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**Stress and Burnout in a Sample of Canadian
Federal Public Servants**

Laurie O'Hara Brown

**A thesis submitted to the Faculty of Graduate Studies
and Research in partial fulfillment of the requirements
for the degree of Master of Arts**

Department of Psychology

Carleton University

Ottawa, Ontario

March, 1992

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**The undersigned recommend to the Faculty of
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**"Stress and Burnout in a Sample of
Canadian Federal Public Servants"**

**submitted by Laurie O'Hara Brown, B.A.
in partial fulfilment of the requirements for
the degree of Master of Arts**

Thesis Supervisor

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ABSTRACT

This thesis investigated the applicability of the concept of burnout in a sample of Canadian federal public servants, as well as, the relationships between work stress, strain, burnout, job satisfaction, organizational commitment and coping strategies. Differences across three job classifications, managerial, supervisory and clerical, were examined to determine which factors optimally distinguished the groups.

Research was based on the role stress theory first developed by Kahn and his colleagues (1964) and the effect of this type of work stress on manifestations of the burnout syndrome in occupations other than the human services. As hypothesized, burnout was found to be a significant problem for public service employees. Role conflict and perceived organizational support were strong predictors of depersonalization, while overload and perceived organizational support predicted emotional exhaustion. Feelings of accomplishment were predicted by role insufficiency. The three occupational groups were distinguished on the basis of a combination of role stress, depersonalization and interpersonal strain. These results are discussed in light of burnout and stress theories.

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INTRODUCTION

Since the 70's the term "burnout" has enjoyed a growing if diverse usage in everyday language. In the research literature the most common usage describes burnout as a syndrome of emotional exhaustion, depersonalization and a lowered sense of accomplishment (Maslach & Jackson, 1981a). Maslach and Jackson claim that burnout in this sense "occurs frequently among individuals who do 'people-work' of some kind". Most research has focussed on human service professionals. The concept has been found to have valid application for teachers (e.g. Hock, 1988; Pierce & Molloy, 1989; Schwab & Iwanicki, 1982), nurses (e.g. Barnes, 1986; Leiter & Maslach, 1987), child care workers (e.g. Boyd & Pasley, 1989), and human service managers (e.g. Lee & Ashforth, 1990). A few investigators have examined the relationship between distinct facets of work stress and the various components of burnout, suggesting that the phenomenon may result from specific organizational and individual factors other than, or in addition to, contact with people (e.g. Chernits, 1980; Burke & Greenglass, 1989a). Some attempts have been made to study the incidence of burnout in other 'non-helping' occupations (e.g. Golembiewski, Munzerider & Carter, 1983; Garden, 1987). Although these have met with varying results, the fact that dimensions of burnout are present in professions where the main orientation is not towards helping

other people indicates that a broader perspective on the antecedents of burnout may be necessary. Drawing a link between burnout and more traditional occupational stress research may provide an avenue for exploring the relationship between job demands and proposed symptoms of burnout. The role stress theory first proposed by Kahn and his colleagues (1964) has been used as a departure point from which to study the function of role conflict and role ambiguity in relation to burnout (e.g. Boyd & Pasley, 1989; Cherniss, 1980; Leiter et al., 1987). Other stressors of interest include role overload, role insufficiency, responsibility for others and physical environment. With the exception of role load (e.g. Miller, Ellis, Zook & Lyles, 1990; Newton & Keenan, 1987), little formal inquiry has been made into the contribution of role stressors in the genesis of burnout.

The purpose of this study is to examine burnout from the following three perspectives: (i) to determine the prevalence of the burnout syndrome and/or its components in a selected non-human service profession; (ii) to examine the aspects of work stress, coping strategies and support from the organization which best predict levels of burnout; (iii) to explore the different manifestations of stress, burnout and job outcomes in different occupational categories.

The sample chosen for the project consists of workers from a variety of occupations in the Canadian federal public service. This group may be broken down into three distinct job

classifications: clerical workers, supervisors and managers. Because the nature of job demands in each of these three groups is necessarily quite different, the type and magnitude of work stress encountered by each group should also be dissimilar. Specific work stresses are expected to result in different manifestations of burnout, strain and outcomes in the three groups. Coping effects such as personal resources, social support and individual variables are also of interest since these can serve to alter the perception of stress and/or alleviate its symptoms (Beehr, 1985; Miller et al., 1990; Ross, Altmaier & Russell, 1989; Schuler, 1985).

In order to develop a more intelligible rationale for this study, the following sections will be presented. First, the current literature on burnout will be discussed to afford a clearer concept of the phenomenon. The next section will review work stress and its possible role as a cause of burnout symptoms in different occupational groups. The strains and job outcomes that have traditionally been associated with both stress and burnout research will be examined, as will coping strategies and certain individual variables. A preliminary look at intervention will be presented. From these arguments a set of hypotheses will be generated and tested.

BURNOUT

'Burnout' seems to have first appeared in research literature in 1974 as a reference to the physical and emotional exhaustion brought on by intense dedication to one's work (Freudenberger, 1974). The 'burned-out' person was a committed worker who took on too much and consequently became ill, irritable, suspicious and inflexible. Maslach (1976) noted that this was a phenomenon largely experienced by individuals in human service professions. Based on a consistent pattern of symptoms collected through extensive interviews, questionnaires and observations of professionals from a variety of health and social service occupations, Maslach and Jackson (1981a) proposed a specific burnout syndrome. These symptoms were hypothesized to result from spending "considerable time in intense involvement with other people" in order to find solutions to often emotionally charged problems. To substantiate this claim, Maslach and Jackson developed the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981b) which measured three dimensions of burnout: emotional exhaustion, depersonalization and personal accomplishment. Using a large sample (n=1025) of human service professionals, they validated their three factor model, and demonstrated convergent and discriminant validity with several measures of outside observer ratings, job dimensions, personal outcomes, job satisfaction and social desirability.

Since then, numerous studies have been conducted to validate and explicate this claim (for a bibliography see Head & Sorensen, 1989). It would be a mistake to regard the definitional problems as settled. For instance, Garden (1989) considered only the emotional exhaustion dimension as salient to burnout. Cherniss (1980) defined burnout in more general terms as "negative personal changes which occur over time in helping professionals working in demanding or frustrating jobs". This definition includes the three symptoms mentioned by Maslach and Jackson, but allows for a broader range of attitudinal changes. His theoretical model portrays burnout as the end product of a transaction between organizational and individual variables. Maslach (1982) described some of the divergent definitions and postulated causes that have evolved, however she argued that most of them agree on the following three dimensions.

The most commonly cited aspect of burnout is emotional exhaustion. Loss of energy and fatigue characterize physical exhaustion. The emotional correlates of exhaustion are often manifested as a loss of interest and concern; the individual feels too drained to care about anything. They may appear physical ill, depressed and listless. Thinking may become rigid and inflexible in attempts to ward off energy depleting changes. The next two dimensions can be viewed as distinct extensions of exhaustion. The first is depersonalization which is the development of negative attitudes and a distancing

posture towards other people. Although detaching oneself emotionally from other people's problems can be a method of coping with emotional overload, it may become dysfunctional when clients, co-workers or subordinates become the targets of anger, disillusionment or suspicion to the point of being dehumanized. The second dimension is the development of negative attitudes towards oneself. As the capability to fulfill expectations in a desirable manner diminishes with exhaustion and dehumanization, a sense of guilt and unworthiness may arise. This is especially true in human service professions where people typically enter the field to help and care for others. In turn, depersonalized individuals may come to exhibit a low sense of accomplishment and self esteem, futility, and even reduced capacity to produce (Maslach, 1982).

In an attempt to isolate more specific causes for this syndrome, investigators have examined the organizational and individual correlates of burnout. Most studies have shown that individual variables, such as demographics and personality, do not impact significantly on the experience of burnout (Barnes, 1986; Burke et al., 1989; Golembiewski & Scicchitano, 1983; Hock, 1988; Raquepaw & Miller, 1989). Research which looks at dispositional variables is mostly based on the notion that the way a person perceives and deals with stress will influence the manifestation of strain and burnout symptoms. While some authors have drawn a link between burnout and personality, the

effects are typically small and affect only one or two specific dimensions of burnout.

For instance, Garden (1987; 1989) found that psychological type affected the experience of depersonalization, but not emotional exhaustion or personal accomplishment. External locus of control may correlate with greater emotional exhaustion and lower personal accomplishment (St-Yves et al., 1989). However, St-Yves and his colleagues conceded that it was impossible to discern the causal direction of the relationship, since locus of control may shift according to affective or situational events. People displaying type A behaviour have shown a greater propensity towards burnout, especially on the emotional exhaustion scale (Nowak, 1987). In this case, Nowak noted that the measure used to assess personality focussed on psychological distress, possibly inflating its relationship with symptoms of burnout. In short, the evidence for personality correlates of burnout is not especially convincing. On a practical level, it is probably more efficient to examine the similarities across burnout cases rather than individual differences because it facilitates the implementation of intervention programs in large agencies.

Organizational factors have been somewhat more fruitful in explaining the origins of burnout. These reflect the basic structure of the work setting within an organization, including everything from policy and procedure, management

style, communication and support, to the quality and quantity of task content. In his model, Cherniss (1980) proposed that the way an organization deals with staff issues and sets up task demands can affect the overall rate of burnout. The most commonly cited work correlates of burnout surround involvement with other people. For example, burnout has been shown to increase as employees spend a higher percentage of their time in direct contact with clients (Himle, Jayarante & Chess, 1986; Lewiston, Conley & Blessing-Moore, 1981; Maslach & Jackson, 1982). Caseload size has been noted as a major concern amongst human service workers. Overload may lead to feelings of exhaustion (Maslach & Jackson, 1984; Miller et al., 1990; Burke et al., 1989). Supervisory contacts which are negative or unpleasant and allow few opportunities for positive social support have also been correlated with burnout (Leiter & Maslach, 1987; Maslach et al., 1982).

Boredom, frustration, lack of effectiveness and responsibility for the well-being of others are also associated with the loss of idealism and distancing associated with burnout (e.g. Pines & Aronson, 1981). Friesen and Sarros (1989) noted that depersonalization occurred with a lack of challenge and recognition. A sense of helplessness and futility can flourish when dedicated individuals are unable to adequately serve their clients due to overload or bureaucratic red-tape. These people are often faced with both public criticism and organizational insensitivity (Cherniss, 1980).

Investigators have also used elements of other areas of occupational role stress for understanding the sources of burnout. Role conflict and role ambiguity are both stressful situations which have been shown to contribute to emotional exhaustion and depersonalization (Boyd & Pasley, 1989; Burke et al., 1989; Himle et al., 1990; Jackson, Schwab & Schuler, 1986; Leiter & Maslach, 1987). The work on role stress will be discussed in more detail in the next section.

The potential organizational importance of the syndrome lies partly in its obvious personal costs. In their initial studies, Maslach et al. (1981b) reported a relationship between burnout and job satisfaction, and alcohol and drug abuse. Emotional exhaustion has been strongly associated with the symptoms of depression and anxiety (Koeske & Koeske, 1989; Meier, 1984). Meier (1984) suggested that the link between burnout and depression may be due to their similarities as generally negative affective states and that individuals may have difficulty distinguishing between these emotional states. People who score high on burnout measures can also be expected to report higher levels of strain symptoms such as physical complaints, and vocational and interpersonal strain. However, if burnout is a specific type of stress reaction to involvement with other people, then the converse need not follow, that is, high levels of strain need not directly correspond to high levels of burnout in other types of occupations. This question has yet to be addressed.

In terms of direct organizational costs, burnout can lead to a variety of problems detrimental to efficient functioning. It has been related to increased absenteeism (e.g. Firth & Britton, 1989), intention to leave one's job (e.g. Koeske et al., 1989; Maslach et al., 1981b) and decreases in both qualitative and quantitative productivity (e.g. Carroll & White, 1982), all of which may be expensive to absorb. Lower organizational commitment (Leiter & Maslach, 1987) may imply low morale, job satisfaction and involvement. Although many studies that deal with cost issues have uncovered positive correlations between burnout and organizational outcomes, it is not clear whether these levels are more elevated in people-oriented occupations than in others groups. Furthermore, it has not been demonstrated that these costs cannot be attributed to the same sources of stress found in work situations as a whole. In other words, does burnout measure specific reactions to working with people or more general problems such as overload, conflict, ambiguity, and so on?

Attempts to study burnout in settings other than human services have not addressed these issues. They have looked at the incidence of the syndrome in occupations which are not predominantly people-oriented in order to test the premise that burnout is only experienced by those with responsibility for other people's problems. The first reference to the term 'burned-out' in a non human service profession appears to have been Ginsburg's (1974) discussion of executive stress. His

emphasis leant more towards stress brought on by the pressure to succeed in the presumably demanding and high stress world of business. He suggested that "it's a long hard climb to the top for most executives and once there, although it may seem as though they have it made, the tensions and the pressures to prove themselves can dull the will to excel and stifle ambition. Result: Burned Out executives to whom the job is no longer a challenge." While emotional and physical exhaustion remain important components of this type of burnout, its primary feature is the loss of the will to achieve, rather than depersonalization, though both can be said to entail general losses of drive and idealism. Managers are not caretakers in the same sense as teachers and social workers, however, they do spend much of their time dealing with other people, whether it is solving employee conflicts or placating irate clients. Levinson (1981) described the burned-out manager in much the same way as human service professionals. They are committed and hard-working people who "generally have identifiable characteristics: (1) chronic fatigue; (2) anger at those making demands; (3) self-criticism for putting up with the demands; (4) cynicism, negativism, and irritability; (5) a sense of being besieged; and (6) hair-trigger display of emotions." A 20 year study of middle-managers showed that many of them became inconsiderate and distant from others and engaged in rigid narrow thinking (Bray, Campbell & Grant, 1974).

Other efforts have been directed more specifically towards linking the accepted dimensions of burnout to stress research in other professions. Garden (1987) noted that in a sample of mature students in a very stressful MBA program, the depersonalization dimension was only partially generalizable to this group. She used a Jungian theory of psychological type to assess the influence of personality differences on the experience of burnout. Individuals who processed information primarily through feelings and affective reactions were more likely to be depersonalized in response to stress, but those who were labelled as 'thinking' types tended to become overpersonalized, that is they were more likely to seek out positive social contact under stress. The author argued that the measurement of depersonalization may simply be an artifact of the high concentration of 'feeling types' in human service professions. On the other hand, this sample of students may not be representative of the average worker, who is subjected to additional organizational stresses such as role conflict, ambiguity and responsibility for others at work.

