Mapping Out Occupational Resiliency and Coping in a Public Service Work Setting

by

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ABSTRACT

The purpose of this study was to identify key occupational resiliency and coping characteristics which influence employees' personal health and productivity in a public service work setting. This type of research provides an opportunity to determine which characteristics might explain why some employees are more or less resilient, given the same stressful situation. In addition, this study identifies which coping strategies are used when employees respond to workplace stress, change and crisis. A mixed-methods sequential exploratory design was used in this study on resiliency and coping. The study consisted of two phases. Phase One of the study involved conducting interviews which utilized the Echo Approach and Repertory Grid Technique. In Phase One, 15 randomly selected employees from a Canadian public service organization were interviewed. Each participant was interviewed twice (N=30). The interview results were used to design a subsequent quantitative phase of the study – a web-based survey on resiliency and coping. In Phase Two, 579 randomly selected employees (56% response rate) from the same Canadian public service organization completed the survey. Results from this study found that resilient employees were individuals who had high self-esteem, were adaptive to change/new situation, were optimistic and had an internal health locus of control. Resilient employees frequently used a combination of problem solving, self-control, accepting responsibility, empathy and distancing coping strategies in managing and overcoming crisis situations. These characteristics and behaviours appeared to be associated with high perceived health ratings, increased duration and frequency of physical activity, decreased visits to a physician, low burnout rates, low absenteeism rates
and decreased consumption of alcoholic beverages and prescription medication. This study is intended to contribute to the fields of health psychology and organizational behaviour by identifying personality characteristics and coping strategies which demonstrate significant interrelationships with employee health and productivity outcomes. In addition, this study outlines a set of psychological measures which can be used in future organizational-based research studies on stress, resiliency and coping.

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DEDICATION

To my guiding lights – a special thank you to my mother and father for their on-going support and guidance as I completed my three degrees at the University of Victoria. When times got tough throughout my academic journey, both of you were there for me – I will never forget this. Many thanks!
INTRODUCTION

Overview of Chapter One

“It is not what happens to you that matters, but how you take it”

(Hans Selye, 1936, p.32)

Hans Selye’s quote serves as a central theme for my study on occupational resiliency and coping. Regardless of the work and/or life events, individuals’ perspectives on the given situation will influence how they feel and react to the experience. In the twin study conducted by Kendler, Kessler, Heath, Neale & Eaves (1991), individual differences were found between twins in terms of what factors influenced coping. The study was designed to examine several coping strategies and their relationship to psychiatric disorders. In addition, Kendler et al. (1991) wanted to estimate the genetic and environmental influences on coping. Though seeking help from others and problem solving could be explained by genetic factors, denial appeared to be explained by early family environments, parental child rearing styles and exposure to childhood stressors (Kendler et al., 1991).

Often associated with engineering and physics, stress is typically defined using terms such as “strain” and “load” whereby “external forces (load) are seen as exerting pressure on an individual; thus, producing strain” (Cartwright & Cooper, 1997 cited in Osland, Kolb & Rubin, 2001, p. 171). Edwards (1992) indicates that stress overload results from an imbalance between individuals’ inner psychological state (personal style), coping skills, environmental stressors (work and/or life events) and lack of sufficient social support networks.

According to one school of thought, differences in individual characteristics such as personality style are considered most important in predicting whether certain job
conditions will result in stress (Kobasa, 1979; Lazarus & Folkman, 1984). In other words, what is stressful for one person may not be a problem for someone else (Kobasa, 1979).

Resiliency, a term often associated with child psychology is now starting to be applied to the adult population, specifically as it relates to employees dealing with and managing occupational stress, change and crisis. Resiliency examines personality characteristics which address how individuals perceive stressful situations. It is these characteristics that provide the lens in which individuals view a given situation. Researchers such as Maddi, Kobasa and Hightower have extended the discussion on stress to include how personal attributes (i.e. hardiness) influence the appraisal of stress and the ability to cope (Maddi & Hightower, 1999; Maddi & Kobasa, 1984). However, these studies did not include further linkages between coping, personality characteristics and various health and productivity outcomes (i.e. burnout, absenteeism).

While resiliency acknowledges the personality characteristics of individuals, coping strategies address how individuals personally handle stressful situations. Coping outlines individuals' thoughts and reactions to stressful events within a given environment (i.e. workplace setting). Though a large number of studies have been published on coping, researchers still know very little about how coping strategies operate and whether they are truly helpful in dealing with stress; for example, how do particular coping strategies link to health and productivity outcomes (Latack, 1986; Latack & Havlovic, 1992)?

Industrial/Organizational psychologists and organizational behaviour researchers are beginning to examine this phenomenon in a workplace context, specifically -- what makes some employees more resilient than others when a workplace crisis occurs? The notion of occupational resiliency – the examination of why certain employees thrive in
the face of workplace challenges, is worthy of further investigation. In particular, there is a need to pinpoint both key resiliency and coping characteristics which interact and impact health and productivity outcomes.

Though prior research has been conducted on the relationships between stress, coping and personality, studies of this nature are primarily rooted in clinical settings such as Uehara, Sakado, Sakado, Sato & Someya's 1999 study on personality, coping and pathology. Participants in this particular study were outpatients who were in remission from a major depressive disorder. Scholars acknowledge that there is a gap in the literature in terms of knowing how individuals cope and which personality characteristics influence health and productivity outputs in the workplace setting (Dewe & Guest, 1990; Latack, 1986; Latack & Havlovic, 1992; Parkes, 1990). At present, past studies and articles written by authors such as Coutu (2002) and Doe (1994) have only anecdotally described the importance of resiliency and coping and their impact on personal health and productivity outcomes. Empirical evidence is needed which recognizes the importance of both personality and coping within the multifaceted and complex human stress response and its associated influence on employee health and productivity.

Within Chapter One of my dissertation, I outline the problem statement and purpose of the research study both of which serve as core components in understanding the nature and scope of my dissertation. In addition, background information is provided that establishes a context for understanding the realities and nature of the particular work environment being studied. Assumptions and delimitations of the research study are described to acknowledge the parameters in which this study was framed and designed.
Background

This study was conducted in a Canadian public service work setting which was recently involved in a multi-year large scale downsizing initiative which saw the APEX Corporation's workforce reduced by over 30%. In addition, the APEX Corporation is currently involved in deregulation, budget balancing exercises, devolution of direct client services and the application of alternative service delivery solutions. Over the past decade, the Green Leaf Company has experienced a number of organizational changes such as the reorganization of departments/programs and philosophical changes to how they conduct business on behalf of government. This has led to dramatic changes to the nature of their public service work (i.e. how key services and programs are provided to new and existing clientele) during a time where resources were already fully absorbed and thinly stretched.

Many other public service jurisdictions have experienced similar pressures for change over the past decade. Public service organizations in Canada, United States, United Kingdom and Australia have seen various change initiatives flourish and flounder as public service organizations respond to the need for change. Strong forces including debt and deficit pressures, increased global competition, budget-balancing requirements, telecommunications and computing technology, are some of the key factors driving changes related to service delivery (Auditor General of Canada, 2000; Bandera & Chin, 1998; Department of Public Service and Administration, 1997; Government of Alberta, 2000; Marson, 1997; Ontario Public Service Restructuring Secretariat, 1999; Vardon, 1998). In general, some of these public service organizational change initiatives are fuelled by internal and/or external pressures which are forcing some public service organizations to respond to corporate situations (i.e. improved service delivery) at an
accelerated rate. Some of these pressures include fiscal pressures and expectations of clients/customers. For public service organizations such as the Green Leaf Company which is being studied, they are facing the added challenge of dealing with restructuring initiatives and fiscal restraint activities within a political fishbowl where the policy and program needs of politicians often oppose the needs of citizens.

These pressures are making life challenging for employees at all levels of government. Although pressures for change may not be a phenomenon exclusive to employees in public service organizations, this issue may be especially important for public service employees given the multitude of unique demands and constraints already placed on public service entities. Limits in flexibility and autonomy, often vague and disputed goals, continually shifting performance expectations, media scrutiny, and political interference are just a few of the features common to public service organizations which make coping with change a difficult endeavour (Nutt & Backoff, 1993; Rush, Schoel & Barnard, 1995; Sorensen & Sorensen, 1974). With these change initiatives comes heavier workloads and long hours at work, all of which can infringe on employees’ personal time. Coupled with the need to be competitive, employees are feeling the pressure to “step up to the plate” in coping with the organizational changes that have been placed upon them (Lowe, 2002a; Lowe, 2002b; National Institute for Occupational Safety & Health, 1999). Based on these challenges, it is important for public service executives, human resource management advisors – specifically, occupational health/safety specialists and disability case managers to understand the multifaceted and complex nature of stress and its associated impact on productivity and employee health within public service work settings.
Statement of the problem

The statement of the problem can be expressed by the following question: What are the key occupational resiliency characteristics and coping strategies that influence an employee's personal health and productivity?

Purpose of the study

The purpose of this study was to identify key occupational resiliency and coping characteristics which influence employees' personal health and productivity in a public service work setting. This type of research provides an opportunity to determine which characteristics might explain why some employees are more or less resilient, given the same stressful situation. In addition, this study examines which coping strategies are used when employees respond to workplace stress, change and crisis.

From an academic perspective, my research was intended to contribute to the fields of organizational behaviour and health psychology by identifying a set of psychological measures that can be used in future organizational-based research studies on stress, resiliency and coping. From a practitioner's vantage point, the objectives of this study were: to provide findings on occupational resiliency and coping which can be used by the Green Leaf Company to assist in health and wellness-related employee program development and strategic human resource management planning; and to design a web-based survey tool that public service organizations can use to examine occupational resiliency and coping within their given work settings.

This study was intended to contribute to the fields of health psychology and organizational behaviour by identifying personality characteristics and coping strategies which demonstrate significant interrelationships with employee health and productivity outcomes such as physical health, mental health, absenteeism and presenteeism. Other
potential innovative contributions included the opportunity to utilize web-based questionnaire technology and to investigate the topic of occupational resiliency and coping using a mixed-methods approach.

According to the organizational behaviour and health psychology literature, the concept of “occupational resiliency” has never been fully explored, particularly in a public service work environment (Rush et al., 1995; Mallak, 1998). Also, the mixed-methods approach that I utilized (a blending of qualitative and quantitative research techniques) was extremely valuable in studying work/life stressors, resiliency and coping. The mixed-methods approach provided an opportunity to integrate statistical findings with personal stories/interviews which can lead to a deeper understanding of the underlying characteristics which comprise occupational resiliency and coping. Also, the mixed-methods research design allowed for a counter-balancing of strengths between qualitative and quantitative research techniques (Tashakkori & Teddlie, 1998; Tashakkori & Teddlie, 2003; Creswell, 2003).

Limitations of the study

This study was limited to a Canadian public service institution. As part of the confidentiality agreement between the participating organization and me, the name of the organization and other specific identifying features/characteristics of this workplace were not mentioned within this dissertation. Organizations were identified in this dissertation under pseudonyms. The organization involved in this study was referred to as the “Green Leaf Company”. The term “APEX Corporation” refers to the larger employer in which the participating organization resides. Finally, the term “Statistics Inc.” was used to describe the neutral third party statistical organization which distributed the Request for
Participation electronic letters in Phase One of the study and administered the web-based questionnaire in Phase Two of the study.

Assumptions

The following assumptions were expected to prevail throughout this study:

1. It is anticipated that the participants will be honest with their responses;

2. It is anticipated that the participants will accurately carry out the instructions provided by the researcher;

3. It may be difficult for individuals to seek guidance about work/life stress issues and coping strategies in a safe and trusting environment;

4. An inductive approach to measuring and analyzing coping and resiliency will provide a better means of exposing values, beliefs, feelings and actions of participants rather than the researcher imposing them through the application of pre-determined conceptual frameworks and constructs from the existing literature; and

5. The effectiveness of the mixed-methods research design (blending qualitative and quantitative research techniques) rests on the premise that the weakness in a single method will be compensated by the counter-balancing strengths of another research method.

Summary of Chapter One

Within Chapter One, it was recognized that the study of the human stress response is complex and multifaceted. In addition, a need for further empirical evidence was expressed particularly as it pertains to studying personality characteristics and coping strategies in relation to employee health and productivity outcomes. The Occupational Resiliency and Coping study contributes to the study of stress, resiliency and coping by identifying a set of psychological measures that can be used in future organizational-based research studies. Finally, the scope and associated parameters of the study were brought forth to provide readers with the context in which resiliency, coping and stress were fully explored in this particular study. Chapter Two presents a literature review on
some of the various theories and models which examine stress, coping, resiliency and their individual associations to various health and productivity outcomes.
LITERATURE REVIEW

Overview of Chapter Two

Over the years, research on the human stress response has expanded beyond the study of the physical manifestations of stress (aka. an epidemiological approach to studying stress) to the psychological and sociological aspects surrounding stress. In particular, the psychological approach to studying the human stress response serves as a means of uncovering how individuals perceive and respond to stressful work and/or life events. As previously mentioned in Chapter One, there is still much to be learned about the role of personality and coping strategies in connection with stressful events, employee health and productivity, particularly in a non-clinical setting (i.e. workplace). Researchers such as Maddi (2002) and Wainwright & Calnan (2002) recognize that it is not necessarily the work or life event which impacts individuals' stress responses but additional factors such as employees' perceptions of the situation and/or whether they have the necessary skills to handle the event – an individual's personality characteristics and set of coping strategies.

In terms of personality characteristics, the term "resiliency" which is rooted within the child psychology domain is starting to be applied to the adult population in order to describe individuals who are able to thrive in the face of stress. Resiliency represents a collection of personality characteristics that involves people's ability to perceptually or behaviourally transform negative stressors in one's work and/or personal life into positive challenges (Benard, 1993; Coutu, 2002; Doe, 1994; Mallak, 1998; Masten, 2001; Rush et al., 1995; Tugade & Fredickson, 2004; Wolkow & Ferguson, 2001). These characteristics can include a sense of commitment to the importance of what one is doing, an internal locus of control and sense of life challenge. People
characterized with resiliency have a clear sense of where they are going and are not easily deterred by life’s obstacles. Therefore, there are some individuals who are resilient and actually become stronger under pressure (Kobasa, 1979; Latack & Havlovic, 1992; Roth, Wiebe, Fillingim, & Shay, 1989; Rush et al., 1995). When resilient employees experience something upsetting, they identify actions they can begin doing immediately to minimize its impact.

The term “coping” is often associated with the thoughts and actions that individuals demonstrate when they are dealing with a stressful situation. In general, the act of coping is defined as “cognitive and behavioural efforts to master, reduce, or tolerate the internal and/or external demands that are created by the stressful transaction” (Folkman, 1984, p.843). Coping can be viewed as a buffer directed at either solving problems or regulating emotions associated with stress (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Latack & Havlovic, 1992; Leiter, 1991). Coping is not a one time action that someone takes; instead, it is a series of responses, occurring over time, where the environment and the person influence one another in a cyclical manner. Based on individuals’ appraisals of the event, various types of coping strategies may be used in order to correct the imbalance they feel between their personal style, environmental stressors and lack of sufficient support networks at the time of the incident.

In Chapter Two, a selected review of the literature was conducted which specifically examined some of the key theories and models that serve as foundational pieces to the study of stress, coping and resiliency such as Hans Selye’s General Adaptation Syndrome, Lazarus’s Transactional Model and Garmezy’s notion of resiliency. These specific theories and models were examined as they recognize the
interrelationship between stress and the individual (how individuals perceive and respond to stressors/stressful situations).

Human Stress Response

In general, stress is defined as “an adaptive response, moderated by individual differences, that is a consequence of any action, situation or event, that places special demands on a person” (DeFrank & Ivancevich, 1998, p.56). It refers to a reaction to a situation, not the situation itself. From a historical perspective, stress is derived from the Latin word “stringere”, meaning to draw tight. In the late 18th century, stress was associated with an individual’s physical or mental abilities — “force, pressure, strain or strong effort” (Cartwright & Cooper, 1997 cited in Osland, Kolb and Rubin, 2001, p.171).

People have certain unique responses to the pressures (aka. “stressors”) they experience either in their work or personal life. These stressors can be literally anything a person experiences which evokes some type of physical or emotional response. Although stress can be generated by positive as well as negative events, it is generally experienced by individuals as discomfort, tension or negative affect. Harm, loss, anger, threat and uncertainty are all associated with negative emotions, and the arousal experienced as a function of stress is also considered unpleasant or uncomfortable. In the human body, feelings like anger, frustration, and irritation are now proven to weaken individuals' immune systems and drain their vitality, leaving them more susceptible to colds, flu and more serious illnesses (Canadian Fitness and Lifestyle Research Institute, 1998b; Cryer, 1996). Conversely, attitudes like appreciation, care and compassion significantly boost immune system strength and give individuals more resilience and strength to withstand sickness (Cohen & Wills, 1985; Cryer, 1996). With these positive
feelings operating in their system, even if individuals do get sick, they recover more quickly (Canadian Fitness and Lifestyle Research Institute, 1998b; National Institute for Occupational Safety & Health, 1999).

**Stress Response Models**

Two key models surrounding the human stress response are: Cannon’s “Fight-or-Flight” reaction and Hans Selye’s General Adaptation Syndrome. Cannon studied the effects of stress on animals and people. He proposed that when the organism perceives a threat, the body is rapidly aroused and motivated by the sympathetic nervous system and the endocrine system. This physiological response mobilizes the organism to attack the threat or to flee; thus, it is called the fight-or-flight response. Cannon reasoned that the fight-or-flight response is adaptive because it enables the organism to respond quickly to a threat (Cohen & Wills, 1985; Feldman, 1998). On the other hand, he concluded, stress can be harmful to the organism because it disrupts emotional and physiological functioning which can lead to medical problems.

