTE: From "Occupational stress: Its causes and consequences for job performance" (p. 619) by S. J. Motowidlo, J.S. Packard, & M. R. Manning, 1986, in *Journal of Applied Psychology,* 71(4): 618-629. Reprinted by permission.

Figure 4

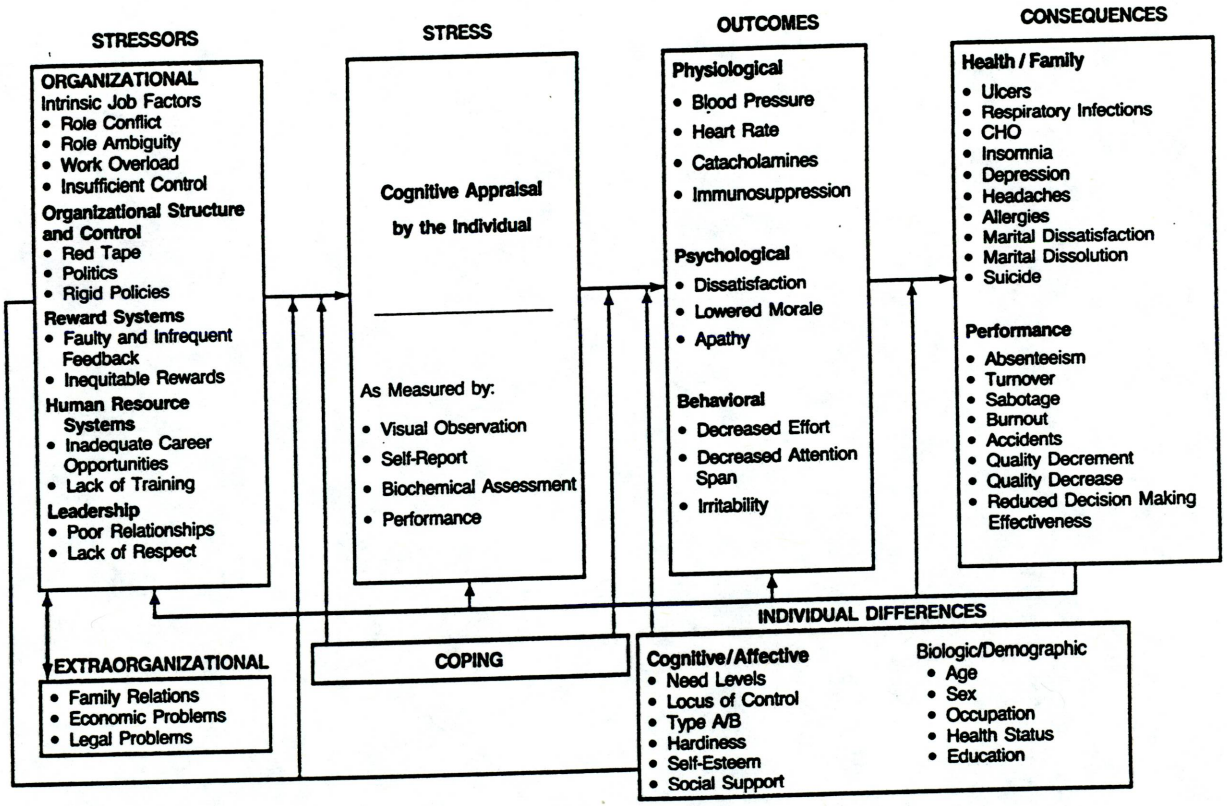
Structural Model of Stress



NOTE: From "Sources and outcomes of stress in organizational settings: Toward the development of a structural model" (p. 333) by S. Parasuraman & J. A. Alutto, 1984, in *Academy of Management Journal,* 27(2): 330-350. Reprinted by permission.

Figure 5

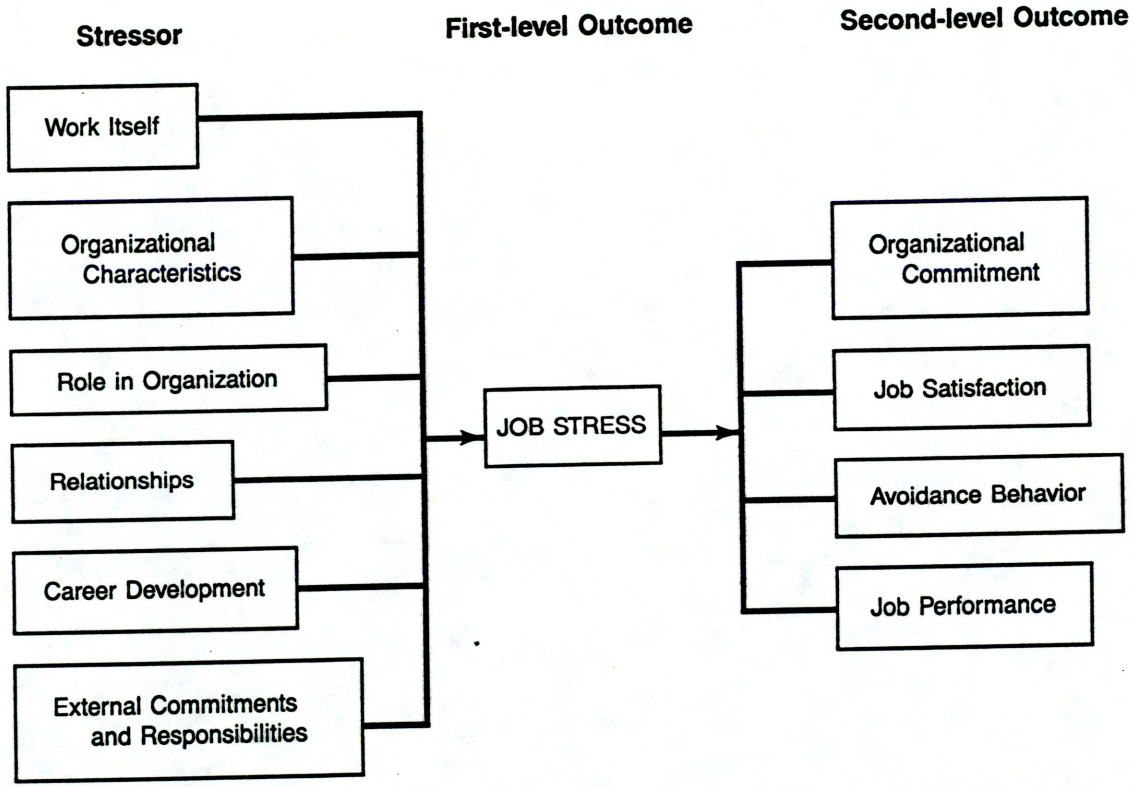
Organizational Stress Framework



NOTE: From "Organizational level stress management intervention: A review and recommendations" (p. 234) by J. M. Ivancevich & M. T. Matteson, 1987, in *Journal of Organizational Behavior Mangement,* 8(2): 229-248. Reprinted by permission.

Figure 6

Organizational Model of Occupational Stress



NOTE: From "Organizational determinants of job stress" (p. 167) by D. F. Parker & T. A. De Cotiis, 1983, in *Organizational Behavior and Human Performance,* 32: 160-177. Reprinted by permission.

Misfit Between Motivational Style and Type of Job Demands as a Factor in Developing Occupational Stress

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Abstract

The fit between the worker's motivational style and the type of job demands was analyzed as a contributing factor in developing occupational stress. Five-hundred-seventy-five deans, associate deans, and chair persons provided data on a questionnaire. Three motivational styles and types of job demands were measured using instruments derived from Porter's motivational theory. Correlational data indicated that occupational misfit was related to perceived work stress and the perception of poor coping ability. The perception of poor coping ability was correlated with stress-related illnesses. There was also an association between occupational misfit and consideration to change jobs. The findings supported the Person-Environment fit model of occupational stress.

Misfit Between Motivational Style and Job Demands as a Factor in Developing Occupational Stress

Occupational stress has become a prominent topic in behavioral science research. Recent reviews (Brief, Schuler, & Van Sell, 1983; Quick & Quick, 1984) confirm positive relationships between job stress and physical and psychiatric symptomatology. Job stress is considered a factor which may affect organizational effectiveness through lower employee performance (McGrath, 1976), absenteeism, tardiness, and job turnover (Johnston, 1980; Porter & Steers, 1973). It also has a negative financial impact on workers' compensation costs (Bond, 1984).

