SITUATIONAL DEMANDS AND COPING STRATEGIES IN ALBERTA PARAMEDICS

by

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ABSTRACT

The work of paramedics is considered highly demanding and is characterized by the need to be prepared for the unknown, make rapid decisions with the well-being of others in mind, and perform their work roles within unpredictable environments. Little research has examined this population of professionals with regard to the concepts of stress and coping, especially in considering the daily demands of paramedics and the coping strategies they utilize to deal with these demands. This research attempted to describe the demands that paramedics experience daily as a function of their work, identify coping strategies they use to address these demands, and examine the sources and functions of social support they seek in order to deal with their work demands. The Transactional Model of Coping was used as a conceptual framework with which to consider stress and coping and describe these constructs in paramedics.

A survey instrument was constructed using a combination of two existing instruments, the Inventory of Student Demands and the COPE, in addition to three new questions developed by the author. The majority of questions were quantitative in nature; however, four questions asked participants for hand-written responses. These hand-written responses were subjected to a content analysis. The survey was mailed to 260 randomly selected paramedics from the province of Alberta. With the aid of two reminder letters, 140 paramedics returned the survey representing a 56% return rate. This final sample consisted of 48% women and 52% men representing two professional classifications, Emergency Medical Technician-Paramedic (55%) and Emergency Medical Technician-Ambulance (45%). The average age of participants was between 30 to 34 years.

The group of paramedics ranked Role Demands as the most important demand category in the workplace. Specifically, duties such as maintaining skills and adhering to policies and procedures were most frequently cited within Role Demands. Relationships with others in the workplace and Role Overload were cited second and third, respectively. The coping strategies most often reported by the sample of paramedics, as identified by the COPE, were Positive Reinterpretation & Growth, Planning, and Acceptance. The coping strategies self-reported by participants were Active Coping, Seeking Social Support, and Mental/Emotional/Behavioural Disengagement. The discrepancy in findings between these methods of data collection was probably due to a propensity of participants to indicate behaviours over cognitions in a self-report measure. These paramedics sought social support more often from co-workers than from any other group. Spouses and supervisors were sought next most often after co-workers as sources of support, and were essentially accessed to the same extent. The type of support most often sought was Emotional Support followed closely by Informational Support. There were a number of statistical relationships found between coping strategies and gender, and most of these followed stereotypical notions of social behaviour based on gender.

These findings provide more detailed information to understand the pattern of stress and coping among paramedics than was previously available. In some ways these findings are disparate from those found on the previous few studies in the literature examining paramedics. This disparity may be due to differences in populations (i.e., American versus Canadian), and/or differences in the method and content of data collected. Limitations of this study and suggestions for further research are discussed with these findings in mind.

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CHAPTER 1

Introduction

Among the emergency service personnel receiving increased public attention is the paramedic. The professional classification of paramedicine has existed formally for a little over twenty years in Canada and has, for the most part, successfully combined the previously independent work roles of health care delivery and rescue services. This has created a new occupational niche and a new standard of health care delivery outside of a hospital setting. The job role of a paramedic is inherently and intensely stressful (Mitchell & Bray, 1990), given there is regular exposure to medical and psychological crises and responsibility for making rapid decisions critical to the well being of others. The work environment is unpredictable and often precarious (Linton, Kommor, & Webb, 1993) such as when dealing with abusive patients, working in cramped or poorly lit work places, or exposure to extreme weather conditions. Paramedics are left to deal with the psychological and physical consequences of these conditions and events.

Psychological and physical effects of stress are manifested among paramedics in several ways. Such manifestations include conflict with their patients, employers, and amongst paramedics themselves (Hammer, Mathews, Lyons, & Johnson, 1986). Symptoms of accumulated stress or "burnout" are commonly self-reported within this profession, such as poor self-esteem, increased absenteeism from work, and physical sickness (Mitchell & Bray, 1990; Wakefield, 1992). Vachon (1987) describes how health care workers on the whole typically manifest depression, guilt and grief, marital and family problems, feelings of helplessness or inadequacy, and anger as a result of their work stress. "Frequent or repetitive exposure to patients with pain, severe injuries, personal loss, and devastation, as well as having to deal with distressed families and

bystanders, has a direct adverse effect on the emotions and psyche of the prehospital provider" (Fontanarosa, 1990, p.128).

As well, paramedics manifest their stress through poor work performance behaviours. Hammer et al.(1986) report that not only is the stress response displayed in behaviours such as inaccurate diagnosis of patients, trivializing complaints by patients, and errors in treatment, but there is an increasing rate of paramedic attrition after seemingly short career spans. Hammer and colleagues report the average career span of paramedics is five years, which supports concerns that the physical and psychological costs are high.

Purpose of the Study

With these concerns for the health and well-being of paramedics in mind, identifying which stressors are paramount for paramedics and how they cope with them may permit a clearer understanding and better control of the distressing and negative components of stress on this population. Much of the existing literature investigating paramedics and stress focuses on sources of stress (Hammer et al., 1986; Schmuckler, 1991), the response to specific disasters or critical events (Linton et al., 1993; McCammon, Durham, Allison, & Williamson, 1988; Shepherd & Hodgkinson, 1989) or the physiological/psychological outcomes of working in this profession (Durham, McCammon, & Allison, 1985; Fontanarosa, 1990). Little research identifies the ways paramedics cope with their daily work demands. This study has attempted to examine how paramedics cope with their typical job role and environmental demands in a manner that is consistent with existing models of stress and coping.

At the same time, others have demonstrated that various aspects of seeking social support influences the degree and nature of perceived stress (Beehr, King, & King, 1990; Cohen & Wills, 1986; LaRocco, House, & French, 1980; Norbeck, 1985; Turner, 1981). Carver, Scheier, and Weintraub (1989), and Vachon (1987), among others,

consider the act of seeking social support to be a type of coping strategy. Hence, one further intent of this study was to examine sources and functions of social support for paramedics.

In summary, the purpose of this research was threefold: (1) to describe the specific demands experienced by a group of Canadian paramedics in their jobs, (2) to identify the coping strategies they used to address these demands, and finally, (3) to determine from whom these paramedics accessed social support and the qualitative nature of that support.

The subsequent chapters of this thesis will provide a review of what is currently known in the areas of work stress and coping for paramedics and allied health personnel, describe the research methodology used in this study, present the results, and discuss the findings in relation to the fields of work stress and prehospital medicine.

CHAPTER 2

Literature Review

This chapter will review three main content areas of the current literature: (1) occupational stress, (2) coping, including a model of coping upon which this research is based, and (3) a brief review of the relevant social support literature. This review will be followed by a rationale for the current study as well as a formal statement of the research questions.

Occupational Stress

Within this section, stress and occupational stress will be defined. This will be followed by a presentation of relevant literature identifying sources of stress to allied health personnel. The sources of stress will be discussed under two major themes, those arising from within the individual and those arising from the work place.

Hiebert (1988) suggests in his review of the stress literature that stress is often identified as a cognitive, behavioural, and physiological response to an event that results in a perceived imbalance between the demands made upon individuals and the resources they believe they have. Hiebert and Basserman (1986) report that the extent to which individuals experience stress in any given situation is dependent on their ability to handle the demanding situation satisfactorily, or at least on their evaluation of it. Lazarus (1991) has suggested that stress is "not generated per se by factors in the environment or by intrapsychic processes, but by person-environment relationships that change over time and circumstances" (p.819). Lazarus also includes emotional components as crucial to understanding the complex and diverse nature of a stressful experience.

Occupational stress may be similarly defined, that is, as the perception of job demands which exceed the individual's abilities and/or available organizational, physical, and social resources needed to meet those demands (Everly & Girdano, 1980; House, 1981; Rice, 1987; Vachon, 1987). Rice (1987) suggests that not only are people asked to meet the demands of their jobs, but that these jobs in turn must meet the expectations of the people working at them, be they social, political, financial, or intellectual. Otherwise, once again an imbalance exists between demands and the possibility of these demands not being met.

A number of researchers have described the sources of stress in the health care work place (Crabbs, Black & Morton, 1986; Everly & Girdano, 1980; Fontanarosa, 1990; Linton et al., 1993, Hartrick, 1989; MacKinnon, 1984, Maslach, 1982; Motowidlo, Manning & Packard, 1986; Oehler, Davidson, Starr, & Lee, 1991; Shepherd & Hodgkinson, 1990; and Vachon, 1987). These sources are displayed in Table 1. Sources of stress in the work place, or work demands, may arise out of one or both of the following: (1) the individual worker, his/her learning history and intrapsychic processes, and/or (2) the work environment. Individuals' experience of stress is a function of the interaction of these two sources of demands at any given point in time, and it is their interaction which comprises a context for understanding stress in the work place. Given this premise, it must be stated that these sources of stress probably cannot be precisely differentiated from the context in which they are embedded. Still, intrapsychic and environmental sources of stress identified in the literature will be discussed with this statement in mind. Since little research has been conducted with paramedics delineating their sources of stress and ways of coping with non-critical events, research covering allied health personnel will be examined to augment that research which looks specifically at paramedics.

Table 1

Work Demands of Allied Health Personnel*

Individual

Control issues
Unreasonable expectations of self
Facing own mortality and fear of death

Environmental

Organizational/Physical Environment

Challenging and changing technology
Inadequate material resources
Bureaucracy and politics
Poor career advancement opportunities
Inadequate training and orientation
Lack of support from supervisors
Lack of support from and negligent co-workers
Cross-communication and conflict with co-workers
"Uncooperative" patients

Job Role

Exposure to trauma, pain, and death
Exposure to large numbers of people for short periods of time
Shift work
Exposure to danger or threat of danger
Time urgency and boredom
Decision making and the responsibility for other's lives
Insufficient skills and information

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* Based on the collective research findings of: Crabbs, Black, & Morton, 1986; Everly & Girdano, 1980; Fontanarosa, 1990; Linton et al., 1993; Hartrick, 1989; MacKinnon, 1984; Maslach, 1982; Motowidlo, Manning & Packard, 1986; Oehler, Davidson, Starr, & Lee, 1991; Shepherd & Hodgkinson, 1990; and Vachon, 1987.

Individual Demands. The experience of stress and the response to it are considered to be partly dependent on personality variables which are to some degree stable across situations (Garbarino, 1983; Rotter, 1966). Several individual factors considered influential in effecting the appraisal of stress include, but are not limited to, locus of control, mastery, self-esteem, hardiness, dependence on others, beliefs, competencies, and social skills (Holahan & Moos, 1987; Lazarus & Folkman, 1980; Vachon, 1987). Two of these intrapsychic dimensions, internal locus of control and beliefs, are of particular interest here as Mitchell and Bray (1990) identify paramedics as typically displaying a desire to control their work environment as well as maintain beliefs which conflict with the job environment or job role.

Vachon (1987) reports that how a group of health care workers regarded their ability to control their work environment significantly reduced stress in the work place. It seems that the more personal control these workers believed they had over their job, the greater the resulting person-environment fit. In situations conducive to change, Parkes (1984) found that persons with an internal locus of control used more direct coping efforts and fewer attempts at suppression of competing thoughts and emotions. Mitchell and Bray (1990) report that paramedics have a high need to be in control in order to maximize a positive outcome for their patients. This may conflict with the relatively low amount of control their environment permits (Maslach, 1982; Parkes, 1984), leading to frustration and burnout. This statement is exemplified by situations in which many of the patients placed within paramedics' onus of responsibility have serious, often life threatening illnesses or injuries, not all of which can be resolved by even the most competent of health care professionals. Overall, the perceived ability to have control over the environment, including equipment, people, and the medical outcomes of patients, and one's reactions to it, appears to have positive effects on the

ways and degrees to which health care workers experience stress, but this is assuming conditions which are to some degree controllable.

A second individual demand identified by research on allied health personnel involves the beliefs and values of these workers which conflict with the emergency health care environment in which they work. These beliefs and values include high expectations of self and co-workers, disclosure of emotions as a sign of weakness, and a belief of immunity to the effects of repeated exposure to trauma and death.

Vachon (1987) identifies a personal value system which may lead to unreasonable expectations of self in the health care work environment and increased stress. Four examples of these beliefs are: (1) caregivers are not subject to the normal human emotions of depression, anger and despair and are always patient and understanding, (2) all caregivers should be able to relate equally well to all patients, (3) all caregivers are capable of separating the stressors of their personal and professional lives, and (4) all caregivers will always be completely up-to-date with the most recent technological advances. Mitchell and Bray (1990) also indicate that emergency personnel, such as police officers, firefighters, and paramedics, are very critical of their own behaviours.

> Emergency personnel are more interested in details than are people in most other professions. They pride themselves on a perfect job, frequently set personal standards that are extremely high, and become quite frustrated when they encounter a failure. This attention to detail helps them to do a better job, but also sets them up for the stress associated with a failure to achieve unusually high expectations. (p.19-20)

In addition, McCammon, Durham, Allison and Williamson (1988) identify a strong reluctance by paramedics to disclose distressing information of an emotional nature to others because of the belief that doing so would suggest weakness and dependence. Disclosure of emotions carries strong negative evaluations by these professionals. McCammon et al. (1988) speculate that this reluctance to disclose

emotions may additionally inhibit access to supportive relationships and prevent the development of outlets for disclosing personal experiences which impact the paramedic in his or her daily activities.

Critical care nurses and emergency personnel are frequently exposed to death, and they are likely to be challenged to confront their own sense of mortality (McCammon et al., 1988; Shepherd & Hodgkinson, 1990). In response, they may numb themselves to the concept of death, believing they are immune to its effects (Mitchell & Bray, 1990). It is not until a peer or someone of a similar age or appearance is killed, or perhaps a child is seriously ill or dies, that they are forced to face the personal significance of death and its implications. Overall, beliefs and values such as these can act as the stressor itself leading to intrapsychic strain and externalized negative outcomes.

Work Environment Demands. Holahan & Moos (1987) believe it is more likely that environmental variants of the work place affect the choice of coping response more than individuals' personality dimensions. Motowidlo, Packard, and Manning (1986) suggest that role conflict, ambiguity, and overload are common antecedents of occupational stress, and there are likely specific aspects of the political, social, and physical work environment which provide a unique context from which the qualitative experience of stress must be considered. Vachon (1987) reports in her study of mostly Canadian allied health personnel, who were regularly exposed to death and critically ill patients, that more stressors emerged from the physical work environment and from the occupational role than from direct work with dying patients and their families.

The demanding aspects of the work place environment of allied health personnel may be placed into two broad areas, physical/organizational environment and job role. Among a group of emergency room nurses, organizational stressors accounted for over half of all sources of stress reported (Vachon, 1987). In their report of paramedics' perceptions of stress, Hammer et al. (1986) found significantly higher levels of

organizational stress, job dissatisfaction, and negative attitudes towards patients when compared to hospital personnel. This would suggest that organizational demands, which include the political and social make-up of the work place, are a major source of stress for paramedics.