In this fight-or-flight response, people and animals will choose to stay and fight or attempt to escape when confronted by extreme danger. Stressors (the “stressful” situation) excite both the sympathetic nervous system and the hypothalamic-pituitary-adrenocortical axis. With increasingly prolonged stress, the effects of the hypothalamus-pituitary-adrenal axis become more prominent (Kalat, 1995). The hypothalamus induces the anterior pituitary gland to secrete adrenocorticotropic hormone (ACTH) which in turn stimulates the adrenal cortex to secrete cortisol and several other hormones. Cortisol elevates blood sugar and enhances metabolism. The increased fuel supply to the cells enables them to sustain a high level of activity in the face of stress. As cortisol and other hormones shift energy toward increasing blood sugar and metabolism, they shift it away
from synthesis of proteins, including the proteins necessary for the immune system and leave the individual vulnerable to a variety of illnesses (Kalat, 1995). In short, brief or occasional stress poses little threat to health; however, constant, prolonged stress is a more serious problem.

Within Hans Selye's model, the general physiological response to stressful events is believed to follow a fairly consistent pattern known as the General Adaptation Syndrome. He argued that reactions to stress go through three phases: alarm; resistance; and exhaustion (Selye, 1936). The first stage, alarm, occurs at the first sign of stress. At this stage, the body prepares to fight stress by releasing hormones from the endocrine glands. During this initial stage, heartbeat and respiration increase, blood sugar level rises, muscles tense up, pupils dilate and digestion slows. Following this initial shock, the body moves into the second stage, resistance. The body attempts to repair any damage and return to a condition of stability and equilibrium. If successful, physical signs of stress will disappear. If the stress continues long enough, the body's capacity for adaptation becomes exhausted. In this third stage, exhaustion, defenses wear away, and the individual experiences a variety of stress-related illnesses, including headaches, ulcers and high blood pressure. This third stage is the most severe and presents the greatest threat both to individuals and to organizations (Selye, 1936).

Selye recognized that not all stress is negative or bad. Selye conceptualized two categories, namely good or desirable stress (eustress) and bad or undesirable stress (distress) (Keita & Jones, 1990). Eustress is pleasant, or at least challenging, and can produce positive effects such as the maximization of output and creativity. Ironically, without this positive type of stimuli, life can become stressful (Keita & Jones, 1990). In contrast, distress is evident when people perceive themselves as having no ability to
control a stressful event. Distress is likely to result in a loss of productivity and a decline in overall levels of well-being (Kalat, 1995). Although everyone manifests a response to stress, reactions vary widely across individuals. Even at a physiological level, when confronted with a major stressor, some people experience a rapid increase in heart rate while others feel a tightness or knotting in the stomach or tension headaches. Stress is an integral part of everyday life and simply cannot be avoided. People encounter stressful stimuli many times a day in their personal and social domains such as the workplace (DeFrank & Ivancevich, 1998).

From a workplace perspective, the same attitudes proven to boost the human immune system are also the ones known to create a harmonious, productive and creative workplace. When people are valued, appreciated and cared for, they produce more, have greater loyalty to their employer and have higher levels of creativity (Peterson & Wilson, 2002). The ability of employees to handle organizational stressors in a manner that is deemed proactive and healthy can be a constant challenge for some individuals. For those individuals who struggle in coping with workplace stress, the overall workplace impacts tend to manifest themselves in higher rates of absenteeism, job turnover, tardiness, job dissatisfaction and poor job performance (Williams, 2003; Wright, Beard, & Edington, 2002). Turnover and absenteeism represent convenient forms of withdrawal from a highly stressed job. Results of several studies from Baruch-Feldman, Brondolo, Ben-Dayan & Schwartz (2002) and Corrigan, Holmes, Luchins, Buican, Basin & Parks (1994) have indicated a fairly consistent, if modest, relationship between stress and subsequent turnover and absenteeism. In addition to work-related stressful incidents, employees may be facing stressful personal life situations which also impact on their health and
productivity in the workplace. For some individuals, how they perceive and respond to stressful situations may be attributed to personality characteristics/traits that they possess.

Models of Resiliency

At some point in their lives, many adults can probably recall a person or set of individuals who seemed to bounce back from negative work and/or life events effectively or vice versa - individuals who always appeared to be caught in a rut, unable to get out of their negative streak. For those individuals who are able to bounce back, they are often described as “resilient”. Resilience is a way of facing and understanding the world which is deeply etched into a person’s mind and state of being. In the field of psychology, resiliency is described as individuals’ ability to focus on their capabilities, assets and positive attributes more than their weaknesses or pathologies (Lazarus, 1993; Saleebey, 2003).

Discussions surrounding the concept of “resiliency” have typically been directed almost exclusively to children who were survivors of abusive homes, neglect or other traumatic events in their childhood (Garmezy, 1985; Rutter, 1987). In Garmezy (1985), he found that many children of schizophrenic parents did not suffer psychological illness as a result of growing up with them. Garmezy concluded that a certain quality of resiliency played a significant role in these children’s mental health. For “resilient” children, they possessed characteristics and behaviours such as good peer relations, academic achievement, ability to distance psychologically from the ill parent, confidence, and a commitment to education and life goals (Benard, 1993; Wolkow & Ferguson, 2001). Overall, resiliency theorists and researchers have made the following conclusions and statements about resiliency. Resilient individuals:
1. Strategically use coping strategies such as humour, relaxation techniques and optimistic thinking to deal with the situation at hand (Benard, 1993);

2. Possess three characteristics: a staunch acceptance of reality; a deep belief/value system that life is meaningful and an uncanny ability to improvise – an ability to make do with whatever is at hand (Coutu, 2002);

3. Have a capacity to be robust under conditions of enormous stress and change (Sorohan, 1993);

4. Have a realistic grasp of the problem at hand. They see what can and cannot be changed and adapt to the circumstances (Sutcliffe, 2003);

5. Set clear boundaries between themselves and others, knowing which thoughts, feelings and reactions are their own and which ones are another (Waterman, Waterman & Collard, 1994);

6. Are aware of and tolerate their own feelings. When resilient people feel sad, angry, ashamed, or afraid, they can admit those feelings without resorting to drinking, taking drugs, becoming violent or engaging in other damaging behaviours (Zauderer & Fox, 1987); and

7. Believe in the future. They believe that despite current difficulties, better things will come their way (Coutu, 2002; Maluccio, 2002).

Another concept and term that is closely linked to resiliency is “hardiness”.

Hardiness, a personal factor of resiliency, is “a constellation of personality characteristics that function as a resistance resource in the encounter with stressful life events” (Kobasa, Maddi & Kahn, 1982, p.169). This personality characteristic is derived from existential psychology to express a general quality of an individual to regard stressful life events as amenable, and to consider changes as a normal and interesting part of life. It is assumed that this positive orientation towards life helps a person to stay healthy under stressful circumstances (Maddi, 2002). The works of Kobasa et al. (1982) have advanced the notion of “hardiness”, particularly in their studies of executives when examining the psychological differences between those executives who became ill and those who did not when dealing with stressful events within their lives. Hardiness is considered to be a
personal characteristic that functions as a source of resistance to stress. The current theoretical model of hardness has three dimensions (Kobasa, 1979; Kobasa et al., 1982). They include:

1. **Commitment.** A sense of involvement in life activities;

2. **Challenge.** A willingness to undertake change and confront new activities that represent opportunities for growth; and

3. **Control.** A sense that one causes the events that happen in one’s life and that one can influence one’s environment.

As a result of a sense of commitment, control and challenge, hardy individuals may appraise potentially stressful life events more favourably than would individuals who are not so hardy. Therefore, they may take more direct action to find out about these events, to incorporate them into their lives and to learn from them what may be of value for the future (Kobasa, 1979; Kobasa et al., 1982).

In relation to coping, hardy individuals appear to use effective, active coping strategies, such as problem-focused coping strategies and seeking out social support, and they are less likely to be avoidant copers. This perspective is consistent with additional findings that the life events experienced by hardy and non-hardy individuals are qualitatively the same; hardy individuals, however, tend to perceive the events in a more positive light and see themselves as being in more control over the given situation (Kobasa, 1979; Kobasa et al., 1982; Maddi, 2002; Roth et al., 1989; Rush et al., 1995). It is important to note that these studies did not include any health and productivity outcomes in their research on hardness and coping strategies.

The relationship between hardness and health (not including any coping-related measurement) has been investigated in many different studies (Kobasa, 1979; Kobasa et al., 1982; Roth et al., 1989; Rush et al., 1995). Results from these studies consistently
indicate that hardiness is associated with better self-reported health ratings and negatively linked to burnout under prolonged occupational stress (Gebhardt, van der Doef, & Paul, 2001). Individuals with a hardy personality are assumed to practice more health behaviours than those who do not possess this characteristic (Gebhardt et al., 2001). However, despite these findings, concerns remain regarding both the generality of the findings and the theoretical adequacy of the hardiness model. There is still much to be learned about the role of personality and other moderators in their connection between stressful events and health such as the links between personality style, coping strategies, employee health and productivity within a workplace setting.

Models of Coping

Despite intensive research and analysis on coping, there continues to be a lack of consensus among researchers regarding such issues as: how do various coping strategies operate?; and how do these strategies influence levels of stress within individuals – particularly in a work-related setting? (Dewe & Guest, 1990; Latack, 1986; Latack & Havlovic, 1992; Parkes, 1990). This has led some researchers and practitioners in the field of psychology to doubt the therapeutic aspects or benefits of particular coping strategies in alleviating and managing stress. To date, Lazarus’s Transactional Model has been instrumental in guiding the academic discussions on coping.

In Richard Lazarus’s Transactional Model, people who confront a new or shifting environment move through a series of stages. The first stage is primary appraisal, individuals assess a given event to determine whether its implications are positive, neutral or negative (Folkman et al., 1986; Lazarus & Folkman, 1984). This assessment involves the interaction between the stressor (work and/or life event) and individuals’ values and beliefs surrounding the situation. If individuals determine the implications are
negative, they appraise the event in terms of the degree of harm or level of stress they have experienced in the past, how threatening it appears to the future, and how likely it is that the challenge can be addressed successfully. Secondary appraisal is an assessment of whether one’s coping abilities, strategies and resources are adequate to overcome the harm, threat or challenge posed by the potential stressor (Folkman et al., 1986; Lazarus & Folkman, 1984). How individuals experience stress is a result of both the primary and secondary appraisals. Typically, when the potential harm, threat, and challenge produced by circumstances are high and coping abilities are limited, people will experience stress. This cycle of primary and secondary appraisal of the stressor continues until equilibrium is reached. In cases where stress levels stay high over longer periods of time and equilibrium has not been reached, physiological and psychological illnesses may begin to present themselves.

In terms of categorizing various types of coping strategies, researchers such as Latack & Havolvic (1992) and Lazarus & Folkman (1984), divided coping techniques into three major groups:

1. **Avoidant coping strategies** (aka. escape coping or distancing). These strategies are used by people who cope with stress by minimizing or avoiding threatening events. Avoidant coping strategies appear to be most effective with short-term threats; however, if the threat is repeated or persists over time, a strategy of avoidance may lead to a situation of overeating, drinking, smoking or substance abuse (Latack & Havolvic, 1992);

2. **Problem solving coping strategies** (aka. control coping, proactive, task-focused or problem-focused coping). These coping strategies are used by people who attempt to do something constructive about the stressful conditions that are harming, threatening, or challenging them. They may try to make the people who generate the stress change their behaviour, or they may leave the situation altogether. Also, it means accepting responsibility regarding one’s role in the problem (Folkman et al., 1986; Latack & Havolvic, 1992; Lazarus & Folkman, 1984); and
3. **Emotion-focused coping strategies.** These coping strategies are used by people who regulate emotions when they have experienced a stressful event. For instance, people who tell themselves they should look at the bright side of a situation, or who try to cheer themselves up by accepting sympathy from others are said to be using emotion-focused coping (Folkman et al., 1986; Lazarus & Folkman, 1984).

Because each individual is different, there is no one “correct” way to cope with stress. However, the application of particular kinds of coping strategies is affected by the resources one brings to the situation and by one’s personality style. The selection of coping strategies can be guided by internal and external resources. Internal resources include preferred coping strategies and other personality characteristics such as negativity, optimism, self-esteem and control. External resources include time, money, the presence of other work/life stressors and social support (Dewe & Guest, 1990; Leiter, 1991). Coping efforts are typically directed at reducing harmful environmental conditions, enhancing the adjustment process, and maintaining a positive self-image and emotional equilibrium. Coping efforts are judged as successful when they reduce physiological arousal; thus, enabling the person to return to pre-stress activities and free the individual from psychological distress (Edwards, 1992; Folkman et al., 1986; Latack & Havolvic, 1992). Coping is often related to the concept of resiliency which works in a synergistic fashion when individuals are responding to challenges and opportunities in a given environment such as the workplace (Lazarus, 1994; Masten, 2001; Rutter, 1987).

**Summary of Chapter Two**

Both personality characteristics (i.e. resiliency) and coping strategies serve as important pieces of the puzzle in examining how individuals react to various types of environmental stressors (work and/or life events). Resiliency studies, though rooted in child psychology, provide findings and discussion points which lend themselves for
future application with different sample populations, particularly adult populations in non-clinical settings (i.e. workplace setting). As resiliency offers insights into the personality characteristics and attitudes of individuals, the study of coping assists researchers to determine how individuals respond to stressful events. Lazarus’ Transactional Model sheds light on the cyclical appraisal system which individuals use when assessing the degree of harm or threat associated with a given work or life event. As noted throughout the literature review, past empirical studies have not fully deconstructed all the various facets of key variables which influence stress; in particular, how both personality and coping interact with health and productivity outcomes within a non-clinical setting. In Chapter Three, a conceptual framework which integrates environmental stressors, personality, coping, health and productivity is described as a means of further unraveling the complex layers of the human stress response.
CONCEPTUAL FRAMEWORK

Overview of Chapter Three

To date, there have been relatively few articles which chronicle discussions and/or empirical studies that examine resiliency and coping (as a collective) in organization-based settings (Doe, 1994; Horne & Orr, 1998; Mallak, 1998; Rush et al., 1995). Studies conducted by Mallak (1998) and Rush et al. (1995) serve as only a small group of researchers who have investigated the concepts of occupational stress and resiliency in a public sector-based work setting. Based on my review of the literature and experiences working as a human resource management specialist, it became apparent that there is still much more to be learned about the role of personality and coping strategies in relation to employee health and productivity outcomes such as physical health and absenteeism. Upon reviewing selected readings within the areas of stress, resiliency and coping, the literature still left me with many unanswered questions such as:

1. In this current reality of workforce downsizing, economic uncertainty and restructuring, why are certain employees thriving while others are floundering?

2. What makes some employees more resilient than others when a workplace crisis occurs?

3. What is the profile of resilient employees – what types of personality characteristics do they have and what types of coping strategies do they use which enable them to thrive in the face of difficulty?

It was with these unanswered questions and the opportunity to integrate my knowledge within the areas of counselling psychology, human resource management and public administration which led me to explore and investigate occupational resiliency and coping in a public service work environment. The idea of examining employees within the current labour force and investigating characteristics of those individuals who are
successful in "bouncing back" when dealing with workplace stress and organizational change seemed not only intriguing but also necessary. Within this chapter, a conceptual framework is presented which describes how work/life stress, personality characteristics, coping strategies and social support networks interact/interrelate with employee health and productivity. Finally, an overview of the positive psychology movement is presented and its role in supporting the study of such concepts as resiliency and coping.

Occupational Resiliency and Coping Conceptual Framework

Figure 1 outlines a conceptual framework to aid in my discussion of work/life stress, resiliency and coping. The framework specifies that the "presenting profile" of employees (their demographic characteristics, work stress experienced and life stress experienced) are interrelated with their "response profile" to stressful situations (employees' personality characteristics, coping strategies and social support networks). It is the interrelationship between employees' "presenting profile" and "response profile" which influences their "health and productivity profile" -- an employee's general health (physical and mental health) and productivity (absenteeism and presenteeism). The relationship between the physiological and psychosocial elements associated with the human stress response have huge implications for workplaces where there is an increasing need for managers with highly developed people skills to foster attitudes like appreciation, care, and compassion within their staff as a means of creating a healthy and productive work environment.
Figure 1

Occupational Resiliency & Coping Framework

**Presenting Profile**

**Demographics**
(i.e. age, gender, hours of work, occupation, and employee group)

**Work Stress Experienced**
(i.e. heavy workload, meeting deadlines, organizational restructuring)

**Life Stress Experienced**
(i.e. relationship break-up, personal illness or injury, caring for elderly parents)

**Health and Productivity Profile**

**General Health**
- physical health
- mental health
- health habits
- health care practices

**Productivity**
- absenteeism (aka. sick leave)
- presenteeism

**Response Profile**

**Personal Style**
(i.e. high self-esteem, adaptive to change/new situations, optimistic, internal health locus of control, humour, low anxiety levels, low anger levels)

**Coping Strategies**
(i.e. distancing, self-control of emotions, social support, accepting responsibility, problem solving, escape-avoidance)

**Social Support Networks**
(i.e. direct supervisor, co-workers/staff members, family and friends outside of work)
Demographics

If individual differences impact and influence how people experience stress, demographic characteristics such as age, gender, occupation, and hours of work may shed light on which populations perceive various work/life events and which types of coping strategies they use in handling these given situations. According to Statistics Canada's study on workplace stress, key variables such as work status, occupation, age and gender were deemed strong predictors of workplace stress (Williams, 2003). As it pertains to employees' work status, full time employees were significantly more likely than part-time staff to report a range of workplace stressors which impact their job (Williams, 2003). In Caverley, Cunningham & MacGregor's (2004) study of 267 Canadian public service employees, employees in occupations such as clerical/administrative support and junior personnel consultant positions had higher perceived stress scores than middle and senior managers within the same workplace. Therefore, Caverley et al. (2004) found that perceived stress scores were higher as an individual goes down the organizational hierarchy as opposed to vice versa.

In terms of age differences, Williams (2003) outlined that "...young workers just entering the labour market may not be subject to the same pressures that workers in mid-career feel, and older workers may have yet other sources of stress to contend with" (p.11). Studies conducted by Levenson, Hirschfeld, Hirschfeld & Dzubay (1983), Matheny & Cupp (1983), Karasek, Gardell & Lindell (1987) and Haynes & Feinleib (1980) found that women experienced greater amount of work stress and physical illness than their male counterparts. Williams (2003) reported that Canadian women (between 45-64 years of age) were more likely than men to report feeling stressed out due to work
overload issues. In addition, higher rates of absenteeism existed among Canadian women than men (Canadian Fitness and Lifestyle Research Institute, 1998a).