Unfortunately, there is neither consensus on a definition of work place stress nor on the process by which it impacts the health of the worker. Occupational stress, in this paper, refers to the total process from exposure to a potential stressor to the development of negative consequences. Most definitions of occupational stress relate to the inability of the individual worker to cope effectively with various job demands. The result may affect physiological and psychological functioning (French, Rodgers, & Cobb, 1974).

A frequently cited model of occupational stress is the Person-Environment fit (P-E fit) model which focuses on two predominant variables: the individual characteristics of the

worker and the organizational qualities of the work environment. In the P-E fit model, occupational stress is considered to arise from a misfit between the individual and the environment (Blau, 1981; French & Rodgers, 1974; Lofquist & Dawis, 1969).

The assessment of the involved factors by each individual worker determines whether an encounter is perceived as irrelevant, benign, or stressful. The way in which the "person variables" are integrated with the environmental conditions determines the perception. The P-E fit model assumes that a discrepancy in fit is a stressor which, if unresolved, will produce psychological and/or physiological strain. Strain is defined as any psychological or physiological deviation from what is normal for that individual.

A good fit occurs when the worker's needs are met in the work environment and, concurrently, the worker provides the abilities required by the task (Harrison, 1980). Prolonged good fit may enhance the individual's sense of worth and competence (Morse, 1975) which in turn promotes a healthy life style and improved physical health (Becker, Drachman, & Kirscht, 1974).

A poor fit may lead to various types of strain. Psychological strain may include job dissatisfaction, anxiety, depression, or complaints of insomnia and

restlessness. Physiological strain includes high blood pressure and elevated serum cholesterol. Behavioral strain may be manifested in smoking, drinking, over-eating, or frequent visits to a health office (Cooper & Payne, 1980).

Continuous strain over a period of time may lead to a variety of physical illnesses such as peptic ulcers, hypertension and diabetes (Cobb & Rose, 1973); Kasl, 1978). Psychiatric ailments may also result (Jenkins, 1976; Kasl, 1973, 1974). Behavioral outcomes may include absenteeism, tardiness, and job turnover (Hrebeniak & Alutto, 1972; Lyons, 1971; Porter & Steers, 1973).

A number of intraindividual variables have been studied in relation to stress. They include the type A personality (Matteson & Ivancevich, 1982), locus of control (Sandler & Lakey, 1982), hardiness (Kobasa, Maddi, & Kahn, 1982), and a sense of coherence (Antonovsky, 1984). This study looked at motivational style, a previously uninvestigated variable. A person's motivational style reflects the needs which must be met to sustain the life and well-being of an individual (Locke, 1976). These individual needs influence both the perception and appraisal of potential stressors and the choice and appropriateness of strategies employed to deal with stress (McGrath, 1976).

According to Porter (1976) there are three basic motivational styles. The <u>altruistic-nurturing style</u> is based

on the need to be helpful and characterizes an individual who is most rewarded by being nurturant of and genuinely helpful to another. An individual who is rewarded by being the leader and achieving goals depicts the assertive-directive style based on the need for action and challenge. The third motivational style, analytic-autonomizing, describes a need for self-control, certainty, and predictability. An individual within this style is rewarded by being autonomous, self-reliant, and self-sufficient.

Each individual has a predominant style which must be appropriately rewarded if mutually beneficial relationships are to occur. Each work setting has a unique set of demands that may contribute to meeting the needs of the worker or not. In an ideal situation the needs of the individual worker will match the rewards inherent in the job producing a good fit.

The P-E fit model was chosen as the framework for this research study designed to analyze the fit between motivational style and perceived job demands as a contributing factor in developing occupational stress symptoms. In the study, several hypothesized relationships between fit and stress symptoms were investigated. Misfit was expected to lead to perceived work stress, anxiety at work, stress-related illnesses, and consideration of job change due to work stress. It was also hypothesized that the

longer a worker spent in a misfit job situation the greater would be the stress symptoms.

Methods

Sample

The sample consisted of 575 deans, associate deans and chairpersons from the 19 campuses within the California State University (CSU) system. The response rate to a mailed questionnaire was 61%. Representation within the groups of deans, associate deans, and chairpersons was 60%, 64% and 60% respectively. Non-respondents did not differ significantly from the respondents.

Procedure

All deans, associate deans, and chair persons within the CSU system (948) were included in the mailing. Each individual was invited to complete and return a questionnaire designed to ascertain the various parameters being investigated. A cover letter explained the purpose of the study and assured confidentiality. A follow-up letter and questionnaire was sent three weeks after the initial mailing to all non-respondents.

Instruments

Motivational Style was measured using a modification of the Strength Deployment Inventory ® (SDI) by Porter (1985). The SDI consists of items which assess the individual's motivational style according to three modes: altruistic-

nurturing, assertive-directive, and analytic-autonomizing. The rating format consisted of 30 separate statements to which respondents, using a 10-point scale, identified the degree to which each statement described them. (0 meaning the response was **never** like them and 9 meaning it described them at least **90%** of the time).

Scales were refined through two pre-testings with sample sizes of 212 and 156. Reliability on the current data was established with alpha coefficients of .71, .80, and .67 for the altruistic-nurturing scale, assertive-directive scale, and the analytic-autonomizing scale, respectively.

Perceived Type of Job Demand was measured by a modified version of the Job Interaction Inventory ® (JII) by Porter (1987). The JII was modified by adding 15 additional items to parallel the 30 items on the modified Strength Deployment Inventory. Respondents were asked to rate each item using the same 0 to 9 scale as used in the modified SDI section. This modified instrument was also refined through two pre-testings. The alpha coefficients were improved in the modification and were established at .81 for the altruistic-nurturing scale, .86 for the assertive-directive scale, and .79 for the analytic-autonomizing scale.

Misfit Between Motivational Style and Perceived Type of Job Demand was measured by a discrepancy score between the modified versions of the SDI and JII items.

Stress Symptoms were measured by questionnaire items reflecting anxiety, stress-related disease conditions, perceived level of work stress, and consideration of job change because of work stress. The State-Trait Anxiety Inventory, Form Y (Spielberger, 1983), was used to measure the current level of anxiety. Respondents were asked to rate 20 items according present feeling on a four-point scale from "not at all" to "very much so." The median alpha coefficients for Form Y (State-Anxiety scale) is .92.

Respondents were asked to assess their present level of stress at work using the 0 to 9 scale. An item reflecting job satisfaction asked respondents to indicate if stress in the job had caused them to consider taking a different job, and if yes, to describe briefly why.

Respondents were also asked to check stress-related illnesses they had experienced within the past year. These included respiratory distress, heart disease, high blood pressure, migraine headaches, peptic ulcer, and an "other" write-in category.

Several questions were included to identify potential intervening effects of perceived coping ability to handle work stress, support from family and friends, perceived stress not related to work, and the use of stress management techniques. Demographic data were obtained for number of years employed by the California State University system,

number of years in current position, number of years in administrative positions, current position, number of subordinates, amount of release time for administrative tasks, age and gender.

Results

There was no discernible difference in response rates among the campuses. Neither the size of the student population nor geographic site was significantly related to the rate of return.

Only one value showed a significant difference between male and female respondents hence the data for males and females were combined. In the only case where males and females differed significantly, the association between social support and perceived coping ability was greater for females than for males (males: $r = .184$, $N = 388$; females: $r = .490$, $N = 104$, $p<.05$ with Bonferroni adjustment (Wilkinson, 1988) for 21 significance tests).

Because few significant differences relative to position were found, combined data are also presented for the respondents in the categories of dean, associate dean, and chair persons. The following exceptions did show a relationship to position. In the area of perceived ability to cope with stress at work there was a significant, but weak, association with position.($F(2, 478) = 3.915$, $p<.05$). Chair persons felt less capable of handling work stress than

either deans or associate deans. Means were 7.09, 7.12, 6.50 for deans, associate deans, and chair persons, respectively.