Golembiewski et al. (1983) also conducted a study testing the generalizability of the burnout concept to other occupational groups. They administered a variation of a widely accepted measure of burnout, the Maslach Burnout Inventory (Maslach & Jackson, 1981b) to a large commercially oriented sample of workers, consisting of over 25 job classifications such as managers, sales people, clerical workers and research

scientists. A factor analysis of the data obtained revealed that the three components of burnout postulated by Maslach emerged in this setting, suggesting to the authors that the MBI (Maslach & Jackson, 1981b) had valid application in a commercial population. Conclusions are tentative however, since the measurement tool was altered to assess attitudes towards co-workers rather than clients and it is not immediately evident whether these modifications are comparable. Furthermore, there was no discrimination between job classifications, so it is not discernable whether some occupations have greater potential for burnout than others. Despite these drawbacks, preliminary indications point to the need for more research on the prevalence of the various aspects of burnout in occupations other than 'people-oriented' professions and how these are related to other concepts of occupational stress and strain.

WORK STRESS

Many theories with varying degrees of conceptual validity and empirical robustness have been submitted in an effort to provide a framework for understanding work stress (see Eulberg, Weekly & Bhagat, 1988). The model developed by Kahn and his colleagues (1964) has generated the most research because it can incorporate a wide variety of organizational,

social and personal factors depending on the preference of the investigators.

According to role stress theory, individuals experience tension when there are discrepancies between environmental and personal expectations and the perceived ability to meet the demands of those expectations. Several aspects of role stress have been recognized and researched extensively (e.g. Beehr, 1985; Jackson & Schuler, 1985; Newton & Keenan, 1987). These include role ambiguity, role conflict, role overload and role insufficiency, all of which have implications for the development of burnout in certain occupations.

Role ambiguity occurs when the parameters of a role are not clearly defined with respect to expectations demanded by the role, how these expectations can be fulfilled and/or the consequences of performing a role. This illustrates the lack of information communication that can sometimes arise in organizations. Employees in all job categories can become anxious if they are not certain of the expectations inherent in their work roles. Ambiguity has been cited as causing at the very least confusion and frustration (Cherniss, 1980). It has also been linked to the emotional exhaustion and depersonalization dimensions of burnout (Boyd & Pasley, 1989; Schwab & Iwanicki, 1982).

Role conflict can be felt in several different ways, but essentially it describes a situation where two or more incompatible expectations are placed on an individual (Beehr,

1985). Intersender role conflict emerges when the demands of two people or groups directly conflict and is probably felt most acutely by supervisors and managers. An example would be demands by subordinates for lower workloads while management expects increases in productivity. Newton et al. (1987) found that supervisory responsibility was indeed related to role conflict. Other types of role conflict encompass conflicting messages from the same person, conflicting role expectations from work and non-work environments, and role demands which clash with individual values or personality. A stressful situation may occur if employees are uncertain about how to meet all demands or are unable to do so. Leiter and Maslach (1987) identified role conflict as playing a part in the burnout symptom of emotional exhaustion and the job outcome of diminished organizational commitment. Jackson et al. (1986) also discerned an association between role conflict and exhaustion, while Boyd and Pasley (1989) found that it was more strongly predictive of feelings of personal accomplishment. In their meta-analysis of role conflict research, Jackson and Schuler (1985) uncovered a relationship with a variety of affective and organizational outcomes including job satisfaction, anxiety, organizational commitment and intention to quit.

Role load refers to the amount and nature of task demands expected of an employee. It is normally viewed from two perspectives; quantitative and qualitative. Quantitative

overload can arise from having too many requirements to fulfill in an allotted time. Maslach (1976) cited emotional overload due to heavy client caseloads as a major contributor to burnout. Miller et al. (1990) established that work load impacted on the perception of role stress, emotional exhaustion and personal accomplishment. Raquepaw et al. (1989) suggested that burnout was more closely related to satisfaction with work load rather than actual caseload. That is, the perception of being overworked was more likely to result in burnout than the absolute amount of work, a claim substantiated by Friesen and Sarros (1989). This may explain why it is difficult to use caseload to predict burnout (e.g. Koeske et al., 1989). Qualitative overload entails a simple lack of necessary skills to perform the duties inherent in a job. Managers and supervisors who have risen through the ranks based solely on good previous performance, may not possess the education and experience required by their new positions. Either condition can prove very stressful for employees and can lead to a sense of ineptitude and high levels of exhaustion. Role insufficiency may be construed as the opposite of overload. Boredom and low job satisfaction may be consequences of a misfit between an individual's abilities and occupational duties. Because variety and novelty are viewed as payoffs in many occupations, burnout can occur when the initial challenges of a job are overcome and tasks become routine and unstimulating (Cherniss, 1980; Levinson, 1981).

Another important source of work stress theoretically lies in the responsibility that an individual perceives herself or himself to have for the performance and well-being of other employees, clients or the public (Cobb, 1973). In terms of responsibility at work, this can be viewed in part as amount and content of contact with other people. Employees who are expected to solve problems for many people may feel more emotionally drained and treat their charges in more dehumanizing ways (Levinson, 1981; Maslach, 1976). Burnout ensuing from responsibility for others is a significant issue in human service professions (Cherniss, 1980), as it plausibly is for managers and supervisors.

Aspects of the physical environment may also augment levels of stress perceived by employees. Environmental factors may entail lighting, noise, temperature, cleanliness, overcrowding, pollution, and hours of work (Cohen, 1980). Generally, evidence indicates that the perception of environmental irritants can adversely affect job performance and lead to a variety of somatic complaints (e.g. Sutherland & Cooper, 1988). Environmental variables should not be a major issue in this study since all employees will be exposed to relatively equivalent physical conditions.

ORGANIZATIONAL OUTCOMES OF STRESS

In addition to burnout and other strain symptoms, stress in the workplace can lead to specific adverse psychological consequences. As mentioned previously, job satisfaction and organizational commitment appear to be related to a number of aspects of work stress (see Jackson et al., 1985). Although these outcomes embody affective reactions to different facets of employment, they are generally found to be moderately correlated (Barling, Wade & Fullagar, 1990; Mowday, Steers & Porter, 1982; Meyer, Paunonen, Gellalaty, Goffin & Jackson, 1989).

Job satisfaction refers to an individual's positive affective reaction towards his or her work. Based on the assumption that it is an indication of workers' overall contentment with various aspects of their employment such as pay, supervision, task content, and so on, it is one of the most frequently measured outcome variables in work stress research. In general, job satisfaction has been shown to correlate negatively with both role ambiguity and role conflict (see Jackson et al., 1985), as well as with measures of burnout (Maslach et al., 1981a; Penn, Romano & Foat, 1988; Perlman & Hartman, 1982). Satisfaction with one's job is also linked to current economic conditions and the perception of the availability of alternate employment (Carsten & Spector, 1987).

The outcome variable of organizational commitment designates the level to which an employee identifies with and involves himself or herself with organizational values and goals. It is typified by loyalty to the 'company' and willingness to expend effort for its benefit. Leiter et al. (1987) detected a relationship between the three burnout factors and organizational commitment, and both seemed to be altered by interpersonal climate. That is, role conflict and the quality of co-worker and supervisor contacts directly affected emotional exhaustion, which in turn influenced the development of depersonalization and a sense of personal accomplishment and commitment. Similarly, Miller et al. (1990) associated weaker organizational commitment with higher levels of burnout and less work-related social support and participation. Several other investigators have also uncovered a strong negative correlation with role conflict and, to a lesser degree, ambiguity (see Jackson et al., 1985).

Allen and Meyer (1990) found that emotional attachment to one's organization was related to the antecedents of job challenge, role clarity and the perception of personal importance and fairness. Various dimensions of job satisfaction (e.g. work, supervision, pay and promotion), organizational climate and job involvement were proposed to foster commitment (Barling et al., 1990). Eisenberger, Fasolo and LaMastro (1990) also established that positive relationships existed between perceived organizational support

and attendance, performance, diligence, innovation and affective commitment. Therefore, individual perceptions of value within the organization and the extent to which it is committed to the well-being of its employees may influence loyalty and productivity.

COPING VARIABLES

The ability of employees to cope with and adapt to stressful situations may directly or indirectly affect the experience of strain and burnout. Therefore, it is important to know the extent to which coping skills and social support help individuals deal with work stressors, thus attenuating resulting strains and outcomes.

Lazarus and Launier (1978) defined coping as "efforts, both action-oriented and intraphysic, to manage environmental and internal demands and conflicts among them which tax or exceed a person's resources". Many coping methods have been suggested in relation to occupational stress, but most are of a conjectural nature. Schuler (1985) conceded that more evaluative research is needed regarding the effectiveness of specific coping strategies both at the individual and organizational level. For the purposes of this study two well-known aspects of coping will be examined.

An individual's use of personal resources may ease the

effects of stress. Personal resources encompass activities which may be viewed as 'taking care of oneself', such as a proper diet, exercise, relaxation, and leisure time, as well as, problem-solving and decision-making abilities. In popular parlance, these have come to be known as 'stress-management' skills.

Social support is one of the most researched coping resources in work stress literature. House (1981) described social support as a personal exchange of "emotional concern, instrumental aid, information and/or appraisal (p.26)". It is thought that an individual's access to emotional and/or tangible support from people around him or her may help reduce perceived stress and its impact. Maslach (1976) submitted that socializing amongst burned-out workers helped them neutralize emotional stress and share work related information and responsibilities. Other investigators have also cited social support, especially from supervisors and co-workers, as an agent in reducing the effects of role stress and burnout (Koeske et al., 1989; Miller et al., 1990; Ross et al., 1989).

Recently, attention has been drawn to the effect of perceived support from one's organization on job-oriented behaviors. Eisenberger, Huntington, Hutchison and Sowa (1990) interpreted perceived organizational support as the formation by employees of "global beliefs concerning the extent to which the organization values their contribution and cares about their well-being". It was found that when employees felt

support from their employer, they were likely to work more diligently and creatively on behalf of the organization (Eisenberger et al., 1990). Furthermore, absences were less frequent and affective organizational commitment was higher. To date, there is little formal research on the merits of perceived organizational support as a moderator of stress and burnout. Since some authors have alluded to organizational insensitivity as a contributor to burnout (e.g. Cherniss, 1980), this type of support may serve as a strategy for reducing its symptoms.

All of the aspects of social support mentioned in this section may have different degrees of effect on occupational stress and burnout. Differential effects have been reported depending on the source of support (e.g. Leiter et al., 1987) and the type offered (e.g. Kaufmann, 1981). Beehr (1985) suggested that future research on social support would be better served by focussing on the unique effects of each type (emotional or instrumental) combined with each source (supervisor, co-worker or extraorganizational).

Because of the statistical complexity of establishing such a relationship, it is difficult to determine whether social support has a direct or 'buffering' effect on the consequences of stress. The direct effect occurs when support directly reduces the perception of a stressor. The buffering effect is somewhat more complex because it implies that support moderates or changes the relationship between stress

and strain, thereby diminishing its impact. Again, Beehr (1985) reviewed the literature promoting both these scenarios and found evidence that either relationship is plausible depending on the type and source of support.

INDIVIDUAL VARIABLES

Many investigators have claimed a link between personal characteristics and individual perceptions and responses to stressors (see Sutherland et al., 1988). As mentioned previously, Garden (1987) demonstrated an association between psychological type and symptoms of burnout. Others have related higher levels of perceived stress to type A behaviour (e.g. Newton & Keenan, 1987; Nowak, 1987) and external locus of control (St-Yves, 1989). However, burnout and strain outcomes seem to occur despite dispositional variations (e.g. Barnes, 1986; Golembiewski et al., 1983). The utility of demographic variables, such as age and gender, in predicting stress and burnout levels is somewhat controversial. Some authors have found a relationship (e.g. Burke et al., 1989b), while others have detected no significant differences attributable to age and sex (e.g. Hock, 1988; Martocchio & O'Leary, 1989; Raquepaw et al., 1989). In the present sample, age and gender may not be distributed evenly across

occupational groups, therefore it is worth looking at how these factors may alter the experience of work stress and burnout.

The relationship between age and stress can manifest itself in several different ways. For instance, younger employees may experience more role ambiguity and role conflict while learning job expectations (Katz, 1985). On the other hand, they may perceive themselves as having more alternatives, and consequently feel less satisfied with their present position (Pond & Geyer, 1987). Age is often related to life experience which may give older employees an advantage in terms of acquired coping skills and background in facing certain stressors. Because of possible discrepancies in the average age of supervisors and managers, as opposed to clerical workers, the effect of age should be controlled when comparing groups.

Sex related differences also merit discussion because of possible proportional discrepancies across groups. Clerical workers are predominantly female, while the majority of managers continue to be male. Therefore, the ways in which each sex experiences stress should be briefly reviewed. Women appear to experience more role ambiguity and more role conflict than men (Graddick & Farr, 1983). This may indicate that the types of jobs they hold are not clearly defined as to expectations. Because of their more recent entry into the workforce, women may not have as clear a concept of their

occupational roles (Terborg, 1985). In addition, many women must maintain their role in the home while working, which may contend with a desire for a career and contribute to greater levels of role overload and conflict (Burke & Greenglass, 1989b).

At lower echelon jobs, men may experience more role insufficiency than do women (Jones, 1989). Male stereotypes dictate a more powerful drive to succeed, and this may translate into a low sense of accomplishment if not satisfied. Greenglass et al. (1989) stated that men reported higher levels of depersonalization in the teaching profession, even though there were no significant differences in perceived work stress and overall burnout scores. They tentatively attributed this outcome to the greater peer support felt by women in the sample. However, they did find that men harbored more doubts about their competency and that burnout was more directly related to work stress than the role conflict, family and work stress experienced by women.

IMPLICATIONS FOR INTERVENTION

It is important to detect the presence of burnout in an organization since it may influence decision-making (McGee,

1987), willingness to work co-operatively towards goals (Levinson, 1981), organizational commitment and interactions with co-workers and subordinates (Leiter et al., 1987). While these difficulties may seriously impair any employee's ability to function effectively, this may be especially true for managers and supervisors.