Work Stress Experienced

Within a workplace context, occupational stress is described as the impact of long term exposure to systemic stressors such as scarce resources, pay issues, uncertainty of work expectations, and interpersonal conflict where an individual displays inadequate coping strategies to handle the given situation (Fisher, 2003). These psychosocial factors are non-physical in nature but have a tremendous effect on employees' physical and mental health. The long term exposure to workplace stressors often results in burnout -- a prolonged exposure to severe workplace stress (Corrigan et al., 1994; Kendall, Murphy, O’Neill & Bursnall, 2000; Kobasa, 1979; Maslach, 1993). Most employees must juggle their personal lives with their current job demands while managing their own career path. This perpetual employee juggling act can develop into a situation where individuals experience a mental and physical state that leads to poor health and occupational injury.

In 1999, the National Institute of Occupational Safety and Health (NIOSH) published a paper entitled, Stress At Work, which identified aspects of work which generate stress when handled poorly. They included:

1. **Task design.** This includes heavy work loads, infrequent rest breaks, long work hours, shift work and hectic or routine tasks that have little inherent meaning, do not use workers' skills and provide little sense of control;

2. **Management style.** This can include poor communication, lack of family-friendly policies and workers' lack of participation in decision-making;

3. **Personal relationships.** These include a poor social environment and lack of support from co-workers and supervisors;

4. **Work roles.** Conflicting or uncertain job expectations, too much responsibility or having to "wear too many hats" are work role problems;
5. **Career concerns.** Stress can result from job insecurity and lack of opportunity for growth, advancement or promotion. Another cause of career stress: rapid changes for which workers are unprepared; and

6. **Environmental conditions.** These can include unpleasant or dangerous physical conditions, such as crowding, noise, air pollution and ergonomic problems.

The NIOSH study reflects earlier findings from Hackman & Oldham who examined job satisfaction in relation to an individual’s given work design. Through the use of their Job Diagnostic Survey, factors such as task variety, skill variety, task significance, autonomy, and feedback were key dimensions in determining what was meaningful in an individual’s work. Based on survey results, meaningfulness, responsibility and performance awareness determined an employee’s level of motivation, performance quality, job satisfaction and attendance. Employees who expressed role ambiguity, role conflict, role overload or underutilization reported higher levels of job dissatisfaction (Hackman & Oldham, 1975). In addition to events and situations which face individuals at the workplace, many life events such as personal illnesses or injuries, death of an immediate family member, and financial problems can affect an individual’s general health and ability to function productively.

*Life Stress Experienced*

In addition to workplace stress, certain life events (i.e. death of a spouse/partner, relationship breakdown/divorce) can impact and influence an employee’s overall health and sense of productivity. When examining individuals’ degree of stress in relation to various personal life events, Thomas Holmes and Richard Rahe developed an instrument entitled, the “Social Readjustment Scale” which analyzed the degree of change people might experience in their lives. Their findings suggest that there may be a correlation between the changes experienced, stress and health (Holmes & Rahe, 1967). Stressful life
events are commonly believed to alter people’s health. The most consistent finding in the literature is that positive relationships exist between recent stressful life events such as divorce, incurring a large debt and high cholesterol levels and high blood pressure (Sarason, Johnson & Siegel, 1978; Steptoe, Cropley & Joekes, 2000).

According to Statistics Canada’s 2003 report on traumatic life events, the majority of Canadian employees have to cope with multiple work/life crises within a given year—“Almost one quarter (23%) of Canadians reported they had experienced two types of crises in the same year, and over one-sixth (16%) experienced three or more crises” (Crompton, 2003, p.7). Therefore, in addition to work stressors, life events have the potential to create another layer of stress and complexity for employees. The complexity and uncertainty inherent in today’s world (post 9/11) and work environment emphasizes the need for hiring and/or developing employees who are able to demonstrate behaviours and actions that model a high degree of agility and adaptability to change when coping with an array of stressful work and life events.

**Personality Characteristics**

Another major influence on workplace-related stress can be found in the employees. No two employees will respond to the same stressor, whether professional or personal, in the same way. How employees think about and react to certain events can determine whether they find their work and/or life situations stressful or fairly easy to deal with. Personality characteristics provide a frame of reference for how stressful situations are perceived and subsequently handled by employees. Personal control represents the extent to which an employee actually has control over factors affecting job performance (Schaubroeck, Ganster & Kemmerer, 1994). If an employee is assigned a responsibility for something (i.e. serves as a team leader for a given project) but is not
given an adequate opportunity to perform, the employee loses personal control over the job and can experience increased stress (Eisenberg, Fabes, Guthrie & Reiser, 2000; Kobasa, 1979; Roth et al., 1989; Schaubroeck et al., 1994). As part of understanding workplace stress, it is important to realize that employees' expectations to reach their potential can play a significant role in their ability to accomplish their work duties and to handle various workplace dynamics which they face in their given work environment.

As it pertains to the concept of "resiliency", resiliency involves the interaction between stressful work or life events with the presence of personal protective factors that moderate individuals from succumbing to poor health and/or decreased productivity. Rather than succumbing to the stressful events they are experiencing, resilient individuals are able to recover, adapt and bounce back to a normal state of functioning (Benard, 1993; Coutu, 2002; Masten, 2001). Individuals differ in their exposure to stressful work/life events and the degree of resiliency they have in dealing with particular stressful events (i.e. workplace crisis, organizational change). Therefore, personality characteristics and associated behaviours that individuals use to interpret, evaluate and react to a stressful work/life event can influence how people will ultimately handle particular events (Masten, 2001).

Research in the area of resiliency has noted that resilient individuals are more energetic, open to new experiences and have high positive emotionality/optimism (Coutu, 2002; Maluccio, 2002; Zauderer & Fox, 1987). As part of the corresponding research on personal style, Dr. Suzanne Kobasa, psychologist, coined the term "hardiness" which described individuals who are able to rise up and out of adversity. These individuals demonstrated characteristics such as having: a sense of commitment to the importance of what one is doing; an internal locus of control; and a sense of life challenge. Based on the
works of Suzanne Kobasa, hardy individuals are take-charge people who revel life's challenges. It is not surprising, then, that people who are high in hardiness are more resistant to stress-related illness than those who show less hardiness (Gebhardt et al., 2001; Kobasa et al., 1986). Hardy people react to potentially threatening stressors with optimism, feeling that they can respond effectively. By turning threatening situations into challenging ones, they are less apt to experience high levels of stress. In addition to examining the role of personality in connection with stressful events and health outcomes, there is a need to acknowledge the role of coping strategies in relation to how individuals respond to stress.

*Coping Strategies*

Like personality characteristics, coping strategies can influence employee health and productivity outcomes within the broader stress response dynamic. Coping strategies are typically the thoughts and actions which individuals demonstrate when they are responding to discomfort, tension or strain as a result of a stressful work or life event.

According to studies conducted by Corrigan et al. (1994) and Leiter (1991) on newly appointed case managers dealing with challenging patients, they found that control coping (aka. problem solving coping strategies) had a significant buffering effect against the negative consequences of stress while the exclusive use of avoidance coping strategies (aka. escape coping) had detrimental effects. The coping strategies that individuals adopt depend on a variety of factors including personality, experience, training and the environment, such as the degree of control the individual has over the situation. Avoidant copers tended to demonstrate a more external locus of control. Gebhardt et al. (2001), Kobasa (1979), Kobasa et al. (1982) and Rotter (1966) argue that individuals with an internal locus of control suffer from few stress symptoms as they are
more likely to define stressors as controllable and take proactive steps to cope with them; however, in work settings where some stressors, such as workload or work pace, are beyond the control of the individual employee, extreme internals may not be better than moderate or extreme externals. Control in the workplace is of particular importance if individuals are expected to cope successfully with challenging work environments.

Instruments such as Lazarus and Folkman’s Ways of Coping Survey (1984) and Carver, Scheier & Weintraub’s COPE inventory (1989) are key coping scales which are used in examining how particular coping methods impact the human stress response. In addition to personality characteristics and coping strategies, social support networks also serve as moderators in terms of how individuals will experience stressful work or life situations.

Social Support Networks

Social support networks consist of individuals who provide information, guidance, empathy, expertise and/or personal services to those who are experiencing varying degrees of stress. Over the years, researchers such as House, Umberson and Landis (1988) and Kulik and Mahler (1989) found that social relationships with others can buffer the effects of stress, assist individuals in coping with stressful work or life events and reduce both physiological and psychological symptoms of stress. In general, there are four recognized forms of social support: emotional support; appraisal support; information and tangible assistance (Pierce, Sarason & Sarason, 1996):

1. **Emotional support** – providing a lending ear and reassuring individuals that they are valued;

2. **Appraisal support** - assisting individuals assess the stressful event and determine what resources and/or coping strategies may be used to handle the given situation;
3. **Information** - giving technical information or expertise to others as to how the individual can successfully resolve the situation; and

4. **Tangible assistance** – providing material support to others (i.e. money, personal services).

Social support networks demonstrate that during periods of high stress, individuals who are able to provide information, emotional support, tangible assistance and/or appraisal support to others serve as an important moderator in terms how individuals will experience stress. Therefore, in addition to individuals’ personality characteristics and coping strategies, social support networks such as a spouse/partner, co-workers and friends outside of work can enable individuals to cope with stress more effectively which ultimately influences health and productivity (Pierce et al., 1996).

*Employee Health*

In the past 20 years, many studies have looked at the relationship between job stress and a variety of ailments such as mood and sleep disturbances, upset stomach and headaches. These early signs of job stress are typically easy to recognize. But the effects of job stress on chronic diseases are more difficult to see because chronic diseases take a long time to develop and can be influenced by many factors other than stress. Nonetheless, evidence is rapidly accumulating to suggest that stress plays an important role in several types of chronic health problems such as cardiovascular disease, musculoskeletal disorders and psychological disorders (Holahan & Moos, 1991; Kivimaki, Head, Ferrie, Shipley, Vahtera & Marmot, 2003; Landsbergis, Schurman, Israel, Schnall, Hugentobler, Cahill & Baker, 1993; Schaubroeck et al., 1994). Some employers assume that stressful working conditions are a necessary evil -- that organizations must turn up the pressure on employees and set aside health concerns to remain productive in today's economy. But recent research findings challenge this belief.
Studies show that stressful working conditions are actually associated with increased absenteeism, tardiness and employees’ intent to quit their jobs -- all of which have a negative effect on the bottom line (Canadian Fitness and Lifestyle Research Institute, 1998b; Corrigan et al., 1994; DeFrank & Ivancevich, 1998; Lowe, 2002a; Robson et al., 1998; Williams, 2003; Wright et al., 2002).

Recent studies of healthy organizations, workplaces with low rates of illness, injury and disability in its workforce, suggest that policies and practices benefiting worker health also benefit the bottom line (Kendall et al., 2000). It is apparent that employers, health care providers and researchers need to broaden their conceptualization of occupational stress and stress management. This is necessary because if organizations want to implement health/productivity initiatives and strategies, they need to realize that activities aimed solely at individuals’ reactions to stressful circumstances, and not targeting the modification of the circumstances themselves will not be sufficient to avoid organizational loss through lost working days due to work-related illness or accidents, absenteeism, staff turnover, lowered performance and the costs of training or replacing staff (Canadian Fitness and Lifestyle Research Institute, 1998b; Corrigan et al., 1994; DeFrank & Ivancevich, 1998; Lowe, 2002a; Lowe, 2002b; Robson, Polanyi, Kerr & Shannon, 1998; Williams, 2003; Wright et al., 2002). Stress and stress-related problems have a direct impact on the effective management of organizations, and managers must be willing to commit the necessary energy and resources to minimize the dysfunctional consequences of such problems if they are to achieve an effective level of operation. The Canadian Fitness and Lifestyle Research Institute (1998a) found that:

In 1990, almost one in five workers missed over one week of work as a result of sickness, injury, or disability....Most report absenteeism of short duration: 25% of employees
missed up to two days off work, 24% report three to five days, 13% lost six to ten days, and the remaining 9% were away from work for over two weeks (p.1).

Costs associated with employee illness and injury are a significant expense for employers in the form of workers' compensation premiums and health benefit claims, increased absenteeism and turnover, and decreased performance on the job (Lowe, 2002a; Lowe, 2002b; Robson et al., 1998).

Employee Productivity

Employee productivity is a critical factor in the strength and viability of an organization's overall performance. Total productivity reflects specific aspects of work output, at a specific point in time, for a specific person. In the case of absenteeism, it is a costly and disruptive problem facing many organizations. It is estimated that, in Canada, billions of dollars are lost every year due to reduced productivity and absenteeism as a result of workplace stress (Williams, 2003). "The Journal of Occupational and Environmental Medicine reports that health care expenditures are nearly 50% greater for workers who report high levels of stress" (Williams, 2003, p.7). In 2003, an average of 7.4 days were missed per Canadian employee due to a personal illness or disability. This is up from the 1997 average of 6.2 days for a personal illness or disability (Statistics Canada, 2004b). As a collective, the Canadian public administration industry had an average sick leave rate of 8.0 sick days per employee for 2003 (Statistics Canada, 2004c).

Beyond absenteeism, organizations are beginning to heighten their awareness of "presenteeism" where employees are physically at work but working less productively typically due to health or medical problems. Presenteeism measures the ability for employees to concentrate on work despite the possible impact of pain and other health problems on job performance and work productivity (Lowe, 2002c). Other aspects of
Presenteeism include employees putting in excessive work hours as an expression of commitment or a way of coping with job insecurity within the workplace (Lowe, 2002c). Therefore, when people come to work sick, injured, stressed or burned out, there is a drain on productivity within the workplace. Presenteeism is often a response to job stress and being overworked (Lowe, 2002c). In addition, ailments such as tension headaches, migraines, allergies and asthma/breathing difficulties are common sources of presenteeism (Ceniceros, 2001; Worklife Report, 2002). In the final section of Chapter 3, the overarching principles and values associated with the positive psychology movement are acknowledged as the study of resiliency and coping aids in further research and discussions on personality strengths and positive coping strategies which individuals can bring to a given environment (i.e. workplace setting).

**Positive Psychology**

It is the intent of my research study on resiliency characteristics and coping strategies in a public service workplace that my contributions can follow along the positive psychology pathway by focusing on what the strengths and capabilities are of employees (i.e. public service employees) who are able to bounce back after a workplace change, crisis or stressful situation. Following in the spirit of the positive psychology movement, the study of resiliency moves psychology and other related disciplines towards determining the personal characteristics of individuals that render them more or less susceptible to stress induced illness; thus, allowing the opportunity for research to be conducted on the interrelationship between coping strategies and personal style (i.e. occupational resiliency) with important job-related outcomes such as health and productivity in a workplace setting.
For decades, mental health researchers have devoted their energies to the study of patterns of maladaptation and incompetence. The emphasis has been placed upon symptom patterns characteristic of the various psychopathological states, their etiology, treatment and outcome. To this end, researchers have sought out those predisposing factors, whether biogenetic or experiential, that could be related to the origins of disordered states.

Over the past six years, researchers, practitioners and scholars within the areas of organizational behaviour and psychology have begun the process of placing a new found emphasis on research, discussions, interventions and debates which pertain to the topics of mental health and positive well-being (Seligman, 1998a; Seligman, 1998b; Seligman & Csikszentmihalyi, 2000). As a means of raising the profile of mental health and well-being research, Dr. Martin Seligman and his colleagues (i.e. Dr. Mihaly Csikszentmihalyi) are serving as champions of today's positive psychology movement. Positive psychology involves a shift away from what is wrong with people (i.e. dysfunction, illness) to what is right with people (i.e. strengths, well-being, mental health). It focuses on optimizing human performance, behaviours, health and social functioning which are often described by words such as excellence, thriving, flourishing, invulnerable or resilience (Seligman, 1998a; Seligman & Csikszentmihalyi, 2000). Like humanistic psychology (aka. the “third force” in psychology), positive psychology emphasizes the personal worth of the individual and the centrality of human values. Both positive psychology and humanistic psychology mirror one another in the fact that they emphasize the creative, spontaneous and active nature of human beings. In addition, both movements focus on healthy personality development not only within individuals but the societies/communities in which they live. Both Seligman and Csikszentmihalyi (2000)
have recognized that there has been a drift away from some of the key psychology principles such as mental health and well-being to an exclusive focus on pathology (i.e. identifying and treating depression, anxiety and racism/discrimination).

The aim of positive psychology is to move away from the preoccupation of illness and dysfunction to focusing on the positive qualities and aspects of people’s lives. Through the works of Seligman and fellow positive psychology-oriented researchers and psychologists, there are now renewed discussions on such topics as wellness, mental health and resiliency which have sparked new interest and debate, particularly within the field of psychology (Seligman & Csikszentmihalyi, 2000). Within the positive psychology movement, empirical studies are now being conducted which move away from examining pathology to learning about how individuals flourish and/or how communities thrive in the face of difficulty (Sheldon, Fredrickson, Rathunde, Csikszentmihalyi & Haidt, 2000). One of the major projects that is being conducted by positive psychology researchers such as Seligman and Csikszentmihalyi is the creation of a classification system of human strengths (Values in Action Classification of Strengths Manual) that serves as a companion piece to the current Diagnostic and Statistical Manual of Mental Disorders (DSM) which is published by the American Psychiatric Association (Peterson and Seligman, 2004). The purpose of the Values in Action Classification Strength Manual is to identify core factors which identify personality characteristics and personal values (e.g. courage, humanity, wisdom) that align with excellent mental health and positive well-being in one’s life and/or community (Peterson and Seligman, 2004). However, positive psychology researchers such as Peterson and Seligman have recognized that examining and identifying key mental health factors requires more empirical-based studies which outline how to define, measure and identify
which personality characteristics and personal values show positive relationships with health (both physical and mental health). Thus, the positive psychology movement recognizes the need for further research within this area.