In the only other difference relative to position, significantly more deans were of the assertive-directive motivational style than associate deans or chair persons ($F(2, 526) = 8.33$, $p<.0005$). Means were 6.25, 5.81, 5.75 for deans, associate deans, and chair persons, respectively.

Intercorrelations among study variables are presented in Table 1. As hypothesized, misfit was significantly correlated with perceived work stress and perceived ability to cope with stress at work. Contrary to the hypothesis, misfit was not significantly correlated with either anxiety

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Insert Table 1 about here

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or stress-related illnesses. Other significant correlations included perceived coping ability correlated with: work stress, lower levels of stress unrelated to work, and stress-related illnesses. Social support was associated with ability to cope and lower levels of non work stress. Anxiety was not significantly correlated with any of the study variables.

Those who reported considering job change because of stress had a significantly greater mean misfit score of 3.43 while those not considering a change of employment had a

mean score of 2.66 ($F(1, 524) = 28.07$, $p<.0005$). Individuals who had considered job change perceived their ability to cope to be significantly lower (mean = 5.47) than those who had not considered job change (mean = 7.30) ($F(1, 524) = 126.948$, $p<.0005$).

An association was found between consideration for job change and number of years in current position ($X^2(2, N = 567) = 11.553$, $p<.005$). Individuals employed 2-4 years were more likely to consider a job change than either those with longer or shorter histories.

Perceived work stress was significantly associated with the number of years in the California State University system. Individuals who had been in the CSU system more than 10 years reported a mean work stress score of 4.11 while those with less time had a mean of 3.05. ($F(1, 568) = 18.290$, $p<.0005$).

Work stress was also significantly associated with the number of years in the current position ($F(2, 566) = 5.123$, $p<.01$). Individuals holding their current position for 2-4 years reported greater work stress (mean score of 3.44) than those with fewer (mean score of 4.18) or more years (mean score of 3.98) in their position.

The use of stress management techniques was not significantly associated with any of the dependent variables.

Discussion

The study provides support for the basic premise of the P-E fit model which suggests that a misfit between the person and environment will lead to perceived stress, job strain and illness. The results must be interpreted cautiously. The study dealt with only one subjective dimension of the relationship of person to environment, the fit between a worker's needs and the rewards available to meet those needs in the workplace, and was based exclusively on self-reported criteria.

Consistent with P-E fit theory, individuals who showed misfit perceived significantly greater amounts of work stress than those who displayed a "good fit." Although misfit was related to the worker's perception of greater work stress, a causal relationship cannot be assumed because of the cross-sectional nature of the study. Longitudinal studies will be necessary to demonstrate causality.

Misfit was also significantly associated with the consideration of job change which may be indicative of job strain. This may reflect a negative attitude toward work and thus be an expression of work stress. Goldberg (1983) found that one of the signs of excessive work stress was a change in attitude toward work.

Several models view job attitudes, especially job satisfaction, as critical precursors of behavioral patterns

which have been shown to predict turnover (Fishbein & Ajzen, 1975; Mobley, 1977; Mobley, Griffeth, Hand & Meglino, 1979; Parasuraman, 1982; Parasuraman & Alutto, 1984). A number of studies (Gupta & Beehr, 1979; House & Rizzo, 1972; Lyons, 1972) have suggested that job stress is related to voluntary termination of employment. It, of course, cannot be concluded that consideration of job change is indicative of intent to terminate employment but it certainly is one of the possible outcomes.

This study found that the two most frequently cited reasons for considering a job change were the time requirements demanded by the job and the absence of inherent reward in the work. Time demand has been identified previously as a common stressor in academia (Keinan & Perlbery, 1987; Koester & Clark, 1980). Working long hours was found to be associated with high levels of stress among deans in research universities (Rasch, Hutchinson, & Tollefson, 1986). Identifying a lack of job reward is consistent with this study's hypothesis that misfit between the individual's motivational style and rewards in the job contribute to occupational stress.

Although misfit was related to perceived work stress and job strain, it was not found to have the negative consequence of producing stress-related illness, the final phase of the P-E fit model. It is possible that the cohort

represented by this study have experienced neither the severity nor the duration of misfit required for the development of symptoms of illness. Appelbaum (1981) suggests that the severity of stress is determined by the duration of the stress situation, the number of adjustment demands on the individual, and the importance of the motives being blocked in the work setting.

The hypothesis that stress symptoms would increase in severity as the time in a misfit situation lengthened was only partially supported. Individuals who had been employed by the CSU system for more than 10 years did report significantly higher levels of work stress, but it cannot be concluded that this was due to a misfit situation. When only length of time in the current position is considered, those with 2-4 years reported greater work stress and were most likely to consider changing jobs because of stress.

It is possible that a critical time period exists within the 2-4 year interval. This "settling in" period may allow time for the "honeymoon" to end and the reality of the situation to evidence itself in disillusionment with the rewards of the job. Employees in this category have not yet become overly committed to the position and as vested as individuals who had been in the position longer.

Individuals in positions for less than two years may still be trying to become oriented to the position, while

assessing the available rewards, and may not have yet considered the option of changing jobs. Those who stay longer than 4 years in their positions may be more stress-resistant or may have developed better coping skills than their more vulnerable colleagues who "select-out" of the position.

Individuals experiencing misfit at work had a significantly lower perception of their ability to cope with work stress than did their colleagues. The study measured only perceived coping ability and not actual ability or coping strategies. Roskies & Lazarus (1980) propose that coping mechanisms serve as moderators between the individual and the stressful environment. The moderating role of coping may help to explain why those individuals who perceived their ability to cope as low also experienced significantly greater work stress and stress-related illnesses.

It is possible that perceived ability to cope reflects an individual's sense of control which is an important determinant in stress management. Nelkin's study (1983) of the diversity in perceptions of risk in the work place found that perceptions of control were directly related to perceived work stress. Cohen (1980) also concluded that lack of control led to negative consequences and recommended that stress interventions be designed to enhance personal control.

It is interesting to note that chairpersons felt less ability to cope with stress at work than did deans or associate deans. It is reasonable to postulate that a chairperson has less power and control than either dean or associate dean and this disparity may explain why chairpersons perceive themselves as less able to cope with stress at work. Rasch et al. (1986), in a study of university administrators, found that chairpersons reported higher levels of stress than deans. In fact, self-reported work stress decreased with each administrative level.

The group of deans displayed a preference for the assertive-directive style more than did associate deans or chair persons. The position of dean may appeal more to individuals with stronger assertive-directive motivations who are rewarded by being the "leader".

Ability to cope was the only variable significantly correlated with the amount of stress experienced outside of work. It cannot be determined if poor ability to cope is the outcome of, or the precursor to stress, regardless of whether it is experienced at work or outside of work. It is likely that the same process which leads to the perceived ability to cope with work stress is similar to that which leads to the ability to manage stress outside of work.

Social support was positively correlated with perceived ability to cope with work stress and amount of stress

experienced outside of work. Several authors have proposed that social support serves as a buffer against the negative impact of perceived stress and job strain on health (Johnson & Hall, 1988; Karasek, Triantis, & Chaudhry, 1982; LaRocco, House, & French, 1980; Pinneau, 1975). Social support seemed to enhance the ability to cope with work stress more for females than males. It can only be speculated why females seemed to benefit more from social support than did males. It may be that females value and use social support differently. This is an area in need of further study.

The finding that anxiety was not significantly correlated with any of the study variables suggests several possibilities. It may be that the construct of anxiety was not adequately measured. "State" anxiety may not have been the best indicator of anxiety resulting from stress. Several respondents commented that the anxiety test items only reflected how they were feeling at that moment and that anxiety came and went with different situations. It may also be that anxiety is not one of the outcomes of occupational stress resulting from the type of misfit studied. A misfit between one's needs and the ability of the work environment to meet those needs may not cause anxiety. It would be useful to conduct a similar study using a different instrument to measure anxiety to see if different results occur.

This study contributed to the occupational stress literature by examining the individual variable of motivational style and provided additional support for the usefulness of the P-E fit model in understanding the dynamics of occupational stress. It would behoove management and workers to be cognizant of the importance of a "good fit" between the worker and the work environment. Both must accept responsibility in identifying workers at risk for occupational stress and in planning preventive and interventive strategies to minimize the negative consequences of misfit. Appropriate job placement is critical. Further research is needed to determine causal relationships and to evaluate the effectiveness of various stress management techniques.