Aside from counselling, there are few suggestions in the literature on the treatment of depersonalization. The sources of stress may possibly be reduced through extended periods of rest. Since this is not economically practical for most organizations, other methods must be employed to reduce the prevalence of job strain and burnout.

A number of remedies have been applied to the treatment of burnout, including exercise programs, social events, workshops and support groups (e.g. Pines & Aronson, 1983; Tubesing & Tubesing, 1982). Though, Kahill (1988) noted that there was a marked lack of empirical research in the area of intervention. Cherniss (1980) offers an assortment of strategies for preventing burnout in the form of staff and management development, role restructuring, organizational problem-solving and policy creation. Because a substantial portion of work stress may arise as a result of organizational structure (Handy, 1988), then more effective solutions should be implemented at this level, especially when the problem is widespread.

If role ambiguity and conflict are found to be critical

issues across sample groups, and as speculated, they lead to depersonalization and emotional exhaustion, then several intervention methods are available. Proper training is probably the best proactive approach against role stress and its consequences. Knowledge of job demands and the necessary skills to fulfill them can go a long way towards preventing ambiguity and qualitative overload. Providing consistently clear instructions and expectations for employees on an ongoing basis can help mitigate the effects of stress. Positive feedback from supervisors assists workers to re-evaluate their performance. This type of contact has also been shown to allay role conflict (Leiter et al., 1987). Both Jackson (1983) and Miller et al. (1990) found that participation in decision-making can serve to decrease the perception of both role ambiguity and conflict by granting employees and supervisors alike an opportunity to clarify role expectations and to impart information about their work-centered needs. Furthermore, the stress of responsibility for others may be reduced for managers when they are certain that subordinates understand and support their mandates. Conducting regular unit meetings also provided a forum for personal and job-related communications and social support. In this context, the beneficial feelings of influence and control were sensed even with little actual participation in discussions.

HYPOTHESES

As stated in the introduction, the major goals of this thesis are to examine i) the prevalence of burnout in the present sample, ii) the relationship between measures of burnout and various dimensions of work stress, job outcomes, and coping strategies, and iii) differences in levels of stress and burnout across occupational groups. The following hypotheses are formulated based on the burnout and role stress literature presented in the previous sections.

1. Based on indications that burnout symptoms do emerge in occupations other than human service professions (e.g. Golembiewski et al., 1983), it is expected that employees in the Canadian federal public service will experience moderate levels of burnout.

2. Role conflict, role ambiguity, role overload and responsibility for others will be related to the depersonalization and emotional exhaustion dimensions of burnout consistent with the findings of investigators such as Maslach (1976), Leiter et al. (1987), Boyd et al. (1989) and Miller et al. (1990).

3. Role insufficiency, which reflects underutilization of skills, will be related negatively to feelings of personal

accomplishment.

4. There will be a significant difference in the types of stress and job outcomes encountered by the three groups: clerical, supervisory and managerial. These differences are hypothesized to manifest themselves in the following ways :

- a) Following claims that burnout occurs as a result of high achievement and intense involvement with other people, managers will experience greater stress associated with responsibility for others and high levels of depersonalization, emotional exhaustion and positive personal accomplishment.
- b) Because they often serve as liaisons between management and their subordinates, supervisors will experience more role conflict, more role overload and fewer feelings of accomplishment, and consequently a higher overall level of burnout.
- c) Clerical workers will experience role insufficiency and moderate levels of role ambiguity, and thus a lower sense of accomplishment. Based on findings by Jones (1989), strain levels are expected to be comparable to norms established by Osipow and Spokane (1983). However, these should not indicate elevated levels of burnout since clerical workers presumably experience limited role overload and responsibility for others.

METHOD

RESPONDENTS

Permission to conduct the study in the Canadian federal public service was obtained from senior public servants within the agency. Notices were posted within the Headquarters division of the agency to solicit volunteers. The 93 eventual volunteers were recruited over a 2 week period which the agency had specified to be the allotted time limit.

Of the 93 employees surveyed, 34 were clerical workers (37%), 39 were supervisors (42%) and 20 were managers (21%) (see Figure A). Females made up 60% of the group (n=56), half of these occupied clerical positions (n=28), a third were supervisors (n=19), and the remaining 9 were managers. The male group were classified in the following manner: 6 were clerical (16%), 20 were supervisors (54%) and 11 were managers (30%). The mean age for the sample was 36 years with a range of 21 to 59 years of age. The mean ages for males and females were 40 and 34, respectively.

FIGURE A

Distribution of respondents according to gender and job classification.

	CLERICAL	SUPERVISOR	MANAGER	TOTAL
FEMALE	28	19	9	56
MALE	6	20	11	37
TOTAL	34	39	20	93

MEASUREMENT TOOLS

The following section describes the set of questionnaires administered to assess the dimensions of work stress; the outcomes of burnout, strain, job satisfaction and organizational commitment; and coping strategies such as personal resources, social support and organizational support. The relevance and psychometric properties of each scale will be discussed.

Work stress

Work stress will be assessed using the Occupational Environment Scale - Form E2 (OES; Osipow & Spokane, 1986). The test measures six different aspects of job stress including role ambiguity, role conflict, role overload, role insufficiency, responsibility for others and physical environment. Respondents rate sixty Likert-type items along the five categories of 'most of the time', 'usually', 'often', 'occasionally', and 'rarely'. All the scales have theoretical ranges of 10 to 50. This scale was chosen based on its pertinence and comprehensiveness with respect to role stress dimensions associated with work settings, as well as, its psychometric properties. Internal consistency for the total scale is quite good (Cronbach's alpha = .89), as are subscale

consistency (alpha from .71 to .90), two-week test-retest reliability ($r = .90$), and discriminant validity (Osipow & Spokane, 1983).

Outcome Variables

The Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981b) is by far the most popular tool used for the measurement of burnout (Handy, 1988). It is reported to evaluate the three salient features of burnout: depersonalization, emotional exhaustion, and personal accomplishment.

Respondents are asked to rate each of the 22 items in terms of frequency ("How often?") on a continuum from 'never' to 'every day' (0-6) and intensity ("How strong?") ranging from 'never' to 'very strong' (0-7). For each subscale, item scores are summed separately for frequency and intensity to obtain six scale scores. Each subscale differs in terms of theoretical range as follows: depersonalization intensity, 0 to 35; depersonalization frequency, 0 to 30; emotional exhaustion intensity, 0 to 63; emotional exhaustion frequency, 0 to 54; personal accomplishment intensity, 0 to 56; and personal accomplishment frequency, 0 to 48. No overall burnout score is calculated, rather, assignment to a burnout level (low-moderate-high) is based on a combination of subscale

scores. For example, individuals with high scores on the emotional exhaustion and depersonalization dimensions and a low score on personal accomplishment would be candidates for burnout. Rating criteria are provided by Maslach et al. (1981b).

The main advantage of this scale is that it has been standardized on normative samples. Reliability appears to be adequate for both internal consistency ($\alpha = .71$ to $.90$) and 2-4 week test-retest ($\alpha = .53$ to $.82$). Pierce & Molloy (1989) report very respectable reliability coefficients for the various subscales ($.71$ to $.89$). Convergent and discriminant validity measures are also available which compare burnout scores to a variety of different variables including outside observer ratings, job characteristics, interpersonal problems and alcohol use (Maslach et al., 1981; for reviews see Bodden, 1985; Dowd, 1985). Meier (1984) also demonstrated support for the convergent validity of the MBI when compared to two other measures of burnout (coefficients range from $.61$ to $.65$). Extensive research has been conducted on the construct validity of the MBI as well. Investigators have generally found support for the proposed three factor model with an assortment of human service populations (e.g. Pierce et al., 1989; Koeske & Koeske, 1989; Lee & Ashforth, 1990).

The Personal Strain Questionnaire - Form E2 (PSQ; Osipow

& Spokane, 1983) will be used to determine the level of strain perceived by the respondents. It will provide an additional measure of occupational outcomes and a method by which to distinguish between the specific symptoms of burnout and more general feelings of strain. This instrument consists of forty Likert-type items meant to assess four strain subscales: vocational, psychological, interpersonal and physical strain associated with work environments. Subjects are asked to report the frequency of occurrence of each symptom on a five point scale ranging from "rarely or never" (1) to "most of the time" (5). The scores obtained on each variable may range from 10 to 50. Its psychometric properties are quite good. Internal consistency is reported at $\alpha = .94$ for the total scale and between .71 and .89 for the subscales. $\alpha = .94$ is claimed for two week test-retest reliability.

Job satisfaction will be appraised using the Facet-Free Satisfaction Questionnaire (Quinn & Staines, 1975). This survey consists of five questions regarding employee reactions and feelings towards their jobs. Possible responses are given a weight of either 1, 3 or 5 depending on how satisfied the subject is with his or her present position. The questionnaire can yield scores varying from 5 to 25. Internal consistency is gauged at Cronbach's $\alpha = .77$.

The Organizational Commitment Questionnaire (Mowday,

Steers & Porter, 1982) assesses respondents' commitment to the organization in which they are employed. It taps into affective reactions towards one's work place such as pride, loyalty and identification. The fifteen Likert-type items permit replies which can vary from "strongly disagree" (1) to "strongly agree" (7). Total scores may range from 15 to 105. The scale's high internal consistency ($\alpha = .83$) and reliability have contributed to its popularity as a measurement tool.

Coping Variables

The Personal Resources Questionnaire - Form E2 (PRQ: Osipow & Spokane, 1983) evaluates the extent to which respondents utilize various coping strategies such as rest, leisure time, social support and problem-solving. The survey consists of forty Likert-type items with five response categories ranging from "Rarely or Never" (1) to "Most of the time" (5). Each subscale has a theoretical range of 10 to 50. The internal consistency of the whole scale is denoted as $\alpha = .88$ and the two week test-retest reliability is $r = .88$.

The Survey of Perceived Organizational Support developed by Eisenberger, Huntington, Hutchison and Sowa (1986) will be used to measure employee perceptions of being appreciated and

cared for by their employer. The sixteen Likert-type items include statements which reflect individual beliefs about whether the organization values their contributions and how it would treat them in certain hypothetical situations. Respondents rate each item on a seven point scale from 'strongly disagree' (1) to 'strongly agree' (7). This survey gives scores ranging from 16 to 112. Interim reliability is estimated at an alpha coefficient of .97.

PROCEDURE

The package of 7 questionnaires was administered in groups of approximately 20 in a convenient location at the worksite. Participation was voluntary. Respondents were assured of anonymity and confidentiality at the outset of testing. The use of English or French questionnaires was left to personal choice. Overall, participants required about one hour to complete the package.

RESULTS

The resulting data will be analyzed in the following ways. First, descriptive data for the total sample will be presented. This will allow an assessment of the prevalence of stress and strain in the total sample using Chi-square test comparisons with norms for the OES and PSQ established by Osipow and Spokane (1983). Examining the percentage of employees with low, medium and high levels of burnout will provide a glimpse of the degree of burnout in this sample. Factor analysis will then be employed to reveal the underlying correlational structure of the data and to provide a rationale for data reduction. The relationships between stress, coping and the outcome variables will be explored by performing a series of regression analyses on burnout, strain, job satisfaction and organizational commitment as dependent variables. To uncover differences between occupational groups and what, if any, variable combinations are the best discriminators, MANOVA and univariate F-tests will be conducted, followed by a discriminant function analysis.

Descriptive statistics

Table 1 shows the means and standard deviations for each of the measured variables. The first six variables represent

TABLE 1

Descriptive statistics for work stress, burnout, outcome and coping variables for the total sample.

	<u>Mean</u>	<u>S.D.</u>
<u>Work Stress Variables</u>		
Load	25.5	7.5
Insufficiency	30.4	9.8
Ambiguity	24.5	7.0
Conflict	25.2	7.4
Responsibility	22.1	7.1
Physical environment	15.2	4.4
<u>Burnout Variables</u>		
Depersonalization (Int.)	14.9	6.6
Depersonalization (Freq.)	17.4	9.5
Emot. Exhaustion (Int.)	19.5	9.6
Emot. Exhaustion (Freq.)	22.6	11.9
Accomplishment (Int.)	29.2	9.1
Accomplishment (Freq.)	31.4	9.9
<u>Outcome Variables</u>		
Vocational strain	21.7	6.2
Psychological strain	25.1	8.0
Interpersonal strain	20.8	6.4
Physical strain	22.0	7.6
Job satisfaction	15.1	7.0
Organizational commitment	53.3	15.5
<u>Coping Variables</u>		
Recreation	27.1	6.8
Self care	26.3	6.2
General support	35.0	10.0
Cognitive resources	32.7	7.8
Organizational support	57.5	16.3

the subscales of the Occupational Environment Scale (OES), followed by the variables from the Maslach Burnout Inventory (MBI), the Personal Strain Questionnaire (PSQ), the Facet-Free Satisfaction Questionnaire, the Organizational Commitment Questionnaire, the Personal Resources Questionnaire (PRQ) and the Survey of Perceived Organizational Commitment, respectively.

As a group, the sample scores generally seemed to cluster near the middle ranges. However, there is a fair amount of variability since the scores did tend to cover the theoretical ranges of most variables.

Relative level of stress and strain in sample

The level of stress and strain found in this sample was compared to the norms published by Osipow and Spokane (1983) for the OES and PSQ subscales. The norms are presented as medians for males and females with respect to each subscale. Chi-square statistics were calculated to determine whether stress and strain levels in this sample were significantly different from other groups of employees. The norms, data and chi-square statistics are shown in Table 2. None of the statistics were significant indicating that the levels of stress and strain in this sample of public servants are comparable to other groups.

TABLE 2

Comparisons between the total public service sample and published norms for the OES and the PSQ. The norms are given as medians for males and females separately.

	<u>Males</u>		<u>Females</u>	
	<u>Norm</u>	<u>Sample</u>	<u>Norm</u>	<u>Sample</u>
<u>Stress Variables</u>				
Load	25	29	23	23
Insufficiency	28	30	27	30
Ambiguity	23	26	24	23
Conflict	24	26	22	24.5
Responsibility	22	24	15	19.5
Environment	15	14	17	14
CHISQ	1.59		2.53	
<u>Strain variables</u>				
Vocational	18	23	20	21
Psychological	19	23	23	22.5
Interpersonal	20	19	19	19
Physical	14	20	19	21
CHISQ	4.85		0.20	

Prevalence of burnout in the sample

Comparisons were made between the total public service sample and the norms published by Maslach and Jackson (1982) for the MBI. The t-test results are presented in Table 3. All of the variables showed significant differences at a probability level of .01, except for the frequency of experienced emotional exhaustion. This means that the target sample as a group reported levels of depersonalization, intensity of emotional exhaustion and feelings of accomplishment which were different from those typically found in other people-oriented professions.