This academic movement on positive psychology has applications in the study of resiliency. By studying resiliency, there is an opportunity for researchers to examine human capabilities and adaptive systems that promote healthy development and functioning. The positive psychology movement recognizes that there is much to be learned by researchers and scholars by studying the positive aspects or strengths of individuals within society or in groups (i.e. workplace settings). These proposed key learnings of resiliency have the potential to inform policy makers and program managers on strategies and key factors that can improve the health of individuals within their given setting (communities, workplaces).

Summary of Chapter 3

The Occupational Resiliency and Coping Conceptual Framework presents a model for investigating how various environmental, social and personal characteristics interrelate and influence employee health and productivity. The continued study of resiliency and coping provides an opportunity to advance the theoretical basis for resiliency while providing practical strategies and techniques to both employers and employees on how employees cope with workplace stress, change and crisis situations. The following chapters details the methodology of the Occupational Resiliency and Coping study as well as report on its findings and key interpretations.
METHODOLOGY

Overview of Chapter Four

The majority of research conducted on stress utilizes quantitative methods, particularly correlational research as its primary methodology. In general, stress-based correlational studies are guided by models that propose that environmental stressors impact and influence the person. The individual's personal characteristics affect whether or not the stressors are perceived as threatening. If this stress and strain continues over time, it will eventually lead to health problems such as mental health or physical problems (Edwards, 1992; Kendall et al., 2000).

Over the past 20 years, general stress research has been conducted within workplace settings where individuals such as business professionals, human resource management practitioners, management researchers, organizational/industrial psychologists, health psychologists and sociologists presented various perspectives on stress and utilized various designs and methodologies to study occupational stress. For example, some human resource management professionals and management researchers often use case studies, program evaluations, cross-sectional design and correlational methods to examine “best practices” surrounding how stress is assessed and ultimately managed by a given organization (i.e. a review of a particular organization’s health and wellness program in relation to preventing stress-related absences) (Folkman et al., 1986; Gebhardt et al., 2001; Latack & Havlovic, 1992; Leiter, 1991; Long, 1998). In contrast, some organizational/industrial psychologists, business/economics researchers and health psychologists are conducting cost/benefit analyses and trend analyses to study organizations and employees over time in relation to how they respond to particular
stressors (i.e. job design, organizational change) (Krause, Frank, Dasinger, Sullivan & Sinclair, 2001). Researchers who use trend analysis are noting that occupational stress is better studied over a longer period of time to observe human responses to stress; thus, leading to the creation of better models, theories and associated predictors of stress.

However, despite the diverse interest in occupational stress research and vast amounts of literature on the broader subject of stress, researchers admit that stress research remains difficult to draw conclusions from, largely because of the vast array of methodological problems that are not being properly addressed. For example, critics such as Payne, Jick & Burke (1982) point out the use of questionable stress-based measures. Researchers have suggested that qualitative research design or mixed methods could offer a viable alternative for examining stress (Jick, 1979). Therefore, this section provides an overview of the methodological components of my research study. This research study adopted a mixed-method approach that used both qualitative and quantitative research techniques as a means of further investigating resiliency and coping.

General approach/paradigm

The general approach for this research study was a mixed-methods approach, specifically utilizing a sequential exploratory design. Mixed methodology involves collecting and analyzing both quantitative and qualitative data in a single study. From a historical perspective, the mixed-methods approach is rooted in the work of Campbell and Fiske (1959) who used multiple methods to study the validity of psychological traits. They used multiple methods in order to assure that the variation in their research was accounted for by the psychological trait under study, not by the method that was employed. They encouraged others to utilize their multitrait-multimethod matrix to examine multiple approaches to data collection in a study.
The mixed-methods approach is also rooted in the principle of “triangulation”. The notion of triangulating data sources allows researchers to seek convergence across both qualitative and quantitative methods (Denzin cited in Tashakkori & Teddlie, 1998). Denzin’s concept of triangulation involved combining data sources to study the same social phenomenon. He discussed four basic types of triangulation:

1. **Data triangulation** - the use of a variety of data sources in a study;
2. **Investigator triangulation** - the use of several different researchers;
3. **Theory triangulation** - the use of multiple perspectives to interpret the results of the study; and
4. **Methodological triangulation** - the use of multiple methods to study a research problem.

Within this research study, data and methodological triangulation were used in examining occupational resiliency and coping within a public service work setting. The perceived benefits of the mixed-methods approach include the recognition that all methods have limitations; therefore, a mixed-methods approach would counterbalance the biases found in single method research studies. Therefore, there is an opportunity to collect diverse types of data as a means of providing a better understanding of a given phenomenon. Also, the results from one method can help develop the other method being used or provide insight into different units of analysis. In terms of limitations associated with the mixed-methods approach, this approach requires the need for extensive data collection, intensive time to analyze both text and statistical data, and the requirement of the researcher to be familiar with both quantitative and qualitative forms of research (Tashakkori & Teddlie, 1998; Tashakkori & Teddlie, 2003; Creswell, 2003).
Mixed Methodology

*Sequential Exploratory Strategy*

In my research study, a sequential exploratory strategy was utilized in examining occupational resiliency and coping. "Qualitative/quantitative" sequencing was used whereby I commenced the study collecting and analyzing qualitative data on a relatively unexplored topic. Afterward, the qualitative results were used to design a subsequent quantitative phase of the study.

For Phase One of the study, I collected and analyzed qualitative data via open-ended face to face audio-taped interviews with 15 participants. Phase Two consisted of quantitative data collection and analysis via a web-based questionnaire. In this case, the development of a quantitative close-ended instrument was based on my exploratory interviews which had been content analyzed. The second phase of the research study was intended to expand the understanding of occupational resiliency and coping by examining this phenomenon with a larger sample (N = 1,027) so I could generalize results to a particular population (i.e. a public service sample population). Finally, the findings of these two phases were integrated during the interpretation/discussion phase of my research study. Pilot testing was conducted for both phases of the study to check the overall reliability and validity of the questions being posed to participants.

The mixed-methods – sequential exploratory strategy was an appropriate methodology to utilize within my research study because it assisted in explaining and interpreting the relationship between occupational resiliency and coping as a means of exploring the phenomenon of how public service employees perceive and respond to stress during times of organizational change and crisis within their workplace. Furthermore, the mixed-method design allowed me to test elements of my theoretical
framework (see Figure 1) which was used to design and develop an occupational resiliency and coping instrument.

Participants

*Phase One: Interviews*

In the qualitative portion of the study, a "Request for Participation Letter" was sent by Statistics Inc. to potential participants inviting them to participate in Phase One (interviews) of the study. Through stratified random sampling conducted by Statistics Inc., participants were selected based on their employee status (casual or regular employee) and employee group (bargaining unit or management employee). This selection criteria was used to ensure that a representative sample of employees which comprise the Green Leaf Company were asked to participate in Phase One of the study. The selection criteria was outlined in the "Request for Participation Letter" (see Appendix D).

Participants who agreed to voluntarily participate in the research study were asked a series of critical incident-styled questions and open-ended questions regarding how they had dealt with workplace stress and organizational changes during the past 6-12 months. In the interview portion of the study, participants were told that they could withdraw at any time without any consequences. See Appendix E for a copy of the consent form. This meant that none of the personal data which they had disclosed thus far would be used in any part of the data analysis and interpretation for my study.

Fifteen (15) current employees within the Green Leaf Company participated in the study. Participants were primarily male public service employees in the Green Leaf Company. The age range of respondents was between 28-59 years of age (M = 48.0). In general, participants in Phase One of the study were full-time regular employees who
were members of a bargaining unit/association in Region 2 (Headquarters). Their average length of service in their current position was 11 years. On average, participants have been employed in the APEX Corporation for 20 years and specifically worked in the Green Leaf Company for 17 years. Finally, the average number of people that respondents supervised was one employee. The following tables outline a demographic snapshot of the Phase One interview participants.

Table 1
Overall demographic profile of Phase One interview respondents*

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Respondents</th>
<th>Green Leaf Company**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>67%</td>
<td>69%</td>
</tr>
<tr>
<td>Full Time</td>
<td>100%</td>
<td>N/A</td>
</tr>
<tr>
<td>Regular Status</td>
<td>100%</td>
<td>97%</td>
</tr>
<tr>
<td>Member of a bargaining unit</td>
<td>87%</td>
<td>92%</td>
</tr>
<tr>
<td>Geographic Location***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Region 1:</td>
<td>7%</td>
<td>Region 1: 3%</td>
</tr>
<tr>
<td>Region 2:</td>
<td>73%</td>
<td>Region 2: 59%</td>
</tr>
<tr>
<td>Region 3:</td>
<td>13%</td>
<td>Region 3: 19%</td>
</tr>
<tr>
<td>Region 4:</td>
<td>7%</td>
<td>Region 4: 19%</td>
</tr>
<tr>
<td>Average Age</td>
<td>48</td>
<td>46</td>
</tr>
<tr>
<td>Average years of service in current position</td>
<td>11</td>
<td>N/A</td>
</tr>
<tr>
<td>Average years of service in APEX Corporation</td>
<td>20</td>
<td>N/A</td>
</tr>
<tr>
<td>Average years of service in Green Leaf Company</td>
<td>19</td>
<td>N/A</td>
</tr>
<tr>
<td>Average number of people who directly report to respondents</td>
<td>1</td>
<td>N/A</td>
</tr>
<tr>
<td>Absenteeism Rate****</td>
<td>9 sick days</td>
<td>5 sick days</td>
</tr>
</tbody>
</table>

Note. *All figures are rounded to the nearest whole number
**Available corporate statistics (as of July 31, 2004)
***The four geographic locations were: Region 1 – Coast Region; Region 2 – Headquarters; Region 3 – Northern Region; and Region 4 – Central Region.
****Absenteeism Rate (aka. average sick leave rate) is based on 2003 recorded sick leave statistics.
Table 2

Demographic profile by occupation of Phase One interview respondents

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Respondents (%)</th>
<th>Green Leaf Company*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific/Technical Specialists</td>
<td>47</td>
<td>60.9</td>
</tr>
<tr>
<td>Clerical/Administrative Support</td>
<td>20</td>
<td>14.6</td>
</tr>
<tr>
<td>Other**</td>
<td>20</td>
<td>12.9</td>
</tr>
<tr>
<td>Management</td>
<td>13</td>
<td>10.3</td>
</tr>
</tbody>
</table>

Note.

*Available corporate statistics (as of July 31, 2004)
**"Other" consists of Trade and Operations specialists and Information Technology specialists.

Phase Two: Questionnaire

In the quantitative portion of the study, Statistics Inc. administered a 25 minute web-based survey to a randomly selected group of 1,027 employees from the Green Leaf Company. Based on statistical sampling, Statistics Inc. randomly selected participants through the use of the organization’s payroll system and electronic mail system to confirm that participants were current employees within the organization. Within the introductory section of the web-based survey (Appendix J), participants were told that their participation in the survey was completely voluntary. If they did decide to participate, they could withdraw at any time without any consequences or any explanation.

Furthermore, prior to commencing the survey, participants were asked the following, “by clicking on the AGREE button below, this indicates that you understand the conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher”. As the principal researcher, I stated my name, telephone number and e-mail address for participants to contact me if they had any
questions pertaining to this survey. My co-supervisors’ names, telephone numbers and e-mail addresses were also provided on the introductory letter to participants.

Participants represented the various occupations and employee groups (bargaining unit and management employees) in the Green Leaf Company as in Phase One of the study. Employees who worked for the Green Leaf Company for less than six months were excluded from this study. The rationale for excluding employees with less than six months of service was due to the fact that the majority of the questions within the survey asked participants to comment on work-related events which they had experienced within the Green Leaf Company over the past six to twelve months. The age range was between 22-62 years of age and consisted of a representative selection of occupations and geographic locations from the Green Leaf Company.

The population size of the Green Leaf Company was approximately 2,500 (as of September 1, 2004). This figure represents employees who had more than six months of service at the Green Leaf Company. As the survey was being conducted in early September 2004, I oversampled to mitigate any risk for a low response rate as many employees were away on annual summer vacation; therefore, the survey sample was 1,027. In total, 579 employees from the Green Leaf Company responded to the survey, representing a 56% response rate – this represents 23% of the Green Leaf Company’s total population. Tables 3 and 4 outline the demographic makeup of the respondents. In general, respondents were primarily male employees. Respondents were typically regular full time employees who worked in areas located outside of the headquarters region.

The majority of respondents were scientific/technical specialists within the Green Leaf Company. On average, respondents were 46 years of age, had 17 years of service in the APEX Corporation and had 16 years of service working in the Green Leaf Company.
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Respondents</th>
<th>Green Leaf Company**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>69%</td>
<td>66%</td>
</tr>
<tr>
<td>Geographic Work Location***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Region 1: 21%</td>
<td></td>
<td>Region 1: 21%</td>
</tr>
<tr>
<td>Region 2: 21%</td>
<td></td>
<td>Region 2: 21%</td>
</tr>
<tr>
<td>Region 3: 24%</td>
<td></td>
<td>Region 3: 25%</td>
</tr>
<tr>
<td>Region 4: 34%</td>
<td></td>
<td>Region 4: 33%</td>
</tr>
<tr>
<td>Full Time Employee</td>
<td>96%</td>
<td>N/A</td>
</tr>
<tr>
<td>Regular Status Employees</td>
<td>96%</td>
<td>97%</td>
</tr>
<tr>
<td>Non-Supervisory Position</td>
<td>68%</td>
<td>N/A</td>
</tr>
<tr>
<td>Member of a bargaining unit/association</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td>Member of an employment equity group</td>
<td>14%</td>
<td>N/A</td>
</tr>
<tr>
<td>Average number of direct reports</td>
<td>6 employees</td>
<td>N/A</td>
</tr>
<tr>
<td>Average Age</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Average years of service in the APEX Corporation</td>
<td>17</td>
<td>N/A</td>
</tr>
<tr>
<td>Average years of service in the Green Leaf Company</td>
<td>16</td>
<td>N/A</td>
</tr>
<tr>
<td>Absenteeism Rate****</td>
<td>5 sick days</td>
<td>5 sick days</td>
</tr>
</tbody>
</table>

Note. *All figures were rounded to the nearest whole number
**Available corporate statistics (as of September 25, 2004)
***“Geographic locations” were Region 1 (Coast Region); Region 2 (Headquarters); Region 3 (Northern Region); and Region 4 (Interior Region)
****Absenteism Rate (aka. average sick leave rate) is based on 2003 recorded sick leave statistics
Table 4

Demographic profile by occupation of Phase Two survey respondents

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Respondents (%)</th>
<th>Green Leaf Company (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific/Technical Specialists</td>
<td>63.7</td>
<td>60.9</td>
</tr>
<tr>
<td>Clerical/Administrative Support</td>
<td>13.6</td>
<td>14.6</td>
</tr>
<tr>
<td>Management</td>
<td>9.8</td>
<td>10.3</td>
</tr>
<tr>
<td>Other**</td>
<td>6.7</td>
<td>7.9</td>
</tr>
<tr>
<td>Business/Finance/Research Officers</td>
<td>6.2</td>
<td>6.3</td>
</tr>
</tbody>
</table>

Note.
*Available corporate statistics (as of September 25, 2004)
**“Other” includes Enforcement and Corrections specialists, Information Technology specialists and Trades/Operations specialists.

Instrumentation

Phase One: Interviews

Fifteen (15) participants were asked a series of critical incident-styled and open-ended interview questions regarding how they had dealt with workplace stress and organizational changes during the past 6-12 months. The figure of 6-12 months was used to minimize any recall/memory bias within the interview sessions. Six to 12 months is deemed a best practice timeframe by researchers who are soliciting retrospective accounts of work or life events (Kivimaki et al., 2003; Schacter, 1999). According to Schacter (1999), time periods greater than one year lend themselves to criticism as people are unlikely to account details surrounding the event (exact thoughts, feelings, technical descriptions of the situation); thus, distorting the actual events.

The purpose of utilizing open-ended interviewing was not to put participants’ ideas, thoughts and beliefs into my preconceived categories rooted in previous studies and/or theories but to tap into the perspective of the participants being interviewed. The interviewees responded in their own words to express their own personal perspectives on
work/life stress, change and crisis. At no time did I supply and predetermine the phrases or categories that were used by respondents to express themselves. As multiple interviews were conducted, a total of 30 interviews occurred.

A standardized open-ended interview approach was used which consisted of a series of questions carefully worded and arranged with the intention of taking each interviewee through the same sequence and asking each interviewee the same questions with essentially the same words. In general, questions pertaining to experience/behaviour, opinion/values and feelings were the primary categories for the interview questions. For the “experience/behaviour” questions, critical incident-styled questions were used as a means of establishing a context for understanding how interviewees handled work/life stress, crisis and change. These questions were aimed at eliciting descriptions of experiences, behaviours, actions and activities that would have been observable had the interviewer been present. For the “opinion/value” questions, they were aimed at understanding the cognitive and interpretive processes of the participants. These questions were intended to understand the intentions and values of the interviewees. The “feeling” questions were aimed at understanding the emotional responses of interviewees to their experiences and thoughts. Finally, “background/demographic” questions were used as a means of analyzing participants’ responses in the interview portion of this study. Therefore, questions concerning age, years of service, occupation and level of job responsibilities were posed as a means of interpreting the results from Phase One of the study.

Overall, the main benefits of using a standardized open-ended interview approach were that interviewees could answer the same questions; thus, increasing comparability of responses and the data are complete for each person on the topics addressed in the
interview (Patton, 1990). Potential limitations of using a standardized interview approach were: the lack of flexibility in customizing the interview to particular individuals and circumstances; and the standardized wording of questions may constrain and limit the relevance of questions and answers within the interview session (Patton, 1990).

As part of the standardized open-ended interview design, I utilized both the Echo Approach developed by Alex Bavelas and the Repertory Grid technique developed by George Kelly. Both techniques are inductive in nature and allowed me to examine and describe coping and resiliency based on strategies/experiences that individuals reported within Phase One of the study. Both the Echo Approach and Repertory Grid-styled interview questions assisted me in the design and development of the web-based questionnaire on occupational resiliency and coping for Phase Two of the research study. See Appendices F & G for copies of the interview protocols used in Phase One of the study. An inductive approach was used as it makes no assumptions about how individuals might respond and does not prescribe the type of responses that individuals may describe when discussing stressful work and/or life events (Creswell, 2003).