The specific demands of the physical and organizational environments which may potentially be experienced as stressful include the following: a challenging and changing technological environment, inadequate material resources, bureaucracy and organizational politics, poor career advancement opportunities, inadequate training and orientation, poor support from supervisors, and a lack of support from and negligent behaviour of co-workers (Amick & Celentano, 1991; Crabbs et al., 1986; Everly & Girdano, 1980; Fontanarosa, 1990; Linton et al., 1993; and Oehler et al., 1991). These latter components, involving relationships with co-workers and supervisors, can be especially demanding within the health care work environment (Everly & Girdano, 1980). The very nature of this work is dependent on the development of teamwork and inter-reliance on others in order to maximize the benefit to the patient. Yet, it would seem that the very relationships that help health care workers perform their job effectively also apparently present barriers to their efforts as well (Vachon, 1987). The particular stressful aspects associated with these relationships are colleague cross-purpose communications (MacKinnon, 1984), staff conflict due to reasons such as competition and "who's in control?" (Crabbs et al., 1986; Oehler et al., 1991), and finally, problematic relationships with uncooperative patients (Motowidlo et al., 1986).

The actual duties and responsibilities that allied health workers are called upon to perform, or their job role, is a second area of the work place that is identified as demanding. This is especially true in the critical care areas of hospitals, such a intensive care wards and emergency departments (Vachon, 1987), and for paramedics (Fontanarosa, 1990). High exposure to trauma and pain, high volumes of patients, shift

work, risks to personal safety, and an unpredictable job pace pose as significant stressors to these people. Taking care of and having regular exposure to people who have succumbed to trauma and who are experiencing intense pain can certainly take its toll on the psychological well being of these workers (Schmuckler, 1991; Shepherd & Hodgkinson, 1990), despite their belief they are immune to the effects of these events as mentioned earlier. Also, the need to deal with large numbers of people for relatively short periods of time (Hammer et al., 1986) leaves little opportunity to personalize contact with patients. The stereotypical portrayal of health care workers referring to patients by their diagnosis is a prime example of this depersonalization. Shift work compromises the physical health of these workers by interrupting sleeping and eating patterns and may also conflict with family and social needs (Mitchell & Bray, 1990). The job role also exposes these workers to danger or threat of danger (Rice, 1987), such as abusive patients or hazardous materials. Paramedics experience a sharply differing and unpredictable job pace ranging from boredom to panic (Crabbs et al., 1986; Hammer et al., 1986). As a result, they are required to maintain a constant state of readiness while on duty and expect the unexpected.

The job role also asks allied health workers to make decisions involving complex scientific and technical information which will effect the well being of others (Everly & Girdano, 1980). At the same time, these workers often believe they have insufficient skills and information to adequately make these decisions (Crabbs et al., 1986, Vachon, 1987). This may then reflect on workers' self-esteem and confidence in their ability to perform to the perceived standard set by the profession.

Whether any of these components are experienced as demanding is dependent on the individual's perceived needs at any particular point in time. These aspects of the job role may provide wanted stimulation and excitement, or in contrast, offer a threat or a

potential for harm, and in this case, lead to physical and psychological symptoms and worker dissatisfaction (Mitchell & Bray, 1990).

In summary, from the literature outlining the work demands of allied health workers, it is evident there are specific sources of occupational stress which emerge from within the individual worker and from the work place. Health care workers' ability to have control over the demand and their belief system around their own performance and that of their co-workers are two variables which appear to have relevance with allied health personnel and especially with paramedics. Components of the work place such as the physical, social, and organizational environment, and the job role, provide a context and a source of potential threat to workers' perception of having the necessary resources to deal with these demands. The literature outlining the ways these people cope with their work demands will now be examined.

Coping

An operational definition of coping will be given followed by a presentation of a conceptual model of coping. This will be followed by a discussion of the relevant literature outlining coping behaviours of allied health personnel.

Lazarus and Folkman (1984) define coping as "constantly changing cognitive and behavioral efforts to manage external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p.141). They go on to suggest this particular definition is advantageous over other historical definitions of the construct because it recognizes three important and fundamental aspects of coping. First, coping is process-oriented and therefore cannot be evaluated from a single measurement. Due to the dynamic nature of coping, a single measurement would provide only a "snapshot" glimpse of a continually changing entity. Second, coping is intentional as opposed to reactional or "automatic", meaning it is under conscious control and is therefore amenable to adaptation by individuals. Third, this definition does not confound the

process of coping with its outcome, a problem Lazarus and Folkman point out as common in the coping literature. Negative attitudes towards patients is a an example of such an outcome.

As coping is considered a process-oriented rather than a trait-oriented phenomenon, Lazarus and Folkman (1984) indicate that the research studying coping should identify what individuals actually think or do in response to a demand (situational), not what they usually do (dispositional). Investigating how individuals usually cope does not consider the context of the demand at a particular point in time, given changing individual, environmental, and situational aspects which influence the perception of the demand itself.

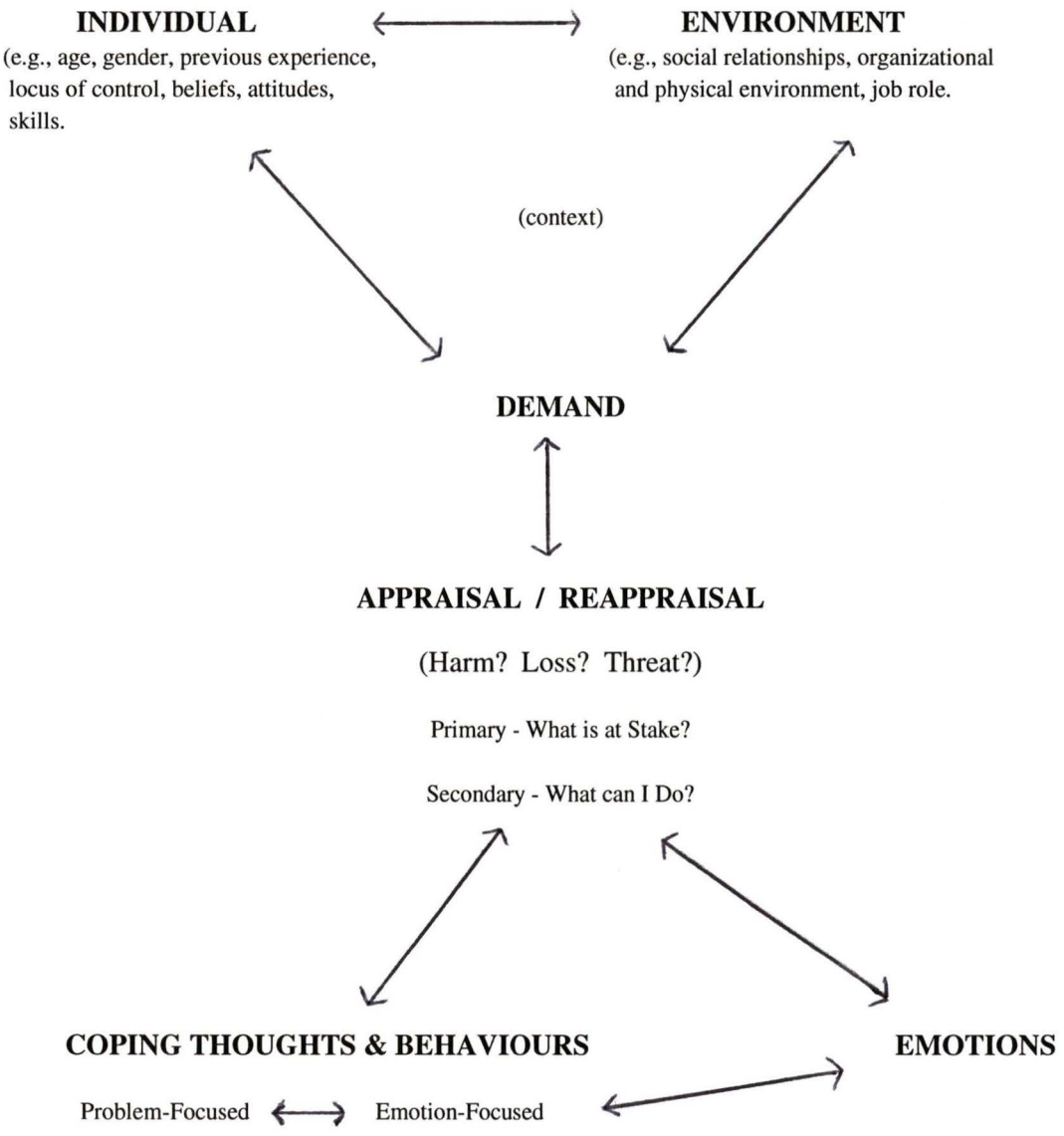
Transactional Model of Coping. An existing model of coping was chosen as a theoretical structure with which stress and coping in paramedics could be investigated. This is the Transactional Model of Coping (Folkman & Lazarus, 1980, 1985; Lazarus & Folkman, 1984). A representation of this model is displayed in Figure 1. The model considers coping to be a multidimensional, dynamic, and highly contextualized transaction whereby coping thoughts and behaviours are influenced by and in return influence individuals and the environment. The dynamics of this process occur as a result of the on-going appraisals by individuals of themselves and their environment. This suggests that the perception of the demand itself may change as a result of this evolutionary process. "The person and the environment are seen in an ongoing relationship of reciprocal action, each affecting and in turn being affected by the other" (Folkman & Lazarus, 1980, p.223).

The changes that characterize coping as a process are not random, but are a function of continuous appraisals and re-appraisals (Lazarus & Folkman, 1984). Appraisal is a cognitive process in which ongoing transactions in the environment are

Figure 1

Transactional Model of Coping

* Adapted from Lazarus and Folkman (1984)



evaluated as to whether they pose a threat to the person. This threat may take the form of a potential harm or loss, a challenge for potential growth, mastery or gain, or a harm or loss that has already occurred. This first step in the process is termed primary appraisal and permits individuals to determine what is at risk or at stake (Folkman and Lazarus, 1980). Secondary appraisal is the accompanying process whereby individuals evaluate their coping resources and options. These may take the form of personal, social, or physical resources. Lazarus and Folkman (1984) believe these appraisals and re-appraisals focus on addressing primarily two goals: (1) resolving the "problem" (problem-focused coping), and/or (2) dealing with the emotions which have developed during the appraisal process (emotion-focused coping).

Problem-focused coping involves a process of defining the problem, generating alternate solutions, weighing the alternatives in terms of cost/benefit, and then acting upon an aspect of the work environment or self in order to resolve the discomfort of the stressor. Emotion-focused coping involves directly addressing the emotional response, either through avoidance, reinterpretation of ambiguous details into more positive evaluations, or through self-deception, rather than addressing and acting upon the problem itself. These "styles" of coping can occur simultaneously and may either facilitate or impede each other (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). Problem-focused coping tends to predominate when the person believes that something constructive can be done in the situation, whereas emotion-focused coping predominates when there is a belief that the stressor is something that must be endured. A composite of strategies from both styles and the ability to show flexibility in their use are associated with positive outcomes when dealing with various situations over time (Carver et al., 1989).

The Transactional Model of Coping provides an excellent theoretical foundation from which the nature of the coping process in paramedics may be examined. Given

paramedics work within an emotionally laden and unpredictable work environment, within a job role which requires the performance of complex technical skills, and with co-workers who have identifiable personality dimensions (Mitchell & Bray, 1990), this model provides a way to view the complex nature of these phenomenon within this population. The next section of this chapter will examine the literature investigating the coping processes of paramedics and other allied health personnel with this model in mind.

Coping Efforts of Allied Health Professionals. Less than a handful of research studies exist which describe how paramedics cope with their daily work demands. Cydulka, Lyons, Moy, Shay, Hammer, and Mathews (1989) studied stress levels and coping in a sample of American paramedics from an urban centre. They found that the use of "active behaviors" was associated with a decreased report of stress. Examples of "active behaviours" were arguing with coworkers and patients, filing grievances, and requesting transfers to other job sites. Schmuckler (1991) comments that paramedics typically cope with their jobs through denial and avoidance ("things don't bother me"), and through the venting of anger and blame, often in inappropriate ways and settings. McCammon et al. (1988) describe how a group of paramedics, firefighters, and other rescue personnel coped after working at two critical incidents, a building fire and tornado. The method of coping used more than any other by this group was a positive reframing of the disastrous event ("Satisfaction in being able to help"). Additional strategies in this group were: (1) a cognitive search for meaning in the event and a placing of the event into perspective, (2) active behavioural attempts to master the situation and control confusing emotions, (3) seeking out social support in order to vent emotions and normalize their experience, and (4) emotional regathering and introspection leading to increased self-esteem and a sense of healing.

Vachon (1987) found that a group of critical care nurses, doctors, and counsellors reported an average of ten coping strategies in dealing with the demands of their jobs. Examples of these strategies are displayed in Table 2. About one-third of these coping mechanisms utilized environmental resources and the rest personal resources. An interesting finding here was that these individuals used more emotion-focused than problem-focused techniques in coping with their work stress. This may have been due to the highly emotional nature of their work environment resulting in the focusing on these emotions as a means to decrease their stress levels. Hay and Oken (1985) identified many of these same strategies in a group of Intensive Care nurses. In both studies, the development of better relationships with peers at work was used successfully as a strategy for coping.

From the literature on coping, the means by which paramedics and other allied health personnel deal with the demands of their jobs points to attempts at actively coping with the demand, use of denial and venting of emotions, cognitive reflection and reinterpretation, and accessing social support to aid in this process. Unfortunately, none of these studies measured the perceived effectiveness of these coping strategies as determined by the health care worker using them. It is reasonable to assume that describing the incidence of coping mechanisms used does not necessarily suggest they are considered effective by the persons who use them. Given that stress levels of paramedics are typically high (Cydulka et al., 1989; McCammon et al., 1988; Neale, 1991), it may be important to learn what coping strategies are perceived as effective and ineffective.

Table 2

Coping Behaviours in a Group of Allied Health Professionals*

Problem-Focused Behaviours

- establishing a team philosophy and support building
- having clear staffing and administrative policies
- formalizing ways of handling decisions
- providing sound orientation and ongoing education to staff
- providing job flexibility and mobility
- developing control over aspects of practice
- leaving work
- increasing education

Emotion-Focused Behaviours

- having a sense of competence, control or pleasure in work
- developing a personal philosophy of illness, death or one's role
- avoiding or distancing from patients either physically or psychologically
- developing support outside the work situation
- lifestyle management
- having a sense of humour
- talking to colleagues at work
- participating in support groups

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* From Vachon (1987)

Social Support

This section will define social support and cite from the literature what is known about its functions and sources. Social support refers to the resources that are provided by other persons for the purpose of coping with demanding situations or improving the general well being of the individual (Cohen & Syme, 1985). The term 'social network' is distinguished from social support in that social network does not differentiate those persons who are considered supportive from those who are not, nor does it allude to the nature of that support (Schaefer, Coyne & Lazarus, 1981; Thoits, 1982).

In addition to social support promoting a sense of well being (Turner, 1981), it also functions to help people cope with stressful events, that is, as a form of coping strategy (Carver et al., 1989). Vachon (1987) suggests that social support is dynamic, in that sources and types of support are determined in reference to a situation and change within that context over time. Hence, in alignment with an earlier statement that coping strategies are viewed as situationally determined, accessing functions and sources of social support may also be a function of the situations in which they are embedded. For example, when workers seek a "shoulder to cry on", they may feel most comfortable doing so from a family member at home, but may settle for emotional support from a colleague at work if the need is immediate.