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Table 1

Correlations Among Study Variables

	Misfit	Work Stress	Coping Ability	Anxiety	Illness	Support	Non-work Stress
Misfit							
WorkStress	0.15*						
Coping	-0.20***	-0.45***					
Anxiety	-0.16	0.10	0.10				
Illness	0.12	0.21***	-0.27***	0.00			
Support	-0.01	-0.12	0.24***	0.08	-0.11		
Non-Work Stress	0.06	-0.24***	0.18**	0.06	-0.09	0.37***	

Note. *p<0.05; **p<0.001; ***p<0.0001. Values adjusted by Bonferonni criteria.

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary:

This research study contributed to the literature on occupational stress by investigating the dimension of fit between motivational style and type of job demands. Results added support to the Person-Environment fit model as a useful conceptualization of occupational stress. The study also added knowledge on occupational stress as experienced by university administrators.

Findings supported the hypothesis that misfit was correlated with stress symptoms. Because of the correlational nature of the study, one cannot conclude that misfit causes occupational stress but there was a significant correlation between misfit and work stress as perceived by the workers. Although speculative, the data suggests there is a sequential link between misfit and symptoms. Misfit seems to lead to "felt stress" by the worker which seems to produce chronic strain, which in turn, seems to lead to illness. Social support was somewhat helpful in mediating the effects of stress especially for females.

Perceived work stress is a strong predictor of misfit and was significantly correlated with perceived ability to cope with stress at work. It's difficult to say which came first. It cannot be determined if work stress has a direct

negative impact on one's perceived ability to cope or if one's perceived ability to cope helps to determine one's perception of work stress. It points to the need to further study this dynamic.

The topic of occupational stress was of interest to many participants as demonstrated by telephone calls and requests of results. Several commented on how job stress had had a negative effect on their physical and mental health. Others indicated they were currently planning to change positions because of stress.

One of the main constraints of the study was the length of the questionnaire, 6 pages. The response rate might have been much greater than 61% if there had been more incentive to complete it. Several individuals returned the questionnaire explaining that completing it would increase their level of stress.

Another limitation is that only one dimension was studied, that of motivational style of the worker. A more comprehensive approach is necessary to represent a wholistic perspective. The study design was also a constraint. It had only subjective criteria for measurement and was cross-sectional. Measurements should, ideally, include both objective and subjective criteria. It would have been useful to have included physiological data to corroborate stress symptoms. A prospective study of individuals who had been

identified in misfit job situations would have produced more information about causation.

It might have also been better to select an occupational group who might be experiencing a greater degree of misfit at work. One might expect that university administrators are in their positions by choice rather than default which would reflect a better fit between the person and environment. Workers with limited career options might find themselves in a work setting with greater misfit.

Since anxiety was not correlated with any of the study variables it may have been more enlightening to have chosen another indicator of stress or a different tool to measure anxiety. It would also be useful to have had other indicators of job satisfaction in addition to the consideration to change jobs. The consideration to change jobs seemed to be an important variable but it was difficult to analyze its meaning because of inadequate data.

Implications for Further Research:

Several recommendations for further research are added to those previously included in each of the articles.

1. More research is needed to explore the role of perceived ability to cope with work stress as a variable in occupational stress. It seemed to be an important link between misfit on the job and developing illness. It would be of interest to explore how it relates to a sense of

control. Perhaps perceived coping ability corresponds with one's perceived sense of control.

2. It would also be useful to replicate the study using a different tool to measure anxiety and include other criteria of job satisfaction in addition to consideration to change jobs.

3. Studying fit between motivational style and type of job demands among other occupational groups would also be useful.

4. A follow-up study of the participants, using a prospective design, over a 5-10 year period would be beneficial to provide data comparing the outcomes of those individuals in a misfit situation and those not in a misfit situation.

5. It would also be of interest to study the role of social support as a mediating factor in occupational stress among both male and female workers to compare differences.

Implications for Health Education:

Health educators need to determine if there is a causal association between job misfit and job stress. If job misfit does cause occupational stress there are several approaches that health educators could take to ameliorate the problem. Ideally, misfit could be prevented by selection of an appropriate career and work setting which is congruent with one's individual motivational style.

At this primary prevention level the school becomes an important setting to prepare future workers. The health educator could serve as a resource person and/or be directly involved in teaching the content relevant to the prevention of job misfit. Students could be introduced to various motivational styles as a part of the content on self awareness. The focus could be on understanding their own unique need structures and selecting a career which meets those needs and promotes a "good" fit. The Strength Deployment Inventory ® could be administered to students to facilitate career decision making.

The topic of stress and how it affects the body should be incorporated into health education classes at both the high school and college levels. Students could be introduced to the concept of occupational stress, potential stressors, and preventive aspects. The health educator could also work with career counselors to promote their understanding of the relationship betweeen appropriate career selection and the prevention of occupational stress.

Another important setting for preventive and interventive strategies is the workplace. The corporate health educator could provide inservice education to personnel directors, managers, and workers to sensitize them to the important interface between the worker and the work environment. Emphasis could be on the importance of fit

between worker and environment to prevent negative consequences on individual workers as well as on the organization. The health educator could serve as a resource person to the personnel director to facilitate appropriate job placements. Many tools are available to evaluate worker fit, such as the Strength Deployment Inventory ®.

The health educator could assist management in evaluating the work setting to identify potential stressors so that appropriate action could be taken to minimize their effects. The health educator should participate in policy making which would provide a healthy work environment.

The corporate health educator could collaborate with other occupational health team members to identify workers at risk for developing occupational stress so that appropriate interventive strategies could be planned. Stress management programs with emphasis on prevention should be available to all employees but especially directed at those in job misfit situations. Health screening programs should also be implemented to identify those workers at risk for developing disease conditions and to detect those in the initial phases of disease for early treatment.

The health educator may recommend that the industry offer employee assistance programs to provide counseling opportunities to support workers as they cope with various stressors in the workplace and/or adapt to misfit

situations. Support groups within the work environment may be useful to serve as a buffer against occupational stress.

The health educator is in a position to communicate with both workers and management and could facilitate their understanding of the problem of occupational stress. Both groups must assume responsibility for identifying potential stressors and taking appropriate action to provide a healthy and safe place to work. Health educators should take an active role in meeting this goal.

Conclusions:

Occupational stress potentially affects all workers. This research study demonstrated the impact of misfit between motivational style and the type of job demands on developing occupational stress symptoms. Prospective studies to document the time frame from exposure to stress factors to the development of negative consequences are necessary to plan effective preventive and interventive approaches to manage the problem of occupational stress.

Health educators must be well-acquainted with the phenomena of occupational stress and maintain current knowledge in order to serve as a role model, educator, and resource person in the field of occupational stress.

APPENDIX A

QUESTIONNAIRE PACKET

California State University, Fullerton
Fullerton, California 92634

Department of Nursing
(714) 773-3145

October 10, 1988

Dear Department Chair:

You have been selected to participate in a study on occupational stress among California State University administrators. Occupational stress is a complex problem and the study will contribute to further understanding its many parameters. I would greatly appreciate your taking a few minutes from your busy schedule to respond to each item and returning the questionnaire in the envelope provided. Your responses will be held in confidence and data will be reported in group summaries only.

A summary of the findings will be submitted to CSU Stateline and appropriate peer-reviewed journals. Thank you very much for your research support.

Sincerely,

Arlene Gray

Arlene Gray, R.N.,M.S.
Associate Professor
Department of Nursing

AG/bp

Enclosures

California State University, Fullerton
Fullerton, California 92634

Department of Nursing
(714) 773-3145

November 1, 1988

Dear Department Chair:

Three weeks ago I requested your participation in a research study on occupational stress among California State University Administrators. I do understand that studies like this add to the stress of your day. However, your input may also contribute to better understanding the problem and suggest ways to ameliorate it. If you have not yet responded to the questionnaire, I would greatly appreciate your completing the enclosed questionnaire and returning it in the envelope provided.

Thank you very much for your research support.