For the echo-based approach, I asked participants open-ended questions in a series of pairs. This particular method assumes the participants are the subject matter experts of their own lived experiences and the researchers are the learners (Brown, 1992; Cunningham, 2001). Echo-based questions explore and examine how participants’ values and beliefs are influenced in various types of situations by measuring the influences that they associate with values, or who might feel or value certain ideas, thoughts, perspectives over others. Overall, the purpose of the Echo-based approach is to assist researchers in understanding problems and issues that are part of a given group or organizational culture. The concept of allowing participants to define what is being
researched and what they value is based on a fundamental assumption that participants may have significantly different views of the world and ways of talking about the same things (Brown, 1992; Cunningham, 2001).

For the Repertory Grid technique, this approach is based on the Personal Construct Theory where, according to Kelly, individuals characterize their world through a series of constructs which are the basis by which individuals interpret their world (Brown, 1992; Fransella & Bannister, 1977; Ryle, 1975). This theory of personality enables a researcher to interview an individual in detail. The Repertory Grid technique allows the interviewer to map out how the interviewee views the world -- how they experience the world and make sense of that experience. By building this mental map of the interviewees’ worldview perspective, the interviewer can understand their history and begin to make some predictions about how they are likely to behave in a given situation. One of the strengths of this particular technique is the fact that it assists in reducing bias which could be imposed by the interviewer or the process. This is because the interviewer uses only the information the interviewees provide; thus, the interviewer is not imposing any preconceived framework(s) on the interviewees’ responses (Fransella & Bannister, 1977; Ryle, 1975).

In my research study, the triad and laddering methods (from the Repertory Grid approach) were used to elicit constructs within the interview sessions. The triad method questions compared elements presented in groups of three, to produce a similarity and a difference. Interviewees were asked to say in what way two of the scenarios or individuals they were describing were alike and why were these same scenarios or individuals different from the third (see Appendix H). After using the triad method, laddering was used for each construct. Interviewees were asked to rate the characteristics,
behaviours and/or attitudes which they had outlined. I used the laddering technique to find out what participants’ personal preferences were of top performing employees and poor performers. The key laddering questions were:

*Which do you think is a better quality of a top performer in the workplace, people who are “X” or people who are “Y”?*

*Which do you think is a quality of a poor performer in the workplace, people who are “X” or people who are “Y”??*

**Phase Two: Questionnaire**

Within my research study, I used a web-based questionnaire format where participants were sent the survey electronically to their workplace e-mail account. Participants answered questions on resiliency and coping strategies when dealing with work/life situations in a confidential and anonymous fashion. The web-based survey was administered by Statistics Inc. The web-based technology used security technology (secure socket layer/encryption) to prevent non-respondents from accessing the survey and viewing participants’ results. It appears that many organizations are gravitating to the use of web-based research where instruments such as questionnaires can be posted on an organization’s intranet or internet sites in order to solicit input from employees and/or customers on a variety of issues which can ultimately be used to assist in organizational decision-making (Dillman, 2000; Schaefer & Dillman, 1998; Stanton & Rogelberg, 2001). The web-based questionnaire format consisted of Likert-scale questions, open-ended and dichotomous questions. The rationale for utilizing web-based research technology was to: enlarge the sample size; improve access to previous hard to reach populations (employees who either work and/or reside in remote locations); and provide
rapid access to study populations (Dillman, 2000; Schaefer & Dillman, 1998; Stanton & Rogelberg, 2001).

When conducting web-based research, the issue of validity comes quickly to mind as researchers must consider how to deal with response rates and response environment. All of these factors can impact and influence the data which the researcher is gathering and later analyzing. Researchers have no control over the conditions and circumstances in which participants complete their research questions (i.e. level of noise/distraction when responding to web-based surveys or other individuals “assisting” participants with responses). As a means of improving response rates for the web-based survey, the Green Leaf Company as a whole was notified in advance that some of its employees may be selected through the stratified random sampling process conducted by Statistics Inc. to respond to the occupational resiliency and coping questionnaire. Within the courtesy letter which was sent out by the Green Leaf Company, staff at the organization were given an overview of the study (Appendix I).

The Occupational Resiliency and Coping questionnaire was comprised of echo-based and repertory grid questions (based on the Phase One interview findings), as well as reliable and validated standardized instruments which are recognized questionnaires within the field of health psychology and organizational behaviour. The rationale for developing a survey that is developed from the Echo and Repertory Grid approaches is the opportunity to reflect the values which employees from the Green Leaf Company hold as it pertains to resiliency and coping within their given work environment. Therefore, the following instruments and associated measures were incorporated into the Phase Two web-based questionnaire:
Work Stress Experienced

Based on the Phase One interviews and the 2004 Workplace Well-Being Study conducted by Caverley, Cunningham and MacGregor, a set of 30 work events were presented whereby respondents reported the level of stress they experienced at the time of the given workplace event (Caverley et al., 2004).

Life Stress Experienced

Similar to work stress experienced, a set of 28 life events were presented as a means of determining which life events respondents had experienced over the past 6-12 months and the level of stress they felt at the time of each incident. These life events were based on Holmes and Rahe’s (1967) Social Readjustment Scale items, Phase One interview responses and Caverley et al.’s (2004) Workplace Well-Being Study.

Personality

Both “resiliency” and “stress prone” personality characteristics were identified and examined within the study. In Phase One, resiliency characteristics such as: responsibility for one’s health; self-esteem; adaptation to change; humour; and optimism were some of the key characteristics which arose from the Phase One interview sessions. Therefore, the following survey instruments were used for each of the above mentioned resiliency characteristics:

1. **Responsibility for one’s health** (aka. health locus of control). The Revised Health Hardiness Inventory subscales, internal and external locus of control were used to measure individuals’ perceptions of influence and control over their lives – particularly within the areas of personal health and well-being (Gebhardt et al., 2001);

2. **Self-esteem.** Based on the Phase One interview results, this scale measures employees’ level of self-confidence (i.e. expectations for success, how individuals feel about themselves);
3. **Adaptation to change/new situations.** This scale was developed as a result of the Phase One interviews and measures the degree to which employees are open to change and willing to make the best out of a new situation;

4. **Humour.** Caverley et al. (2004)'s scales which measure the degree to which employees use humour in appraising or responding to work/life events; and

5. **Optimism.** This scale was developed as a result of the Phase One interviews and measures the degree to which optimism is used as the primary lens for viewing work and personal life events.

In addition, Phase One respondents identified anger and anxiety as main “stress prone” personality characteristics. The Big Five Survey subscales “hostility” and “anxiety” within the Neuroticism factor were used to measure employees’ level of anger and anxiety as part of their general personal style. The Five Factor Model was developed by McCrae and examines five personality dimensions: extroversion; agreeableness; conscientiousness; neuroticism and openness (McCrae, 1992).

**Coping**

Two sets of coping strategy scales were presented in the survey. The first set of coping scales consisted of four subscales from Lazarus and Folkman’s *Ways of Coping Survey* (Lazarus & Folkman, 1984). The *Ways of Coping Survey* identifies thoughts and actions that individuals use to cope with stressful encounters in their daily lives. The four subscales were:

1. **Self-controlling** - efforts to regulate one’s feelings and actions;

2. **Seeking social support** - ways to seek informational support, tangible support and emotional support;

3. **Escape-avoidance** - wishful thinking and behavioural efforts to escape or avoid the problem; and

4. **Planful problem solving** - deliberate problem-focused efforts to alter the situation.
In addition, I designed a series of coping scales based on the Phase One interviews. These coping strategies were intended to reflect the thoughts and actions of public service employees who are dealing with work and/or life issues. The coping scales were:

1. **Seeking social support.** The ability to locate key individuals who can provide employees with emotional support, technical information, tangible assistance or appraisal support;

2. **Empathy.** During times of high stress, the ability of individuals to provide support to others who are also experiencing stress and turmoil;

3. **Controlling one’s emotions.** The ability to manage one’s emotions and feelings;

4. **Proactive problem solving.** Action-oriented strategies which are used to resolve the given situation;

5. **Escape-avoidance.** Activities which mentally or physically allow individuals to circumvent the given situation;

6. **Distancing.** Thoughts or actions which minimize the severity of the stressful situation; and

7. **Accepting responsibility.** Based on the Phase One interviews, this scale measures the degree to which individuals take personal ownership and responsibility for their actions within the given work or life event.

Both sets of coping strategy scales were incorporated into the survey in order to compare which coping strategies demonstrated significant relationships to employee health and productivity outcomes.

**Employee Health**

A suite of physical health, mental health, health habits and health care practice measures were used to measure an employee’s overall health. The Health Canada (2004) measures were as follows:

1. **Physical Activity** - measures duration and frequency of exercise; and

2. **Perceived Health** - measures an employees’ self-reported general state of health.
As well, scales were designed to assess Employee Assistance Program (EAP) usage, smoking habits, alcohol consumption, prescription medication usage, attendance at one’s annual physical exam and number of visits to a physician. For mental health, burnout was used as a measure of employees’ mental health. In particular, the emotional exhaustion subscale from Maslach’s *Burnout Inventory* was used to assess aspects of the burnout syndrome – feelings of emotional overextension and work exhaustion (Maslach, Jackson & Leiter, 1996).

**Employee Productivity**

As the Green Leaf Company’s work outputs/ accomplishments are like the majority of modern jobs within the labour market, work productivity has to be estimated. Therefore, measures such as presenteeism and absenteeism (aka. sick leave) were used to estimate work performance.

1. **Absenteeism.** This measure was based on recorded sick leave absences that were processed and kept on the APEX Corporation’s personnel and payroll system. Kivimaki et al. (2003) acknowledge that recorded sick leave absences are a solid measure of the health of the general working population. Recorded sick leave offsets any potential memory effects of respondents being unable to accurately recall the exact number of sick days they took last year. Therefore, I obtained computerized recorded sick leave records for the 2003 calendar year (January 1 – December 31, 2003) from the APEX Corporation which were matched to participants’ responses by the Statistics Inc.

2. **Presenteeism.** Over the past 3-5 years, researchers such as Dr. Graham Lowe have begun the process of measuring and capturing information pertaining to presenteeism. To date, the main measure of presenteeism is the number of self-reported days which employees came to work despite being ill and/or injured. In addition, Lowe has encouraged other researchers to capture open-ended responses as to the reason employees felt the need to come to work while being ill and/or injured.

Within the Occupational Resiliency and Coping Survey, all scales were pre-tested and piloted. Based on these pre-tests, items were changed, added and deleted to improve the
understanding of each scale item and its relationship to the underlying construct being measured (see Appendix M for the Occupational Resiliency and Coping scale items and associated alphas).

Data collection

Through the use of a sequential exploratory strategy, the following series of data collection activities were carried out in my research study:

**Phase One: Interviews**

As previously mentioned, open-ended interviews were conducted with 15 participants. Mc Cracken (1988) suggests a range of approximately 8 to 12 long interviews to obtain a saturation of data for concurrent analysis. Multiple interviews were used to elicit feedback by participants on employees’ perceptions of resiliency and their ability to cope with workplace stress, crisis and organizational change in their given workplace. Participants were required to participate up to a maximum of two hours. This represented two 60 minute interview sessions (maximum) per participant. On average, the first interview sessions were 66 minutes in duration. The first interview was a face to face audio-taped interview where participants were asked a series of critical incident-styled questions and open-ended questions regarding how they have dealt with workplace stress, crisis and organizational changes during the past 6-12 months. The first set of interviews were conducted off-site from the participant’s work location.

The second interview was conducted on the telephone. This second interview was for participants to review the method in which I collected their initial responses to ensure I properly reflected their experience. On average, the second set of interviews were 23 minutes in duration. Prior to commencing the interview, I described the consent process. Participants were given an overview at the start of each interview session that their
participation was voluntary. Participants were also told that if at any point during the interview, they elect to withdraw from the study, they may do so without any consequences or any explanation. Also, I outlined that their names and other identifying characteristics in their responses would not be connected to their answers and that their identity would remain confidential.

All interviews were conducted by the primary researcher (Natasha Caverley). I collected text information via audio-taping and also took notes during each open-ended interview. Participants were asked for their permission to be tape recorded within the interview session. The use of audio-taping within interview sessions was to increase the accuracy of the data collection and allow me to be more attentive to the interviewee. In addition to audio-taping, I also took notes during the interview sessions. Note taking during the interview helped me to facilitate later analysis, including locating important quotations from the tape itself. For my research study, resources to conduct this study were limited; therefore, the dual method of note taking and audio taping provided a cost efficient alternative to carrying out full transcription of the interview sessions. The dual method allowed me to work back and forth between interview notes and sections of the tape.

*Phase Two: Questionnaire*

The questionnaire portion of the study took up to 25 minutes for participants to complete. Data were gathered by the trained staff at Statistics Inc. Participants in this section of the survey were only surveyed at one point in time. The survey was provided as a web-based questionnaire whereby respondents were e-mailed an introductory letter from the researcher, that contained a link to a secure website housed at Statistics Inc. The link contained individual information to ensure only one submission per respondent. The
personalized link opened a web page, which provided instructions and outlined the confidentiality provisions, from which respondents would enter the questionnaire.

Participants responded to the web-based survey questions using either radio buttons or comment/text boxes. A "Next" button helped respondents navigate through the survey. Respondents used a "Submit Survey" button when they had completed the survey, which sent the data to the Statistics Inc.'s secure database, where it was stored prior to analysis. On September 15, 2004 and September 21, 2004, two follow up e-mails were sent by Statistics Inc. to individuals who had not responded to the questionnaire. When participants submitted their survey, their names were not connected to their answers in any way and their identity remained confidential with the Statistics Inc.

**Procedure for data analysis**

In a two-staged approach, I used both quantitative and qualitative strategies as a means of analyzing data for my research study.

*Phase One: Interviews*

Within this phase of the research study, I analyzed the data using content analysis. Content analysis allowed me to search for patterns and elicit themes, dimensions, images/words that interviewees’ used to describe their feelings, thoughts and experiences. This involved reviewing the responses of the 15 participants and grouping the responses into categories as they pertain to work/life stress experienced, occupational resiliency and coping. Content analysis is a process of sorting through the transcribed information from interview sessions in order to develop concepts and/or categories (Creswell, 2003; Tashakkori & Teddlie, 1998; Tashakkori & Teddlie, 2003). I reviewed excerpts from the transcribed audio tapes and notes. Copies of the excerpts and notes were divided into words or phrases that convey an idea or a comment. Each of these words/phrases were
attached to a cue card and the cards were coded on the back to identify the respondent. The cue cards were sorted using my own professional judgment about what items describe similar things. Overall, four major steps were carried out. I sorted through the cards, made a record of my decision, repeated the sorting exercise and selected one or two cards from each category that best represented the concept. The purpose of sorting the responses and categorizing their responses was to identify common themes and sub-themes. The themes and sub-themes were organized into the key components of the study’s key “profile” variables: work stress experienced; life stress experienced; resiliency/personality characteristics; social support networks and coping strategies.

Phase Two: Questionnaire

Descriptive statistics, correlations and ANOVAs were the main set of statistics which were used in Phase Two of the study. Descriptive statistics measured central tendency (i.e. mean, median and mode) and measures of variability (i.e. range, variance and standard deviation) (Anderson, Sweeney & Williams, 1986; Howell, 1999). Correlations measured the extent to which there were interrelationships between the key “profile” variables. ANOVAs were used to determine if significant associations existed between the “profile” variables. The “profile” variables were as follows:

1) “Presenting Profile” - demographics; work stress experienced and life stress experienced;

2) “Response Profile” - personality characteristics (resiliency), coping strategies and social support networks; and

3) “Health & Productivity Profile” – employees’ general health (physical and mental health) and productivity (absenteeism and presenteeism).
Summary of Chapter Four

The mixed-methods approach offers a viable alternative for examining stress, resiliency and coping – concepts that are often not clearly understood by both researchers and practitioners. The use of echo-based and repertory grid questions created an opportunity to incorporate interviewees’ thoughts, feelings and values into a questionnaire-format for a larger sample population. These techniques have the potential of better reflecting participants’ experiences within their particular work setting (public service work environment). In the next chapter, the results from Phase Two (questionnaire) are presented which detail the findings in the areas of: work stress experienced; life stress experienced; resiliency characteristics; coping strategies; social support networks and their associated interrelationships to employee health and productivity.
RESULTS

Overview of Chapter Five

In this chapter, a summary of key findings are presented. Each of the characteristics which are represented in the Occupational Resiliency and Coping Framework are described in detail. In addition, interrelationships between key variables and employee health and productivity outcomes were summarized. All of the findings presented in this chapter were statistically significant at a “p ≤ 0.05” level.

Based on the Phase One findings, I analyzed the participants’ discussion points and designed a web-based Occupational Resiliency and Coping survey which incorporated the echo-based and repertory grid-based interview responses. A summary of the Phase One results is outlined in Appendix L. In addition, standardized instruments within the field of health psychology and organizational behaviour were used such as: Maslach’s Burnout Inventory (emotional exhaustion subscale) and Lazarus and Folkman’s Ways of Coping Scale (i.e. planful problem solving, seeking social support subscales). The Phase Two Questionnaire was intended to survey a larger population of the Green Leaf Company as a means of identifying interrelationships between work/life stressors, occupational resiliency, coping strategies and personal outcomes (i.e. employee health and productivity).

Work Stress Experienced

Based on a pre-defined list of workplace events, respondents were asked to outline which events personally happened to them in the last 6-12 months. For each answer that applied to them, individuals were asked to indicate the level of stress that they experienced at the time of the given event. Respondents indicated their stress levels for each workplace event on a six-point Likert Scale. Low numbers on the scale
described low levels of stress while high numbers on the scale outlined higher levels of stress.

Respondents reported "high" stress levels for such events as heavy workload, lack of sufficient time to complete work assignments/meeting deadlines, organizational restructuring and working on highly complex and multifaceted Green Leaf Company projects. As a collective, respondents reported "medium" levels of stress for the following work events: lack of resources to perform work assignments; new work assignments/duties; leading or managing a work project; managing multiple work projects/assignments; and technical malfunctions of work-related equipment (i.e. computers, machinery or tools). "Low" levels of stress were experienced when dealing with demanding/confrontational client(s) or disrespectful co-worker(s) or supervisor(s).