The number and percentage of employee reporting low, moderate or high levels for each of the hypothesized dimensions of burnout are displayed in Table 4. Upon examining the distribution of burnout levels in the public service sample, it is evident that many of the respondents experienced high levels of depersonalization intensity (48.4 %) and frequency (71 %), low levels of emotional exhaustion intensity (66.7 %) and frequency (39.8 %) and few feelings of personal accomplishment intensity (74.2 %) and frequency (58.1 %). Overall, the burnout profile for this sample of public service workers shows that they experienced high levels of depersonalization, low feelings of accomplishment and low to moderate levels of emotional exhaustion compared to their human service counterparts.

TABLE 3

Comparisons between the total public service sample and published norms for the Maslach Burnout Inventory. (Burnout variables: Depers = Depersonalization, Exhaust = Emotional Exhaustion, Achieve = Feelings of Accomplishment, Int = Intensity, Freq = Frequency).

	<u>Norms</u>		<u>Sample</u>			
	<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>
<u>Variables</u>						
Depers Int	11.7	8.09	14.9	6.62	3.66	2027*
Depers Freq	9.4	6.90	17.4	9.51	8.37	1491*
Exhaust Int	31.7	13.84	19.5	9.63	8.23	2027*
Exhaust Freq	24.1	11.88	22.5	11.90	0.99	1491
Achieve Int	39.7	7.68	29.2	9.11	12.50	2027*
Achieve Freq	35.0	6.93	31.4	9.90	3.76	1491*

* Significant difference at $p < .01$.

TABLE 4

Number and percent of the total public service sample reporting low, moderate and high levels of burnout (N=93).

	<u>Low</u>	<u>Moderate</u>	<u>High</u>
<u>Burnout subscales</u>			
Depersonalization			
Frequency range*	7 (7.5) 0-5	20 (21.5) 6-11	66 (71.0) 12+
Intensity range	11 (11.8) 0-6	37 (39.8) 7-14	45 (48.4) 15+
Emotional Exhaustion			
Frequency range	37 (39.8) 0-17	29 (31.2) 18-29	27 (29.0) 30+
Intensity range	62 (66.7) 0-25	31 (33.3) 26-39	0 40+
Personal Accomplishment			
Frequency range	25 (26.9) 40+	14 (15.1) 43-37	54 (58.1) 33-0
Intensity range	8 (8.6) 44+	16 (17.2) 39-34	69 (74.2) 36-0

* Ranges are derived from data provided by Maslach and Jackson (1981).

Correlations between variables

Tables 5 to 14 show the Pearson product-moment correlations (r) between the 23 measured variables. The statistical significance of each correlation coefficient is shown either at the .05 or .01 level.

Tables 5 to 8 represent the intercorrelations amongst the variables with the different variable categories. For instance, among the stress variables, there was a moderate correlation between load and responsibility, and between conflict and both insufficiency and ambiguity. There was also a high degree of correlation between the frequency and intensity subscales of each of the dimensions of burnout. Furthermore, there existed a moderate association between depersonalization and emotional exhaustion, and a small negative one with feelings of personal accomplishment. Amongst the outcome variables, organizational commitment and job satisfaction were negatively related to vocational strain but not the other four forms of strain. Psychological strain was moderately correlated with vocational, interpersonal and physical strains. As a set, the personal resource variables were moderately intercorrelated, however they seemed to have little relationship with perceived organizational support as a coping means.

The correlations between stress and the outcome variables

TABLE 5

Intercorrelations between OES work stress variables. (Load = Role load, Insuff. = Role insufficiency, Ambig. = Role ambiguity, Confl. = Role conflict, Resp. = Responsibility, Envir. = Physical environment).

	Load	Insuff.	Ambig.	Confl.	Resp.	Envir
Load	1.00					
Insuff.	-.14	1.00				
Ambig.	.16	.27**	1.00			
Conflict	.06	.66**	.44**	1.00		
Resp.	.53**	-.17*	.01	.02	1.00	
Envir.	.29**	.04	.01	.13	.30**	1.00

* Correlation significant for $p < .05$

** Correlation significant for $p < .01$

TABLE 6

Intercorrelations between MBI burnout variables. (DepI = Depersonalization intensity, DepF = Depersonalization frequency, ExhI = Emotional exhaustion intensity, ExhF = Emotional exhaustion frequency, AchI = Feelings of accomplishment intensity, AchF = Feelings of accomplishment frequency).

	DepI	DepF	ExhI	ExhF	AchI	AchF
DepI	1.00					
DepF	.83**	1.00				
ExhI	.65**	.69**	1.00			
Exhf	.63**	.66**	.94**	1.00		
AchI	-.19*	-.27**	-.10	-.07	1.00	
AchF	-.23*	-.26**	-.13	-.10	.93**	1.00

* Correlations significant for $p < .05$

** Correlations significant for $p < .01$

TABLE 7

Intercorrelations between strain variables, job satisfaction and organizational commitment. (Voc = Vocational strain, Psych = Psychological strain, Interp = Interpersonal strain, Phys = Physical strain, Jobsat = Job satisfaction, Orgcom = Organizational commitment).

	Voc	Psych	Interp	Phys	Jobsat	Orgcom
Voc	1.00					
Psych	.57**	1.00				
Interp	.20*	.51**	1.00			
Phys	.33**	.67**	.49**	1.00		
Jobsat	-.51**	-.19*	.01	-.03	1.00	
Orgcom	-.39**	-.20*	.02	-.09	.23*	1.00

* Correlations significant for $p < .05$

** Correlations significant for $p < .01$

TABLE 8

Intercorrelations between coping variables. (Rec = Recreation, SelfCare = Self care, GSupport = General social support, RatCog = Problem-solving, POS = Perceived organizational support).

	Rec	SelfCare	GSupport	RatCog	POS
Rec	1.00				
SelfCare	.46**	1.00			
GSupport	.38**	.26**	1.00		
RatCog	.33**	.34**	.60**	1.00	
POS	.08	.01	.18*	.20*	1.00

* Correlations significant for $p < .05$

** Correlations significant for $p < .01$

(Tables 9 and 10) show that role load was moderately related to the burnout dimensions of depersonalization and emotional exhaustion and psychological and physical strain. Insufficiency was positively correlated with depersonalization, vocational strain and psychological strain and, as expected, negatively correlated with feelings of accomplishment, organizational commitment and job satisfaction. Ambiguity did not seem to have a great impact on the experience of burnout, though it was moderately related to vocational, psychological and interpersonal forms of strain. Role conflict, correlated significantly with depersonalization, as well as, vocational and psychological strain. It was also the only stress variable, with insufficiency, to be negatively related to organizational commitment and job satisfaction. Interestingly, the level of responsibility seemed to correlate only moderately with the depersonalization and emotional exhaustion components of burnout and not at all with feelings of accomplishment, satisfaction or other measures of occupational strain.

At first glance, the differences in the correlational patterns across the stress and burnout table and the stress and outcomes table seem to indicate that burnout, as measured by the MBI, is indeed a distinct construct from the more conventional measures of occupational strain. Looking at the correlations between burnout and other outcome variables in Table 11, it is evident that the relationships were low to

TABLE 9

Correlations between stress and burnout variables.

	Load	Insuff.	Ambig.	Confl.	Resp.	Envir.
DepI	.31**	.31**	.23*	.54**	.37**	.16
DepF	.38**	.21*	.20*	.44**	.37**	.20*
ExhI	.46**	.12	.11	.27**	.34**	.26**
ExhF	.47**	.13	.12	.27**	.36**	.26**
AchI	-.09	-.46**	-.06	-.27**	-.03	-.05
AchF	-.10	-.47**	-.01	-.28**	-.06	-.07

* Correlation significant for $p < .05$ ** Correlation significant for $p < .01$

TABLE 10

Correlations between stress and outcome variables.

	Load	Insuff.	Ambig.	Confl.	Resp.	Envir.
Voc	.16	.61**	.40**	.64**	-.00	.04
Psych	.27**	.26**	.40**	.35**	.20*	.26**
Interp	.21*	.17*	.25**	.21*	.15	.19*
Phys	.26**	.08	.21*	.21*	.21*	.17*
Jobsat	.06	-.50**	-.03	-.43**	.03	.02
Orgcom	.03	-.41**	-.22*	-.50**	-.01	-.18*

* Correlation significant for $p < .05$ ** Correlation significant for $p < .01$

TABLE 11

Correlations between outcome and burnout variables.

	Voc	Psych	Interp	Phys	Jobsat	Orgcom
DepI	.35**	.22*	.28**	.14	-.32**	-.27**
DepF	.25**	.17	.30**	.10	-.17	-.17*
ExhI	.20*	.23*	.23*	.14	-.15	-.15
ExhF	.10*	.25**	.26**	.19*	-.09	-.10
AchI	-.27**	-.21*	-.10	-.03	.34**	.20*
AchF	-.32**	-.24**	-.01	-.08	.38**	.21*

* Correlation significant for $p < .05$ ** Correlation significant for $p < .01$

moderate at best. Reported burnout was not strongly related to organizational commitment or job satisfaction.

The coping variables, as presented in Tables 12 to 14, had an inconsistent effect. Only perceived organizational support appears to have had a significant impact on all of the stress and burnout variables. Ambiguity was also negatively correlated with general social support and rational cognitive resources. Perhaps these two means of coping enable individuals to obtain information which clarifies their work roles thus alleviating ambiguity. On the other hand, all of the personal resources, including perceived organizational support, correlated to varying degrees with all of the strain variables. However, personal resources did not seem to be related to burnout or the organizational outcomes of commitment and job satisfaction.

As denoted in Table 15, none of the correlations between each of the 23 dependent variables and the demographic variables were very impressive. Levels of load, ambiguity and conflict were slightly elevated among women as previously proposed in the literature (e.g. Burke et al., 1989b; Graddick et al., 1983). Women also recounted more intense and frequent feelings of depersonalization. In this sample, age was not a significant factor for any of the stress or burnout outcomes. Older employees tended to report better self care and rational cognitive resources.

TABLE 12

Correlation between work stress and coping variables.

	Load	Insuff.	Ambig.	Confl.	Resp.	Envir.
Rec	-.10	-.12	-.16	-.14	-.02	-.09
SelfCare	-.23*	.01	-.09	.04	-.07	-.19*
GSupport	-.08	-.13	-.32**	-.15	-.09	-.05
RatCog	-.12	-.09	-.37**	-.17*	-.07	-.02
POS	-.35**	-.54**	-.35**	-.54**	-.29**	-.22*

* Correlation significant for $p < .05$

** Correlation significant for $p < .01$

TABLE 13

Correlations between burnout and coping variables.

	DepI	DepF	ExhI	ExhF	AchI	AchF
Rec	.00	.06	.01	.00	.00	.03
SelfCare	.07	.07	-.08	-.08	-.01	-.01
GSupport	-.05	.07	-.04	-.10	-.05	-.06
RatCog	-.04	.02	-.10	-.15	.06	.10
POS	-.60**	-.57**	-.53**	-.53**	.38**	.39**

* Correlation significant for $p < .05$

** Correlation significant for $p < .01$

TABLE 14

Correlations between outcome and coping variables.

	Voc	Psych	Interp	Phys	Jobsat	Orgcom
Rec	-.23*	-.44**	-.43**	-.37**	.13	-.04
SelfCare	-.24**	-.42**	-.26**	-.33**	.14	.02
GSupport	-.24**	-.36**	-.37**	-.18*	.05	-.01
RatCog	-.31**	-.41**	-.18*	-.23*	-.02	.07
POS	-.50**	-.45**	-.30**	-.36**	.32**	.43**

* Correlation significant for $p < .05$

** Correlation significant for $p < .01$

TABLE 15

Correlations between the dependent variables and the demographic variables of age and gender.

	<u>Gender</u>	<u>Age</u>
<u>Work stress variables</u>		
Load	.24**	.16
Insufficiency	.06	-.10
Ambiguity	.24**	-.07
Conflict	.25**	.04
Responsibility	.15	.14
Environment	.11	.07
<u>Burnout variables</u>		
Depers. Int.	.24**	.10
Depers. Freq.	.28**	.08
Exhaust. Int.	.15	.02
Exhaust. Freq.	.15	-.01
Achieve Int.	-.08	.05
Achieve Freq.	-.05	.07
<u>Outcome variables</u>		
Vocational strain	.18*	-.08
Psychological strain	.04	-.10
Interpersonal strain	.05	-.05
Physical strain	.12	-.05
Job satisfaction	-.05	-.02
Organizational commit.	.08	-.01
<u>Coping variables</u>		
Recreation	.14	.13
Self care	.16	.22*
General support	-.08	.10
Rational Cognitive	.06	.19*
Organizational support	-.12	.04

* Correlation significant at $p < .05$

** Correlation significant at $p < .01$

Factor analysis of the correlation matrix

For the purposes of this study, a factor analysis was conducted on the correlation matrix to determine how the different variables were grouped together. This also provided a rationale for possible data reduction required in subsequent analyses.

The first step in the factor analysis is the principal components analysis which computes the unique variance contributed by each variable. Table 16 displays the results of this analysis. Clearly, a majority of the variance (70.2 %) was attributed to work stress variables as opposed to outcome or coping variables.

By convention, the number of factors extracted from the correlation matrix is founded on those having a minimum eigenvalue of unity. As shown in Table 16, there were 7 variables with an eigenvalue greater than one, therefore, 7 factors were extracted. Table 17 lists the factor loadings associated with the 7 factors after a Varimax (orthogonal) rotation of the axes. Conventionally, only those variables with a loading greater than 0.4 are used to interpret and possibly assign a label to the factor.

The factors were consistent with the earlier findings in the correlational data. The first factor labelled "burnout" included the depersonalization and emotional exhaustion variables and perceived organizational support which suggests that in this sample these variables were closely related. The

TABLE 16

Principle components analysis of the 23 variables.