Sincerely,

Arlene Gray

Arlene Gray, R.N.,M.S.
Associate Professor
Department of Nursing

Enclosure

For each of the following statements' please circle the appropriate number to indicate to what degree it is like you or your situation using a scale from 0 meaning never like you to 9 meaning it describes you 90% of the time. *Think of situations in general.* Please answer each question.

0 1 2 3 4 5 6 7 8 9 1. I enjoy things most when I am helping others do what they want to do.

0 1 2 3 4 5 6 7 8 9 2. I enjoy things most when I can persuade others to do the things I want to do.

0 1 2 3 4 5 6 7 8 9 3. I enjoy things most when I am doing what I want to do without having to count on others.

0 1 2 3 4 5 6 7 8 9 4. Most of the time I am apt to be a feeling person who is quick to respond to other people's needs.

0 1 2 3 4 5 6 7 8 9 5. Most of the time I am apt to be an energetic is quick to see opportunities person who is quick to see opportunities and advantages.

0 1 2 3 4 5 6 7 8 9 6. Most of the time I am apt to be a practical person who is careful not to rush into things before I'm ready.

0 1 2 3 4 5 6 7 8 9 7. When I meet people for the first time I am most apt to be concerned about being liked by them.

0 1 2 3 4 5 6 7 8 9 8. When I meet people for the first time I am most apt to be interested in what's in it for me.

0 1 2 3 4 5 6 7 8 9 9. When I meet people for the first time I am most apt to be concerned about how they might affect my independence.

0 1 2 3 4 5 6 7 8 9 10. Most of the time I find myself being the nice one on whom others can generally count to lend a helping hand.

0 1 2 3 4 5 6 7 8 9 11. Most of the time I find myself being the strong one who supplies the direction for others.

0 1 2 3 4 5 6 7 8 9 12. Most of the time I find myself being the thinking one who studies things carefully before acting.

0 1 2 3 4 5 6 7 8 9 13. I feel most satisfied when the major decisions have been made by others and how I can help is clear.

0 1 2 3 4 5 6 7 8 9 14. I feel most satisfied when others count on me to make the major decisions and tell them what to do.

0 1 2 3 4 5 6 7 8 9 15. I feel most satisfied when I've had time to study a major decision and determine my own best course of action.

0 1 2 3 4 5 6 7 8 9 16. People who know me best see me as a person who can be counted on to be trusting of them and loyal to them.

0 1 2 3 4 5 6 7 8 9 17. People who know me best see me as a person who can be counted on to be full of ambition and initiative.

0 1 2 3 4 5 6 7 8 9 18. People who know me best see me as a person who can be counted on to be unswerving in my convictions and my principles.

0 1 2 3 4 5 6 7 8 9 19. It is most like me to do the best I can regardless of whether I get recognition for it.

0 1 2 3 4 5 6 7 8 9 20. It is most like me to take the lead in developing opportunities and influencing decisions.

0 1 2 3 4 5 6 7 8 9 21. It is most like me to be patient, practical and sure of what I am doing.

0 1 2 3 4 5 6 7 8 9 22. I would describe myself as a person who most of the time is friendly, open and optimistic.

0 1 2 3 4 5 6 7 8 9 23. I would describe myself as a person who most of the time is energetic, self-confident and one who sees opportunities others miss.

0 1 2 3 4 5 6 7 8 9 24. I would describe myself as a person who most of the time is cautious and fair and who stands by what I believe to be right.

0 1 2 3 4 5 6 7 8 9 25. I find those relationships most gratifying in which I can be of support to a strong leader in whom I have faith.

0 1 2 3 4 5 6 7 8 9 26. I find those relationships most gratifying in which I can be the one who provides the leadership others want to follow.

0 1 2 3 4 5 6 7 8 9 27. I find those relationships most gratifying in which I can be neither a leader nor a follower but free to pursue my own independent way.

0 1 2 3 4 5 6 7 8 9 28. When I am at my best, I most enjoy seeing others benefit from what I have been able to do for them.

0 1 2 3 4 5 6 7 8 9 29. When I am at my best, I most enjoy having others turn to me to lead and guide them and give them purpose.

0 1 2 3 4 5 6 7 8 9 30. When I am at my best, I most enjoy being my own boss and doing things for myself and by myself.

In the following statements think of your current job situation:

0 1 2 3 4 5 6 7 8 9 31. This job requires a person to be in a helpful, supporting relationship to others throughout the working day.

0 1 2 3 4 5 6 7 8 9 32. This job requires a person to provide direction to, set goals for and motivate the activities of others.

0 1 2 3 4 5 6 7 8 9 33. This job requires a person to be self-reliant and self-directing with minimal guidance by or help from others.

0 1 2 3 4 5 6 7 8 9 34. This job is most rewarding to a person who enjoys doing things that are of benefit to and help meet the needs of others.

0 1 2 3 4 5 6 7 8 9 35. This job is most rewarding to a person who is strong, eager and ambitious; a person who enjoys being the leader of others.

0 1 2 3 4 5 6 7 8 9 36. This job is most rewarding to a person who is clear and analytic; a person who enjoys thinking things through with precision and logic.

0 1 2 3 4 5 6 7 8 9 37. This job will provide opportunity for a person who is concerned for the welfare of others and how they are feeling.

0 1 2 3 4 5 6 7 8 9 38. This job will provide opportunity for a person who understands the productivity behind the exercise of self-assertion, giving directions and taking over control of what needs to be done.

0 1 2 3 4 5 6 7 8 9 39. This job will provide opportunity for a person who uses a logical, analytical approach to things and carefully plans ahead.

0 1 2 3 4 5 6 7 8 9 40. This job appeals most to someone who is loyal and supportive of an effective leader.

0 1 2 3 4 5 6 7 8 9 41. This job appeals most to someone who likes to direct the activities of others and to see things accomplished effectively.

0 1 2 3 4 5 6 7 8 9 42. This job appeals most to a person who is a perfectionist and enjoys doing things in a precise and orderly manner.

0 1 2 3 4 5 6 7 8 9 43. This job requires that a person be quick to sense what others need and to give them first priority.

0 1 2 3 4 5 6 7 8 9 44. This job requires a person who quickly sees how the job can be accomplished and takes action to get it done.

0 1 2 3 4 5 6 7 8 9 45. This job requires that a person be cautious in reaching a decision.

0 1 2 3 4 5 6 7 8 9 46. This job places priority on personal relationships within the work environment.

0 1 2 3 4 5 6 7 8 9 47. This job places priority on a person attaining goals and objectives.

0 1 2 3 4 5 6 7 8 9 48. This job places priority on a person being an independent thinker.

0 1 2 3 4 5 6 7 8 9 49. This job provides a person with a supportive work environment.

0 1 2 3 4 5 6 7 8 9 50. This job provides a person with a competetive work environment.

0 1 2 3 4 5 6 7 8 9 51. This job provides a person with a work environment with a high degree of autonomy.

0 1 2 3 4 5 6 7 8 9 52. This job encourages a person to care about others.

0 1 2 3 4 5 6 7 8 9 53. This job encourages a person to complete tasks in a timely manner.

0 1 2 3 4 5 6 7 8 9 54. This job encourages a person to think carefully before taking action.

0 1 2 3 4 5 6 7 8 9 55. This job requires a person willing to give a helping hand.

0 1 2 3 4 5 6 7 8 9 56. This job requires a person with lots of energy.

0 1 2 3 4 5 6 7 8 8 57. This job requires a person to be self-directive.

0 1 2 3 4 5 6 7 8 9 58. This job stresses a people-orientation.

0 1 2 3 4 5 6 7 8 9 59. This job stresses accomplishing goals.

0 1 2 3 4 5 6 7 8 9 60. This job stresses precision.

0 1 2 3 4 5 6 7 8 9 61. My present level of stress at work is low.

0 1 2 3 4 5 6 7 8 9 62. My present ability to handle the stress at work is good.

0 1 2 3 4 5 6 7 8 9 63. My present level of stress not related to work is low.

0 1 2 3 4 5 6 7 8 9 64. When I experience stress I can get a lot of support from my family and friends.

0 1 2 3 4 5 6 7 8 9 65. I take medication to help me relax.

0 1 2 3 4 5 6 7 8 9 66. I use alcohol to help me relax.

Place an X in the appropriate box for each of the following questions.