In general, the average overall workplace stress rating was between "medium/high" ($M = 3.64$, $SD = 0.79$). The median rating for overall workplace stress was 3.70. Figure 2 outlines the distribution of workplace stress scores.

Employee group and gender were both associated with overall workplace stress scores. Bargaining unit members reported higher overall workplace stress scores ($M = 3.67$) than managers ($M = 3.42$), $F(1, 573) = 5.39$, $p < 0.05$. In terms of gender, females reported higher workplace stress scores ($M = 3.77$) than their male counterparts ($M = 3.59$), $F(1,573) = 6.40$, $p < 0.05$. There were no other interrelationships between the remaining demographic characteristics and overall workplace stress scores (i.e. geographic location, hours of work, occupation, employee status and employment equity status).
Life Stress Experienced

Based on a pre-defined set of life events, respondents were asked to indicate which events happened to them at home or outside of work in the last 6-12 months. For each answer that applied to them, they indicated their level of stress when they experienced the event. The average overall life stress score for respondents was "medium" to "high" (M = 3.73, SD = 0.97). The median rating for overall workplace stress was 3.67. Though respondents had not experienced a majority of the life events within the past 6-12 months, there were a core set of life events which were associated with some degree of stress for respondents.

"Very high" levels of stress were reported by respondents dealing with an illness or injury of a close family member. "High" levels of stress were experienced for events such as: dealing with my child's problem(s)/issue(s); renovating my home/personal
residence and quarreling with my spouse/partner. "Medium" levels of stress were outlined by respondents who felt that they have not met their personal life goals/expectations and/or those individuals who had difficulties managing their work and personal time. Figure 3 outlines the distribution of life stress scores. Gender was the only demographic characteristic that was associated with overall life stress scores. Female respondents (M = 3.92) reported higher overall life stress scores than male respondents (M = 3.65), $F(1,571) = 9.67, p = 0.00$.

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Figure 3

Distribution of Life Stress Scores

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Resiliency Characteristics

Participants were asked at the beginning of the survey to define "occupational resiliency"—in other words, what did this term mean to them? Phase Two respondents described the term "occupational resiliency" as being the ability to: cope with stress; adapt to change/new situations; maintain high performance/productivity; emotionally re-
frame a situation; stay healthy; stay strong; and be optimist. After analyzing the echo-based and repertory grid responses in Phase One, the following “resiliency” themes presented themselves: self-esteem (one’s self-confidence and sense of worth); adaptation to change/new situations; health locus of control (sense of responsibility for one’s personal health and well-being); optimism (positive); and humour. In terms of stress-prone personality characteristics which resonated throughout the Phase One interviews, “anxiety” and “anger” were key characteristics which respondents associated with high levels of stress. Standardized instruments were also used to measure these above mentioned “resiliency” and “stress prone” personality characteristics.

Results suggest that respondents are somewhat more pre-disposed to having “resiliency” personality characteristics (4.39/7) than “stress prone” personality characteristics (3.62/7). In crisis situations, they exhibit a higher degree of self-esteem, adaptation to change/new situations, optimism, humour over stress prone personality characteristics such as anxiety and anger. Of the “resiliency” characteristics, respondents scored the lowest on health locus of control (3.47/7). Table 5 outlines the means and standard deviations for each of the personality characteristics examined in the Occupational Resiliency and Coping study.
Table 5

<table>
<thead>
<tr>
<th>Personality Characteristics</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resiliency Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>4.87</td>
<td>1.01</td>
</tr>
<tr>
<td>Adaptation to Change/New Situations</td>
<td>4.65</td>
<td>0.83</td>
</tr>
<tr>
<td>Health Locus of Control</td>
<td>3.47</td>
<td>0.62</td>
</tr>
<tr>
<td>Optimism</td>
<td>4.57</td>
<td>0.77</td>
</tr>
<tr>
<td>Humour</td>
<td>4.37</td>
<td>0.84</td>
</tr>
<tr>
<td><strong>Stress Prone Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>3.74</td>
<td>0.53</td>
</tr>
<tr>
<td>Anger</td>
<td>3.49</td>
<td>0.68</td>
</tr>
</tbody>
</table>

*Coping Strategies*

As a means of establishing context around how employees cope with a crisis situation, respondents were asked to describe a crisis which they experienced within the past 6-12 months. Table 6 outlines the crisis situations which were reported by Phase Two respondents.

Table 6

<table>
<thead>
<tr>
<th>Crisis situations experienced</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal/Life Crises</td>
<td>54</td>
</tr>
<tr>
<td>Work Crises</td>
<td>46</td>
</tr>
</tbody>
</table>
Personal crises consisted of life events such as illness/injury of a close family member (i.e. elderly parents, children, spouse/partner and/or siblings), death of a close family (i.e. one’s elderly parent), relationship breakup with partner (i.e. marital separation or divorce from one’s spouse), on-going disputes with spouse/partner, dealing with my child’s problem(s)/issue(s) - typically the “child” is the respondents’ teenager. Work crises consisted of work events such as the APEX Corporation’s layoff/downsizing, job competition (engaged in the company’s recruitment and selection process in order to attain a new position), job relocation to another community, heavy workload and changing one’s job functions/duties.

Four selected subscales from Lazarus and Folkman’s *Ways of Coping Survey* were used to determine the types of coping strategies employees may use in handling a crisis. The subscales were: self-control; seeking social support; escape and avoidance and planful problem solving. Respondents reported that they used planful problem solving (3.1/5), self control (3.0/5) and social support (3.0/5) “quite a bit” when handling crisis situations. Phase Two respondents stated that they “used somewhat” escape and avoidance coping strategies (2.4/5).

In addition to using Lazarus and Folkman’s four subscales on coping, I designed my own set of coping scales based on the Phase One echo-based and repertory grid interviews responses. My coping scale items served as an alternative to the generic *Ways of Coping Survey* coping strategy statements. My subscale headings used similar titles used by Lazarus & Folkman. They were: distancing; self-control, seeking support; accepting responsibility; escape-avoidance; and proactive problem solving. A new subscale entitled “empathy” was also included in my set of coping strategies. When handling a crisis situation, respondents reported low levels of escape-avoidance (2.72/7)
and self-control (3.27/7). Moderately high levels of distancing (3.87/7), social support (3.90/7), planful problem solving (4.07/7) and accepting responsibility (4.42/7) were reported by Phase Two respondents. High levels of “empathy” (4.85/7) were indicated by respondents in terms of how they dealt with crisis situations.

**Social Support Networks**

Phase Two respondents were asked who they generally sought support and guidance from when handling a workplace crisis. A workplace crisis was defined as any emotional upheaval or state of uncertainty in one’s work life, a workplace tragedy or a work-related turning point (Crompton, 2003; Wolkow & Ferguson, 2001). Table 7 outlines the top 5 social support networks for Phase Two respondents.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Support Network</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Direct Supervisor</td>
<td>31</td>
</tr>
<tr>
<td>2</td>
<td>Co-workers/Staff Members</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>Family*</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>[PARTICIPATING ORGANIZATION]'s Management/Executive</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>Friends (outside of work)</td>
<td>6</td>
</tr>
</tbody>
</table>

*Note.* *Family* includes: spouse/partner; children

The number one ranked social support network for respondents when handling a workplace crisis situation is their direct supervisor. In terms of providing support to respondents in crisis situations, direct supervisors were viewed as being helpful in prioritizing activities to help lessen the anxiety surrounding the stressful situation. Co-
workers/staff members were ranked second as a support network for respondents. Phase Two respondents reported that their co-workers/staff members provide moral/emotional support to them during crisis situations. Family members offered respondents emotional and moral support. Similar to respondents’ direct supervisors, the Green Leaf Company’s management/executive offered their past experience and technical knowledge/advice to respondents when dealing with a crisis situation. Finally, friends outside of work discussed the crisis situation and offered emotional support to respondents.

**Employee Health**

When examining employee health, both physical and mental health-based questions were posed to respondents. In addition, respondents were asked a series of questions which inquired about their general state of health, health habits/behaviours and health care practices. Respondents rated their general health on a five point scale, ranging from poor to excellent. Overall, the reported level of general health was 3.5, with a median rating of 4.0; thus, reflecting a rating of “very good”. In general, 78% of respondents rated their health as being either “good” or “very good”. When asked to compare their general health now to one year ago, the average response was 3.19; thus, reflecting a rating of “about the same”.

In terms of overall physical activity (engaging in either vigorous, moderate and/or light exercise), respondents reported that they spend, on average, between “1 or 2 times a week” or “3 to 5 times a week” carrying out some form of physical exercise (M = 3.49, SD = 0.90). In a typical week, respondents spend at least 15 minutes one or two times a week carrying out vigorous physical activities such as aerobics, using exercise equipment/machines, fast cycling, fast walking, running, and/or swimming (M = 3.05, SD = 1.21). On average, respondents spend at least 30 minutes, one to two times a week,
carrying out moderate physical activities such as walking, cycling, recreational 
swimming, golfing, and/or heavy gardening (M = 3.38, SD = 1.08). Finally, respondents 
spend at least 30 minutes, three or five times a week, engaging in light physical activities 
such as taking a stroll, light gardening, housecleaning and/or stretching (M = 4.01, SD = 
1.03).

Respondents were asked to disclose various diseases, illnesses and/or injuries 
which they had sought professional help/treatment for over the past 6-12 months. Tables 
8 and 9 summarize the percentage of respondents who have received professional help as 
well as the percentage of respondents who have a family history associated with 
particular physiological disease/injury categories (i.e. musculoskeletal diseases or 
injuries; digestive diseases). In addition to examining primarily physical ailments that 
were reported by respondents, a mental health factor was investigated. The subscale 
“emotional exhaustion” was used from Maslach’s _Burnout Inventory_. On average, 
respondents reported a low rating of emotional exhaustion (M = 2.92, SD =1.18).

<table>
<thead>
<tr>
<th>Disease Type</th>
<th>Sought Professional Help (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musculoskeletal Diseases or Injuries</td>
<td>21</td>
</tr>
<tr>
<td>Other*</td>
<td>14</td>
</tr>
<tr>
<td>Digestive Diseases</td>
<td>10</td>
</tr>
<tr>
<td>Cardiovascular Diseases</td>
<td>8</td>
</tr>
<tr>
<td>Dermatological Diseases</td>
<td>8</td>
</tr>
</tbody>
</table>

*Note.* "Other" includes: cancer; allergies/sensitivities; and infections
Table 9

<table>
<thead>
<tr>
<th>Disease Type</th>
<th>Family History (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular Diseases</td>
<td>39</td>
</tr>
<tr>
<td>Musculoskeletal Diseases</td>
<td>18</td>
</tr>
<tr>
<td>or Injuries</td>
<td></td>
</tr>
<tr>
<td>Digestive Diseases</td>
<td>14</td>
</tr>
<tr>
<td>Other*</td>
<td>11</td>
</tr>
<tr>
<td>Dermatological Diseases</td>
<td>11</td>
</tr>
</tbody>
</table>

*Note.* "Other" includes: cancer, allergies/sensitivities; and infections

As mentioned earlier, employees' health habits/behaviours and health care practices were also explored within this study such as: Employee Assistance Program (EAP) usage; smoking habits; prescription medication usage; alcoholic beverage consumption; attendance at one's annual physical check up; and the number of visits to a physician within the last 12 months. In the Green Leaf Company, 15% of respondents reported that they made use of the APEX Corporation's EAP or related counselling services in the past 12 months. On average, respondents reported that they quit smoking more than a year ago (M = 2.16, SD = 1.69). Respondents disclosed that they drink alcoholic beverages on a monthly basis (M = 3.25, SD = 1.24). Fifty-four percent of respondents used prescription medications in the past year. In terms of employees' health care practices, 56% of respondents reported that they had their regular annual physical check-up in the past year. Finally, on average, respondents went to a physician 2.8 times in the past year (excluding annual check-ups and maternity visits).
**Employee Productivity**

In general, the work being carried out by the Green Leaf Company is not confined to a production and/or service setting where daily outputs and accomplishments can be counted or tracked easily. Therefore, like many jobs within today’s labour market, productivity within the Green Leaf Company had to be approximated. Within this study, the term “productivity” represented not only an employee’s time away from work due to an illness and/or injury (aka. absenteeism) but also an employee’s attendance at work despite being ill or injured (aka. presenteeism). Therefore, presenteeism and absenteeism were used to estimate work performance and detect any effects on employee productivity.

Regarding absenteeism (aka. sick leave), the average sick leave rate per respondent in the Green Leaf Company was approximately 5 days for 2003. Over the past 12 months, 56% of respondents reported that they went to work despite being ill and/or injured. On average, the presenteeism rate for respondents was approximately 7 days. As a means of understanding why respondents chose to attend work despite being ill and/or injured, Table 10 outlines the top 5 reasons respondents went to work despite being ill and/or injured.

| Table 10 |
| --- | --- | --- |
| **Top 5 reasons respondents went to work despite being ill and/or injured** | | |
| **Ranking** | **Reason** | **Percent (%)** |
| 1 | Need to meet deadlines | 40 |
| 2 | Heavy workload | 18 |
| 3 | No back ups/lack of staff to fill in while I am absent from work | 11 |
| 4 | Illness/injury not severe that I could not attend work | 10 |
| 5 | Work ethic | 8 |
The number one reason expressed by respondents for coming to work despite being ill and/or injured was the need to meet deadlines. The number two ranked reason for presenteeism was heavy workload. Respondents reported that they had a large volume of work to personally handle on a daily basis. The third ranking indicated that for some employees, they did not have back-ups in their given work units. The fourth reason reported by respondents was the self-perception that they were well enough to come to work. Finally, the fifth reason centered around respondents' sense of professionalism, duty, commitment and pride to their work, work unit and/or clientele.

*Relationships to employee health*

In addition to examining individual factors such as work stress experienced, resiliency characteristics and coping strategies, I wanted to also determine whether inter-relationships existed between work/life stressors, personality characteristics, coping strategies, demographic characteristics and employee health outcomes.

*Demographics*

Key demographic characteristics such as: age; gender; geographic location; employee status; employee group; employment equity status; hours of work; and occupation were examined as a means of determining whether relationships existed between employee health outcomes.

Regarding perceived health (self-reported rating of one's general state of health), there were no significant relationships between respondents' self-rated health scores and gender, age, geographic location, employment equity status, occupation, hours of work, employment status and employee group. Physical activity scores were not significantly influenced by gender, age, region, employment equity status, hours of work, employee
status and employee group. However, respondents’ occupation was significantly associated with physical activity scores, $F(4, 566) = 4.78$, $p = 0.00$.

On average, scientific/technical specialists and managers spend approximately three to five times a week engaging in some form of physical exercise (vigorous, moderate and/or light physical activity). In contrast, the business/finance/research officer cohort, clerical/administrative support staff and “other” specialists spend one to two times a week carrying out physical exercise. “Other” specialists includes enforcement/correction officers, information technology specialists, and trades and operations specialists.

Respondents’ smoking habits were not significantly associated with demographic characteristics such as gender, age, employment equity status, hours of work, employee status and employee group. However, both geographic location and occupation significantly linked to respondents’ smoking habits.

Geographic location was significantly associated with smoking habits, $F(3, 567) = 2.92$, $p < 0.05$. Respondents from Regions 2, 3 and 4 quit smoking more than a year ago while Region 1’s respondents “quit smoking less than one year ago”. Smoking habits were also significantly linked to respondents’ occupation, $F(4, 566) = 3.05$, $p < 0.05$. Respondents who were business/finance/research officers, scientific/technical specialists and managers quit smoking more than one year ago. Clerical staff and “other” specialists quit smoking less than one year ago.

In terms of alcoholic beverage consumption, demographic characteristics such as geographic location, employment equity status and hours of work were not significantly associated with this particular health habit/behaviour. However, age, occupation, employment status and employee group did influence alcohol consumption. In Table 11,
age was significantly associated this particular health habit/behaviour, $F(3, 563) = 3.47, p < 0.05$. Respondents under 35 years of age and between 35-54 years of age tend to drink alcohol on a monthly basis whereas respondents who are 55 years or older drink alcohol on a sporadic yearly basis. Occupation significantly linked to alcohol consumption, $F(4, 562) = 3.17, p = 0.01$. Business/finance/research officers, clerical staff, scientific/technical specialists and "other" specialists tend to consume alcoholic beverages on a monthly basis whereas managers drink alcoholic beverages on a weekend basis. Employee status significantly linked to alcoholic beverage consumption, $F(1, 565) = 5.51, p < 0.02$. Regular employees tend to drink alcohol on a monthly basis whereas casual employees consume alcoholic beverages on sporadic yearly basis. Employee group was significantly associated with alcohol consumption, $F(1,565) = 5.74, p < 0.02$. Bargaining unit employees tend to drink on a monthly basis while management consumes alcohol on the weekends.
### Table 11

Average alcoholic beverage consumption scores by key demographic characteristics

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>&lt; 35 years of age</td>
<td>3.18</td>
</tr>
<tr>
<td>35-44 years of age</td>
<td>3.12</td>
</tr>
<tr>
<td>45-54 years of age</td>
<td>3.39</td>
</tr>
<tr>
<td>55+ years of age</td>
<td>2.83</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
</tr>
<tr>
<td>Administrative officers/financial officers</td>
<td>3.32</td>
</tr>
<tr>
<td>Economic specialists/research officers</td>
<td></td>
</tr>
<tr>
<td>Clerical/Administrative Support</td>
<td>2.95</td>
</tr>
<tr>
<td>Scientific/Technical Specialists</td>
<td>3.26</td>
</tr>
<tr>
<td>Managers</td>
<td>3.68</td>
</tr>
<tr>
<td>Other*</td>
<td>3.03</td>
</tr>
<tr>
<td><strong>Employee Status</strong></td>
<td></td>
</tr>
<tr>
<td>Regular</td>
<td>3.27</td>
</tr>
<tr>
<td>Casual</td>
<td>2.65</td>
</tr>
<tr>
<td><strong>Employee Group</strong></td>
<td></td>
</tr>
<tr>
<td>Bargaining Unit</td>
<td>3.20</td>
</tr>
<tr>
<td>Management</td>
<td>3.61</td>
</tr>
</tbody>
</table>

*Note. "Other" includes enforcement/correction officers, information technology specialists, trades and operations specialists.