Generally, researchers divide the qualitative aspects of social support into four broad functions: emotional, affiliative, informational, and tangible (Beehr, King & King, 1990; Cohen & Wills, 1986; Fisher, 1985; Gottlieb, 1983; LaRocco et al., 1980; Thoits, 1982). Emotional support refers to behaviours in which someone is willing to listen to the expression of feelings, offer concern and trust, and help build self-esteem. Affiliative support provides a sense of belongingness or social companionship which may either help distract persons from worrying about problems or facilitate positive affective moods. Informational support provides advice, knowledge, or appraisal of actions. Tangible or instrumental support is the provision of physical help or material resources by individuals or by an organization.

Emotional and informational support may provide a more specifically focused function than the other types of social support. Cohen and Wills (1986) state that the appraisal of threat or harm to self-esteem may occur across a variety of potentially different stressful situations and may likely result in the use of emotional and informational types of support. In contrast, tangible and affiliative support functions appear to be more effective when the resources they provide are closely linked to the

specific need of individuals elicited by a stressful event. Hence, emotional and informational support may operate as more "broad spectrum" strategies, and tangible and affiliative support may be linked to more specific and contextually identified stressors. For example, if a worker experienced stress as a result of having few friends at work (a specific demand), the stress might best be reduced by seeking social companionship (affiliative support). If, on the other hand, a worker was having a "bad day" and wanted to reduce the amount of anxiety experienced, it might best be addressed by expressing discontent (emotional support) to a co-worker or friend.

Carver et al. (1989) tap into these functional aspects of social support in their COPE instrument. They believe that seeking social support for instrumental reasons, that is, seeking advice, assistance, or information, is a type of problem-focused coping. Seeking social support for emotional reasons is seen as getting moral support, sympathy, and understanding. Although Carver and his colleagues state that there is a conceptual difference between these two types of social support functions, in practice they often occur simultaneously and their distinctions may be problematic. There is also evidence elsewhere that the distinctions between types of functional support are somewhat gray and ill-defined (Gottlieb, 1983; Schaefer, Coyne, & Lazarus, 1981; Thoits, 1982).

Cohen and Wills (1986) suggest support may intervene in the stress response in one or both of two ways. First, support may provide information or resources that increase individuals' perceptions that they can "handle" the demand thereby decreasing the subjective experience of stress. This is equivalent to mitigating the appraisal of harm or of the threat itself. Second, support may intervene between the experience of stress and the onset of emotional, behavioural, or physiological outcomes by reducing or eliminating the stress reaction itself. House (1981) suggests that support may perform in such a manner as to decrease the amount of neuroendocrine transmitter in

the brain so that people are less reactive to perceived stress, or alternately by facilitating healthful behaviours.

Investigation into the sources of social support has revealed a mixture of recommendations. Of the many sources of support available to a group of factory workers, House (1981) found that supervisory and spousal support had the most significant positive impact on work stress. Maslach (1982), in her study of professional helpers, identifies inadequate supervision and the lack of staff and supervisory support as significant contributors to the experience of stress and burnout. Constable and Russell (1986) and Beehr et al. (1990) also report that supervisor support had main as well as buffering effects on nurses' stressful experiences. Fisher (1985) indicates both nursing supervisory and co-worker support were related to work satisfaction, performance, and commitment, and negatively related to turnover and intentions to leave the organization and profession. It would appear, for nurses anyway, that supervisors may play a key role in alleviating stress in the work place.

Mitchell and Bray (1990) believe that family members provide the major support system for emergency personnel such as police, firefighters, and paramedics. McCammon et al. (1988) also found family to be the most supportive individuals to a group of rescue workers who were dealing with their reactions of working at disaster scenes. They found co-workers and friends to be secondarily helpful. Linton (1993) disagrees and believes that family are not prepared to deal with the often gruesome details of the paramedic's job. Although Mitchell and Bray (1990) recognize formalized peer groups and support from "officers" (supervisory personnel) as important components of preventing cumulative stress for paramedics, they unfortunately do not address how informal support networks at work or away from work may assist paramedics in coping with the stressful aspects of their jobs.

Nonetheless, it appears that having at least one supportive person (Cohen & Wills, 1986), whether at or away from the workplace, is beneficial in regulating stress. Support from supervisory staff may have important utility in coping with the demands of paramedics' work; however, at present, the evidence for the effectiveness of co-worker support is not as strong.

Summary

The experience of occupational stress is identified as either a perceived imbalance between job demands and the ability to meet those demands, or an imbalance between expectations workers have of their jobs and whether the job can meet their needs. Sources of stress in the work place may develop out of a combination of and interaction between components of individual workers and the job environment. Intrapsychic factors which pose as a source of stress for paramedics include control issues and beliefs and values which conflict with the work environment. Work environment stressors may include physical and organizational demands placed upon paramedics during a typical day as well as the social interactions they have with co-workers, supervisors, and patients. In combination, these factors provide a specific context that influences how paramedics appraise a stressful work situation.

Coping involves cognitive and behavioural efforts to manage these demands. The Transactional Model of Coping takes into consideration the interactive and dynamic relationship between all possible factors which may influence both the primary and secondary appraisals of the situation. Two types of coping have been described, problem-focused and emotion-focused. Problem-focused coping attempts to decrease the demand by acting to change it, and emotion-focused coping attempts to change the emotional reaction to the problem.

Few studies describe the coping patterns of paramedics. Those studies which do, however, suggest a typical coping profile of active behaviours which attempt to address

the problem itself, use of denial, reinterpretive cognitions, and accessing support from others to aid them in the coping process.

Allied health workers typically use social support as a means to cope with their work stress. Seeking social support refers to meeting one or more of the following needs: information, affiliation, emotional reassurance, or tangible aid. Two of these, affiliative and tangible support, may address specific demands more so than the others. One or more of these functional types of support, from either work or non-work sources, may decrease or mitigate either the appraisal of harm or threat, or the stress reaction itself. Carver et al. (1989) suggest that social support functions fall in line with Folkman and Lazarus' (1980) concepts of problem-focused and emotion-focused coping. The majority of support to allied health personnel appears to come from supervisors and family.

Rationale for the Study

Little research is available in the literature which examines stress and coping styles found among paramedics, though their work is very demanding and stressful. It would be useful to have a better understanding of the demanding aspects of paramedics' job environment, job role, and personal characteristics which are present among this work group. In particular it would be helpful to know more about the relationship between specific work demands and how individuals deal with those demands. This examination of stress and coping among paramedics will be conducted within the context of Lazarus and Folkman's (1984) Transactional Model of Coping. As recommended by Lazarus and Folkman, stress and coping will be assessed in relation to a specific demanding situation identified by each participant in the study.

Research Questions

Specifically, this research has focused on three questions:

1.What demands do paramedics identify in their jobs?

2.What coping strategies do paramedics use in dealing with the demands they encounter?

3.From whom do paramedics seek social support to help them deal with these demands, and what aspects of this support do they regard as helpful?

Chapter 3

Methodology

A self-report survey was mailed to the homes of a group of Canadian paramedics. This chapter will describe the participants involved in the study, the measures composing the survey, and the procedures of data collection and analysis used to answer the research questions stated in Chapter 2.

Population, Sample Selection, and Participant Description

A group of prehospital care workers in Alberta was chosen as the subjects for this study. Permission was given by the Alberta Prehospital Professions Association to use their mailing list of members in two classification levels of prehospital care worker, Emergency Medical Technician-Paramedic (EMT-P) and Emergency Medical Technician-Ambulance (EMT-A). The persons working within these classifications are differentiated by level of education and the level of care they are sanctioned to administer to patients, but both are commonly referred to as "paramedics".

The total number of persons registered in these two classifications at the time of the study was 1937. Of these, 510 (26%) were EMT-P's and 1427 (74%) were EMT-A's. Approximately 23% of both groups were female. A sample of 250 subjects was selected from the population according to a random stratified sampling procedure.

As work demands and ways of coping may vary based on job role and on gender (Cydulka et al., 1989; Federiuk, O'Brien, Jui, & Schmidt, 1993), and because the proportion of EMT-P's and females in the population was small, a stratified sampling procedure was used to more accurately represent each of these subgroups in the total sample. One hundred twenty-five EMT-A's and 125 EMT-P's were randomly selected

from their respective classification groups. Within each of these groups, 50 females were selected to make a total of 100 females chosen for the study.

Additional participants were selected when any of the original participants were later identified as not meeting the fundamental criteria of the study or if surveys were returned by the postal system undelivered. Of the 260 surveys mailed, nine were returned undelivered, eight were returned by individuals deemed not presently working in the Emergency Medical Services field, and two were returned unanswered. Four surveys were returned with only the demographic section completed. Participants were invited to do this if, for whatever reason, they did not want to fill out the entire questionnaire. It was decided that these four surveys would not significantly aid in describing the sample and, hence, were not used. The final number of usable surveys was 140. This represented a return rate of 56%.

The final sample consisted of 63 EMT-A's (45%) and 77 EMT-P's (55%). Seventy-six percent of participants worked full-time and 23% worked part-time. Although some participants reported they worked more than one job, 66% ($\underline{n}$ = 93) identified they worked primarily in an urban centre and 34% ($\underline{n}$ = 47) identified they worked primarily in a rural centre. The mode number of years participants had worked in the Emergency Medical Services field was between 1 to 5 years.

The average age of respondents was between 30 to 34 years, and the gender representation was 48% females ($\underline{n}$ = 67) and 52% males ($\underline{n}$ = 73). Participants reported they had at least some post-secondary education since this is a prerequisite level of education required to work at either an EMT-A or EMT-P classification level. Fifty-four percent ($\underline{n}$ = 75) indicated having a post-secondary level diploma (mostly the EMT-P's) and 10% ($\underline{n}$ = 14) a university degree. With regard to marital status, 27% ($\underline{n}$ = 38) had never been married, 63% ($\underline{n}$ = 88) were married or living common-law, and 10% ($\underline{n}$ = 14) reported being divorced or separated. Almost half (49%) stated they had

no dependents and the rest identified a number of dependents ranging from one (17%) to six (<1%).

Measures

The survey consisted of eighty-five items divided into four sections. A copy of the survey is provided in Appendix A. Sections I and III were comprised of a combination of items adapted from the Inventory of Student Demands (Arthur, 1993) and three new items designed by the author; Section II was comprised of the COPE (Carver et al., 1989); and Section IV consisted of thirteen questions which identified demographic information. Participants were asked in Section I of the survey to identify their Most Important Demand from a list of three current demands they provided, and then make reference to this particular demand when completing the rest of the survey. This was done so that, in later sections of the instrument, this demand would provide a context for how participants described their ways of coping.

The survey was designed from suggestions by Weathers, Furlong, and Solorzano (1993) and Robson (1993) in order to maximize clarity of design and a high probability of return. These suggestions pertained to order, style, and appearance of the questions. The draft survey was presented to a group of graduate students in the Faculty of Education at the University of Victoria for their feedback regarding the clarity of instructions and questions, and then pilot tested with a group of paramedics in Victoria, British Columbia. Again, feedback was obtained from these paramedics in order to maximize the survey's clarity of presentation.

Inventory of Student Demands. Arthur (1993) developed a 28-item questionnaire based on the theoretical premise of stress and coping described by Folkman and Lazarus (1985). Arthur examined the more finite and complex components of post-secondary students' methods of coping through open-ended questions which were later subjected to content analysis. Her development of portions of the Inventory allowed for a closer

examination of the coping responses identified in the COPE and their effectiveness. Although Arthur's questionnaire was developed on theoretical concepts consistent with the Transactional Model of Coping and was pilot tested and used in her dissertation, it lacks the standardization and statistical confidence of existing, quantitative instruments.

Nine questions were taken from the Inventory of Student Demands and adapted for use in this study (Questions 1 through 5, 7, 8, 69, and 70 in the current survey instrument). These items asked participants to explicitly describe their perception of a stressful demand and the ways they currently coped with it. Participants were also asked to indicate the perceived effectiveness of these coping strategies. One question was created by the author (Question 6) to obtain more detail about the social context of the demand ("Who is involved in this situation?"). Two other questions were added (Questions 71 and 72) to identify sources of social support participants had accessed in response to the identified demand, as well as particular aspects of this support that were perceived as helpful. These last two questions were formulated based on literature which suggests the source of social support and its nature may influence a person's perception of and response to particular environmental demands (Beehr et al., 1990; Cohen, Mermelstein, Kamarck & Hoberman, 1985; Fisher, 1985; Garbarino, 1983).

COPE. This sixty-item instrument was devised by Carver and his colleagues (1989) to assess the degree to which people engage in a series of coping responses that may potentially interfere with active coping. The instrument is an adaptation of the Ways of Coping scale devised by Lazarus and Folkman (1980). It expands the number of coping domains measured and provides increased clarity of the theoretical foundation of each scale. The COPE may be adapted to measure dispositional coping styles or assess situational and time-limited conceptions of coping efforts. The "situational" version of the questionnaire was used in this study. Respondents were asked to indicate the frequency of identified coping efforts used within the past month with regard to

their Most Important Demand on a four point Likert-type scale ranging from "Not at All" to "A Lot".

The COPE consists of fifteen conceptually distinct scales. Table 3 provides a brief description of the focus of each scale. Thirteen scales were developed based on theoretical functions of coping and previous research in the area. Problem-focused coping is measured by five of the fifteen scales. These scales are Active Coping, Planning, Suppression of Competing Activities, Restraint Coping, and Seeking Instrumental Social Support. Five additional scales measure emotion-focused coping. They are Seeking Emotional Social Support, Positive Reinterpretation & Growth, Acceptance, Denial, and turning to Religion. All of these scales are considered primarily adaptive strategies given situations which are somewhat controllable and in which active coping is required for positive outcomes. An exception to this would be the Acceptance scale referring to circumstances in which the stressor can be easily changed. Three scales are not classified as either problem or emotion-focused and are considered maladaptive. They are Focusing On and Venting of Emotions, Behavioural Disengagement, and Mental Disengagement. The Alcohol/Drug Use and Humor scales have recently been added by the authors of the COPE and are exploratory in nature at this time.

Carver et al., (1989) report high internal consistency within all scales (other than Alcohol/Drug Use and Humour). Cronbach alpha reliability coefficients ranged from .45 to .92 with a group of undergraduate students. Test-retest reliability correlations ranged from .46 to .86 over an eight week span, suggesting that self-reports of behaviours measured by the COPE are relatively stable over time. Intercorrelations of the scales are generally not strong, even with seemingly apparent polar opposite constructs such as acceptance and denial. This finding is interpreted by the authors of

Table 3

COPE Scales and Their Meanings

Scale	Meaning
Active Coping*	Active steps to remove or circumvent stressor or ameliorate its effects.
Planning*	Thinking about how to cope with a stressor.
Seeking Instrumental Social Support*	Seeking advice, assistance or information.
Seeking Emotional Social Support**	Seeking moral support, sympathy or understanding.
Suppression of Competing Activities*	Putting other projects aside or avoiding distracting events.
Religion**	Tendency to turn to religion in times of stress.
Positive Reinterpretation & Growth**	Construing a stressor in positive terms in order to manage distressing emotions.
Restraint Coping*	Waiting for an appropriate opportunity to act, holding oneself back, or not acting prematurely.
Acceptance**	Acceptance that the stressor is real or that there is an absence of active coping strategies.
Focus on and Venting Emotions	Focusing on distressing or upsetting feelings and ventilating those feelings.
Denial**	Refusal to believe the stressor exists or acting as though it is not real.
Mental Disengagement	Activities which distract the person from thinking about acting on the stressor.
Behavioural Disengagement	Reducing one's efforts to deal with the stressor.
Alcohol/Drug Use	Turning to alcohol or drugs as a way of disengaging from the stressor.
Humor	Making jokes about the stressor.