67. The stress in my job has caused me to consider taking a different job.
[ ] 1. Yes
[ ] 2. No

68. If you answered yes to the previous question please describe briefly why.

69. I have visited my doctor for sick care in the last year:
[ ] 1. Never
[ ] 2. 1-3 times
[ ] 3. 4-6 times
[ ] 4. 7-9 times
[ ] 5. More than 9 times

70. The number of days I have been absent from work due to illness during the last year:
[ ] 1. None
[ ] 2. 1-3 days
[ ] 3. 4-6 days
[ ] 4. 7-9 days
[ ] 5. 10-12 days
[ ] 6. More than 12 days

71. I have experienced the following within the last year. (Check all that apply.)
[ ] 1. Respiratory Distress
[ ] 2. Heart Disease
[ ] 3. High Blood Pressure
[ ] 4. Migraine Headaches
[ ] 5. Peptic Ulcer
[ ] 6. None of the above
[ ] 7. Other _____

72. I use the following stress management techniques. (Check all that apply).

[ ] 1. Biofeedback
[ ] 2. Exercise
[ ] 3. Meditation
[ ] 4. Rhythmic Breathing
[ ] 5. Other _____

73. The amount of time I engage in planned exercise per week:
[ ] 1. None
[ ] 2. 1-2 hours
[ ] 3 3-4 hours
[ ] 4. 5-6 hours
[ ] 5. 7 or more hours

For each of the following statements[2] check the response which best describes you when you are working at your current job.

	Not at all	Somewhat So	Moderately So	Very Much So
74. I feel calm	[ ]	[ ]	[ ]	[ ]
75. I feel secure	[ ]	[ ]	[ ]	[ ]
76. I am tense	[ ]	[ ]	[ ]	[ ]
77. I am regretful	[ ]	[ ]	[ ]	[ ]
78. I feel at ease	[ ]	[ ]	[ ]	[ ]
79. I feel upset	[ ]	[ ]	[ ]	[ ]
80. I am presently worrying over possible misfortunes	[ ]	[ ]	[ ]	[ ]
81. I feel rested	[ ]	[ ]	[ ]	[ ]
82. I feel anxious	[ ]	[ ]	[ ]	[ ]
83. I feel comfortable	[ ]	[ ]	[ ]	[ ]
84. I feel self-confident	[ ]	[ ]	[ ]	[ ]
85. I feel nervous	[ ]	[ ]	[ ]	[ ]
86. I feel jittery	[ ]	[ ]	[ ]	[ ]
87. I feel "high strung"	[ ]	[ ]	[ ]	[ ]
88. I am relaxed	[ ]	[ ]	[ ]	[ ]
89. I feel content	[ ]	[ ]	[ ]	[ ]
90. I am worried	[ ]	[ ]	[ ]	[ ]
91. I feel over-excited and "rattled"	[ ]	[ ]	[ ]	[ ]
92. I feel joyful	[ ]	[ ]	[ ]	[ ]
93. I feel pleasant	[ ]	[ ]	[ ]	[ ]

Place an X in the appropriate box for each of the following questions.

1. I have been within the CSU system:
   - [ ] 1. 1 year or less
   - [ ] 2. 2-4 years
   - [ ] 3. 5-7 years
   - [ ] 4. 8-10 years
   - [ ] 5. More than 10 years

2. My current position is:
   - [ ] 1. Dean
   - [ ] 2. Associate Dean
   - [ ] 3. Chair Person

3. The number of years I have been in my current position is:
   - [ ] 1. 1 year or less
   - [ ] 2. 2-4 years
   - [ ] 3. 5-7 years
   - [ ] 4. 8-10 years
   - [ ] 5. More than 10 years

4. The total number of years I have been in administrative positions:
   - [ ] 1. 5 or less years
   - [ ] 2. 6-10 years
   - [ ] 3. 11-15 years
   - [ ] 4. 16-20 years
   - [ ] 5. 21-25 years
   - [ ] 6. 26-30 years
   - [ ] 7. More than 30 years

5. The number of individuals who report directly to me:
   - [ ] 1. 0-3
   - [ ] 2. 4-7
   - [ ] 3. 8-11
   - [ ] 4. 12-15
   - [ ] 5. 16-19
   - [ ] 6. 20 or more

6. The amount of release time I am given for administrative tasks is:
   - [ ] 1. 3 units or less
   - [ ] 2. 4-6 units
   - [ ] 3. 7-9 units
   - [ ] 4. 10 units to fulltime

7. My age is:
   - [ ] 1. 30 years or less
   - [ ] 2. 31-35 years
   - [ ] 3. 36-40 years
   - [ ] 4. 41-45 years
   - [ ] 5. 46-50 years
   - [ ] 6. 51-55 years
   - [ ] 7. 56-60 years
   - [ ] 8. More than 60 years

8. My gender is:
   - [ ] 1. Female
   - [ ] 2. Male

[1]Each statement is adapted from and based upon the concepts of Relationship Awareness Theory as presented in the Strength Deployment Inventory by Elias H. Porter, 1973, Pacific Palisades, CA: Personal Strengths Publishing, Inc. Used with permission.
[2]Reproduced by special permission of the Publisher, Consulting Psychologists Press, Inc., Palo Alto CA 94306.

Appreciate your help

APPENDIX B

LETTERS OF PERMISSION

CONSULTING PSYCHOLOGISTS PRESS, INC.

577 College Avenue (P.O. Box 60070), Palo Alto, CA 94306 (415) 857-1444

Arlene Gray, RN, MS
690 Temescal Street
Corona, CA 91719

In response to your request of 9-14-88 & ph. call 9-28-88 (Date) permission is hereby granted you to

state part of the State-Trait Anxiety Inventory in your dissertation on occupational stress.

STAI-Form Y

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PERSONAL STRENGTHS PUBLISHING, INC.

Beyond Behavior...
Into Motivation™

Elias H. Porter, Ph.D.
Founder & Developer
(1914-1987)

Sara E. Maloney, D.S.W.
Carole A. Kramer
Sandra J. Neeland
Debra A. Kanan

January 14, 1988

Arlene Gray, RN, MS
690 Temescal St.
Corona, CA 91720

Dear Arlene:

This letter confirms our permission for you to modify the Strength Deployment Inventory® and the Job Interactions Inventory™ for use in a research study.

We would appreciate a copy of your findings when they are available.

Sincerely,

Carole A. Kramer

Carole A. Kramer
President

ck/

APPENDIX C

Characteristics of Respondents

Characteristics of Respondents

Campus	Frequency	Percent
CSU, Bakersfield	15	2.6
CSU, Chico	27	4.7
CSU, Dominguez Hills	20	3.5
CSU, Fresno	38	6.6
CSU, Fullerton	31	5.4
CSU, Hayward	34	5.9
Humboldt State University	32	5.6
CSU, Long Beach	41	7.1
CSU, Los Angeles	32	5.6
CSU, Northridge	29	5.0
Cal Poly, Pomona	32	5.6
CSU, Sacramento	21	3.6
CSU, San Bernardino	27	4.7
San Diego State University	46	8.0
San Francisco State University	35	6.1
San Jose State University	47	8.2
Cal Poly, San Luis Obispo	41	7.1
Sonoma State University	14	2.4
CSU, Stanislaus	12	2.1
TOTAL	575	100.0

School of Deans/Associate Deans		
Agriculture	7	5.6
Architecture/Environmental Sciences	3	2.4
Arts & Humanities	29	23.4
Behavioral & Social Sciences	8	6.5
Business	17	13.7
Engineering & Computer Science	13	10.5
Health, Education, & Professional	24	19.4
Natural Resources	2	1.6
Natural Sciences & Math	16	12.9
Arts & Sciences	5	4.0
TOTAL	124	100.0

Department of Chair Persons	Frequency	Percent
Agriculture	14	3.1
Architecture	4	0.9
Biological Sciences	18	4.0
Business Management	48	10.6
Creative Arts	39	8.6
Consumer Related Sciences	11	2.4
Communication	24	5.3
Education	27	6.0
Engineering	31	6.9
Ethnic Studies	8	1.8
Environmental Studies	4	0.9
Foreign Languages & Literature	26	5.8
Health & Human Services	36	8.0
Mathematics & Computer Sciences	21	4.7
Military Science	3	0.7
Natural Resources	5	1.1
Philosophy & Religious Studies	17	3.8
Physical Education & Recreation	21	4.7
Physical Sciences	30	6.7
Social Sciences	64	11.1
TOTAL	451	100.0