<u>Variable</u>	<u>Eigenvalue</u>	<u>% Var.</u>	<u>Cum. %</u>
Load	6.42	27.9	27.9
Insufficiency	3.00	13.0	40.9
Ambiguity	2.90	12.6	53.6
Conflict	1.58	6.9	60.4
Responsibility	1.16	5.1	65.5
Environment	1.08	4.7	70.2
Voc. strain	1.02	4.4	74.7
Psych. strain	.85	3.7	78.3
Interp. strain	.75	3.3	81.6
Phys. strain	.65	2.8	84.4
Job satisf.	.57	2.5	86.9
Org. commit.	.47	2.1	89.0
Recreation	.46	2.0	91.0
Self care	.39	1.7	92.7
Gen. support	.32	1.4	94.1
Rat. cog.	.30	1.3	95.4
Perc. org. sup.	.27	1.2	96.6
Depers. Int.	.24	1.0	97.6
Depers. Freq.	.18	.8	98.4
Emot. Exh. Int.	.15	.6	99.0
Emot. Exh. Freq.	.12	.5	99.5
Achieve Int.	.06	.2	99.7
Achieve Freq.	.05	.2	100.0

TABLE 17

Factor loadings greater than 0.4 for the 7 factors revealed by the principal components analysis of the 23 x 23 correlation matrix with Varimax rotation (minimum eigenvalue to unity).

<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>	<u>Factor 4</u>
"Burnout"	"Work Stress"	"Outcomes"	"Achievement"
ExhI (.88)	Confl (.79)	Interp (.82)	AchI (.95)
ExhF (.88)	Orgcom (-.77)	Phys (.77)	AchF (.95)
DepF (.84)	Insuff (.73)	Psych (.66)	
DepI (.82)	Vocstr (.70)	Rec (-.61)	
POS (-.53)			

<u>Factor 5</u>	<u>Factor 6</u>	<u>Factor 7</u>
"Role clarity"	"Work stress-2"	"Job satisfaction"
RatCog (.87)	Envir (.68)	SelfCare (.65)
GSupport (.78)	Resp (.58)	Jobsat (.58)
Ambig (-.51)	Load (.58)	

second factor, loosely termed "work stress", involved interrelated aspects of stress and outcomes including more specifically conflict, organizational commitment, insufficiency and vocational strain. The three other stress variables were grouped together on the sixth factor. The strain variables, excluding vocational strain, tended to load together, as did the two feelings of accomplishment subscales. The fifth factor, labelled "role clarity", consisted of role ambiguity and the personal resources of general support and rational cognitive strategies. The seventh factor seemed to represent job satisfaction, although the inclusion of the self care variable is harder to interpret.

Regression analysis of outcome variables

In order to look at the relationships between the stress and coping variables and the various outcomes, a series of regression analyses were performed. This permitted the generation of some hypotheses about which combinations of stress and coping variables best predict each of the measured occupational outcomes.

Following the patterns indicated in the factor analysis, some of the variables were grouped together to form a single dependent variable on which a regression analysis could be performed. For instance, the frequency and intensity ratings for each of the dimensions of burnout were added together to

form three variables as opposed to six. Interpersonal, physical and psychological strains tended to load on the same factor so they were also joined to form a single strain variable.

All of the regression analyses presented in Tables 18 to 24 proved significant. That is, in this sample the stress and coping variables taken together were able to predict each of the outcome variables. The variances were typically low to moderate ($R^2 = .32$ to $.59$) and there was some diversity in the significant predictor variables for each analysis.

Depersonalization (Table 18) seemed to be best predicted by the organizational support perceived by employees, as well as, the level of role conflict experienced. Emotional exhaustion (Table 19) was also affected by perceived organizational support, although the salient stress variable was role load. Feelings of achievement (Table 20) seemed to be attributed to role insufficiency, it was only weakly predicted by the total combination of stress and coping variables (23% variance).

Vocational strain (Table 21) was most strongly related to role conflict, role insufficiency, and self care resources. The composite measure of work strain (Table 22) was predicted by perceived organizational support, self care and recreation, all coping variables. Self care resources and insufficiency were also important in predicting the outcome of job satisfaction (Table 23) while perceived organizational support

TABLE 18

Regression analysis with depersonalization as the dependent variable and stress and coping variables as predictors.

R Sq. = .53 Adj. R Sq. = .47

D.F. = 11 and 81 F ratio = 8.32 Sign. = .000

<u>Variables</u>	<u>Beta</u>	<u>T</u>	<u>Sign. T</u>
Perc. org. support	-.42	-3.66	.000 **
Self care	.02	.23	.816
Environment	-.01	-.16	.875
Gen. support	.09	.86	.394
Responsibility	.19	1.94	.055
Ambiguity	-.02	-.19	.874
Recreation	.05	.57	.570
Load	.11	1.07	.288
Conflict	.41	3.63	.000 **
Rational cognitive	.08	.76	.447
Insufficiency	-.16	-1.28	.203
Constant		.76	.447

** Predictor variable significant at $p > .01$

TABLE 19

Regression analysis with emotional exhaustion as the dependent variable and stress and coping variables as predictors.

R Sq. = .42 Adj. R Sq. = .34

D. F. = 11 and 81 F ratio = 5.32 Sign. = .000

<u>Variables</u>	<u>Beta</u>	<u>T</u>	<u>Sign. T</u>
Perc. org. support	-.45	-3.53	.001 **
Self care	-.05	-.51	.614
Environment	.06	.68	.500
Gen. support	.01	.12	.903
Responsibility	.05	.43	.665
Ambiguity	-.12	-1.19	.237
Recreation	.10	.95	.347
Load	.25	2.24	.028 *
Conflict	.16	1.30	.197
Rational cognitive	-.06	-.49	.622
Insufficiency	-.14	-1.05	.299
Constant		2.06	.043 *

* Predictor variable significant at $p > .05$

** Predictor variable significant at $p > .01$

TABLE 20

Regression analysis with feelings of achievement as the dependent variable and stress and coping variables as predictors.

R Sq. = .32 Adj. R Sq. = .23

D. F. = 11 and 81 F ratio = 3.44 Sign. = .001

<u>Variables</u>	<u>Beta</u>	<u>T</u>	<u>Sign. T</u>
Perc. org. support	.17	1.21	.231
Self care	-.04	-.34	.733
Environment	.01	.13	.895
Gen. support	-.21	-1.76	.082
Responsibility	-.03	-.28	.778
Ambiguity	.15	1.30	.196
Recreation	-.00	-.02	.987
Load	-.13	-1.09	.279
Conflict	.09	.70	.484
Rational cognitive	.19	1.60	.114
Insufficiency	-.52	-3.54	.001 **
Constant		2.83	.006 **

** Predictor variable significant at $p > .01$

TABLE 21

Regression analysis with vocational strain as the dependent variable and stress and coping variables as predictors.

R Sq. = .59 Adj. R Sq. = .54

D. F. = 11 and 81 F ratio = 10.64 Sign. = .000

<u>Variables</u>	<u>Beta</u>	<u>T</u>	<u>Sign. T</u>
Perc. org. support	-.07	-.65	.520
Self care	-.25	-2.50	.015 *
Environment	-.10	-1.28	.206
Gen. support	-4.23	-.01	.996
Responsibility	-.04	-.42	.678
Ambiguity	.05	.61	.542
Recreation	.02	.20	.840
Load	.14	1.44	.153
Conflict	.37	3.46	.001 **
Rational cognitive	-.11	-1.16	.252
Insufficiency	.33	2.91	.005 **
Constant		2.36	.021 *

* Predictor variable significant at $p > .05$

** Predictor variable significant at $p > .01$

TABLE 22

Regression analysis with work strain (sum of psychological, interpersonal and physical strain variables) as the dependent variable and stress and coping variables as predictors.

R Sq. = .50 Adj. R Sq. = .43

D. F. = 11 and 81 F ratio = 7.37 Sign. = .000

<u>Variables</u>	<u>Beta</u>	<u>T</u>	<u>Sign. T</u>
Perc. org. support	-.35	-2.92	.005 **
Self care	-.22	-2.29	.025 *
Environment	.08	.97	.337
Gen. support	-.08	-.74	.461
Responsibility	.05	.51	.620
Ambiguity	.13	1.34	.185
Recreation	-.31	-3.31	.001 **
Load	-.01	-.08	.936
Conflict	.09	.76	.449
Rational cognitive	.01	.08	.939
Insufficiency	-.11	-.92	.363
Constant		5.33	.000 **

* Predictor variable significant at $p > .05$

** Predictor variable significant at $p > .01$

TABLE 23

Regression analysis with job satisfaction as the dependent variable and stress and coping variables as the predictors.

R Sq. = .44 Adj. R Sq. = .37

D. F. = 11 and 81 F ratio = 5.85 Sign. = .000

<u>Variables</u>	<u>Beta</u>	<u>T</u>	<u>Sign. T</u>
Perc. org. support	.02	.19	.845
Self care	.23	2.30	.024 *
Environment	.14	1.55	.125
Gen. support	.03	.26	.795
Responsibility	-.10	-.98	.330
Ambiguity	.18	1.80	.074
Recreation	.01	.06	.950
Load	.03	.23	.816
Conflict	-.18	-1.50	.138
Rational cognitive	-.13	-1.21	.229
Insufficiency	-.54	-4.09	.000 **
Constant		2.29	.025 *

* Predictor variable significant at $p > .05$

** Predictor variable significant at $p > .01$

TABLE 24

Regression analysis with organizational commitment as the dependent variable and stress and coping variables as predictors.

R Sq. = .36 Adj. R Sq. = .27

D. F. = 11 and 81 F ratio = 4.07 Sign. = .000

<u>Variables</u>	<u>Beta</u>	<u>T</u>	<u>Sign. T</u>
Perc. org. support	.29	2.17	.033 *
Self care	.14	1.33	.188
Environment	-.12	-1.23	.221
Gen. support	-.11	-.96	.339
Responsibility	.02	.19	.849
Ambiguity	-.02	-.20	.842
Recreation	-.15	-1.39	.167
Load	.19	1.16	.111
Conflict	-.38	-2.84	.006 **
Rational Cognitive	.03	.25	.803
Insufficiency	.00	.03	.974
Constant		2.68	.009 **

* Predictor variable significant at $p > .05$

** Predictor variable significant at $p > .01$

and role conflict predicted organizational commitment (Table 24).

Differences between groups

Descriptive statistics

The means and standard deviations obtained for the 23 variables are presented separately for each job classification: clerical, supervisory and managerial in Table 25.

Multivariate analysis of variance

The scores for each of the stress, outcome and coping variables underwent a multivariate analysis of variance (MANOVA) with job classification (clerical, supervisory and managerial) as the independent variable. The results according to the Pillais, Hotelling's and Wilks' tests of significance are displayed in Table 26. These indicate that when all of the 23 dependent variables were taken into account, there existed a statistically significant difference between the three employee groups.

TABLE 25

Means and standard deviations (in brackets) for the 23 variables for each of the three occupational groups, clerical (n = 34), supervisory (n = 39), and managerial (n = 20).

<u>Variables</u>	<u>Clerical</u>	<u>Supervisory</u>	<u>Managerial</u>
<u>Work stress Variables</u>			
Load	22.9 (6.0)	25.3 (7.3)	30.4 (8.1)
Insuff	32.5 (10.8)	31.1 (8.9)	25.5 (8.1)
Ambig	25.1 (7.5)	25.0 (6.6)	22.6 (6.7)
Confl	24.7 (6.4)	26.3 (8.0)	23.8 (7.8)
Resp	18.8 (5.8)	20.8 (6.0)	30.2 (4.6)
Envir	14.3 (3.7)	16.0 (4.4)	15.3 (5.3)
<u>Burnout Variables</u>			
DepI	11.3 (5.2)	17.2 (6.9)	16.7 (5.7)
DepF	12.2 (6.5)	20.3 (10.0)	20.6 (9.4)
ExhI	16.3 (9.4)	20.6 (10.1)	22.6 (7.9)
ExhF	18.8 (12.3)	23.6 (11.6)	26.5 (10.5)
AchI	28.3 (8.9)	28.2 (9.4)	32.5 (8.6)
AchF	30.8 (9.8)	30.5 (10.2)	35.2 (8.8)
<u>Outcome Variables</u>			
Voc	22.9 (5.9)	21.6 (6.8)	19.5 (5.2)
Psych	25.6 (7.6)	25.3 (8.8)	23.7 (7.4)
Interp	20.3 (5.9)	22.3 (7.5)	18.9 (3.9)
Phys	21.5 (7.6)	22.2 (7.2)	22.5 (8.7)
Jobsat	15.0 (7.6)	14.3 (6.5)	16.9 (6.9)
Orgcom	54.2 (13.5)	50.6 (16.7)	57.1 (15.9)
<u>Coping Variables</u>			
Rec	26.3 (6.7)	27.4 (7.4)	28.0 (5.9)
Self Care	25.7 (6.1)	26.8 (5.8)	26.4 (7.0)
GSupport	33.0 (8.8)	35.5 (10.4)	37.3 (11.6)
RatCog	31.2 (7.2)	33.6 (8.6)	33.4 (6.9)
POS	59.7 (15.4)	55.3 (15.8)	57.6 (19.0)

TABLE 26

Multivariate analysis of variance - Statistical tests for between groups (clerical, supervisory and managerial).

<u>Test</u>	<u>Value</u>	<u>Approx. F</u>	<u>D. F.</u>	<u>Sign. of F</u>
Pillais	.886	2.374	46, 138	.000
Hotellings	1.858	2.706	46, 134	.000
Wilks	.289	2.539	46, 136	.000

TABLE 27

Univariate statistical tests on the 23 dependent variables following the significant multivariate analysis of variance. Only significant F-ratios ($p > .05$) are designated by their probability values. All tests have 2 and 90 degrees of freedom.