* indicates problem-focused scales
** indicates emotion-focused scales

the instrument to mean that, conceptually, people dealing with stress can simultaneously use two or more apparent mutually exclusive ways of coping.

Procedure

The mail research format used in this study was based on the Total Design Method developed by Dillman (1978). The first mailing to participants included a letter of introduction (Appendix B), a copy of the survey (Appendix A), and a return addressed, stamped envelope. One week after the initial mailing, a second piece of correspondence (Appendix B) was sent to all participants. This was intended to act as a reminder before a significant amount of time had occurred since the first mailing. Three weeks from the initial mailing, a third letter was sent to those who had not returned the survey by that time. This final correspondence outlined the importance of participation in the study and included a second copy of the survey and a return envelope. As an incentive and in order to increase the likelihood of a high response rate, participants were offered a summary of the research findings if they returned the completed survey.

Data Analysis

A content analysis was conducted on the four open-ended questions (Questions 2, 5, 69, and 72) based on procedures described by Patton (1987, 1990), Robson (1993), Tesch (1990), and Washburn, Hiebert and Phillips (1990). The researcher and two independent judges performed this analysis. The researcher first typed out all participant responses to the four questions. This was done to familiarize himself with the responses and to provide a clear and consistent display of the items to the other two judges. The researcher was familiar with the content analysis literature, the stress and coping literature, and the prehospital care environment (content of items). At this time, tentative categories were chosen based on the individual meaning units displayed in the data. Titles for major categories were identified consistent with the existing literature

where appropriate. Judge #1 was then asked to review the category titles as to homogeneity within and heterogeneity between classifications (Patton, 1990). This judge was familiar with the content analysis literature and the stress and coping literature, but not the prehospital care environment. The researcher and Judge #1 then each analyzed all responses independently. They then reviewed the data a second time together and compared the over 1300 classification decisions each had previously made. Discrepancies were negotiated and placed into existing categories or into new categories which were developed as necessary. There was no limit imposed on the number of categories, the number of items within a category, or the scope of the categories. As new categories were formed, all data evaluated prior to that point were re-evaluated in accordance with the new categories. All participant statements in these questions were analyzed. The final choice of taxonomies was set at three levels of differentiation (see Appendix C).

The classification decisions made by the researcher and Judge #1 were verified by a second judge who reviewed and categorized the data for twenty subjects randomly selected across all four substrata (male EMT-A, female EMT-A, male EMT-P, and female EMT-P). Judge #2 was given detailed definitions of the categories but was naive to the content area. The first level of classification differentiated major categories or themes. Judge #2 had 87% agreement with the researcher and Judge #1 at this level. The second level represented sub-categories which more precisely differentiated aspects of the first level of classification. There was 80% agreement at this level. A third level of differentiation existed within some sub-categories and for those which contained this third level, there was 93% agreement. Both Robson (1993) and Woolsey (1986) consider these levels of agreement to be "good" to "excellent".

CHAPTER 4

Results

This chapter will present the information collected by the survey described in the previous chapter. A content analysis was performed on the four hand written responses, then included with the remaining quantitative data in the statistical analysis. The data was entered into an SPSS program and descriptive statistics were determined. The results of these procedures will be presented in the following order: (1) the current work demands and the contextual components of these demands,
(2) the results from the COPE instrument, (3) the current coping strategies self-identified by the respondents, (4) the sources and types of social support participants accessed, and (5) a profile of problem-focused and emotion-focused sub-groups.

Current Work Demands

Subjects were asked to list three of their current work demands (Question 2) and then rank them in order of importance. A demand was identified as a challenging or difficult event or circumstance respondents experienced at their job. Thirteen major categories were identified from the responses to this question which could be grouped into themes of job role, work environment, or the individual. A display of all ranked demands identified is listed in Table 4.

A coding taxonomy evolved from the content of the responses given by participants and descriptors utilized in the current literature (Appendix C). The first group of these categories differentiated four aspects of the job role. They were Role Demands, Role Conflict, Role Overload, and Role Underload. Role Demands were any duty or responsibility which was part of the baseline job function, such as attending to

Table 4

Frequencies of Paramedics' Self-Identified Work Demands

Taxonomy Indicator	Most Important Demand		Lower Ranked Demands*		Total Demands	
	n	%	n	%	n	%
Job Role						
Role Demands	39	28	76	22	115	24
Role Conflict	7	5	25	7	32	7
Role Overload	14	10	43	12	57	12
Role Underload	2	1	10	3	12	3
Job Environment						
Physical	2	1	12	4	14	3
Social (General)	7	5	25	7	32	7
Certain Patients	11	8	24	7	35	7
Relationships	21	15	61	18	82	17
Insufficient Resources	7	5	8	2	15	3
Bureaucracy/ Politics	4	3	25	7	29	6
Job Security	8	6	10	3	18	4
Individual						
Health	6	4	6	2	12	3
Expectations	12	9	18	5	30	6
Other	0	0	4	1	4	1
Column Total	140	100	347**	100	487	100

Note: * Lower Ranked Demands consists of those demands ranked second and third by participants.

** Total Lower Ranked Demands exceeds number of subjects (2 x 140) due to multiple coding of a single item. Only one coding per item occurred for the Most Important Demand.

patients, working shifts, and following policies and procedures. Role Conflict was defined as any situation in which the paramedic was asked to choose between two allegiances. An example would be spending time with family and working long shifts. Role Overload was characterized as either a quantitative demand (e.g., long hours, too much work) or qualitative demand (e.g., more responsibility than comfortable with) which exceeded what the worker believed was reasonable in nature. Role Underload was the opposite to this. This category described demands that revealed boredom or lack of sufficient contact with patients or situations to stimulate the worker's interest.

The second group of demands related to the Job Environment and included seven categories distinguishing among the physical, social, and organizational aspects of the work place. The Physical Environment (e.g., irregular work locations, risks to personal safety), and Social Environment (e.g., irregular co-workers, incompetent co-workers or management, discrimination in the workplace) described the more general components of these environmental demands. Two other categories were developed to distinguish distinct aspects of the social environment. The first of these was Certain Patients. This category identified particular types of patients or patient conditions (e.g. children, death) that the worker was exposed to and found unusually demanding or upsetting. The second was Relationships which constituted specific concerns participants had with one or more individuals in the work setting. An example would be conflict with co-workers or a supervisor. The organizational aspects of the job environment were broken down into Insufficient Resources (e.g., equipment, staff, educational), hassles with Bureaucracy/Politics (e.g., threat of political change at the municipal or provincial level), and concerns around Job Security (e.g., threat of being fired or demoted).

The third set of categories identified two individual factors that participants reported as particularly demanding, Health and Expectations. The first constituted aspects of either the paramedics' physical, mental, or emotional health which was

perceived as a barrier to them achieving satisfaction in their jobs. The second individual factor identified was that of having high or unmet expectations of self or of others.

Most Important Demand. The top ranked work demand cited most often (Most Important Demand) was that of participants' Role Demands (28%). Three of the more prominent subcategories under Role Demands were Professional Obligations (25%), Shift Work (14%) and Supervising Others (14%). Professional Obligations referred to maintaining skill proficiency, meeting recertification standards, attending continuing education courses, and adhering to policies and procedures of the organization. Shift Work represented problems resulting from working a number of day and night shifts, each shift encompassing from between 10 to 24 hours. Some participants reported working as many as six or more of these shifts without a day off. Supervising Others involved assuming responsibility for and training new co-workers and/or student paramedics.

The Most Important Demands cited second and third most often after Role Demands were those of Relationships (15%) and Role Overload (10%). Relationship issues focused around Unspecified Problems (43%), Conflict (24%), Communication (14%), and Lack of Support (14%). Of the Relationships cited, 43% Management/ Supervisors, 38% involved Co-workers, and 19% Persons From Other Agencies that the participant worked with in some capacity (e.g., firefighters, nurses, doctors). Subcategories of Role Overload (10%) that were prominent were New Roles/Changing Roles (60%) and Long Hours (30%).

The degree of stress respondents reported experiencing with the Most Important Demand (Question 4) was $\underline{M} = 3.32$ ($SD = 1.06$) out of a possible 5. Ten percent of respondents reported experiencing the most stress they had ever felt when referring to

this demand. When participants were asked the level of their general life stress, the mean value reported was 2.75 (SD = 1.05).

In reference to the Most Important Demand, participants were also asked "What is it about this situation that you find demanding?" (Question 5). The frequencies and percentages of responses to this question are displayed in Table 5. What developed out of these responses was a list of additional demands that participants were experiencing

Table 5

Frequencies of Accompanying Demands & Emotions to the Most Important Demand

Taxonomy Indicator	Frequency	Percentage
Demands		
Role Demands	51	14
Role Conflict	20	5
Role Overload	26	7
Role Underload	6	2
Physical & Social Environment	33	9
Relationships	44	12
Insufficient Resources	15	4
Bureaucracy/ Politics	10	3
Job Security	11	3
Health	13	3
Expectations*	53	14
Lack of Control	18	5
Other	13	3
Emotions*	60	16
Column Total	373	100

* See detailed display of Expectations in Table 6 and of Emotions in Table 7.

in conjunction with the Most Important Demand as well as emotions accompanying the Most Important Demand. This provided further identification of the context of the demanding situation. Respondents indicated Lack of Control over the job role, the social environment, or the general work environment as an accompanying demand but this was not mentioned by participants as a primary work demand.

The accompanying demands to the Most Important Demand contained category titles and frequency distributions similar to that of the total demands shown in Table 4. An exception to this was a higher frequency in the Expectations category (14%, n = 53). Table 6 provides a full display of the Expectations data. Almost half (49%) of the unmet or high expectations indicated were with regard to those expectations participants had of themselves, while another 28% where expectations anticipated or expressed from others, such as from co-workers, supervisors, or the general public.

Emotions accompanying the demand, a category intended to help focus in on individual contextual variables, were cited for 16% of the participants. These results

Table 6

Frequencies of Expectations Accompanying the Most Important Demand

Expectations (High or Unmet)	Frequency	Percentage
Of Self	26	49
Of Job	3	6
Of Others	9	17
From Others	15	28
Total	53	100

are represented in Table 7. The two most commonly cited emotional responses were "Worry about making mistakes / incompetence" (30%, n = 18), and a sense of frustration or anger as a result of dealing with the demand (23%, n = 14). It is possible that both of these figures underrepresented the actual occurrence of these emotions as Mitchell and Bray (1990) report that paramedics typically suppress or deny their emotions.

Table 7

Frequencies of Emotions Accompanying the Most Important Demand

Emotion	Frequency	Percentage
Worry about making mistakes / Sense of incompetence	18	30
Frustration / Anger	14	23
Low Self Esteem	6	10
Worry About the Future	6	10
Guilt	4	7
Fear	3	5
Helplessness	3	5
Other	6	10
Total	60	100

An additional group of questions (Questions 6 through 8) asked who was involved in the demanding situation with them, the length of time spent dealing with the demand, and the amount of control participants perceived they had over the demand. Answers to these questions provided additional information about the context associated with the Most Important Demand. The people most often cited as involved with the respondent

in the Most Important Demand were Co-workers (41.0%) and Management/Supervisors (33.9%). The average amount of time the demand had persisted was around one year ($\underline{M}$ = 4.45, SD = 1.88). The range of values was a few days to 16 years. The amount of control participants believed they had over the Most Important Demand was as follows: 26% reported a high degree of control, 40% a moderate amount, and 32% a low amount or no control.

There were several notable relationships between what participants indicated as their Most Important Demand and the context variables just described. If participants indicated Job Role as their most significant stressor, they tended to also indicate higher frequencies in the categories of Expectations (21%, $\underline{n}$ = 22), additional Job Role demands (16%, $\underline{n}$ = 16), and Emotions (10%, $\underline{n}$ = 10). If participants indicated Relationships as their Most Important Demand, they tended to also indicate other Relationships (25%, $\underline{n}$ = 16) as a co-existing demand. If participants chose Role Overload as their Most Important Demand, they also tended to select Role Demands (18%, $\underline{n}$ = 6) and Expectations (18%, $\underline{n}$ = 6) as accompanying demands. The overall Chi-Square for these relationships was 49.19 ($\underline{p} < .02$).

A Chi-Square analysis was also performed on the Most Important Demand and the demographic data. No significant differences were found between types of demands reported and full-time/part-time employment status ($\underline{X}^2$ = 13.97, df = 11, $\underline{p} > .05$), urban/rural community ($\underline{X}^2$ = 12.70, df = 11, $\underline{p} > .05$), years working in the field ($\underline{X}^2$ = 45.42, df = 55, $\underline{p} > .05$), if the participant typically worked with a regular partner ($\underline{X}^2$ = 32.99, df = 22, $\underline{p} > .05$), average number of ambulance calls in a shift ($\underline{X}^2$ = 89.84, df = 99, $\underline{p} > .05$), gender ($\underline{X}^2$ = 11.94, df = 11, $\underline{p} > .05$), age ($\underline{X}^2$ = 73.72, df = 66, $\underline{p} > .05$), or education level achieved ($\underline{X}^2$ = 30.25, df = 33, $\underline{p} > .05$). Although Role Demands appear to pose the greatest stressor to this group of prehospital care workers, the professional classification sub-groups of EMT-P and EMT-A did not differ in their

reporting of these demands ($X^2 = 7.63$, $p > .05$). Whether participants worked primarily as "street paramedics" or managers did not significantly differ either ($X^2 = 10.29$, df = 11, $p > .05$).

COPE Scales

The COPE (Carver et al., 1989) was incorporated into Section II of the survey (Questions 9 through 68) and participants indicated their level of agreement to a four point Likert-type scale in relation to their Most Important Demand. The mean values and their standard deviations of the scales are presented in Table 8. The scales with the highest means were Positive Reinterpretation & Growth ($M = 2.83$), Planning ($M = 2.78$), and Acceptance ($M = 2.70$).