Years Within the CSU System		
1. 1 year or less	24	4.3
2. 2-4 years	58	10.1
3. 5-7 years	50	8.7
4. 8-10 years	42	7.3
5. More than 10 years	397	68.9
Missing Data	4	0.7
TOTAL	575	100.0

Current Position		
1. Dean	69	12.3
2. Associate Dean	56	9.7
3. Chair Persons	444	77.1
Missing Data	6	0.9
TOTAL	575	100.0

Years in Current Position	Frequency	Percent
1. 1 year or less	126	22.0
2. 2-4 years	239	41.5
3. 5-7 years	114	19.8
4. 8-10 years	40	7.0
5. More than 10 years	52	9.0
Missing Data	4	0.7
TOTAL	575	100.0

Years in Administrative Positions		
1. 5 or less	257	45.2
2. 6-10 years	162	28.4
3. 11-15 years	83	14.6
4. 16-20 years	40	7.0
5. 21-25 years	17	3.0
6. 26-30 years	2	1.4
7. More than 30 years	2	0.4
Missing Data	6	1.0
TOTAL	575	100.0

Number of Subordinates		
1. 0-3	55	9.0
2. 4-7	65	11.4
3. 8-11	89	15.6
4. 12-15	80	14.0
5. 16-19	48	8.3
6. 20 or more	232	40.7
Missing Data	6	1.0
TOTAL	575	100.0

Release Time for Administration		
1. 3 units or less	81	14.1
2. 4-6 units	179	31.5
3. 7-9	137	24.1
4. 10 units to fulltime	171	30.1
Missing Data	7	1.2
TOTAL	575	100.0

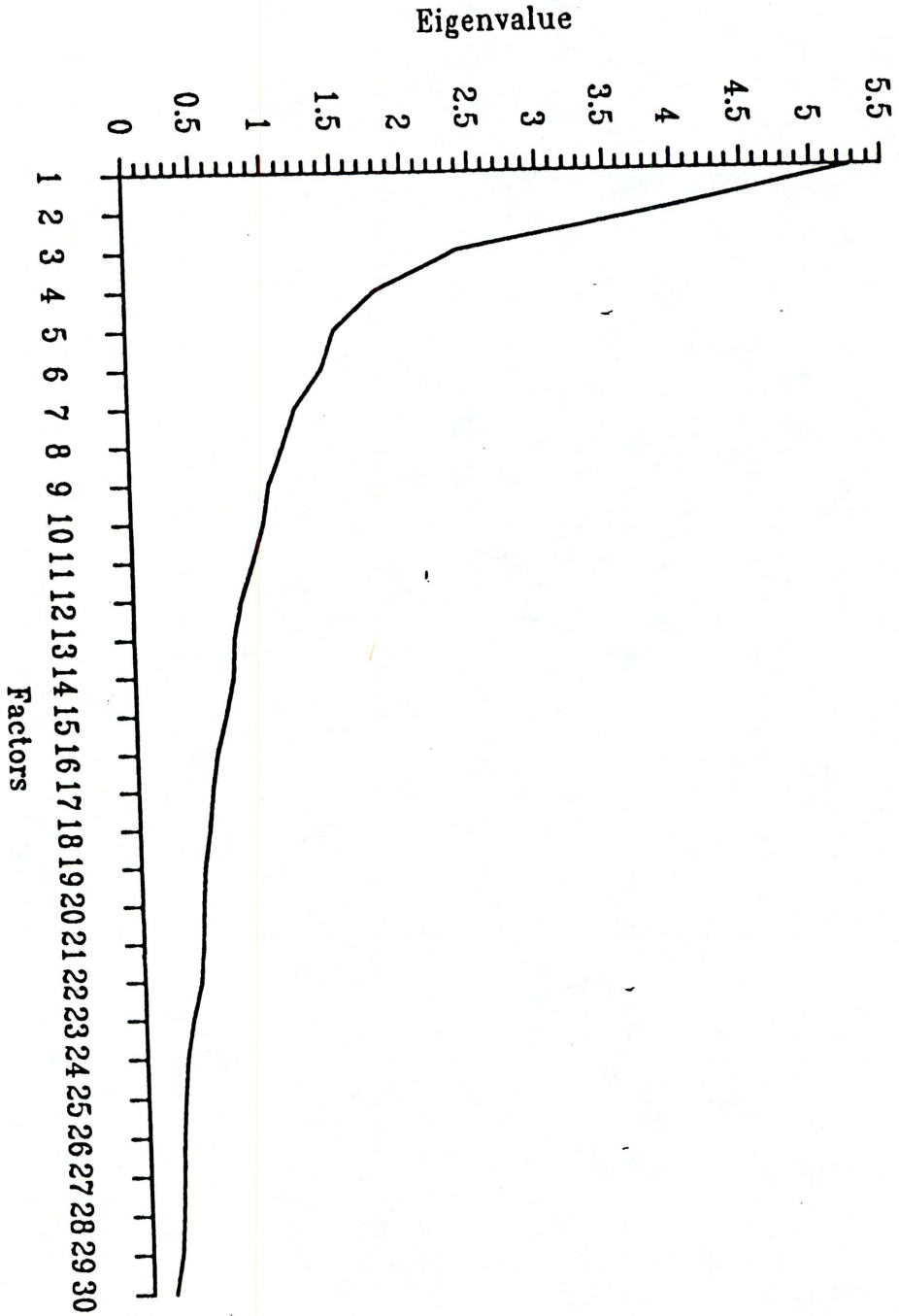
Age	Frequency	Percent
1. 31-35 years	4	0.9
2. 36-40 years	45	7.9
3. 41-45 years	142	24.9
4. 46-50 years	163	28.5
5. 51-55 years	106	18.6
6. 56-60 years	58	10.2
7. More than 60 years	52	9.1
Missing Data	5	0.9
TOTAL	575	100.0