<u>Variables</u>	<u>F-ratio</u>	<u>P</u>
Load	7.41	.001
Insufficiency	3.54	.033
Ambiguity	.97	
Conflict	.82	
Responsibility	27.12	.000
Environment	1.34	
Vocational strain	1.91	
Psychological strain	.40	
Interpersonal strain	2.20	
Physical strain	.12	
Job satisfaction	.88	
Organizational commit.	1.26	
Recreation	.44	
Self care	.27	
General support	1.17	
Rational cognitive	.98	
Perc. Organiz. support	.66	
Depersonalization int.	9.41	.000
Depersonalization freq.	9.42	.000
Emotional exhaustion int.	3.26	.043
Emotional exhaustion freq.	3.05	
Achievement int.	1.75	
Achievement freq.	1.90	

Univariate analysis

Table 27 shows the results of the ensuing univariate tests which are designed to explore group variations with respect to each variable. From the probability values, it can be concluded that clerical workers, supervisors and managers differed from each other with regard to three role stress variables and three dimensions of burnout. That is, there was some divergence in terms of the levels of stress associated with role load, insufficient and responsibility across the three groups. In addition, significant differences were found in the reported intensity of emotional exhaustion and both the frequency and intensity of feelings of depersonalization.

A look back at Table 25 reveals that managers experienced the highest levels of stress due to role load and responsibility and the lowest role insufficiency. Clerical workers scored lowest on the three significant dimensions of burnout. Supervisors reported slightly more intense depersonalization than did managers, but less intense emotional exhaustion.

Multivariate and univariate analyses of covariance

To ensure that the aforementioned results were not influenced by gender or age factors, a multivariate analysis of covariance was conducted. According to the results of the tests of significance shown in Table 28, significant group

TABLE 28

Multivariate analysis of co-variance with age and gender as co-variates - Statistical tests for between groups (clerical, supervisory and managerial).

<u>Test</u>	<u>Value</u>	<u>Approx. F</u>	<u>D.F.</u>	<u>Sign. of F</u>
Pillais	.905	2.409	46, 134	.000
Hotellings	1.953	2.759	46, 130	.000
Wilks	.267	2.583	46, 132	.000

TABLE 29

Univariate statistical tests on the 23 dependent variables following the significant multivariate analysis of covariance. Only significant F-ratios ($p > .05$) are designated by their probability values. All tests have 2 and 88 degrees of freedom.

<u>Variables</u>	<u>F-ratio</u>	<u>P</u>
Load	5.34	.006
Insufficiency	3.43	.037
Ambiguity	1.35	
Conflict	.84	
Responsibility	24.90	.000
Environment	.91	
Vocational strain	2.48	
Psychological strain	.30	
Interpersonal strain	2.26	
Physical strain	.59	
Job satisfaction	.93	
Organizational commit.	1.29	
Recreation	.04	
Self care	.22	
General support	1.09	
Rational cognitive	.19	
Perc. Organiz. support	.83	
Depersonalization int.	8.44	.000
Depersonalization freq.	8.90	.000
Emotional exhaustion int.	3.37	.039
Emotional exhaustion freq.	3.48	.035
Achievement int.	1.83	
Achievement freq.	1.85	

differences were still found when the demographic variables of gender and age were held constant. Table 29 presents the univariate statistical tests. The same stress and burnout variables distinguished the three occupational groups, with the addition of reported frequency of emotional exhaustion. From Table 15, which gives the Pearson product-moment correlations between the demographic variables and each of the 23 dependent variables, it can be inferred that the difference may reflect the more frequent emotional exhaustion reported by females in this sample.

Discriminant function analysis

A discriminant function analysis was performed to determine which combination of variables best distinguishes the three occupational groups. With three groups and 23 variables, the analysis yields two discriminant functions. The first function maximizes the separation between the three groups and the second, orthogonal to the first function, distinguishes the groups based on information not accounted for in the first.

Both the direct and step-wise methods of variable entry were used. For the direct method, all of the predictor variables were entered into the equation simultaneously. The step-wise method selected the order of variable entry so that the smallest value of Wilks' lambda, and therefore the largest

TABLE 30

Discriminant function analysis of the dependent variables in relation to job classification using direct entry of variables. The table values are pooled within-group correlations between the variables and the canonical discriminant function.

<u>Variables</u>	<u>Function 1</u>	<u>Function 2</u>
Responsibility	.65	.06
Load	.33	-.08
Insufficiency	-.23	-.01
Achievement freq.	.17	.06
Vocational strain	-.17	.07
Achievement int.	.16	.08
Ambiguity	-.12	-.05
Gen. support	.12	-.12
Psychological strain	-.08	-.01
Depers. int.	.22	-.58
Depers. freq.	.24	-.55
Interpersonal strain	-.11	-.28
Environment	.04	-.26
Emot. exhaust. int.	.18	-.24
Organizational commit.	.08	.21
Emot. exhaust. freq.	.19	-.20
Rational cognitive	.07	-.19
Perc. org. support	-.02	.19
Conflict	-.06	-.18
Job satisfaction	.10	.12
Self care	.02	-.11
Recreation	.07	-.08
Physical strain	.04	-.05
Eigenvalue	1.44	.41
Percent of variance	77.71	22.29
Canonical correlation	.77	.54
Wilk's Lambda	.29	.71
Chi-squared	97.96	27.37
D. F.	46	22
Significance	.000	.197

TABLE 31

Group centroids associated with each discriminant function revealed by direct variable entry.

<u>Job classification</u>	<u>Function 1</u>	<u>Function 2</u>
Clerical	-.96	.65
Supervisory	-.28	-.73
Managerial	2.18	.31

multivariate F, were obtained. Tables 30 and 32 display the correlations between the variables and the canonical discriminant function for the direct and step-wise methods, respectively. The two methods produced somewhat similar results. By convention, only variables with loadings greater than .30 are employed in the evaluation and interpretation of the discriminant function.

The results of the direct entry method are shown in Table 30. Only the first discriminant function was found to be significant. It is a fairly robust function, since it accounts for 77% of the between group variance. Two work stress variables, role load and responsibility, loaded positively on the function. This means that the three employee groups were best differentiated on the basis of work stress associated with load and responsibility. The group centroids yielded by this analysis are presented in Table 31. They indicate that managers were highest on the function associated with load and responsibility, supervisors were situated in the middle and clerical workers were lowest on these stress dimensions.

The step-wise analysis as shown in Table 32 gave two statistically significant functions. As in the direct method, the first function was positively associated with the two stress variables of load and responsibility, and negatively related to insufficiency. The second function seemed to reflect interpersonal outcomes, that is, it loaded positively on the burnout dimensions of depersonalization frequency and

TABLE 32

Discriminant function analysis of the dependent variables in relation to job classification using step-wise (Wilk's Lambda) entry of variables. The table values are pooled within-group correlations between the variables and the canonical discriminant function.

<u>Variables</u>	<u>Function 1</u>	<u>Function 2</u>
Responsibility	.71	-.09
Load	.37	.08
Insufficiency	-.33	.15
Achievement int.	.20	-.06
Recreation	.19	-.03
Vocational strain	-.19	-.08
Achievement freq.	.19	-.07
Job satisfaction	.14	-.03
Gen. support	.13	.18
Self care	.11	.11
Psychological strain	-.11	-.02
Physical strain	-.07	.01
Depers. int.	.25	.65
Depers. freq.	.20	.53
Interpersonal strain	-.11	.32
Environment	.05	.29
Emot. exhaust. int.	.21	.28
Conflict	-.15	.26
Emot. exhaust. freq.	.21	.22
Perc. org. support	-.09	-.22
Rational cognitive	.13	.17
Organizational commit.	.05	-.07
Ambiguity	.02	.06
Eigenvalue	1.17	.32
Percent of variance	78.41	21.59
Canonical correlation	.73	.49
Wilk's Lambda	.35	.76
Chi-squared	90.92	24.10
D. F.	18	8
Significance	.000	.002

TABLE 33

Group centroids associated with each discriminant function revealed by step-wise (Wilk's Lambda) variable entry.

<u>Job classification</u>	<u>Function 1</u>	<u>Function 2</u>
Clerical	-.89	-.57
Supervisory	-.23	.65
Managerial	1.96	-.29

intensity, as well as, interpersonal strain. The group centroids shown in Table 33 again indicate that managers scored higher on load and responsibility but lower on insufficiency than did supervisors and clerical workers. However, the supervisory group tended to load higher on the function associated with interpersonal strain and depersonalization, while the managers were intermediate and the clerical workers were lowest on the function. In sum, it seems that the three employee groups were best differentiated by a combination of stress variables and interpersonal outcome variables.

DISCUSSION

The following section will examine the obtained results in light of the hypotheses offered in the introduction. An attempt will be made to tie the theoretical concepts proposed in the literature to the prevalence of burnout and stress found in this federal public service sample. Speculations regarding the obtained relationships between various measured variables, as well as, the differences across occupational groups will also be explored. The contribution of perceived organizational support in mitigating work stress and outcomes will be given special attention as a possible intervention and/or prevention tool. To answer some of the questions raised by this study, proposals for future research avenues will then be discussed.

Before proceeding, a brief look at organizational issues in the Canadian Federal Public Service which may have influenced the results may be helpful. The testing sessions were conducted in the Spring of 1991. At this time the working climate was fraught with uncertainty with regard to job security, salary increases and program cutbacks. In addition, strike action was being discussed as a protest against what was considered unfair treatment by the employer. Overall, morale and productivity were considered to be quite low.

DISCUSSION OF HYPOTHESES

Hypothesis 1. Burnout was found in moderate to high levels in this sample of federal public servants. The overall configuration of the burnout syndrome indicated that these employees experienced significantly higher levels of depersonalization, lower feelings of accomplishment and lower levels of emotional exhaustion when compared to Maslach et al.'s (1982) human service sample. However, stress and strain levels were not significantly different from those experienced by the employees in Osipow et al.'s (1983) norms. The fact that such a high degree of depersonalization exists in a group not especially oriented towards helping others raises some questions about the validity of the assumed etiology of the syndrome. What are, for example, the aspects of the work environment which contribute to burnout? The next section will look at some of the potential factors which may have an influence on the experience of various dimensions of burnout. In addition, high levels of depersonalization were not necessarily preceded by equally high levels of emotional exhaustion as proposed by Leiter et al. (1987). Does this mean that these two facets of burnout are not interrelated in the same ways as previously suggested or is the relationship altered depending on the types of occupational demands?

Although depersonalization was more pronounced in the occupational types thought to involve more contact with other

people, burnout symptoms also existed in moderate levels in employees doing clerical work. Burnout dimensions were shown to be quite distinct from other types of work induced strain. First, they loaded on separate factors. In addition, the variables which predicted the outcomes of burnout and strain differed widely. General work strain seemed to be more strongly dependent on the degree of personal coping resources and support which an employee enjoys, whereas depersonalization and emotional exhaustion were influenced by combinations of stress variables and perceived organizational support. The notion that the MBI is measuring a unique type of work strain would seem to be justified. However, its relationship to 'people-oriented' work is unclear.

Burnout was not found to significantly affect the organizational outcomes of job satisfaction and organizational commitment as initially proposed. Except for feelings of accomplishment which was significantly related to job satisfaction, an individual's feelings and attitudes towards their job and organization were more strongly influenced by whether employees perceived their organization as supportive and caring, as well as, the amount of stress due to conflict and insufficiency they experienced. In other words, satisfaction with one's work and employer depended on the perception of having met their needs for recognition, support, harmony and challenge. Unexplored factors such as economic climate, reward systems and work-related peer support could

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have also impacted on the outcomes of job satisfaction and commitment.

Hypothesis 2. The proposed relationship between the depersonalization and emotional exhaustion dimensions of burnout and the stress and coping variables was partially supported by the data obtained for this sample. Of the stress variables, only role conflict and overload surfaced as important predictors of these burnout dimensions.

Conflict was the only facet of role stress which significantly predicted depersonalization. It may be assumed that frequent conflicts between opposing demands can lead the individual to become distant and even callous towards other people. Leiter et al. (1987) also proposed that frequent conflicts with superiors or co-workers on the job can produce higher levels of burnout since these situations can presumably drain an individual's energy and negatively influence their attitude towards other people. Since the variance accounted for was modest, it is reasonable to assume that there are additional factors, aside from those measured, contributing to the development of depersonalization. These may include a variety of variables, such as individual characteristics, specific task demands, supervisory style, and so on.

Emotional exhaustion was more strongly predicted by role

overload, though the levels of exhaustion were low to moderate in this sample. The relationship supports previous research findings (e.g. Burke et al., 1989; Maslach et al., 1984; Miller et al., 1990). Load was also modestly correlated with psychological and physical strain. Perhaps the exhaustion experienced by public sector workers reflected their perceptions of heavy workloads rather than the intensity and amount of interpersonal contacts. The fact that emotional exhaustion was felt to a lesser degree than in Maslach et al.'s (1981b) sample of human service workers may demonstrate a general lack of heavy emotional content in the work-related tasks performed by federal public servants. Overload can also result from a misfit between skills and job demands indicating a possible lack of adequate training and experience for some employees. Although load appears to contribute to exhaustion, as reflected by the strain variables, it may lean more towards mental and physical exhaustion rather than towards emotional exhaustion for this group.

The level of perceived organizational support was an important predictor for both of these burnout dimensions. This would seem to indicate that when employees feel that their employer cares about their contributions and well-being, they tend to feel less drained and view other people at work more positively. It also appears to strengthen the finding that positive and supportive interactions with superiors can reduce role conflict, as well as, depersonalization and emotional

exhaustion (Leiter et al., 1987). Furthermore, the perception that one is permitted to participate in organizational decision-making and that individual efforts and opinions are valued can serve to mitigate stress from role conflict and the ensuing symptoms of burnout.

Interestingly, for this group of employees, role ambiguity did not emerge as a factor in producing burnout as proposed by several authors (e.g. Boyd et al., 1989; Schwab et al., 1982). In fact, in the Boyd et al. (1989) study, only role conflict and ambiguity variables were entered into the analysis and only a small portion of the variances in depersonalization and emotional exhaustion could be explained. They conceded, therefore, that factors other than ambiguity may have been more salient to the explanation of these burnout dimensions. In this study, six stress variables and five coping variables were measured in an attempt to determine significant contributors. Factors such as conflict, load and perceived organizational support seemed to be more important predictors. On the other hand, ambiguity correlated to a significant degree with the outcomes of vocational, psychological and interpersonal strain. Since the strain variables reflect affective states and behaviours in all aspects of an individual's life including work, this would seem to indicate that role ambiguity impacts more strongly on perceptions of general strain and tension, than feelings of job burnout. In addition, role ambiguity was mitigated by

general and organizational support and rational cognitive resources. This implies that these coping strategies can be used to gather the information necessary to relieve the stress induced by role ambiguity. The degree of ambiguity was thus affected by the proficiency of the individual in utilizing these tools to clarify work-related roles.