Table 8

Mean Values and Standard Deviations of COPE Scales

COPE Scale	Mean	SD
Positive Reinterpretation & Growth	2.83	0.66
Planning	2.78	0.74
Acceptance	2.70	0.72
Seeking Social Support for Emotional Reasons	2.58	0.77
Active Coping	2.53	0.71
Seeking Social Support for Instrumental Reasons	2.46	0.80
Humor	2.27	0.88
Restraint Coping	2.23	0.65
Focus On & Venting of Emotions	2.14	0.67
Mental Disengagement	2.02	0.59
Suppression of Competing Activities	1.94	0.61
Turning to Religion	1.63	0.85
Behavioral Disengagement	1.48	0.59
Denial	1.26	0.42
Alcohol-Drug Use	1.11	0.36

Note: N = 140

Internal consistency of items within the COPE scales was calculated with Cronbach's alpha reliability coefficients and exceeded 0.60 for all scales (N = 126) except for two, Mental Disengagement and Denial. The Mental Disengagement scale alpha was 0.39. Carver et al. (1989) report that this scale typically has a lower internal consistency due to the fact that it is theoretically based on multiple-act criterion as opposed to a single grouping of behaviours. The lower alpha value for the Denial scale was only slightly below the 0.60 level ($\alpha = 0.57$).

A one-way analysis of variance was carried out between the COPE scales and the demographic variables. Four findings were revealed. First, females scored higher than males on the Seeking Emotional Social Support ($t = 2.81$, $p < .01$) and the Seeking Instrumental Social Support ($t = 2.05$, $p < .05$) scales. A second finding was of a higher mean value for females ($M = 1.80$, $SD = 0.97$) over males ($M = 1.47$, $SD = 0.68$) on the Religion scale ($t = 2.29$, $p < .05$). Third, participants who reported a divorced or separated marital status indicated higher mean scores on the Alcohol/Drug Use scale ($M = 1.43$, $F = 7.27$, $p < .05$). Finally, urban paramedics appeared to use Acceptance more often than rural paramedics ($t = -2.40$, $p < .05$).

In accordance with Folkman and Lazarus' (1980) earlier work with regard to the relationship between coping and control, the COPE was also compared to the variable indicating the degree of control participants believed they had over the Most Important Demand. Those who perceived they had high control more often indicated Active Coping as a strategy ($t = -2.63$, $p < .001$). On the other hand, those who perceived they had a low amount of control over the demand were more inclined to indicate Behavioral Disengagement ($t = 3.13$, $p < .01$) and Restraint Coping ($t = 3.91$, $p < .001$).

Self-Identified Coping Strategies

Participants reported coping strategies used in dealing with the Most Important Demand by writing short responses to the request of "Describe three ways, specifically,

that you are trying to deal with this situation" (Question 69). This permitted coping strategies to come forward that may not have been covered by the COPE. It also invited participants to put into their own words the ways they either effectively or ineffectively were dealing with the stressor, permitting a more "natural" response that would serve to augment findings from the COPE. Of the ten categories that were identified to report these findings, eight either matched or were combinations of scales of the COPE. There were two categories which evolved from the data that were different from the COPE scales. The first was General Stress Reduction which reflected activities, sports, or hobbies that served to physically "work out" the emotions associated with the demand, distract the participants' attention away from thinking about the demand, or act as a form of inoculation against further adverse physical or emotional effects of a stressful environment. This category most likely overlaps with Disengagement to some degree. The second new category was Wishful Thinking which referred to participants hoping for things to be different, believing that time may resolve the problem, or that the problem may take care of itself.

Frequencies and percentages of the total number of self-identified coping strategies reported by participants ($\underline{n}$ = 557) are presented in Table 9. What is apparent at first glance of Table 9 is the noticeably larger frequency of Active Coping as compared to the rest of the self-identified strategies. The breakdown of subcategories within Active Coping revealed a high number of participants Seeking Information both from Human Sources and from Non-Human Sources (46%, $\underline{n}$ = 102), especially in the form of written materials and training programs. There was also a high frequency of Other Behaviours Which Address Directly/Indirectly the Issue/Problem (22%, $\underline{n}$ = 48) as well as Confront the Persons Involved (15%, $\underline{n}$ = 33). Seeking Social Support, the second most frequently reported coping strategy, was most often through talking with

Table 9

Frequencies and Percentages of Self-Identified Coping Strategies

Taxonomy Descriptor	Frequency	Percentage
Active Coping	223	40
Seeking Social Support	137	25
Mental/Emotional/Behavioural Disengagement	56	10
General Stress Reduction	51	9
Planning	32	6
Positive Reinterpretation and Growth	23	4
Acceptance	22	4
Suppression of Competing Activities	3	<1
Religion	3	<1
Wishful Thinking	3	<1
Total	553	100

Co-workers, including the person's Work Partner (40%, $n = 54$), then Supervisor / Manager (12%, $n = 16$), then Spouse or Primary Partner (9%, $n = 12$).

Participants were asked to provide a rating of the effectiveness of each of these coping strategies on a six point Likert-type scale which ranged from "Not Effective" to "Highly Effective". The mean effectiveness rating of all strategies used was 3.43 (SD = 1.33). A Chi-Square analysis compared coping strategies with their effectiveness levels. No significant relationships were found between effectiveness and coping strategies ($X^2 = 9.42$, $df = 5$, $p > .05$). As indicated in Table 10, participants showed a high effectiveness rating on all strategies they reported except Wishful Thinking. Religion, Suppression of Competing Activities, Acceptance, General Stress Reduction, and Positive Reinterpretation & Growth strategies were rated more effective than other strategies.

Table 10

Effectiveness of Self-Identified Coping Strategies*

Coping Strategy	High Effectiveness		Low Effectiveness	
	n	relative %	n	relative %
Religion	3	100	0	0
Suppression of Competing Activities	2	100	0	0
Acceptance	19	95	1	5
General Stress Reduction	47	92	4	8
Positive Reinterpretation & Growth	20	91	2	9
Seeking Social Support	111	82	25	18
Planning	25	81	6	19
Active Coping	168	76	52	24
Disengagement	41	75	14	25
Wishful Thinking	1	33	2	67

Note: *Total number of coping strategies cited was 556.

Finally, these coping strategies were compared to the Most Important Demand and to the demographic information through Chi-Square analysis. There were no statistically significant relationships identified between the Most Important Demand identified and the type of coping strategy cited ($\underline{X}^2 = 123.11$, df = 121, $\underline{p} > .05$). One significant result was identified between self-identified coping strategy and gender. Women reported using Seeking Social Support and Mental/Emotional/ Behavioural Disengagement more than men and men reported using Planning and Active Coping more than women ($\underline{X}^2 = 15.49$, df = 5, $\underline{p} < .01$).

Social Support

Participants were asked if they had talked to anyone about the situation involving the Most Important Demand (Question 71). Ninety percent ($\underline{n} = 126$) indicated they had talked to at least one person. There were no significant differences found when a series of ANOVA and Chi-Square functions were performed on the responses to this question

and the demographics as follows: gender ($F = 1.21$, $t = 1.25$, $p > .05$), full-time/part-time status ($F = 2.36$, $t = -1.27$, $p > .05$), rural/urban ($F = 1.08$, $t = 0.64$, $p > .05$), age ($X^2 = 3.45$, df = 6, $p > .05$), years working in the field ($X^2 = 3.53$, df = 5, $p > .05$), professional classification ($X^2 = .0002$, df = 1, $p > .05$), or if participants had worked with a regular partner over the past month ($X^2 = 1.63$, df = 1, $p > .05$).

The survey then asked participants to identify to whom they had talked and what benefit, if any, they received from this exchange (Question 72). The sources and functions of social support were reported by the participants as follows. As was indicated within the responses given in Question 69, the sources of support reported most often were participants' Partner and/or Co-workers (37%, $n = 119$). Following Co-workers were Spouses (19%, $n = 63$) and Supervisors / Managers (17%, $n = 54$). To a lesser degree, Friends (12%, $n = 39$), Family other than spouse (9%, $n = 30$), and Mental Health Professionals (2.5%, $n = 8$) constituted other support sources. In 95% of the contacts made, participants reported a beneficial outcome. Of the persons identified as providing no support when approached (5%, $n = 21$), about half of whom were Co-workers and Supervisors / Managers.

These sources of support were then compared to the Most Important Demand items to see if a relationship existed between the type of work stressor and a particular person that may have been approached to help deal with it.. A Chi-Square revealed three findings from this investigation ($X^2 = 33.37$, $p < .001$). First, if participants identified Role Demands as most important, they tended to seek more support from Supervisors/Managers and less support from their Spouses or Primary Partners than participants who reported other types of demands. Second, if Relationships were identified as their current top work demand, they tended to seek support more from their Spouses/Primary Partners than participants who reported other types of demands. Third, if participants identified working with Certain Patients (such as children) as most

demanding, participants indicated seeking support less from Supervisors/Managers than participants who reported other types of demands.

The functional aspects or types of social support obtained by reaching out to others were categorized into four groups of responses. They were Emotional Support, Informational Support, Affiliative Support, and Tangible Support. Table 11 displays the frequencies of these responses. The category names matched those identified in the literature (Beehr, King & King, 1990; Cohen & Wills, 1986; Fisher, 1985; Gottlieb, 1983; LaRocco et al., 1980; Thoits, 1982). Emotional Support constituted having someone listen, vent or release emotions to, offer acknowledgment or affirmation, provide understanding and empathy, general encouragement and reassurance, and finally, sympathy. Informational Support constituted knowledge gained which helped define the problem or provide alternate avenues to explore. It could also refer to advice from others, feedback to participants on their performance, or a source of social comparison which identified what other persons may think, feel, or do given their

Table 11

Frequencies and Percentages of Functional Aspects of Social Support

Taxonomy Indicator	Frequency	Percentage
Emotional Support	150	34
Informational Support	131	29
Affiliative Support	70	16
Tangible Support	41	9
Non-Specific Support or Help	34	7
No Help	21	5
Total Social Support Functions Cited	447	100

situation. A response was classified as Affiliative Support if the person was led to believe they were not alone with their issue, that someone else in fact agreed with them, or that the participant had a sense of having shared a similar experience with that person. Tangible Support entailed tasks or services performed by others, the lending of materials, or assistance with finding a solution to the problem.

The data in Table 11 suggest that Emotional and Informational Support were received substantially more frequently than other types of social support. Emotional Support was reported by 34% of participants and Informational Support by 29%. Table 12 presents a further breakdown of Emotional Support. The highest reported sub-category of Emotional Support was Understanding/Empathy/Compassion. Twenty-four percent (n = 36) of participants received this from their sources of support. An Opportunity to Vent/Release (20%, n = 30) and Encouragement/Reassurance/ Reinforcement (17%, n = 26) were accessed less frequently. The most prominent

Table 12

Frequencies and Percentages of Functions of Emotional Support

Taxonomy Descriptor	Frequency	Percentage
Understanding / Empathy / Compassion	36	24
Opportunity to vent / Release	30	20
Encouragement / Reassurance / Reinforcement	26	17
Sympathy	17	12
Having someone listen	11	7
Acknowledgment / Acceptance / Affirmation	10	7
Other / Unspecified	19	13
Total Emotional Support Functions Cited	149	100

sub-category of Informational Support (see Table 13) was Social Comparison (44%, n = 58). This subcategory was defined as a seeking of information from others to find out how they think, feel, or might act given this situation to use as possible alternative behaviours or socially supported ways of construing the situation. A second prominent subcategory of Informational Support was that of Define or Understand Problem/Provide Alternative solutions (26%, n = 34).

Two additional relationships were examined involving the type of support participants accessed. First, a Chi-Square was used to compare the types of support obtained with the more frequently reported types of Most Important Demand (Role Demands, Role Overload, Relationships, Certain Patients, and Expectations). No significant findings were found ($X^2 = 17.32$, df = 12, $p > .05$). Second, the type of support was then compared with the source of support, and a group of significant relationships were found ($X^2 = 37.86$, $p < .001$). Participants received more Emotional Support and less Affiliative Support from their spouses, while they received more Affiliative Support and less Emotional Support if they talked with a co-worker.

Table 13

Frequencies and Percentages of Functions of Informational Support

Taxonomy Descriptor	Frequency	Percentage
Social Comparison	58	44
Define or Understand Problem / Provide Alternatives	34	26
Offer Advice	24	18
Provide Feedback	10	8
Other	5	4
Total Informational Support Functions Cited	131	100

Supervisors and managers were approached more often for Tangible Support than were other groups.

Emotion-Focused and Problem-Focused "Profiles"

Ten subscales on the COPE were used to determine two profiles of the sample group of paramedics. As mentioned in Chapter 2, Carver et al. (1989) set out to measure the constructs known as emotion-focused and problem-focused coping based on Lazarus and Folkman's (1980) model. Carver and colleagues used five scales of the COPE to represent emotion-focused coping, Seeking Emotional Social Support, Positive Reinterpretation & Growth, Acceptance, Denial, and Religion. Problem-focused coping was represented by the five scales of Active Coping, Planning, Suppression of Competing Activities, Restraint Coping, and Seeking Emotional Social Support. In this study, the overall mean for the emotion-focused coping scales was 2.20 (SD = 0.40), while for the problem-focused coping scales it was 2.39 (SD = 0.49). Females scored higher on both the emotion-focused scales ($\underline{M}$ = 2.28) and the problem-focused scales ($\underline{M}$ = 2.43) than males ($\underline{M}$ = 2.12 and $\underline{M}$ = 2.35 respectively). These differences were not statistically significant ($\underline{p} > .3$). There were no other significant relationships suggested through a series of Chi-Square analyses with other variables. These included emotion and problem-focused groups versus the Most Important Demand ($\underline{X}^2 = 11.10$, df = 11, $\underline{p} > .05$), how long the participant had been experiencing the demand ($\underline{X}^2 = 8.60$, df = 8, $\underline{p} > .05$), the amount of control perceived over the demand ($\underline{X}^2 = 4.00$, df = 5, $\underline{p} > .05$), or whether they accessed at least one source of social support or not ($\underline{X}^2 = 0.86$, df = 1, $\underline{p} > .05$).

When an analysis of variance was performed on the twenty top ranked mean values within the emotion-focused and problem-focused groupings with regard to these same variables, one significant finding was found. A greater number of participants

who identified themselves as Supervisors/Managers belonged to the problem-focused group as compared to the emotion-focused group ($\underline{r} = 5.71$, $\underline{p} < .02$).

CHAPTER 5

Discussion

In this study a group of paramedics were asked to relate in their own words their perceptions of what they currently found demanding in their jobs and how they coped with these demands. They were also asked the sources and functions of social support they received as a means to more specifically focus on this type of coping. The measures used in this study considered the constructs of stress and coping as transactional processes which are dependent on a combination and interaction of individual and environmental variables. These variables combine and interact to comprise a context that helps form and maintain the experience of stress and the choice and use of coping behaviours. The Transactional Model of Coping, as presented by Folkman and Lazarus (1980), was used as a conceptual framework from which the work experiences of paramedics could be measured and described in hope of providing theoretical and practical information to researchers in the area of stress and coping and to paramedics themselves.

The results from this research will be discussed with this model in mind. First, the work demands experienced by a group of paramedics from the province of Alberta will be discussed with regard to the relevant findings. Support from the literature for these findings will be presented where appropriate and discrepancies will be discussed. Second, the prominent coping strategies used by this group of paramedics in response to a single and personally significant demand will be discussed. Third, the sources and functional aspects of social support these paramedics received which served to aid them in their coping with a single and important demand will also be discussed. Limitations of the research and suggestions for further research will follow.