Gender		
1. Female	121	21.2
2. Male	436	75.7
Missing Data	17	3.1
TOTAL	575	100.0

APPENDIX D

Factor Analyses

Scree Test for
Strength Deployment Inventory



FACTOR ANALYSIS FOR MODIFIED STRENGTH DEPLOYMENT INVENTORY

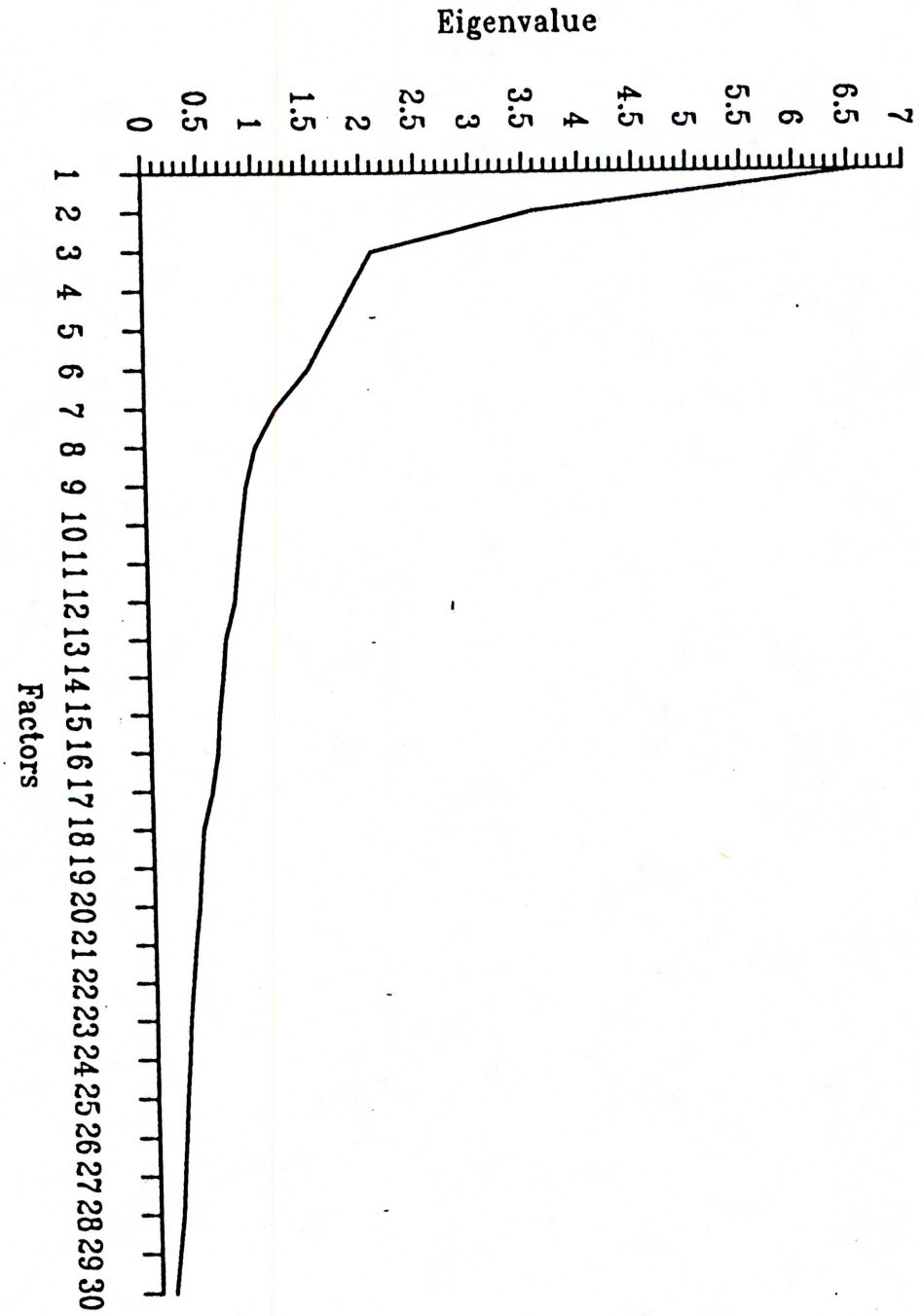
Helping	Energy	Directing	Analytic	Autonomy	Questionnaire Item
0.52	0.08	0.16	0.22	-0.14	1. I enjoy things most when I am helping others do what they want to do.
0.66	0.28	0.09	0.13	0.05	4. Most of the time I am apt to be a feeling person who is quick to respond to other people's needs.
0.47	-0.24	.22	-.17	0.14	7. When I meet people for the first time I am most apt to be concerned about being liked by them.
0.65	0.17	-0.07	0.13	0.14	10.Most of the time I find myself being the nice one on whom others can generally count to lend a a helping hand.
0.60	-0.14	-0.22	-.00	-0.02	13.I feel most satisfied when the major decisions have been made by others and how I can help is clear.
0.58	0.26	0.09	0.21	-0.06	16.People who know me best see me as a person who can be counted on to be trusting of them and loyal to them.
0.27	0.24	0.01	0.56	-0.18	19.It is most like me to do the best I can do regardless of whether I get recognition for it.
0.34	0.41	-0.08	0.30	-0.11	22.I would describe myself as a person who most of the time is friendly, open and optimistic.
0.56	-0.04	0.01	0.11	-0.04	25.I find those relationships most gratifying in which I can be of support to a strong leader in whom I have faith.

Helping	Energy	Directing	Analytic	Autonomy	Questionnaire Item
0.72	-0.01	0.09	0.24	0.09	28.When I am at my best, I most enjoy seeing others benefit from what I have been able to do for them.
0.20	0.06	0.23	-0.11	0.44	2. I enjoy things most when I can persuade others to do the things I want to do.
0.12	0.79	0.28	0.05	0.11	5. Most of the time I am apt to be an energetic person who is quick to see opportunities and advantages.
0.02	-0.02	0.41	-0.24	0.29	8. When I meet people for the first time I am most apt to be interested in what's in it for me.
0.18	0.45	0.51	0.22	0.12	11.Most of the time I find myself being the strong one who supplies the direction for others.
-0.11	0.16	0.67	0.08	0.04	14.I feel most satisfied when others count on me to make the major decisions and tell them what to to do.
0.17	0.74	0.13	0.11	0.07	17.People who know me best see me as person who can be counted on to be full of ambition and initiative.
-0.19	0.61	0.37	0.24	-0.04	20.It is most like me to take the lead in developing opportunities and influencing decisions.
-0.04	0.81	0.20	0.23	0.04	23.I would describe myself as a person who most of the time is energetic, self-confident and one who sees opportunities others miss.

Helping	Energy	Directing	Analytic	Autonomy	Questionnaire Item
0.01	0.26	0.70	0.20	-0.02	26.I find those relationships most gratifying in which I can be the one who provides the leadership others want to follow.
0.23	0.27	0.71	-0.00	0.05	29.When I am at my best, I most enjoy having others turn to me to lead and guide them and give them purpose.
-0.06	0.02	0.12	0.29	0.49	3. I enjoy things most when I am doing what I want to do without having to count on others.
0.22	-0.08	-0.03	0.54	0.23	6. Most of the time I am apt to be a practical person who is careful not to rush into things before I'm ready.
0.05	-0.48	0.51	0.15	0.04	9. When I meet people for the first time I am most apt to be concerned about how they might affect my independence.
0.02	0.17	0.25	0.61	0.33	12.Most of the time I find myself being the thinking one who things carefully before acting.
0.09	0.10	0.13	0.64	0.30	15.I feel most satisfied when I've had time to study a major decision and determine my own best course of action.
0.11	0.28	0.07	0.49	-0.11	18.People who know me best see me as a person who can be counted on to be unswerving in my convictions and my principles.

Helping	Energy	Directing	Analytic	Autonomy	Questionnaire Item
0.19	0.10	-0.11	0.60	0.15	21.It is most like me to be patient, practical and sure of what I am doing.
0.17	0.08	0.15	0.70	-0.20	24.I would describe myself as a person who most of the time is cautious and fair and who stands by what I believe to be right.
0.00	0.09	-0.13	0.04	0.73	27.I find those relationships most gratifying in which I can be neither a leader nor a follower but free to pursue my own independent way.
-0.06	-0.06	0.07	0.08	0.71	30.When I am at my best, I most enjoy being my own boss and doing things for myself and by myself.

Scree Test for
Job Interaction Inventory



FACTOR ANALYSIS OF JOB INTERACTION INVENTORY

Help	Direct	Analyt.	Questionnaire Item
.54	.47	-.12	31. This job requires a person to be in a helpful, supporting relationship to others throughout the working day.
.65	.24	.09	34. This job is most rewarding to a person who enjoys doing things that are of benefit to and help meet the needs of others.
.32	.65	.18	37. This job will provide opportunity for a person who is concerned for the welfare of others and how they are feeling.
.07	.37	.08	40. This job appeals to someone who is loyal and supportive of an effective leader.
.80	.12	.06	43. This job requires that a person be quick to sense what others need and to give them first priority.
.19	.71	.32	32. This job requires a person to provide direction to, set goals for and motivate the activities of others.
.00	.50	.57	35. This job is most rewarding to a person who is strong, eager and ambitious; a person who enjoys being the leader of others.
.04	.65	.32	38. This job will provide opportunity for a person who understands the productivity behind the exercise of self-assertion, giving directions and taking over control of what needs to be done.

Help	Direct	Analyt.	Questionnare Item
.05	.77	.13	41. This job appeals most to somewho who likes to direct the activities of others and to see things accomplished effectively.
.70	.00	.18	44. This job requires a person who quickly sees how the job can be accomplished and takes action to get it done.
.23	-.23	.62	33. This job requires a person to be self-reliant and self-directing with minimal guidance by or help from others.
.04	.32	.76	36. This job is most rewarding to a person who is clear and analytic; a person who enjoys thinking things through with precision and logic.
.18	.47	.18	39. This job will provide opportunity for a person who uses a logical, analytical approach to things and carefully plans.
.10	.23	.58	42. This job appeals most to a person who is a perfectionist and enjoys doing things in a precise and orderly manner.
.50	.09	.37	45. This job requires that a person be cautious in reaching a decision.