The stress of high levels of responsibility did not predict depersonalization or emotional exhaustion, although it was modestly and significantly correlated with both. It was not meaningfully related to any of the job strain measures or the organizational outcomes. This would seem to indicate that the relative level of responsibility for others did not have a greater effect on those outcomes which are typically associated with 'people-oriented' work. Perhaps for some of the employees in this sample, additional responsibilities were viewed as a positive aspect of their work and, therefore, resulting strain levels were not significantly affected.

Hypothesis 3. Role insufficiency was negatively related to feelings of accomplishment as previously postulated. In fact, many of the individuals (58% and 74%, for frequency and intensity, respectively) in the sample reported feeling low levels of personal accomplishment. This may be somewhat different than the phenomenon found in human service professions. In those groups, the experience of emotional

exhaustion and depersonalization is said to lead to lower feelings of accomplishment because of the inability of the employee to fulfil his responsibilities towards other people in an appropriate and caring manner (e.g. Cherniss 1980; Maslach, 1982). Feelings of accomplishment in the present sample seemed to be drawn more directly from the interplay between job demands and personal skills and abilities as measured by the role stress dimension of insufficiency. Low feelings of personal accomplishment among public servants may simply indicate that they did not feel themselves to be functioning at their full potential. Since the items assessing feelings of accomplishment on the MBI focus predominantly on the individual's sense of competence in relation to serving other people, it is possible that public servants do not value these skills in the same way as human service workers. Underutilization of skills and a lack of variety and challenge have also been cited in the literature as a direct source of burnout (e.g. Cherniss, 1980). Perhaps the notion of role insufficiency should be measured and explored in human service professions as an alternative to the hypothesized causal relationship between feelings of accomplishment and the antecedents of depersonalization and emotional exhaustion.

Hypothesis 4. As expected, there were significant differences in the types of stress and job outcomes

experienced by the employees in each of the occupational groups. The discriminant function analysis showed that the three groups differed on a combination of load, responsibility and insufficiency stress variables and on the outcome variables of intensity and frequency of depersonalization. The fact that the groups could be differentiated on the basis of work stress and outcomes presumably reflects the divergence in job tasks and demands across occupational types. Burnout levels were higher for those employees thought to have more interpersonal contact and responsibility for other people.

Managers felt greater work stress due to responsibility, as well as role overload. This did not translate to the higher levels of experienced burnout as hypothesized. They were intermediate on burnout measures compared to the other two groups, especially on the depersonalization dimension. Although these managers did perceive themselves as having greater responsibilities for other people, the nature of this stressor may differ from that felt by human service workers. For instance, human service professionals may feel more responsible for their client's well-being and quality of life. Feelings of callousness as a result of intense emotional contact may be viewed as detrimental to providing the support necessary to perform one's job. It is possible that the managers in this group were not as concerned for their individual employees' well-being as they were for production

levels and motivational strategies, therefore added responsibilities may not have led to depersonalization to the same extent. The low level of emotional exhaustion in all the groups may indicate that while responsibility for others may be related to depersonalization, it may not carry the same emotional weight as it does for a worker in 'people-oriented' professions. Role conflict was found to be a strong predictor of depersonalization and the managers typically experienced lower levels of this kind of stress than did supervisors. Because role insufficiency was not as pervasive a problem for managers, it may have been that the greater load and responsibility were viewed as positive job components for this group.

Supervisors did not experience more role overload, and, although the average role conflict score was highest for them, it did not emerge as a significant discriminator across the three occupational groups. However, as predicted, they were higher on depersonalization and interpersonal strain. This finding is interesting since it would seem to highlight the fact that much of the supervisor's job may involve working with both employees and managers. Since role conflict has been associated with depersonalization in previous sections, it would appear that for these supervisors the presence of this type of stress resulted in the development of negative attitudes towards the people with which they come in contact,

though their overall work load and responsibility may not be as heavy relative to the managers. This group also reported more stress with regard to role insufficiency than did managers, indicating that they were not as satisfied with the opportunities to use or develop their skills.

Clerical workers were lowest on overload and responsibility but highest on role insufficiency. They showed low to moderate levels of burnout and work related strain. The salient feature of this occupational group was that, although strain levels may have been the same or even slightly higher than in the other groups, the level of burnout in the clerical group fell in the low to moderate range. This appears to support the notion that the MBI measures a job outcome, namely burnout, which is conceptually different from traditional strain effects. Overall, it is unclear whether the lower burnout levels found among the clerical workers were due to their presumably lesser amount of contact and responsibility for other people. Except for insufficiency, this group showed the lowest stress levels and this conceivably could have reduced their feelings of depersonalization and emotional exhaustion. The fact that they reported more stress due to role insufficiency would seem to reflect the boredom often associated with routine clerical work. 'Deskilling' could possibly be a contributing problem as clerical tasks are increasingly being simplified by

computerized office systems.

FUTURE RESEARCH

The findings supported the notion that the dimensions of burnout can be found in a variety of job situations. Furthermore, there were differences in the way these were manifested in work with different demands. Depersonalization was more pronounced in those public service occupations involving more interpersonal contact and responsibility for others. However, they differ from human service workers in that they did not experience emotional exhaustion to the same extent. Directly comparing the same stress, coping and burnout measures, as well as the different task demands, between groups of public service and human service workers would serve to clarify the apparent discrepancies.

Because of the relatively small sample size and limited number of occupational types used in this study, it would be useful to determine whether burnout is found more pervasively in the working population. This would include large samples of employees in a wide variety of occupations from the private and public sectors. Comparing individuals in a variety of human service and non-human service professions is required to further explore the question of whether burnout symptoms truly originate from frequent and intense contact with people or

more generally from common work stress situations. Following the results of this study, the findings would probably reveal that burnout is found to different degrees in most occupations, and that it is related to a combination of stressors such as interpersonal contact, role conflict, work load and perceived organizational support.

The question concerning the etiology of burnout was only partially answered by this study. The regression analyses offered some clues, however the measured variables only accounted for a modest portion of the variance in each dimension. Future research may benefit from evaluating additional factors which might conceivably contribute to the outcome of burnout, such as the amount and quality of interpersonal contacts, specific task demands, and so on. It is often difficult to determine the direction of causality in correlational studies, that is, whether the measured facets of role stress actually result in burnout and other strain and job outcomes or whether the relationships are interdependent and reciprocal. Longitudinal studies tracing the development of stress and burnout in the work place would help clarify these relationships. This could be achieved by using questionnaires, interviews and third party observations to study groups of employees in different organizational climates to determine the onset of work stress and how it relates to various organizational outcomes. As a less time consuming option, larger samples can be measured and analyzed using such

statistical packages as LISREL, which studies correlational patterns amongst groups of variables and generates hypotheses about the relationships between them.

More studies should be conducted to explore the relationship between feelings of accomplishment and the concepts of insufficiency, job satisfaction and the burnout dimensions in occupations other than the human services. For those in people-oriented jobs, the basic premise is that many employees enter the field because they draw some satisfaction from helping others. As a consequence of exhaustion and a negative attitude towards their clients, they may feel that they are not performing up to their standards. However, the symptoms of emotional exhaustion and depersonalization may not have the same impact on those workers whose chosen careers do not revolve primarily around dealing with other people. Feelings of accomplishment may therefore be dependent on different aspects of their work such as challenge, recognition, responsibility and remuneration.

Perceived organizational support was moderately and negatively correlated with work stress, as well as all of the outcome variables in this sample. Therefore, future research should be directed towards understanding its role as a prevention and/or intervention tool for employees in a full variety of occupations and organizational structures. Perceived organizational support seemed to have the strongest impact on the burnout dimensions of depersonalization and

emotional exhaustion, therefore it would be worthwhile examining its influence in mitigating the level of burnout in human service workers. Cherniss (1980) postulated that some of the major determinants of burnout in the helping professions were isolation, a sense of helplessness and futility, and a lack of organizational sensitivity. Perhaps if employees' perceptions of organizational support were reinforced, this would serve to slow the spread of burnout amongst these workers. This could be accomplished by studying a variety of organizations to determine whether different levels of perceived support have led to differences in the prevalence of stress and burnout. Exactly how perceived organizational support can be enhanced by using such tools as employee assistance programs, participation in decision-making, positive feedback and reward systems also needs to be explored in order to expand empirical knowledge in the field of work stress prevention and intervention.

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APPENDIX A
THE QUESTIONNAIRES

OCCUPATIONAL ENVIRONMENT SCALE**INSTRUCTIONS**

There are 60 statements on the following form which is designed to measure the kind of stress that people experience in their work. As the statements are intended to apply to all work environments, the words may not be suitable for your work environment. For example, the term supervisor is meant to refer to the boss, manager, department head, or the person to whom an employee reports.

On the answer sheet '5' stands for "Most of the time", '4' stands for "Usually", '3' stands for "Often", '2' stands for "Occasionally", and '1' stands for "Rarely or Never".

Read each statement and circle the answer which seems to fit you best for each statement. Please be sure to respond to all 60 items even if it is hard to do so.

	5	4	3	2	1
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"
1. At work I am expected to do too many different tasks in too little time.				1 2 3 4 5	
2. I feel that my responsibilities are increasing.				1 2 3 4 5	
3. I am expected to perform tasks on my job for which I have never been trained.				1 2 3 4 5	
4. I have to take work home with me.				1 2 3 4 5	
5. I have the resources to get my job done.				1 2 3 4 5	
6. I feel competent in what I do.				1 2 3 4 5	
7. I work under tight time deadlines.				1 2 3 4 5	
8. I wish that I had more help to deal with the demands placed upon me at work.				1 2 3 4 5	
9. My job requires me to work in several equally important areas at once.				1 2 3 4 5	
10. I am expected to do more work than is reasonable.				1 2 3 4 5	

	5	4	3	2	1
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"
11. I feel that my career is progressing about as I hoped.				1 2 3 4 5	
12. I feel that my job fits my interests and skills.				1 2 3 4 5	
13. I am bored with my job.				1 2 3 4 5	
14. I feel that I have enough responsibility on my job.				1 2 3 4 5	
15. I feel my talents are being used on the job.				1 2 3 4 5	
16. I feel my job has a good future				1 2 3 4 5	
17. I am able to satisfy my needs for success and recognition in my job.				1 2 3 4 5	
18. I feel I am overqualified for my job.				1 2 3 4 5	
19. I learn new skills in my work.				1 2 3 4 5	
20. I have to perform tasks that are beneath my ability.				1 2 3 4 5	

	5	4	3	2		1	
	"Most of the Time"	"Usually"	"Often"	"Occasionally"		"Rarely or Never"	
21. My supervisor provides me with useful feedback about my performance.				1	2	3	4 5
22. It is clear to me what I have to do to get ahead.				1	2	3	4 5
23. I am uncertain about what I am supposed to accomplish in my work.				1	2	3	4 5
24. When faced with several tasks at once I know which should be done first.				1	2	3	4 5
25. I know where to begin a new project when it is assigned to me.				1	2	3	4 5
26. My supervisor asks for one thing but really wants another.				1	2	3	4 5
27. I understand what is acceptable personal behaviour on my job (e.g. dress, interpersonal behaviour, etc.).				1	2	3	4 5
28. The priorities of my job are clear to me.				1	2	3	4 5
29. I have a clear understanding of how my boss wants me to spend my time.				1	2	3	4 5
30. I know the basis on which I am evaluated.				1	2	3	4 5

	5	4	3	2	1	
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"	
31. I feel conflict between what my employer expects me to do and what I think is right and proper.				1	2	3
32. I feel caught between factions at work.				1	2	3
33. I have more than one person telling me what to do .				1	2	3
34. I feel I have a stake in the success of my organization.				1	2	3
35. I feel good about the work I do.				1	2	3
36. My supervisors have conflicting ideas about what I should be doing.				1	2	3
37. I am proud of what I do for a living.				1	2	3
38. It is clear who really runs things where I work.				1	2	3
39. I have divided loyalties on my job.				1	2	3
40. The work I do has as much payoff for me as for my employer.				1	2	3

	5	4	3	2	1
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"
41. I feel I deal with more people during the day than I prefer.				1 2 3 4 5	
42. I spend time concerned with the problems others bring to me.				1 2 3 4 5	
43. I am responsible for the welfare of subordinates.				1 2 3 4 5	
44. People on the job look to me for leadership.				1 2 3 4 5	
45. I have on the job responsibility for the activities of others.				1 2 3 4 5	
46. I worry about whether the people who work for/with me will get things done properly.				1 2 3 4 5	
47. People who work for/with me are really hard to deal with.				1 2 3 4 5	
48. If I make a mistake on the job the consequences for others can be pretty bad.				1 2 3 4 5	
49. My job demands that I handle an angry public.				1 2 3 4 5	
50. I like the people I work with.				1 2 3 4 5	

	5	4	3	2	1			
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"			
51. On my job I am exposed to high levels of noise.				1	2	3	4	5
52. On my job I am exposed to high levels of wetness.				1	2	3	4	5
53. On my job I am exposed to high levels of dust.				1	2	3	4	5
54. On my job I am exposed to high temperatures.				1	2	3	4	5
55. On my job I am exposed to bright light.				1	2	3	4	5
56. On my job I am exposed to low temperatures.				1	2	3	4	5
57. I have an erratic work schedule.				1	2	3	4	5
58. On my job I am exposed to personal isolation.				1	2	3	4	5
59. On my job I am exposed to unpleasant odors.				1	2	3	4	5
60. On my job I am exposed to poisonous substances.				1	2	3	4	5

PERSONAL STRAIN QUESTIONNAIRE**INSTRUCTIONS**

This instrument is designed to measure different kinds of strain people experience in their lives.

On the answer sheet '5' stands for "Most of the time", '4' stands for "Usually", '3' stands for "Often", '2' stands for "Occasionally", and '1' stands for "Rarely or Never".

Read each statement and circle the answer which seems to fit you best for each statement. Please be sure to respond to all 40 items even if it is hard to do so.