Demands of Working as a Paramedic

The first research question asked what demands paramedics identified in their jobs. Responses varied across thirteen distinct categories, four dealing with the job role, seven with the job environment, and two with the individual. The three classifications of stressors identified as most important by these paramedics were their Role Demands, Relationships with persons with whom they worked, and Role Overload.

Accounting for just over one quarter of the demands cited, the top ranked demand reported most often was Role Demands. These demands consisted of the duties and responsibilities that defined the essential role of the paramedic, such as acquiring and maintaining technical skills, following medical and non-medical policies and procedures, supervising others for the purpose of training and orientation, and working shifts. The few research studies which have examined work stressors for paramedics do not cite these particular demands as paramount (Hammer et al., 1986; McCammon et al., 1988; Neale, 1991). However, consistent with the findings of this study, Mitchell and Bray (1990) do recognize shift work as an important stressor to emergency personnel. This discrepancy in findings may be due to the fact that the previous studies used forced-choice check-lists and a variety of differing measurement instruments, whereas this study asked paramedics to self-report their work demands. It is also possible that Canadian paramedics report different demands than American paramedics, as these previous studies were completed with professionals from the United States. Political and organizational differences between countries or even regions of the same country may effect paramedics' job roles substantially thereby potentially changing the demanding aspects of it. Vachon (1987) reported that three out of the top four stressors cited by a group of nurses, doctors, and counsellors who worked in critical care areas, were role stressors. Role ambiguity, role strain, and shift work, three constructs she

identified which in combination are similar to the category of Role Demand used in this study, accounted for 32% of all role stressors in her subjects.

The demand reported second most frequently by these paramedics was Relationships. This category referred to relationships with co-workers, supervisors/managers, or persons from other agencies such as firefighters and nurses. This accounted for 15% of the Most Important Demands cited. Conflict, poor communication, lack of support from co-workers and management, and general problems regarding the relationship were identified as sources of stress. These findings were generally supported in the literature (Fontanarosa, 1990). Moreover, co-workers and managers were identified as the persons involved with participants in their demanding situations. Ironically, it was also their co-workers and supervisors who were identified as being the most supportive in helping them cope with their job stress. It would seem that relationships with co-workers and supervisors appear to both inhibit and enhance the worker's ability to function well in a job already loaded with numerous stressors.

The third most frequently reported stressor was Role Overload. This accounted for 10% of all the Most Important Demands cited and referred to working long hours and experiencing excessive work-loads. This apparent willingness of paramedics to take on more work than they are comfortable dealing with may be related to the relatively high expectations they reported having of themselves in their work. Mitchell and Bray (1990) attribute to paramedics an extreme sense of dedication and a strong need to be needed, and claim that paramedics will often keep working to help others even when it may be hurting themselves. Paramedics may believe that they are different somehow than others with regard to this type of work, exceptional people who need fewer rests than others and are psychologically immune to the effects of stress

(McCammon et al., 1988); however, because this sample of paramedics indicated Role Overload as a significant stressor, it is more likely this is simply a professional myth.

Overall, the job role accounted for 44% of the sources of stress to these paramedics. The job environment, in which relationships were the largest single component, accounted for 43%. Individual factors, comprised of concerns about personal health and high or unmet expectations of self or others, constituted the remaining 13%. These findings suggest that the greatest work demand of paramedics is not necessarily their exposure to human trauma and illness or critical incidents as one might think, but instead the basic components of the job function, their expectations of themselves in it, and the interpersonal relationships with those with whom they work, all of which paramedics are exposed to on a daily basis. This particular group of paramedics may be aware of the effects of these chronic and cumulative stressors, as their self-reported stress levels were high. It is important also to note that the EMT-P subgroup, who's roles engender a higher degree of responsibility in decision making and patient care as compared to those of EMT-A's, did not report different primary demands. This suggests that it is not this differing amount of responsibility that is significant in distinguishing the stressful components of the job for these professionals.

Coping Strategies Used by Paramedics

The second research question asked what coping strategies these paramedics used in dealing with the job demands they identified as most important to them. The two measures through which this question was addressed, the COPE and an additional question requesting self-identified demands, provided mixed results from participants.

Participants indicated using the coping strategies suggested by the COPE between "Not at all" and "A Medium Amount". Carver et al. (1989) found comparable means on most of the scales involving a group of college students. It would appear that these professionals do not use any one primary coping strategy in dealing with their work

demands but use a combination of strategies, and that they do not indicate the use of these strategies differently than other groups.

In the COPE, participants indicated that Positive Reinterpretation & Growth was the strategy they used most often to deal with their Most Important Demand. This finding is similar to that reported by McCammon et al. (1988) in their investigation of emergency workers following two disasters. They found that reframing of the event into a more positive light was used second only to "satisfaction in being able to help" as a coping strategy. However, when the group of paramedics in the present research self-identified the ways they coped with their Most Important Demand, Positive Reinterpretation & Growth consisted of only 4.2% of strategies reported, despite the fact that it was rated moderate to highly effective by 91% of the participants who used it. This may suggest that paramedics are less likely to self-identify cognitive strategies such as positive reinterpretation of an event as opposed to behavioural strategies such as Active Coping or Seeking Social Support. This explanation will be elaborated on shortly. Alternately, these results may suggest that paramedics are not choosing to engage in "positive" strategies and attitudes towards coping despite the likelihood that they work well when they do use them.

The second most frequently used strategy on the COPE was Planning. This scale referred to paramedics thinking about actively coping with the stressor without necessarily committing to behaviours that would actually remove or circumvent it. Acceptance was indicated third most frequently and referred to an acknowledgment that the event had occurred or was real. There is no known parallel research to date with paramedics which discusses these constructs. When respondents were asked to self-identify their coping strategies, Planning was reported 6% and Acceptance 4% relative to the other strategies, but, as with Positive Reinterpretation & Growth, were indicated moderate to highly effective by the persons who used them.

Contrary to the findings of the COPE, hand-written, self-identified responses indicated that Active Coping and Seeking Social Support were used more often than the other strategies reported by the paramedics in this section of the survey. Active Coping referred to a broader range of specific strategies here than it did in the COPE scale by the same name. Active Coping strategies on the self-report question referred additionally to forms of seeking out information from both human and non-human sources and engaging in self-reflection. The Active Coping behaviours which were indicated most often were Seeking Information from Human and Non-human sources, Behaviours Which Address Directly/Indirectly the Issue, and Confronting Others. McCammon et al. (1988) found that their sample of police, fire, and emergency medical personnel also commonly made active behavioural attempts to master the situation and the confusing emotional states which resulted following critical incidents. These workers frequently used social support as a means of coping as well. Mitchell and Bray (1990) claim that paramedics are action-oriented and highly motivated people on the whole, and these additional personality factors may help explain why they would chose actively coping behaviours as prominent strategies in order to deal with the demanding aspects of their jobs.

These paramedics also indicated Mental/Emotional/Behavioural Disengagement in their written responses as the third most frequently used strategy; however, they also gave it a relatively lower effectiveness rating than most other strategies. The COPE scales of Mental Disengagement and Behavioural Disengagement were rated as least frequently used of those reported.

It would seem that the discrepancies in the data gathered from both the COPE and the self-identified responses may lie in the different approaches of these measures. The COPE asked the sample of paramedics to consider the degree to which they believed they coped on items that were suggested to them (forced-choice) and ones they may not

have consciously thought of before. It is also possible that the COPE was able to measure only a partial sample of the strategies actually used by paramedics. Alternately, when asked to list the coping strategies they were presently using, "coping strategies" may have been interpreted more as physical behaviours rather than "cognitive behaviours", such as Planning or Positive Reinterpretation. This does not necessarily mean that responses to the COPE and the request to self-identify coping strategies were contradictory, but that these two measures may be engaging different aspects of participants' awareness which may in fact may be occurring simultaneously. McCammon et al. (1988) support this notion that many coping processes are not carried out at a conscious level and therefore are not accurately self-reported. In fact, some of the most helpful processes may be forgotten and are not available to immediate self-report. Hence, the two measures used for data collection in the present research may indeed be complementary if viewed with these possibilities in mind.

An additional group of findings compared how these paramedics coped with their work demands in relation to gender differences, control issues, and the hypothetical constructs of problem-focused and emotion-focused coping. There were a number of gender differences found in relation to how the participants coped with their work demands. Females scored significantly higher relative to males in seeking social support on both the social support scales (Emotional and Instrumental) of the COPE, as well as the self-report item. Male paramedics reported using Planning and Active Coping efforts more than their female co-workers. Both of these findings may be due to these people adhering to gender stereotypes. The expression of and tolerance for the expression of emotions between self and others is more socially acceptable for women than it is for men. The tasks of actively coping with stressors, especially through confrontation with others, may be more socially acceptable for men. These are consistent with findings by Carver et al. (1989). A higher mean value found for women

on the Religion scale of the COPE relative to men is less conspicuous to explain; however, it is possible that organized religion too is a more socially acceptable means by which women can express their spirituality. Although Carver et al. (1989) found a significant gender difference on the Focus On and Venting of Emotions scale in favour of females, this difference did not appear in this data.

A further discovery of how this group of paramedics coped with their self-reported demands was with regard to control. Those who reported a perceived moderate to high degree of control over the Most Important Demand used significantly more Active Coping strategies (as defined by the COPE) than did their peers. This finding is consistent with the coping literature (Folkman & Lazarus, 1980; Parkes, 1984; Vachon, 1987). Moreover, those who indicated low control were more likely to indicate a construct called Restraint Coping and Behavioural Disengagement. Restraint Coping is a problem-focused scale which refers to more of a passive coping stance, or holding oneself back until active coping attempts can be of use. According to Folkman and Lazarus' (1980) findings, a high score on the Restraint Coping scale should coincide with a high perceived sense of control. The fact that it was associated with low control here contradicts this finding but has some face validity. Behavioral Disengagement is not one of the scales which constitute either problem or emotion-focused conceptualizations according to Carver et al., (1989), and although this relationship was not supported in the literature, it also has face validity.

Only one significant difference was found when participants were divided into problem-focused and emotions-focused sub-groups based on ten of the COPE scales. A greater number of Supervisors/Managers used more problem-focused than emotion-focused strategies in comparison to other paramedics in other job roles (e.g., Dispatchers, Firefighters, "street paramedics", or "street EMT's"). This would appear to make sense in that managers are probably required to perform more problem solving

functions as a requirement of their job, and this may spill over in to how they cope with their own work demands. The fact that no other differences were found across the other demographic variables or with the type of demand paramedics identified, suggests that the constructs of problem-focused and emotion-focused strategies were not helpful in differentiating patterns of coping among paramedics. This finding does not support earlier work by Lazarus and Folkman (1984); however, it is possible that the majority of participants used both coping styles simultaneously given the demands and the situations to which they were exposed.

Social Support Utilized by Paramedics

The third research question contained two components. First it asked from whom do these paramedics seek social support to help them deal with their Most Important Demand, and second, what specifically is it about this support they regard as helpful.

In contrast to other studies in the area of work stress and social support (e.g., Constable & Russell, 1986; Graf, 1985; House, 1981), the paramedics in this study reported accessing social support most frequently from co-workers. They sought out spouses and supervisors next most often to similar degrees. The somewhat unique finding that co-workers were sought more often than the other groups may be a result of the differing population and work environment in comparison to other studies. The earlier studies dealt with nurses, police officers, and factory workers in sharply different work environments and contexts. Paramedics must depend highly on and work effectively with their partners and co-workers. They believe that they are unique people in a unique job. Both of these factors may result in paramedics talking to co-workers more than family, friends, and even supervisors, as they may perceive no one else may truly understand their experiences (Linton et al., 1993; Neale, 1991). Additionally, as mentioned earlier, these workers had high expectations of themselves and from others. If they perceived that managers had high expectations of them, this might explain why

they would not be eager to go to these managers and disclose their vulnerabilities. This final point was also supported by the finding that these paramedics reported less support from supervisors than other sources if the demand they were dealing with involved specific types of patients with whom they over-identified or found difficult to attend. Supervisors were sought more often only if the demand involved the paramedic's primary job role functions.

This discrepancy may also be due to what was actually measured in the present study. The survey asked participants to identify the persons to whom they talked, but did not ask them to identify from whom they received the most or best support. There may even be a subtle but significant difference in the interpretation of who provides the best support from who provides the most support, or stated another way, the effectiveness of the support versus the accessibility of that support.

Emotional support was indicated as the type of support most often given by co-workers, managers, family, and friends. A desire to have someone understand and empathize with their complaints and someone to whom they could vent was important. Talking to others as a form of social comparison was also important in helping participants deal with their demands or the effects of these demands. From whom they received specific types of support was also significant. Spouses appeared to offer relatively more emotional support and less affiliative support, while co-workers provided relatively more affiliative support and less emotional support. This may indicate that workers sought out affiliation with their co-workers so as to have a sense of shared experiences, without necessarily engaging in the expression of emotions. As mentioned earlier, expression of emotions may be perceived by them as showing signs of weakness and vulnerability.

Limitations of the Study

This project is subject to the limitations inherent in both qualitative and quantitative research designs. In particular, aspects involving research with human subjects and with self-report measures expose the results to close scrutiny. First, in asking persons to identify significant demands and ways of coping, it is possible the more subtle cognitive processes involving coping and stress were not reported because the participants may not have been fully aware of their internal thoughts concerning these phenomenon. In addition, it is reasonable to assume that several coping strategies may be occurring simultaneously, as speculated by Carver et al., (1989), and paramedics may report only those strategies which are more commonly used or behaviourally obvious, thereby neglecting others. These concerns may have partially been addressed through the use of the COPE instrument. The items of this instrument may have prompted awareness of otherwise unaware processes or have made explicit otherwise subtle or complex coping thoughts and behaviours, but this may still exclude strategies idiosyncratic in nature not suggested by the COPE. Even if participants were aware of using particular coping strategies, they were still subject to problems of recall, even when considering a "current" event.

A second area of limitations in attempting to describe the experience of stress of this population lay in the possibility that paramedics may be more apt to undervalue emotional expression and overvalue a high need for control (Mitchell & Bray, 1990). These patterns may affect participants' responses to the survey items. They may have responded in certain ways in order to fit perceived professional norms. As well, Emergency Medical Service organizations in Alberta are presently undergoing major political changes. These paramedics may have altered their responses based on their distrust of the nature of this research and to what purpose it may potentially be used. There have been previous reports of emergency response workers being suspicious of

the motives of mental health professionals (Linton et al., 1993) and of their own employers (Graf, 1985).

Third, this group of paramedics were asked to define their own demanding situation instead of one assumed to be stressful by the researcher. Using a unique referent is one of the strengths of this research, as it considers the numerous contextual factors which may each affect the perception of the demand and the choice of coping strategy. This is essential to better understand what constitutes the perception of stress of individuals. However, given that the perception of each situational demand was based on a number of individual and environmental factors, it is possible that one or more characteristics of the context which may have effected the way these paramedics coped was not considered.

Fourth, coping styles may vary according to how long the person has been exposed to a demand due to a continual re-appraisal by the individual of the interdependent variables of individual, environment, and situation (Folkman & Lazarus, 1985). This would suggest that as the person copes with a demand over time, the nature of these dynamics changes and "evolves". A single measurement of coping limits the investigation of this variance and the understanding of coping as a process.