Gender, age, geographic location, employment equity status, hours of work and employee status were not significantly associated with EAP usage and burnout levels in respondents. Employee group was associated with burnout levels. Bargaining unit...
employees (M = 2.95) had higher burnout scores than managers (M = 2.61), $F(1, 569) = 4.71, p < 0.05$

In Table 12, gender, age, employment equity status and occupation were significantly linked to annual physical check up scores and the number of visits to a physician. Gender was significantly associated with regular physical check ups, $F(1, 567) = 28.23, p = 0.00$. Female respondents were more likely to attend their annual physical check up than male respondents. Age was significantly linked to regular physical check ups, $F(3, 565) = 5.04, p = 0.00$. Respondents under 35 years of age and between 35-44 years of age were less likely to attend their annual physical check ups than respondents aged 45+. Employment equity was significantly associated with annual physical check ups, $F(1, 560) = 5.64, p < 0.05$. Employment equity group members were more likely to attend their annual physical check up than non-employment equity group members. Annual physical check ups were significantly associated to occupation, $F(4, 564) = 2.78, p < 0.05$. Managers and clerical/administrative support staff were more likely to attend their annual physical check up than scientific/technical specialists, business/finance/research officers and “other” specialists. Geographic location, hours of work, employee group and employee status were not significantly associated to annual physical check up scores.

Gender was significantly linked to the number of visits to a physician, $F(1, 550) = 17.16, p = 0.00$. On average, male respondents went to a physician 2.4 times during the last 12 months. Female respondents, on the other hand, went to a physician 3.7 times over the past year. Employment equity status was significantly associated with the number of visits to a physician, $F(1, 543) = 4.31, p < 0.05$. Employment equity group members went to a physician, on average, 3.6 times a year while non-employment equity group
members saw a physician 2.7 times over the past 12 months. The number of visits to a physician were significantly associated to occupation, $F(4, 547) = 5.64, p = 0.00$.

Employee group was significantly linked to the number of visits to a physician, $F(1, 550) = 5.33, p < 0.05$. On average, bargaining unit employees went to a doctor 2.9 times over the past year while management employees went a physician 1.8 times over the past year. Age, geographic location, hours of work and employee status were not significantly associated to the number of visits to the doctor.

**Work Stress Experienced**

Work stressors were examined in terms of their possible interrelationship with employee health. There were no significant relationships between work stressors, perceived health, physical activity, smoking habits, alcohol consumption, prescription medication usage, EAP usage and visits to a physician. In relation to burnout levels, work stressors such as "heavy workload" ($r = 0.30, p = 0.00$), "lack of sufficient time to complete work assignments/meet deadlines" ($r = 0.20, p = 0.00$), "new work assignments/duties" ($r = 0.30, p = 0.00$), "managing multiple work projects/assignments" ($r = 0.34, p = 0.00$), and "technical malfunction of work-related equipment (i.e. computers, machinery or tools)" ($r = 0.20, p = 0.00$) had direct relationships to burnout levels. The higher one's stress level (in association with the given event), the higher their burnout scores.
Table 12

Average annual physical check up scores and number of visits to a physician by key demographic characteristics

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Annual Physical Check Up</th>
<th>Number of Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Female</td>
<td>1.3</td>
<td>3.7</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 35 years of age</td>
<td>1.5</td>
<td>N/A</td>
</tr>
<tr>
<td>35-44 years of age</td>
<td>1.6</td>
<td>N/A</td>
</tr>
<tr>
<td>45-54 years of age</td>
<td>1.4</td>
<td>N/A</td>
</tr>
<tr>
<td>55+ years of age</td>
<td>1.3</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Employment Equity Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment equity designated group</td>
<td>1.3</td>
<td>3.6</td>
</tr>
<tr>
<td>Non-employment equity designated group</td>
<td>1.5</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Occupational Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative officers/financial officers/economic specialists/research officers</td>
<td>1.5</td>
<td>3.1</td>
</tr>
<tr>
<td>Clerical/Administrative Support</td>
<td>1.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Scientific/Technical Specialists</td>
<td>1.5</td>
<td>2.8</td>
</tr>
<tr>
<td>Managers</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Other*</td>
<td>1.5</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Employee Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bargaining Unit</td>
<td>N/A</td>
<td>2.9</td>
</tr>
<tr>
<td>Management</td>
<td>N/A</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Note. *"Other" includes Enforcement/Correction Officers, Information Technology Specialists, Trades and Operations Specialists
**Life Stress Experienced**

In terms of life events, there were no significant relationships between life stressors, perceived health, physical activity, EAP usage, annual physical check ups and smoking habits. However, there was a direct relationship between "loaning money to family members" and alcoholic beverage consumption ($r = 0.20, p = 0.05$). Higher stress levels associated with loaning money to relatives were linked to increased alcoholic beverage consumption. "Managing my work and personal time" had a direct relationship with burnout ($r = 0.31, p = 0.00$). Respondents who felt high levels of stress associated with managing their work and personal time were more likely to have higher burnout scores.

**Resiliency Characteristics**

In this section, resiliency and stress prone personality characteristics were examined to determine whether there were any consistent patterns with aspects of one's personality and employee health outcomes.

Resiliency characteristics such as self-esteem ($r = 0.20, p = 0.00$), health locus of control ($r = 0.20, p = 0.00$) and optimism ($r = 0.30, p = 0.00$) showed direct relationships with perceived health (respondents' self rating of their general state of health). Individuals who reported high self-esteem, health locus of control and optimism scores were more likely to have higher perceived health scores. For physical activity, there were direct relationships with this particular health outcome, self-esteem ($r = 0.24, p = 0.00$), adaptation to change/new situations ($r = 0.20, p = 0.00$) and optimism ($r = 0.22, p = 0.00$). Respondents who had high self-esteem, adaptation to change/new situation and optimism scores demonstrated higher physical activity scores.
The resiliency characteristic, health locus of control, had an inverse relationship with the number of visits to a physician ($r = -0.20, p = 0.00$). Respondents who reported higher health locus of control scores were less likely to visit a physician on a frequent basis over the past year. Regarding burnout, inverse relationships were found between this mental health outcome, “adaptation to change/new situations” ($r = -0.20, p = 0.00$) and optimism ($r = -0.25, p = 0.00$). Respondents who reported having higher adaptation to change/new situation and optimism scores had lower burnout scores. No significant relationships existed between the resiliency characteristics, smoking habits, alcoholic beverage consumption, EAP usage and annual physical check ups.

Stress prone characteristics were not associated with physical activity, smoking, alcoholic beverage consumption, prescription medication usage, annual physical check ups and visits to a physician. However, there was a direct relationship between anger and burnout ($r = 0.40, p = 0.00$). Respondents who reported higher anger scores typically had higher burnout scores. Finally, demographic characteristics such as gender, geographic location, employee group, employee status, employment equity status, occupation and hours of work did not have a significant influence on resiliency and stress prone personality characteristics.

*Coping Strategies*

Lazarus and Folkman’s *Ways of Coping* scales demonstrated only one significant relationship with employee health. There was an inverse relationship between Lazarus and Folkman’s “planful problem solving” coping strategy and Maslach’s “emotional exhaustion” subscale ($r = -0.20, p = 0.00$). No other significant relationships were found between Lazarus and Folkman’s coping strategies and the remaining employee health
outcomes (perceived health, physical activity, smoking habits, alcohol consumption, prescription medication usage, physical check ups, EAP usage and visits to a physician).

For the Caverley coping strategies, there were seven significant relationships between the echo-based coping scales and employee health. There was a direct relationship between the “distancing” coping strategy, physical activity ($r = 0.20, p = 0.00$) and perceived health ($r = 0.20, p = 0.00$). Therefore, higher physical health and perceived health scores were associated with individuals who typically used distancing coping strategies when handling a crisis situation. Caverley’s “escape-avoidance” coping strategy had a direct relationship to alcoholic beverage consumption ($r = 0.20, p = 0.00$) and number of visits to a physician ($r = 0.21, p = 0.00$). Respondents who generally used escape-avoidance coping strategies were more likely to frequently consume alcoholic beverages and visit a physician. An inverse relationship existed between my “escape-avoidance” coping strategy and EAP usage ($r = -0.21, p = 0.00$). Individuals who reported using escape-avoidance coping strategies when dealing with crisis situations were less likely to access EAP or related counselling services.

As it pertains to burnout, direct relationships were found between this mental health outcome, “self control” coping strategy ($r = 0.24, p = 0.00$) and “escape-avoidance” coping strategy ($r = 0.40, p = 0.00$). Higher burnout rates were associated with respondents who generally used self control and escape-avoidance coping strategies when handling a crisis situation. There was an inverse relationship between the “empathy” coping strategy and burnout ($r = -0.20, p = 0.00$). Therefore, respondents who typically utilized empathy coping strategies had lower burnout scores. No significant relationships were found between Caverley’s coping strategies and the remaining health outcomes (smoking habits, prescription medication usage and annual physical check ups).
Relationships to employee productivity

In addition to examining employee health relationships, interrelationships between work/life stressors, personality characteristics, coping strategies, demographic characteristics and employee productivity outcomes were also investigated.

Demographics

As it pertains to productivity levels, age, gender, geographic location, employment equity status, occupation, hours of work, employee status and employee group did not significantly link to presenteeism rates. Regarding sick leave, age, geographic location, employment equity status, hours of work, employee status and employee group did not significantly link to absenteeism rates. However, absenteeism rates were significantly associated with gender $F(1, 561) = 10.43, p = 0.00$ and occupation, $F(4, 558) = 3.92, p = 0.00$. Table 13 outlines the average number of sick days taken by respondents according to gender and occupation.

In Table 13, female respondents took 7.6 sick days while male respondents took 3.5 sick days in 2003. Absenteeism rates were significantly influenced by occupation. The average sick leave rate per employee ranged from 1.7 sick days for managers to 10.5 sick days for clerical/administrative support staff. Respondents who used prescription medication(s) over the past year took an average of 6.3 sick days in 2003 while employees who did not use prescription medication only took an average of 3 sick days, $F(1,561) = 7.40, p = 0.00$. 
Table 13

Average number of sick days taken by key demographic characteristics

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Number of sick days taken*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3.5</td>
</tr>
<tr>
<td>Female</td>
<td>7.6</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
</tr>
<tr>
<td>Business/finance/research officers</td>
<td>5.3</td>
</tr>
<tr>
<td>Clerical/Administrative Support</td>
<td>10.5</td>
</tr>
<tr>
<td>Scientific/Technical Specialists</td>
<td>4.0</td>
</tr>
<tr>
<td>Managers</td>
<td>1.7</td>
</tr>
<tr>
<td>Other**</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Note: *Based on recorded sick leave statistics for 2003.
**"Other" includes Enforcement/Correction Officers, Information Technology Specialists, Trades and Operations Specialists

Work Stress Experienced

Though varying levels of stress were experienced by respondents when dealing with workplace stressors, there were no significant relationships between individual work stressors, overall workplace stress scores, absenteeism and presenteeism.

Life Stress Experienced

Similar to work stress experienced, there were no significant relationships between individual life events, overall life stress scores, presenteeism and absenteeism. Therefore, it appears that work and/or life events alone do not lead to ill health, burnout or decreased productivity; instead, there may be other variables which are influencing how employees perceive and respond to their work environment.
**Resiliency Characteristics**

An inverse relationship was found between health locus of control and absenteeism ($r = -0.20, p = 0.01$). Respondents who had high health locus of control scores were less likely to take time off from work due to an illness and/or injury. No significant relationships existed between the resiliency characteristics and presenteeism scores. Stress prone characteristics were not associated with presenteeism and absenteeism.

**Coping Strategies**

Regarding Lazarus and Folkman's *Ways of Coping* subscales, a direct relationship was found between the escape-avoidance coping strategy and absenteeism ($r = 0.20, p = 0.01$). Individuals who reported using escape-avoidance coping strategies when dealing with a crisis situation demonstrated higher sick leave rates. No other significant relationships were found between Lazarus and Folkman's remaining coping strategies, absenteeism and presenteeism.

Caverley's distancing coping strategy yielded an inverse relationship to absenteeism ($r = -0.20, p = 0.00$). Therefore, individuals who used this particular coping strategy had lower sick leave rates. There was a direct relationship between the escape-avoidance coping strategy and sick leave ($r = 0.20, p = 0.01$). Respondents who generally used escape-avoidance coping strategies had higher sick leave rates. Caverley's coping strategies did not demonstrate a significant relationship to respondents' presenteeism rates.

**Relationships between personality and coping**

Finally, I wanted to determine whether relationships existed between the resiliency and stress prone personality characteristics and both sets of coping strategies.
Lazarus and Folkman's coping strategies demonstrated four significant relationships with both resiliency and stress-prone personality characteristics. Within the set of resiliency characteristics, direct relationships were found between self-esteem \((r = 0.20, p = 0.00)\), adaptation to change/new situations \((r = 0.20, p = 0.00)\) and Lazarus and Folkman's planful problem solving coping strategy. Respondents who had high self-esteem and adaptation to change/new situation scores were more likely to use planful problem solving coping strategies when dealing with a crisis situation. In addition, the adaptation to change/new situation resiliency characteristic had a direct relationship to Lazarus and Folkman's self-control coping strategy \((r = 0.20, p = 0.00)\). Employees who reported having high adaptation to change/new situation scores typically used self-control coping strategies when handling stressful situations. The stress prone personality characteristic, anger, had an inverse relationship with the self-control coping strategy \((r = -0.20, p = 0.00)\). Individuals who had high anger scores were less likely to use self-control coping strategies.

Caverley's coping strategies demonstrated 16 significant relationships with both resiliency and stress prone personality characteristics. The resiliency personality characteristic, self-esteem, had a direct relationship with Caverley's accepting responsibility coping strategy \((r = 0.30, p = 0.00)\), proactive problem solving coping strategy \((r = 0.40, p = 0.00)\) and empathy \((r = 0.30, p = 0.00)\). Respondents who reported high self-esteem scores generally used accepting responsibility, proactive problem solving and empathy coping strategies as a means of handling crisis situations. An inverse relationship existed between the self-esteem resiliency characteristic and Caverley's escape-avoidance coping strategy \((r = -0.24, p = 0.00)\). Employees with high self-esteem scores were less likely to use escape-avoidance coping strategies when
handling a crisis situation.

The adaptation to change/new situations resiliency characteristic had a direct relationship with Caverley’s accepting responsibility coping strategy ($r = 0.33$, $p = 0.00$), proactive problem solving ($r = 0.40$, $p = 0.00$) and empathy ($r = 0.40$, $p = 0.00$). Similar to individuals who had high self-esteem scores, respondents who reported high adaptation to change/new situation scores typically used accepting responsibility, proactive problem solving and empathy coping strategies when handling stressful events. There was an inverse relationship between the adaptation to change/new situation resiliency characteristic and Caverley’s escape-avoidance coping strategy ($r = -0.20$, $p = 0.00$). Individuals who had high adaptation to change/new situation scores were less likely to use escape-avoidance coping strategies.

Caverley’s distancing coping strategy had a direct relationship with the health locus of control resiliency characteristic ($r = 0.20$, $p = 0.00$). Respondents who used distancing coping strategies when handling crisis situations had higher health locus of control scores. The resiliency characteristic, optimism, had direct relationships with Caverley’s social support coping strategy ($r = 0.20$, $p = 0.00$), accepting responsibility coping strategy ($r = 0.20$, $p = 0.00$), proactive problem solving coping strategy ($r = 0.30$, $p = 0.00$) and empathy coping strategy ($r = 0.30$, $p = 0.00$). Therefore, individuals who had high optimism scores were more likely to use social support, accepting responsibility, proactive problem solving and empathy coping strategies when dealing with a crisis situation. An inverse relationship existed between optimism and Caverley’s escape and avoidance coping strategy ($r = -0.20$, $p = 0.00$). Employees with high optimism scores were less likely to use escape-avoidance coping strategies. For the stress prone personality characteristics, a direct relationship was found between anger, self-control ($r$
= 0.24, p = 0.00) and escape-avoidance (t = 0.24, p = 0.00). Respondents who had high anger scores were more likely to use self-control and escape-avoidance strategies when coping with stressful situations.

Summary of Chapter Five

The findings presented in Chapter 5 provided readers with key results which map out key resiliency characteristics and coping strategies which impact employee health and productivity. Though demographic characteristics such as employee group, occupation, geographic location, age, employee status, gender and employment equity status had varying degrees of influence on employee health and productivity outcomes, there appeared to be other variables at play which were contributing to health and productivity outcomes for respondents.

High levels of workplace stress were associated with heavy workload, lack of sufficient time to complete work assignments/meeting deadlines, organizational restructuring; and working on highly complex and multifaceted Green Leaf Company projects. In particular, heavy workload, lack of sufficient time to complete work assignments/meet deadlines, new work assignments/duties, managing multiple work projects/assignments, and technical malfunctions of work-related equipment (i.e. computers, machinery or tools) had direct relationships to burnout rates. Very high levels of life stress scores were associated with the illness or injury of a close family member. Stress levels associated with loaning money to family members was related to alcoholic beverage consumption, while stress levels associated with managing my work and personal time were related to burnout.

Respondents described the term “occupational resiliency” as being the ability to: cope with stress; adapt to change/new situations; maintain high performance/
productivity; emotionally re-frame a situation; stay healthy; stay strong; and be optimist. Anxiety and anger were deemed key characteristics of stress-prone individuals. Respondents appeared slightly more pre-disposed to having “resiliency” personality characteristics than “stress prone” personality characteristics. In crisis situations, respondents exhibit a higher degree of self-esteem, adaptation to change/new situations, optimism and humour over stress prone personality characteristics such as anxiety and anger.