1. I don't seem to be able to get much done at work.	1	2	3	4	5
2. I dread going to work, lately.	1	2	3	4	5
3. I am bored with my work.	1	2	3	4	5
4. I find myself getting behind in my work, lately.	1	2	3	4	5
5. I have accidents on the job of late.	1	2	3	4	5
6. The quality of my work is good.	1	2	3	4	5
7. Recently, I have been absent from work.	1	2	3	4	5
8. I find my work interesting and/or exciting.	1	2	3	4	5
9. I can concentrate on the things I need to do at work.	1	2	3	4	5
10. I make errors or mistakes in my work.	1	2	3	4	5

	5	4	3	2	1
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"
11. Lately, I am easily irritated.				1 2 3 4 5	
12. Lately, I have been depressed.				1 2 3 4 5	
13. Lately, I have been feeling anxious.				1 2 3 4 5	
14. I have been happy, lately.				1 2 3 4 5	
15. So many thoughts run through my head at night that I have trouble falling asleep.				1 2 3 4 5	
16. Lately, I respond badly in situations that normally wouldn't bother me.				1 2 3 4 5	
17. I find myself complaining about little things.				1 2 3 4 5	
18. Lately, I have been worrying.				1 2 3 4 5	
19. I have a good sense of humour.				1 2 3 4 5	
20. Things are going about as they should.				1 2 3 4 5	
21. I wish I had more time to spend with close friends.				1 2 3 4 5	
22. I quarrel with my spouse.				1 2 3 4 5	
23. I quarrel with my friends.				1 2 3 4 5	

	5	4	3	2		1	
	"Most of the Time"	"Usually"	"Often"	"Occasionally"		"Rarely or Never"	
24. My spouse and I are happy together.				1 2 3		4 5	
25. Lately, I do things by myself instead of with other people.				1 2 3		4 5	
26. I quarrel with members of my family.				1 2 3		4 5	
27. Lately, my relationships with people are good.				1 2 3		4 5	
28. I find that I need time to myself to work out my problems.				1 2 3		4 5	
29. I wish I had more time to spend by myself.				1 2 3		4 5	
30. I have been withdrawing from people lately.				1 2 3		4 5	
31. I have unplanned weight gains.				1 2 3		4 5	
32. My eating habits are erratic.				1 2 3		4 5	
33. I find myself drinking alot lately.				1 2 3		4 5	
34. Lately, I have been tired.				1 2 3		4 5	
35. I have been feeling tense.				1 2 3		4 5	
36. I have trouble falling and staying asleep.				1 2 3		4 5	

	5	4	3	2	1	
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"	
37. I have aches and pains I can not explain.				1 2 3	4	5
38. I eat the wrong foods.				1 2 3	4	5
39. I feel apathetic.				1 2 3	4	5
40. I feel lethargic.				1 2 3	4	5

HUMAN SERVICES SURVEY

(Modified version of the Maslach Burnout Inventory)

INSTRUCTIONS

Below you will see 22 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling write a "0" (zero) in both the "How often" and "How strong" columns before the statement. If you have had this feeling, indicate how often you feel it by writing the number from 1 to 6 which best describes how frequently you feel this way. Then decide how strong the feeling is when you experience it by writing the number from 1 to 7 that best describes how strongly you feel it.

HOW OFTEN:

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

HOW STRONG:

0	1	2	3	4	5	6	7
Never	Very mild Barely noticeable			Moderate			Major Very strong

HOW OFTEN:

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

HOW STRONG:

0	1	2	3	4	5	6	7
Never	Very mild Barely noticeable			Moderate			Major Very strong

- | | HOW
OFTEN | HOW
STRONG | |
|-----|--------------|---------------|---|
| 1. | _____ | _____ | I feel emotionally drained from my work. |
| 2. | _____ | _____ | I feel used up at the end of the
workday. |
| 3. | _____ | _____ | I feel fatigued when I have to get up in
the morning and face another day. |
| 4. | _____ | _____ | I can easily understand how the people I
deal with feel about things. |
| 5. | _____ | _____ | I feel I treat other people as if they
were impersonal objects. |
| 6. | _____ | _____ | Working with people all day is really a
strain to me. |
| 7. | _____ | _____ | I deal very effectively with people's
problems at work. |
| 8. | _____ | _____ | I feel burned out from my work. |
| 9. | _____ | _____ | I feel that I am positively influencing
people's lives through my work. |
| 10. | _____ | _____ | I've become more callous to people since
I took my present job. |
| 11. | _____ | _____ | I worry that my job is hardening me
emotionally. |

HOW OFTEN:

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

HOW STRONG:

0	1	2	3	4	5	6	7
Never	Very mild Barely noticeable			Moderate			Major Very strong

- | | HOW
OFTEN | HOW
STRONG | |
|-----|--------------|---------------|---|
| 12. | _____ | _____ | I feel very energetic. |
| 13. | _____ | _____ | I feel frustrated by my job. |
| 14. | _____ | _____ | I feel I'm working too hard on my job. |
| 15. | _____ | _____ | I don't really care what happens to some
of the people I deal with. |
| 16. | _____ | _____ | Working with people directly puts too
much stress on me. |
| 17. | _____ | _____ | I can easily create a relaxed atmosphere
with the people with whom I deal. |
| 18. | _____ | _____ | I feel exhilarated after working closely
with people. |
| 19. | _____ | _____ | I have accomplished many worthwhile
things on this job. |
| 20. | _____ | _____ | I feel like I am at the end of my rope. |
| 21. | _____ | _____ | In my work I deal with emotional
problems very calmly. |
| 22. | _____ | _____ | I feel that the people with whom I deal
are to blame for some of their problems. |

JOB SATISFACTION

The following questions are included to tap your reactions/feelings towards your job. Indicate your response by circling the number beside the response alternative of your choice.

1. All in all, how satisfied would you say you are with your job?

- 5 - Very satisfied
- 3 - Somewhat satisfied
- 1 - Not too satisfied
- 1 - Not at all satisfied

2. If you were to go into any type of job you wanted, what would your choice be?

- 5 - Would want to keep the job I have now
- 1 - Would want to retire and not work at all
- 1 - Would prefer some other job to the job I have now

3. Knowing what you know now, if you had to decide all over again whether to take the job you now have, what would you decide?

- 5 - Decide without hesitation to take the same job
- 3 - Have second thoughts
- 1 - Decide definitely not to take the same job

4. In general, how well would you say that your job measures up to the sort of job you wanted when you took it?

- 5 - Very much like the job I wanted
- 3 - Somewhat like the job I wanted
- 1 - Not very much like the job I wanted

5. If a good friend of yours told you he or she was interested in working in a job like yours, what would you tell him or her?

- 5 - Would strongly recommend it
- 3 - Would have doubts about recommending it
- 1 - Would advise the friend against it.

ORGANIZATIONAL COMMITMENT QUESTIONNAIRE

Listed below are 15 statements designed to get an idea of employees' commitment to the organization they work for.

Indicate your response by circling the number which best represents your choice for each of the statements.

1	2	3	4	5	6	7
Strong	Moderate	Slight	Neither	Slight	Moderate	Strong
Disagree	Disagree	Disagree	Disagree	Agree	Agree	Agree
			nor			
			agree			

1. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.	1	2	3	4	5	6	7
2. I talk up this organization to my friends as a great organization to work for.	1	2	3	4	5	6	7
3. I feel very little loyalty to this organization.	1	2	3	4	5	6	7
4. I would accept almost any type of job assignment in order to keep working for this organization.	1	2	3	4	5	6	7
5. I find that my values and the organization's values are very similar.	1	2	3	4	5	6	7
6. I am proud to tell others that I am part of this organization.	1	2	3	4	5	6	7
7. I could just as well be working for a different organization as long as the type of work were similar.	1	2	3	4	5	6	7
8. This organization really inspires the very best in me in the way of job performance.	1	2	3	4	5	6	7

1	2	3	4	5	6	7
Strong	Moderate	Slight	Neither	Slight	Moderate	Strong
Disagree	Disagree	Disagree	Disagree	Agree	Agree	Agree
			nor			
			agree			

9.	It would take very little change in my present circumstances to cause me to leave this organization.	1	2	3	4	5	6	7
10.	I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.	1	2	3	4	5	6	7
11.	There's not too much to be gained by sticking with this organization indefinitely.	1	2	3	4	5	6	7
12.	Often, I find it difficult to agree with this organization's policies on important matters relating to its employees.	1	2	3	4	5	6	7
13.	I really care the fate of this organization.	1	2	3	4	5	6	7
14.	For me this is the best of all possible organizations for which to work in.	1	2	3	4	5	6	7
15.	Deciding to work for this organization was a definite mistake on my part.	1	2	3	4	5	6	7

PERSONAL RESOURCES QUESTIONNAIRE

INSTRUCTIONS

This instrument is designed to measure the extent to which resources are available to people to counteract the effects of occupational stress. On the answer sheet you'll notice that '5' stands for "Most of the time", and '1' for "Rarely". Read each statement and circle whichever of the five responses seems to fit you best for each statement. Notice that responses 2, 3, and 4 also have descriptive labels. Please be sure to respond to all 40 items, even if it is difficult to do so. Circle the most appropriate response.

	5	4	3	2	1
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"
1. When I need a vacation I take one.				1 2 3 4 5	
2. I am able to do what I want to do in my free time.				1 2 3 4 5	
3. On weekends I spend time doing things I enjoy most.				1 2 3 4 5	
4. Lately, my main recreational activity is watching television.				1 2 3 4 5	
5. A lot of my free time is spent attending performances (e.g., sporting events, theatre, movies, concerts, etc.).				1 2 3 4 5	
6. I spend a lot of my time in participant activities (e.g., sports, music, painting, woodworking, sewing, etc.).				1 2 3 4 5	
7. I spend a lot of my time in community activities (e.g., scouts, religious, school, local, government, etc.).				1 2 3 4 5	
8. I find engaging in recreational activities relaxing.				1 2 3 4 5	

	5	4	3	2	1	
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"	
9. I spend enough time in recreational activities to satisfy my needs.				1 2 3	4 5	
10. I spend a lot of my free time on hobbies (e.g., collections of various kinds, etc.).				1 2 3	4 5	
11. I am careful about my diet (e.g., eating regularly, moderately, and with good nutrition in mind).				1 2 3	4 5	
12. I get regular physical checkups.				1 2 3	4 5	
13. I avoid excessive use of alcohol.				1 2 3	4 5	
14. I exercise regularly (at least 20 minutes most days).				1 2 3	4 5	
15. I practice "relaxation" techniques.				1 2 3	4 5	
16. I get the sleep I need.				1 2 3	4 5	
17. I avoid eating or drinking things I know are unhealthy (e.g., coffee, tea, cigarettes, etc.).				1 2 3	4 5	
18. I engage in meditation.				1 2 3	4 5	
19. I practice deep breathing exercise a few minutes several times each day.				1 2 3	4 5	
20. I set aside time to do the things I really enjoy.				1 2 3	4 5	
21. There is at least one person important to me who values me.				1 2 3	4 5	
22. I have help with tasks around the house.				1 2 3	4 5	

	5	4	3	2	1	
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"	
23. I have help with the important things that have to be done.				1 2 3	4 5	
24. There is at least one sympathetic person with whom I can discuss my concerns.				1 2 3	4 5	
25. There is at least one sympathetic person with whom I can discuss my work problems.				1 2 3	4 5	
26. I feel I have at least one good friend I can count on.				1 2 3	4 5	
27. I feel loved.				1 2 3	4 5	
28. There is a person with whom I feel really close.				1 2 3	4 5	
29. I have a circle of friends who value me.				1 2 3	4 5	
30. I gain personal benefit from participation in formal social groups (e.g., religious, political, professional organizations, etc.).				1 2 3	4 5	
31. I am able to put my job out of my mind when I go home.				1 2 3	4 5	
32. I feel that there are other I could do besides my current one.				1 2 3	4 5	
33. I periodically re-examine or reorganize my work style and schedule.				1 2 3	4 5	
34. I can establish priorities for the use of my time.				1 2 3	4 5	
35. Once they are set, I am able to stick to my priorities.				1 2 3	4 5	
36. I have techniques to help avoid being distracted.				1 2 3	4 5	

	5	4	3	2	1
	"Most of the Time"	"Usually"	"Often"	"Occasionally"	"Rarely or Never"
37. I can identify important elements of problems I encounter.				1 2 3	4 5
38. When faced with a problem I use a systematic approach.				1 2 3	4 5
39. When faced with the need to make a decision I try to think through the consequences of choices I might make.				1 2 3	4 5
40. I try to keep aware of important ways I behave and things I do.				1 2 3	4 5

SURVEY OF PERCEIVED ORGANIZATIONAL SUPPORT

INSTRUCTIONS

On the following pages you will see a number of statements about the organization for which you work, each of which you may agree or disagree with depending on your own personal evaluation. Please indicate the degree of agreement and disagreement with each statement by circling a number from 1 to 6 where 1 means "Strongly disagree", 2 means "Disagree", 3 means "Mildly Disagree", 4 means "Neither Agree nor Disagree", 5 means "Mildly Agree", 6 means Agree, and 7 means "Strongly Agree".

1. The organization values my contribution to its well-being.	1	2	3	4	5	6	7
2. If the organization could hire someone to replace me at a lower pay it would do so.	1	2	3	4	5	6	7
3. The organization fails to appreciate any extra effort from me.	1	2	3	4	5	6	7
4. The organization strongly considers my goals and values.	1	2	3	4	5	6	7
5. The organization would ignore any complaint from me.	1	2	3	4	5	6	7
6. The organization disregards my best interests when it makes decisions which affect me.	1	2	3	4	5	6	7
7. Help is available from my organization when I have a problem.	1	2	3	4	5	6	7
8. The organization really cares about my well-being.	1	2	3	4	5	6	7
9. Even if I did the best possible job, the organization would fail to notice.	1	2	3	4	5	6	7

1	2	3	4	5	6	7
Strong	Moderate	Slight	Neither	Slight	Moderate	Strong
Disagree	Disagree	Disagree	Disagree	Agree	Agree	Agree
			nor			
			agree			

10. The organization is willing to help when I need a special favour.	1	2	3	4	5	6	7
11. The organization cares about my general satisfaction at work.	1	2	3	4	5	6	7
12. If given the opportunity the organization would take advantage of me.	1	2	3	4	5	6	7
13. The organization shows very little concern for me.	1	2	3	4	5	6	7
14. The organization cares about my opinions.	1	2	3	4	5	6	7
15. The organization takes pride in my accomplishments at work.	1	2	3	4	5	6	7
16. The organization tries to make my job as interesting as possible.	1	2	3	4	5	6	7

END

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FIN