Last, the extent to which the data may be generalized beyond this specific population of paramedics to all paramedics should be made with extreme caution. This statement is based on the highly varied political, educational, and cultural development of Emergency Medical Service systems in Canada and in North America. Having made this statement, further research across these groups may provide more insight not only into differences which may exist amongst these populations, but also into the similarities and parallels to which can only be speculated within this present study.

Suggestions for Further Research

Both theoretical and practical implications can be made based on this research. First, this data may support the understanding of the constructs of stress, coping, and social support. Second, specific suggestions taken from these findings involving paramedics may provide a clearer understanding of how these emergency workers may more effectively deal with the demands of their work.

In line with the Transactional Model of Coping, this study supported Folkman and Lazarus' (1980) premise that contextual aspects of the individual (e.g., perceived control over work demands) and the environment (e.g., particular relationships) contribute to the experience of stress and coping of persons in their work. This study did not find, however, that the nature of the demand itself contributed to the choice of coping strategy. This suggests that persons may influence their use of coping strategies as a result of person/environment contextual variables more so than by the nature of the demand itself. Research testing this hypothesis may be useful to determine a focus for the investigation of effective, adaptational coping strategies.

It was only in asking the participants to relate how they coped with their significant demands that suggested distinct forms of coping by this population not covered by the COPE, such as social comparison. Consequently, it was not possible to provide a complete description of the coping process in a systematic and reliable manner. This may suggest the need to add new scales to the COPE. Also, because economic and practical limitations existed for this research, only one instance of data collection took place and, consequently, how person/environment interactions would have changed over time could not be determined. Further researcher would be wise to examine this dynamic nature of coping more closely.

Despite social support being an obvious and long studied method of dealing with stress, its exact nature is still unclear (Beehr et al., 1990; Cohen, Mermelstein &

Hoberman, 1985). What appears to greatly limit the progression of knowledge in this area is the development of an instrument which effectively captures both theoretical and practical components of social support in a format that is sophisticated yet parsimonious. As was a barrier to the effective investigation of coping, there exists no one instrument to date which single-handedly measures sources, types, amounts, and effectiveness of social support. Hence, further refinements of existing instruments or development of new ones need take place in order to address these concerns.

The second area to which this research may have implications is that of providing a greater understanding of the contextual nature of paramedics' work environments and how paramedics may better utilize their environmental and personal resources. If paramedics are susceptible to the demands to which they are exposed every day, such as maintaining professional obligations and problematic interactions with the people with whom they work, then a more concerted investigation into the unique and contextual nature of these situations and how the coping process varies for each individual as a result of these factors may be beneficial. A detailed qualitative study with individual paramedics may provide a means for such an intensive investigation. Determining what prevents paramedics from accessing the human and organizational resources at hand may also be a valuable pursuit.

It is interesting to note that the survey participants reported Role Demands as their most important demand in accordance with feelings of incompetence and frustration, as well as having high expectations of self in the workplace. Investigation of the relationship between job function, self-adequacy, and expectations of self in the job may suggest how paramedics appraise their work roles as demanding given these intrapsychic dimensions.

Many of the reported work demands appear to lie within interactions with the social environment and these people may also hold the potential to greatly lessen the

experience of work demands. Education in team building, leadership, and communication skills may be effective in this area. Due to the potential for paramedics to seek support from colleagues, peer support programs may be a successful opening for more formal methods of social support. Examining stereotypes and professional myths may also serve to reinforce that these people may be exceptional in some ways, but are susceptible to stress and its consequences like most other people. Further research with additional populations of paramedics and utilizing other research instruments, so as to obtain a multidimensional view of stress and coping with prehospital care workers, may give counsellors, teachers, managers, and most importantly, paramedics themselves, information that may permit working within this profession to be less destructive and more fulfilling.

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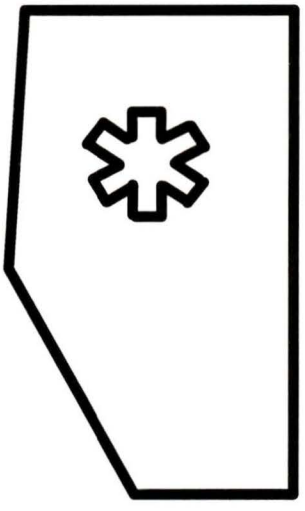
Appendix A:

Survey

STRESS AND COPING IN THE WORK PLACE:

A QUESTIONNAIRE FOR ALBERTA'S EMERGENCY PREHOSPITAL CARE PERSONNEL



We are interested in how prehospital care personnel respond when they confront the demands of their work. A demand is an event or circumstance which experienced as difficult or challenging. This questionnaire asks you to indicate some of the demands that you experience in your work and what you think and do when you experience these events.

Please set aside about 30 minutes to complete the entire questionnaire at one sitting without interruption. It is important that you provide an answer to **every** question. Choose your answers thoughtfully, but do not spend a lot of time pondering each question. Go with your "gut" response. There are no "right" or " wrong" answers, so choose the most accurate answer for YOU -- not what you think most people would say or do given your situation.

If you wish to comment on any questions or qualify your answers, please feel free to use the space in the margins. Your comments will be read and taken into account.

Thank you for your assistance.

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Section 1: ***We would first like to address some of the demanding aspects involving your life in general and your work .***

Q-1 Rate the degree of stress you are **currently** experiencing **generally** in your life. (circle number)

0	1	2	3	4	5
NO STRESS					MOST STRESS YOU EVER FEEL

Q-2 List three **demands** (challenging or difficult events or circumstances) you **currently** experience at work as a prehospital care worker. Be **specific** as possible when referring to each demand. (Please print clearly)

#1 _____

_____

#2 _____

_____

#3 _____

_____

Q-3 Now rank these in order of **most importance to you** by printing the number of the demand identified in Q-2 in the appropriate space below.

_____ MOST IMPORTANT
_____ SECOND MOST IMPORTANT
_____ THIRD MOST IMPORTANT

Q-4 Referring to the MOST IMPORTANT demand identified above, what degree of stress are you currently experiencing with it? (circle number)

0	1	2	3	4	5
NO STRESS					MOST STRESS YOU EVER FEEL

Q-5 What is it about this situation that you find demanding? (Please print clearly)

_____

_____

_____

_____

_____

_____

Q-6 Who is involved in this situation? (Please identify those people by their relationship to you. e.g. co-worker, supervisor, etc.)

_____

_____

_____

_____

Q-7 How long have you been experiencing the MOST IMPORTANT demand identified above? (Indicate time in days, weeks, months or years.)

_____

Q-8 How much **personal control** do you believe you have over the demanding situation? (circle number)

0	1	2	3	4	5
NO CONTROL					HIGH CONTROL

<u>Section 2</u>: ***As you think about the MOST IMPORTANT demand you have described above, indicate the extent to which you <u>ARE CURRENTLY DOING</u> or <u>HAVE DONE</u> WITHIN THE MONTH each of the following: (Some statements below may appear similar in nature to others. Please consider your responses to these statements independent of each other.)***

1 = I have NOT done this AT ALL
2 = I have done this A LITTLE BIT
3 = I have done this A MEDIUM AMOUNT
4 = I have done this A LOT

Refer to MOST IMPORTANT demand (circle number)	**NOT AT ALL**	**A LITTLE AMOUNT**	**A MEDIUM AMOUNT**	**A LOT**
Q-9 I have tried to grow as a person as a result of the experience.	1	2	3	4
Q-10 I have turned to other work or substitute activities to take my mind off things.	1	2	3	4
Q-11 I have gotten upset and let my emotions out (with regard to the demanding situation).	1	2	3	4
Q-12 I have tried to get advice from someone about what to do.	1	2	3	4

Refer to MOST IMPORTANT demand (circle number)	NOT AT ALL	A LITTLE BIT	A MEDIUM AMOUNT	A LOT
Q-13 I have concentrated my efforts on doing something about it.	1	2	3	4
Q-14 I have said to myself "this isn't real".	1	2	3	4
Q-15 I have put my trust in God.	1	2	3	4
Q-16 I have laughed about the situation.	1	2	3	4
Q-17 I have admitted to myself that I can't deal with it, and have quit trying.	1	2	3	4
Q-18 I have restrained myself from doing anything too quickly.	1	2	3	4
Q-19 I have discussed my feelings with someone.	1	2	3	4
Q-20 I have used alcohol or drugs to make myself feel better.	1	2	3	4
Q-21 I have gotten used to the idea that it is happening or has happened.	1	2	3	4
Q-22 I have talked to someone to find out more about the situation.	1	2	3	4
Q-23 I have kept myself from getting distracted by other thoughts or activities.	1	2	3	4
Q-24 I have daydreamed about things other than this.	1	2	3	4
Q-25 I have gotten upset, and am really aware of it.	1	2	3	4
Q-26 I have sought God's help.	1	2	3	4
Q-27 I have made a plan of action.	1	2	3	4
Q-28 I have made jokes about it.	1	2	3	4
Q-29 I have accepted that this is happening or has happened and that it can't be changed.	1	2	3	4

Refer to MOST IMPORTANT demand (circle number)	NOT AT ALL	A LITTLE BIT	A MEDIUM AMOUNT	A LOT
Q-30 I have held off doing anything about it until the situation permits.	1	2	3	4
Q-31 I have tried to get emotional support from friends or relatives.	1	2	3	4
Q-32 I have just given up trying to reach my goal.	1	2	3	4
Q-33 I have taken additional action to try to get rid of the problem.	1	2	3	4
Q-34 I have tried to lose myself for a while by drinking alcohol or taking drugs.	1	2	3	4
Q-35 I have refused to believe that it is happening or has happened.	1	2	3	4
Q-36 I have let my feelings out.	1	2	3	4
Q-37 I have tried to see it in a different light, to make it seem more positive.	1	2	3	4
Q-38 I have talked to someone who could do something concrete about the problem.	1	2	3	4
Q-39 I have been sleeping more than usual.	1	2	3	4
Q-40 I have tried to come up with a strategy about what to do.	1	2	3	4
Q-41 I have focused on dealing with this problem, and if necessary, let other things slide a little.	1	2	3	4
Q-42 I have received sympathy and understanding from someone.	1	2	3	4
Q-43 I have drunk alcohol or taken drugs, in order to think about it less.	1	2	3	4
Q-44 I have kidded around about it.	1	2	3	4

Refer to MOST IMPORTANT demand (circle number)	NOT AT ALL	A LITTLE BIT	A MEDIUM AMOUNT	A LOT
Q-45 I have given up the attempt to get what I want.	1	2	3	4
Q-46 I have looked for something good in what has happened or is happening.	1	2	3	4
Q-47 I have thought about how I might best handle the problem.	1	2	3	4
Q-48 I have pretended that it really isn't really happening or hasn't happened.	1	2	3	4
Q-49 I have made sure not to make matters worse by acting too soon.	1	2	3	4
Q-50 I have tried hard to prevent other things from interfering with my efforts at dealing with this.	1	2	3	4
Q-51 I have gone to movies or watched TV to think about it less.	1	2	3	4
Q-52 I have accepted the reality of the fact that it is happening or has happened.	1	2	3	4
Q-53 I have asked people who have had similar experiences what they did.	1	2	3	4
Q-54 I have felt a lot of emotional distress and I have found myself expressing those feelings a lot.	1	2	3	4
Q-55 I have taken direct action to get around the problem.	1	2	3	4
Q-56 I have tried to find comfort in my religion.	1	2	3	4
Q-57 I have forced myself to wait for the right time to do something.	1	2	3	4
Q-58 I have made fun of the situation.	1	2	3	4

Refer to MOST IMPORTANT demand (circle number)	NOT AT ALL	A LITTLE BIT	A MEDIUM AMOUNT	A LOT
Q-59 I have reduced the amount of effort I'm putting into solving the problem.	1	2	3	4
Q-60 I have talked to someone about how I feel.	1	2	3	4
Q-61 I have used alcohol or drugs to help me get through it.	1	2	3	4
Q-62 I have learned to live with it.	1	2	3	4
Q-63 I have put aside other activities in order to concentrate on this.	1	2	3	4
Q-64 I have thought hard about what steps to take.	1	2	3	4
Q-65 I have acted as though it isn't happening or hasn't happened.	1	2	3	4
Q-66 I have done what has to be done, one step at a time.	1	2	3	4
Q-67 I have learned something from the experience.	1	2	3	4
Q-68 I have prayed more than usual.	1	2	3	4

<u>Section 3</u>: ***We now ask you to re-examine your MOST IMPORTANT demand identified in Section 1 and further consider the ways you deal with it. This information will provide additional detail to what you have indicated in the previous section.***

Q-69 People deal with the demands of their work in a variety of different ways. You may consider these ways effective or non-effective. Describe three ways, specifically, that you are trying to deal with this situation . (Please print clearly)

#1 _____

_____

_____

_____.

#2 _____
_____
_____
_____.

#3 _____
_____
_____
_____.

Q-70 How **effective** has **each** of these ways identified in the previous question been in dealing with the MOST IMPORTANT demand? (circle number)

#1 0 1 2 3 4 5
NOT EFFECTIVE HIGHLY EFFECTIVE

#2 0 1 2 3 4 5
NOT EFFECTIVE HIGHLY EFFECTIVE

#3 0 1 2 3 4 5
NOT EFFECTIVE HIGHLY EFFECTIVE

Q-71 Have you talked to someone, in any way, about this situation? (circle number)

1 YES
2 NO

*IF YOU HAVE **NOT** TALKED TO ANYONE ABOUT YOUR MOST IMPORTANT DEMANDING WORK SITUATION, THEN **SKIP THE NEXT QUESTION** AND PROCEED DIRECTLY TO **Q-73**.*

Q-72 What persons have you talked to regarding this situation? Please identify them by their relationship to you (e.g. co-worker, friend, spouse, supervisor). Then identify what **benefit**, however small and if any, you received from doing this. (Please print clearly)

#1 PERSON: _____
BENEFIT: _____
_____
_____.

#2 PERSON: _____
BENEFIT: _____
_____
_____.

#3 PERSON: _____

BENEFIT: _____

_____

_____.

#4 PERSON: _____

BENEFIT: _____

_____

_____.

Section 4: ***This final section asks you some information about your work experience and your background.***

Q-73 My **primary** job function is: (circle number)

1 EMT
2 PARAMEDIC
3 MANAGER / SUPERVISOR
4 TRAINING
5 DISPATCHER
6 FIREFIGHTER
7 OTHER (SPECIFY:_____)

Q-74 My A.P.P.A. classification is: (circle number)

1 EMT-A
2 EMT-P
3 OTHER (SPECIFY:_____)

Q-75 My employment status is: (circle number)

1 FULL-TIME (35 HOURS A WEEK OR GREATER)
2 PART-TIME
3 NOT PRESENTLY WORKING IN THE EMS FIELD

Q-76 I presently **work** in a community of: (circle number)

1 LESS THAN 10,000 PEOPLE
2 10,000 PEOPLE OR MORE

Q-77 I have worked the following number of years in the EMS field: (circle number)

1 LESS THAN ONE YEAR
2 1 - 5 YEARS
3 6 - 10 YEARS
4 11 - 15 YEARS
5 16 - 20 YEARS
6 21 - 25 YEARS
7 MORE THAN 25 YEARS

Q-78 In the course of my work **over the past month**, I have worked **primarily** with a regular partner or partners.(circle number)

1 YES
2 NO
3 NOT APPLICABLE

Q-79 In the course of my work **over the past month**, I have had the following **average** number of EMS calls per shift: _____. (N/A if this does not apply)

Q-80 My gender is: (circle number)

1 FEMALE
2 MALE

Q-81 My age is: (circle number)

1 LESS THAN 20 YEARS
2 20 - 24 YEARS
3 25 - 29 YEARS
4 30 - 34 YEARS
5 35 - 39 YEARS
6 40 - 44 YEARS
7 45 - 49 YEARS
8 50 - 54 YEARS
9 MORE THAN 54 YEARS

Q-82 The highest education level I have achieved to date is: (circle number)

1 HIGH SCHOOL DIPLOMA
2 SOME POST-SECONDARY EDUCATION (e.g. EMT-A)
3 DIPLOMA AWARDED (e.g. EMT-P, RN, RT)
4 DEGREE AWARDED (e.g. B.A., B.Sc.)
5 POST-GRADUATE UNIVERSITY (e.g. M.Ed., M.A.)

Q-83 My present marital status is: (circle number)

1 NEVER MARRIED
2 MARRIED / COMMON-LAW
3 DIVORCED / SEPARATED
4 WIDOWED

Q-84 I primarily live: (circle number)

1 ALONE
2 WITH AT LEAST ONE OTHER PERSON

Q-85 I am responsible for the following number of children/dependents: (circle number)

1 NONE
2 ONE
3 TWO
4 THREE
5 FOUR OR GREATER (HOW MANY?_____)

Appendix B:

Participant Letters

Participant Letter 1

May 16, 1994

(name and inside address of subject)
*
*

Dear (subject's name):

Work stress and the ability to cope with that stress are ever increasing issues for emergency prehospital personnel. I am familiar with these issues from my own experience as a paramedic for ten years in Alberta. Unfortunately, relatively little research has been conducted by the medical and academic communities to understand the demands of your job roles. I want to expand the information available by examining how paramedics and EMTs such as yourself experience stress on the job and how you deal with it.

Your name has been randomly selected amongst your peers to participate in a study investigating work stress. In order that the results will truly represent the experience of **all** Registered Paramedics and EMTs in Alberta, it is important that **your questionnaire be completed and returned**. By completing and returning the questionnaire, it will be assumed that your consent to participate in this project will have been given. Please understand, however, that your participation is entirely voluntary.

You may be assured of complete confidentiality of the information you provide. The enclosed questionnaire has an identification number for mailing purposes only. This is so that we may check your name off of the mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire and all questionnaires will be kept under lock and key, available only to myself as research coordinator.

You may receive a summary of results by writing *"copy of results requested"* **on the back of the return envelope**, and printing your name and address below it. Please **do not** put this information on the questionnaire itself. The results of this research will be submitted to a graduate committee overseeing my Master's thesis as well as a select number of professional and academic journals in the area of stress research in consideration for publication.

I would be most happy to answer any questions you might have about this research. Please write or call collect (604) 247-9923.

Thank you for your assistance.

Sincerely,

J. Brian Rose, EMT-P, B.Sc.
Prehospital
Research Project Coordinator

Participant Letter 2

May 24, 1994

Last week a questionnaire regarding stress and coping was mailed to you. Your name was randomly selected from the A.P.P.A. register in order to accurately sample prehospital personnel in Alberta for this project.

If you have already completed and returned this questionnaire to us please accept our thanks. If not, please do so today. Because it was sent to only a small but representative sample of EMTs and paramedics, it is extremely important that your questionnaire also be included in the study if the results are to accurately represent the experiences of all paramedics and EMTs in the province.

If by chance you did not receive the questionnaire, or if it was misplaced, please call me right now, collect, at (604) 598-9913 and I will get another one in the mail to you today.

Sincerely,

J. Brian Rose, EMT-P, B.Sc.
Prehospital Research Project Coordinator

Participant Letter 3

June 6, 1994

(*Subject's name and address*)
*
*

Dear (*Subject's Name*):

About three weeks ago I wrote to you asking you to relate your experience of how you cope with the stress of your profession as a prehospital care provider. As of today we have not yet received your completed questionnaire.

I have undertaken research in this area because of the high relevance the topic of stress has in the daily lives of paramedics and EMT's and of the scarcity of good research in this area. In order to more fully understand what demands are faced by prehospital care personnel, we as researchers must come "out to the field" so to speak, or least have you who are there relay your direct experience to us via pen and paper. The information we gather via this questionnaire will be used to better understand what it is about your work experience you find demanding, how you deal with these demands, and how are these ways working for you.

I am writing to you again because of the significance each questionnaire has to the usefulness of this study. Your name was drawn randomly from the A.P.P.A. register, and in order that the results of this study truly represent the experience of **all** Alberta's Registered EMT's and Paramedics, it is essential that each person in the sample return their questionnaire.

Completing and returning the questionnaire is of course voluntary, and we anticipate that a small number of you will have decided not to return it for some very good reasons. We hope that the reason is **not** due to lack of time or opportunity. Most persons have completed the questionnaire in about 30 minutes. Whatever reason you may have for not returning the questionnaire, we ask that you reconsider, and failing this, to complete Section 4 commencing on page 9. This should take no longer than 5 minutes and will permit us to know some basic information about the few people who have not been able to give us the information we seek. Of course, the research will be more valid if we receive all questionnaires fully completed and encourage you to return yours today in any case.

In the event that the questionnaire has been misplaced, a replacement is enclosed.

Your cooperation is greatly appreciated.

Cordially,

J. Brian Rose, EMT-P, B.Sc.
Prehospital Research Project Coordinator

Appendix C

Content Analysis Taxonomies

Content Analysis Taxonomy
Question 2 - Work Demands

01 Health
- 011 Physical
- 012 Mental / Emotional
- 013 Unspecified

02 Role Demands
- 021 Waiting for calls/ need to be in constant state of readiness
- 022 Physical demands
- 023 Decision making
- 024 Time urgency
- 025 Shift work / irregular hours
- 026 Supervising others
- 027 Professional obligations
  - 0271 Maintaining skills
  - 0272 Continuing Education
  - 0273 Maintaining enough hours to requalify
  - 0274 Procedures/Policies/Protocols
  - 0275 Recertification Process
  - 0276 Other / Unspecified
- 028 Doing Calls / Giving Care to patients
- 029 Other / Unspecified

03 Role Conflict
- 031 Job / Outside of job conflict
- 032 Personal / Professional conflict
- 033 Within role conflict
- 034 Limitations of role
- 035 Other

04 Role Overload
- 041 Quantitative
  - 0411 Long hours
  - 0412 High workload
  - 0413 Other
- 042 Qualitative
  - 0421 More responsibility than comfortable with
  - 0422 Particularly difficult / serious calls
  - 0423 New roles / Changing roles
  - 0424 Other
- 043 Unspecified

05 Role Underload
- 051 Boredom / Monotony
- 052 Too little work / Little contact with patients
- 053 Other / Unspecified

06 Job Environment
- 061 Physical
  - 0611 Irregular work locations
  - 0612 Risk to personal safety
  - 0613 Exposure to the sick and injured
  - 0614 Other

062 Social
- 0621 Irregular partners/ co-workers
- 0622 Incompetent/ Unethical co-workers/ management
- 0623 Low Morale
- 0624 Discrimination
- 0625 Other

07 Resources, Insufficient
- 071 Financial
- 072 Material
- 073 Human
- 074 Educational

08 Job Security / Advancement
- 081 Threat of loss of job
- 082 No opportunity for advancement / career growth)
- 083 Threat of demotion / lower job status
- 084 Other / Unspecified

09 Relationships
- 091 Co-workers
  - 0911 Lack of support
  - 0912 Conflict
  - 0913 Communication
  - 0914 Other problems / Unspecified
- 092 Management/Supervisor
  - 0921 Lack of support
  - 0922 Conflict
  - 0923 Communication
  - 0924 Other problems / Unspecified
- 093 Persons from other agencies
  - 0931 Lack of support
  - 0932 Conflict
  - 0933 Communication
  - 0934 Other problems / Unspecified
- 094 Other / Unspecified

10 Certain types of patients/issues
- 101 Children
- 102 Elderly
- 103 Uncooperative/Dangerous
- 104 Family/ relatives of patient
- 105 People that you know
- 106 Death
- 107 Other

11 Bureaucracy / Politics
- 111 Service level / management
- 112 Municipal level / interagency
- 113 Provincial level
- 114 Unspecified / Other

12 Expectations, High / Not Met / Uncertain
- 121 of self
- 122 of job / profession
- 123 of others
- 124 from others
- 125 Unspecified

13 Other

Content Analysis Taxonomy
Question 5 Context of Work Demands

01 Health
- 011 Physical
- 012 Mental / Emotional
- 013 Unspecified

02 Role Demands
- 021 Waiting for calls/ need to be in constant state of readiness
- 022 Physical demands
- 023 Decision making
- 024 Time urgency
- 025 Shift work / irregular hours
- 026 Supervising others
- 027 Professional obligations
  - 0271 Maintaining skills
  - 0272 Continuing Education
  - 0273 Maintaining enough hours to requalify
  - 0274 Procedures/Policies/Protocols
  - 0275 Recertification Process
  - 0276 Other / Unspecified
- 028 Doing calls / Giving care to patients
- 029 Other / Unspecified

03 Role Conflict
- 031 Job / Outside of job conflict
- 032 Personal / Professional conflict
- 033 Within role conflict
- 034 Limitations of role
- 035 Other

04 Role Overload
- 041 Quantitative
  - 0411 Long hours
  - 0412 High workload
  - 0413 Other
- 042 Qualitative
  - 0421 More responsibility than comfortable with
  - 0422 Particularly difficult / serious calls
  - 0423 New roles / Changing roles
  - 0424 Other
- 043 Unspecified

05 Role Underload
- 051 Boredom / Monotony
- 052 Too little work / Little contact with patients
- 053 Other

06 Job Environment
- 061 Physical
  - 0611 Irregular work locations
  - 0612 Risk to personal safety
  - 0613 Exposure to the sick and injured
  - 0614 Other
- 062 Social
  - 0621 Irregular partners/ co-workers

0622 Incompetent/ Unethical co-workers/ management
0623 Low Morale
0624 Discrimination
0625 Other

07 Resources, Insufficient
071 Financial
072 Material
073 Human
074 Educational

08 Job Security / Advancement
081 Threat of loss of job
082 No opportunity for advancement / career growth)
083 Threat of demotion / lower job status
084 Other / Unspecified

09 Relationships
091 Lack of support
092 Conflict
093 Communication
094 Lack of trust
095 Other problems / Unspecified

*10 Underlying Emotions of subject
101 Frustration / Anger
102 Fear
103 Low self-esteem
104 Worry about making mistakes / incompetence
105 Guilty
106 Worry about the future
107 Helpless
108 Other / Unspecified

11 Bureaucracy / Politics

12 Expectations, High / Not Met / Uncertain
121 Of self
122 Of job / profession
123 Of others
124 from others
125 Unspecified

*13 Personal Financial Concerns

*14 Time Management Issues

*15 Lack of Control
151 Over job role
152 Over social environment
153 Other / Unspecified

*16 No New / Relevant Information Given (in any part of Question 5)

17 Other

*** These categories vary from those in Question 2**

Content Analysis Taxonomy
Question 69 - Coping Strategies

01 Active Coping
- 011 Seeking information
  - 0111 Human sources
  - 0112 Non-Human sources
  - 0113 Unspecified
- 012 Receive or Obtain Education / Training / Testing
- 013 Confront person(s) involved
- 014 Other **behaviours** which address directly/indirectly the issue/problem
- 015 Decision making / Problem solving (cognitive)
- 016 Commitment (Increased effort/try harder)
- 017 Concentration (Focus)
- 018 Self-reflection
- 019 Other / Unspecified

02 Planning
- 021 Time management
- 022 Anticipation of demand happening again
- 023 Unspecified

03 Suppression of competing activities

04 Acceptance
- 041 Live with it
- 042 Unspecified

05 Mental / Emotional / Behavioural Disengagement
- 051 Ignoring / Denial
- 052 Diversion / Distraction
  - 0521 Humour
  - 0522 Alcohol/ Drugs
  - 0523 Other
- 053 Other / Unspecified

06 Positive Reinterpretation and Growth
- 061 Positive self-talk
- 062 See as opportunity to grow/ learn
- 063 Other

07 General Stress Reduction / Inoculation
- 071 Exercise / Sports
- 072 Diet
- 073 Take a break / Relax
- 074 Activities / Hobbies
- 075 Other

08 Seeking Social Support
- 081 Spouse / Primary partner
- 082 Family / Relative
- 083 Work partner
- 084 Co-worker (other than partner)
- 085 Supervisor / Manager
- 086 Friend / Neighbor
- 087 Community
- 088 Other / Unspecified

09 Religion (e.g. Trusting in God)

10 Wishful thinking (e.g. Hope)

11 Other

Content Analysis Taxonomy
Question 72 - Social Support Functions

01 Non-Specific Help / Support

02 Informational Support
- 021 Information
  - 0211 Define / better understand problem
  - 0212 Alternatives / Choices
  - 0213 Unspecified
- 022 Advice (what to do)
- 023 Feedback on performance
- 024 Social Comparison
  - 0241 How others think / feel about the issue
  - 0242 How others cope (What they did)
  - 0243 Unspecified
- 025 Other / Unspecified

03 Tangible Support
- 031 Services /Tasks performed by others
- 032 Lending of materials/money
- 033 Assistance with problem solving
- 034 Other

04 Emotional Support
- 041 Having someone listen
- 042 Opportunity to vent / release
- 043 Acknowledgement / Acceptance / Affirmation
- 044 Understanding / Empathy / Compassion
- 045 General encouragement (not advice) / Reassurance / Reinforcement
- 046 Sympathy
- 047 Unspecified / general emotional support / Other

05 Affiliative Support
- 051 Normalization / "Not alone"
- 052 Agreement in opinion
- 053 Mutuality / "sharing" of experiences
- 054 Other / Unspecified

06 No Help / Benefit experienced

VITA

Surname: **ROSE** Given Names: **JOHN BRIAN**

Place of Birth: Calgary, Alberta Date of Birth: July 13, 1959

Educational Institutions Attended:

University of Victoria	1991 to 1994
University of Calgary	1987 to 1991
Southern Alberta Institute of Technology	1981 to 1983
University of Calgary	1977 to 1979

Degrees / Diplomas Awarded:

B.Sc.	University of Calgary	1991
EMT-P	Southern Alberta Institute of Technology	1983

Honours / Awards:

Dowell of Canada Family Scholarship Award 1977 - 1979

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Title of Thesis: SITUATIONAL DEMANDS AND COPING STRATEGIES IN ALBERTA PARAMEDICS

Author 

JOHN BRIAN ROSE

September 28, 1994