Fifty-four percent of the crises reported by respondents were personal/life crises while 46% were work-related crises. Lazarus and Folkman’s Ways of Coping scales demonstrated only one significant relationship with employee health, while there were seven significant relationships between Caverley’s coping strategies and employee health outcomes.

In general, 78% of respondents rated their health as being either “good” or “very good”. In terms of overall physical activity, respondents spend, on average, between “1 or 2 times a week” or “3 to 5 times a week” carrying out some form of physical exercise. On average, respondents went to a physician 2.8 times in the past year (excluding annual check-ups and maternity visits). The average sick leave rate for respondents in the Green Leaf Company was approximately 5 days for 2003. Over the past 12 months, 56% of respondents reported that they went to work despite being ill and/or injured. On average, the presenteeism rate for respondents was approximately 7 days. The top 5 reasons employees attended work despite being ill and/injured were: need to meet deadlines; heavy workload; no back ups/lack of staff to fill in while I am absent from work; felt well enough to attend work; and work ethic.
Chapter 6 provides a series of interpretations and analyses of the results from the Occupational Resiliency and Coping study as a means of further investigating the findings in relation to previous studies in the areas of resiliency, coping and stress.
DISCUSSION

Overview of Chapter Six

In this section, an analysis and interpretation of the overall findings of the Occupational Resiliency and Coping study are outlined. By providing further commentary on the findings from this study, opportunities are created to compare and contrast the resiliency and coping results with previous studies conducted on resiliency, coping and stress. In addition, where possible, comparisons were made to other “like” organizations (i.e. public service employers) and population groups in Canada.

Work Stress Experienced

Workplace stressors such as heavy workload, lack of sufficient time to complete work assignments/meeting deadlines, organizational restructuring and working on highly complex and multifaceted Green Leaf Company projects were high level stressors for respondents. In particular, high stress levels associated with heavy workload, lack of sufficient time to complete work assignments/meet deadlines, technical malfunctions of work-related equipment and in particular managing multiple work projects/assignments were related to higher burnout rates in respondents. These key workplace stressors tend to reflect issues concerning the degree of job demands and job/organization-related changes that were experienced by respondents in the past 6-12 months.

Fifty-two percent of Canadian employees surveyed in Health Canada’s 1998 Workplace Health Needs Assessment were either “somewhat” or “very concerned” with their degree of job demands while 33% were concerned with job/organizational-related changes (Canadian Fitness & Lifestyle Research Institute, 1998c). In addition, Canadian employees reported that job demands (aka. work overload) and poor interpersonal relations with co-workers and supervisors were leading them to experience increased
worry and/or stress in the past year (Duxbury & Higgins, 2001; Williams, 2003). The *Opinion Research on Employment in the Public Service* study which examined employee satisfaction in a provincial public service organization outlined that (public service) employees felt stressed because they had too much work coupled with lack of resources resulting from cutbacks and downsizing, and the on-going pressure to meet deadlines (Malatest, 2001).

Respondents’ overall workplace stress score was “medium/high” in terms of work stress experienced in the past 6-12 months. Key demographic characteristics such as gender and employee group were significantly associated with overall workplace stress scores. Bargaining unit members and female employees reported higher workplace stress scores than management and male employees. Levenson et al. (1983) and Long (1998) found that women were more likely than men to report stress as they encountered workplace changes.

In summary, respondents have experienced a moderate to high level of workplace stress within the past 6-12 months which is similar to other Canadian employees in a variety of work settings and industries. High burnout rates were associated with individuals who reported high stress levels when dealing with four specific workplace stressors, while gender and occupation were associated with overall workplace stress scores. Though varying levels of stress were experienced by respondents when dealing with workplace stressors, there were significant relationships between only four work events and one of the employee health outcomes (burnout). Therefore, it appears that work events alone do not create ill health, burnout or decreased productivity; instead, there may be other variables which are influencing how employees perceive and respond to their work environment.
Life Stress Experienced

In addition to dealing with work events, employees may experience various situations or events in their personal life which influence their overall health and productivity. Even though respondents had not experienced a majority of the life events (listed in the survey) over the past 6-12 months, there were still a core set of life events which created some degree of stress for respondents. Key life stressors included: illness or injury of a close family member; dealing with my child's problem(s)/issue(s); renovating my home/personal residence; quarreling with my spouse/partner; feelings that they have not met their personal life goals/expectations; and difficulties in managing my work and personal time. Similar to the overall workplace stress score, the overall life stress score for respondents was "medium" to "high". The overall life stress score was slightly higher than the overall workplace stress score.

Sixty-one percent of Canadians aged 45-54 reported that they have dealt with some degree of life stress over the past year (Statistics Canada, 2004f). These results are not surprising as many Canadian employees are reporting that they are having a difficult time balancing home and personal life responsibilities (Canadian Fitness and Lifestyle Research Institute, 1998c; Williams, 2004). Within the Occupational Resiliency and Coping study, female respondents were more likely to report higher overall life stress scores than male respondents. Canadian women were almost twice as likely than men to experience work/life balance difficulties and feel stressed in both their work and personal life (Canadian Fitness and Lifestyle Research Institute, 1998c; Duxbury & Higgins, 2001; Williams, 2004).

Three life events had significant relationships to employee health outcomes. They were: loaning money to family members; managing my work and personal time; and
personal illness or injury. High stress levels associated with loaning money to family members yielded greater consumption of alcoholic beverages. High burnout rates were associated with respondents who had high stress levels when managing their work and personal time. Finally, high stress levels associated with personal illness and injury were related to fewer visits to a physician. This particular finding seems to indicate that the act of visiting a physician on a more frequent basis when dealing with a personal illness/injury assists in reducing individuals' levels of stress.

In summary, respondents experienced a moderate to high degree of life stress over the past 6-12 months. This is in addition to the moderate to high level of stress they feel from their work environment. However, like workplace stressors, there still appear to be other factors at play, above and beyond the actual event, which are influencing employees' health and productivity.

Resiliency Characteristics

Through open-ended responses, respondents in the Occupational Resiliency and Coping Study defined “occupational resiliency” as follows:

1. **Ability to cope with stress.** Individuals who demonstrate “occupational resiliency” are able to manage daily workplace demands without adversely affecting their personal mental and physical health. They can recognize, deal/cope and successfully overcome workplace stress.

2. **Ability to adapt to change/new situations.** Phase Two respondents reported that employees who can easily adjust to change in the workplace and continue to function well throughout upheaval, change and stress are viewed as demonstrating “occupational resiliency”. These individuals can cope with work change, stress, crisis yet maintain a sense of balance in their life. They can deal with change and stress in the workplace without getting mentally or emotionally overwhelmed.

3. **Ability to maintain high performance/productivity.** For respondents, “occupational resiliency” meant that employees were able to adapt to difficult situations yet continue to be productive – “(the) ability to cope with adverse changes to the working environment and remain productive and satisfied”.
4. **Ability to emotionally re-frame the situation.** Phase Two respondents associated the term “occupational resiliency” with individuals who were able to maintain perspective during times of workplace change. For example, in terms of their emotional reaction to the event, they approached the new situation and saw it as a challenge and not as a threat.

5. **Ability to stay healthy.** When employees are handling a crisis or new situation, respondents reported that “resilient” employees are able to deal with their stress in a healthy and sustainable way – “taking care of oneself – eating right and exercising”.

6. **Ability to stay strong.** “Occupational resiliency” was also connected with the term “strength”. “Resilient” employees were seen as strong individuals who can bounce back after a disruption or a work-related setback. They could easily recover from workplace changes and/or difficult workplace situations.

7. **Ability to be optimistic.** Phase Two respondents incorporated the term “optimism” into their definition of “occupational resiliency” by outlining that employees who are resilient are able to respond to unexpected situations in a positive way and upbeat manner.

In terms of antonyms related to the term “occupational resiliency”, respondents primarily outlined two stress-prone personality characteristics. They were “anxiety” and “anger”. Therefore, these behaviours represented personality characteristics which “occupational resilient” employees would not possess. In the Occupational Resiliency and Coping study, stress prone characteristics were not associated with physical activity, smoking, alcoholic beverage consumption, prescription medication usage, annual physical check ups and visits to a physician. However, respondents who reported higher anger scores typically had higher burnout scores.

Respondents who had high anger scores were more likely to use self-control and escape-avoidance strategies when coping with stressful situations. Anxiety (anxiousness and hurriedness) and anger (hostility, frustration) personality characteristics are often associated with the “Type A” personality style. These characteristics tend to emerge
when Type A individuals experience stress. Studies such as Schaubroeck et al. (1994) indicated that Type A personalities can result in physical ailments such as hypertension and heart diseases as these individuals’ bodies take a long time to return to equilibrium after becoming upset.

In general, respondents were more pre-disposed to displaying resiliency personality characteristics than stress prone personality characteristics. In crisis situations, they tend to exhibit higher degrees of: self-esteem; adaptation to change/new situations; optimism; and humour. Respondents generally displayed low levels of anxiety, anger and health locus of control. Employees who reported high self-esteem, health locus of control and optimism scores were more likely to have higher perceived health scores. Respondents who reported having higher adaptation to change/new situations and optimism scores had lower burnout scores. High physical activity scores were associated with individuals who had high self-esteem, adaptation to change/new situations and optimism scores. Demographic characteristics such as gender, geographic location, employee group did not have a significant influence on personality characteristics (i.e. resiliency and stress prone personality characteristics). Therefore, it appears personality characteristics and behaviours such as optimism, adaptation to change/new situation are not confined to specific groups/cohorts in the workplace setting or in the broader community.

Respondents who reported high self-esteem scores generally used accepting responsibility, proactive problem solving and empathy coping strategies as a means of handling crisis situations. Employees with high self-esteem scores were less likely to use escape-avoidance coping strategies when handling a crisis situation. Branden (1994), Taylor & Brown (1988) and Tennen & Affleck (1993) have indicated that people who
have high self-esteem tend to be psychologically healthy – they tend to have higher self-worth and are able to successfully cope with difficult situations in their work and/or personal lives.

Similar to individuals who had high self-esteem scores, respondents who reported high adaptation to change/new situation scores typically used accepting responsibility, proactive problem solving and empathy coping strategies when handling stressful events. Individuals who had high adaptation to change/new situation scores were less likely to use escape-avoidance coping strategies. Individuals who are able to perceive and adapt to new or changing situations have a better repertoire of coping strategies and are able to strategically use these skills than individuals who are resistant to change. The ability to adapt to change involves being able to perceive and manage one’s emotional reactions as a result of the change. Though “adaptive” individuals may initially feel some degree of anxiety or uncertainty about the new situations or change, they are able to regroup and tailor their actions and behaviours (adapting or being flexible) in relation to the stage of change occurring within their given environment (Bunker, 1997).

Individuals who had high optimism scores were more likely to use social support, accepting responsibility, proactive problem solving and empathy coping strategies when dealing with a crisis situation. Employees with high optimism scores were less likely to use escape-avoidance coping strategies. Optimistic people are those individuals who, in general, expect positive things to happen to them. They tend to be quick in accepting the realities of a challenge in their work or personal life and are less likely to give up in the face of difficulty (Bandura, 1986). Optimists utilize proactive coping strategies (i.e. problem solving) to assist them in pursuing goals. Bandura (1986) recognized that productive individuals within their given situation tend to display optimism, high self-
esteem and internal locus of control. Ellickson & Bell (1990) outlined that internal locus of control was a personal resiliency factor. Individuals who were able to assess the level of control they had in situations and utilize their given strengths (key skills, abilities and knowledge) within the stressful situation where better able to adapt to changes occurring in their life (Ellickson & Bell, 1990).

In the Occupational Resiliency and Coping study, individuals who took responsibility for their health and well-being were less likely to visit a physician and take time off from work due to an illness and/or injury. Respondents who used distancing coping strategies when handling crisis situations had higher health locus of control scores. Gebhardt et al. (2001) extended Rotter's definition of locus of control to the area of personal health responsibility. Health locus of control centers around the degree to which individuals feel that they can personally influence their health and well-being (Gebhardt et al., 2001). Though humour was identified as one of the resiliency characteristics within the Occupational Resiliency and Coping study, it did not yield any significant relationships to employee health and productivity outcomes. In other studies conducted on humour, individuals who used humour to reduce tension, particularly during stressful situations had low levels of stress (Bell, McGhee & Duffey, 1986).

What is interesting to note about these resiliency personality characteristics is the fact that they are not technical/academic-based abilities but qualities and behaviours which are often categorized under the broader heading of “emotional intelligence”. Generally, emotional intelligence is the capacity for individuals to recognize their own feelings and those of others, to self-motivate and manage their emotions (Goleman, 1995). The resiliency personality characteristics which were examined in the Occupational Resiliency and Coping study demonstrate emotional intelligence-based
skills and abilities such as being positive, able to motivate oneself, and to persist in the face of difficulty. Authors such as Daniel Goleman, Peter Salovey, Howard Gardner and Jack Block have recognized that characteristics such as the resiliency characteristics described in the Occupational Resiliency and Coping study expand beyond academic intelligence (aka. IQ). Emotional Intelligence (EI) brings forth a complementary set of competencies which can be learned, developed and brought forth to be used in a variety of settings (i.e. workplace). Block included EI factors such as emotional self-regulation, adaptive impulse control, sense of self-efficacy (self-worth) and social intelligence to describe characteristics of a resilient individual (Block & Kremen, 1996).

Recognizing how resiliency characteristics such as optimism, adaptation to change/new situations and self-esteem influence individuals’ perceptions and responses to stressful situations sheds light on how adept certain people are in handling challenging work and/or life situations -- why some individuals bounce back from personal hardships while other individuals flounder. Salvatore Maddi and Suzanne Kobasa (1984) studied healthy executives and found that “hardy” people were committed to their work, had a sense of control over what happens in their life, and sought challenge in their lives. In addition, studies such as Mayer & Salovey (1995) and Salovey & Mayer (1990) demonstrated that people who have high EI, individuals who understand and manage their own feelings well and utilize the necessary coping strategies, have a strategic advantage over others in terms of how they function in their work and/or personal life. People with well-developed emotional skills are more likely to be satisfied and productive in their work and personal lives, while individuals who cannot regulate their emotions often struggle with productivity issues in their work and/or personal life (Mayer & Salovey, 1995; Salovey & Mayer, 1990).
In summary, respondents appeared more pre-disposed to having resiliency personality characteristics than stress-prone personality characteristics. In crisis situations, they exhibited high degrees of: self-esteem; adaptation to change/new situations; optimism; and humour. These resiliency characteristics align with the concept of emotional intelligence which recognizes factors such as self-worth, optimism and flexibility as additional competencies that assist individuals in better managing their own emotions and managing relationships with others (Goleman, 1995).

Coping Strategies

Two sets of coping strategy clusters were examined within the study: Lazarus and Folkman’s *Ways of Coping Survey* (four subscales); and Caverley’s echo and repertory grid-based coping strategies. As a means of establishing a context around how individuals utilize particular coping strategies, respondents were asked to describe a crisis situation which they personally experienced in the past 6-12 months. By examining crisis events experienced by employees, there was an opportunity to explore how individuals respond to uncertainty, internal confrontation and personal transition issues which are often associated with crisis situations. Of the crisis situations reported by respondents, 54% were personal/life crises while 46% work-related crises which respondents experienced in the past 6-12 months.

When handling a crisis situation, respondents frequently used self-control, social support and planful problem solving coping strategies (as per Lazarus and Folkman’s subscales). Moderate use of escape-avoidance coping were reported by respondents dealing with stressful events. Significant relationships were found between Lazarus and Folkman’s coping strategies, employee health and productivity outcomes. Individuals who generally used planful problem solving coping strategies had low burnout rates.
while individuals who reported using Lazarus and Folkman’s escape-avoidance coping strategies had higher sick leave rates. Respondents who had high self-esteem and adaptation to change/new situation scores were more likely to use planful problem solving coping strategies when dealing with a crisis situation. No other significant relationships were found between Lazarus and Folkman’s coping strategies (self control, social support and planful problem solving) and the remaining health and productivity outcomes (i.e. perceived health, physical activity, presenteeism).

For the Caverley coping strategies, employees showed moderate to high use of empathy, accepting responsibility, proactive problem solving, social support and distancing coping strategies when dealing with crisis situations. Respondents were less likely to use self-control and escape-avoidance coping strategies when handling a difficult situation. Caverley’s coping strategies demonstrated several significant relationships with personality characteristics, employee health and productivity outcomes. For example, employees who generally used escape-avoidance coping strategies in dealing with crisis situations had low self-esteem and were resistant to change. Respondents who typically relied on self-control and escape-avoidance coping strategies appeared to have higher anger scores. Therefore, individuals who displayed high levels of anger tended to run away from the given situation and bottle their emotions (keep their emotions/feelings to themselves).

Empathy as a coping strategy is the capacity to recognize and respond to other people’s feelings and emotions (Werner & Smith, 1992). Respondents who typically utilized empathic coping strategies had lower burnout scores. Werner’s 30 year longitudinal study in Hawaii found that resilient Hawaiians demonstrated empathy by showing appreciation and being nurturing to others (Werner & Smith, 1992). Accepting
responsibility involves individuals taking responsibility for their actions and the role that they play in handling a given crisis situation. This particular coping strategy appears to reflect the actions and thoughts which are associated with locus of control. Though no significant relationships existed between this coping strategy and other variables outlined in this study, it still appears worthy of future research and analysis – mapping out the behaviours and actions associated with locus of control. The ability to problem solve assists individuals in striving to meet their goals and to handle difficult situations (Werner & Smith, 1992; Walsh, 1998). Research suggests that how people problem solve and how they appraise their problem solving abilities are related to psychological adjustment and well-being in one’s life (Heppner, Pretorius, Wei, Lee & Wang, 2002).

Social support is a protective factor which is commonly associated with resiliency (Henderson, 1992; Werner and Smith, 1992; Wolin and Wolin, 1993). Social support implies the interaction of individuals with their environment to form an assistance network that helps them find tangible, emotional and social information that enhances their feelings of attachment/belonging and self-esteem.

High physical health and perceived health scores were associated with individuals who typically used Caverley’s distancing coping strategies when handling a crisis situation. Employees who used the distancing coping strategy were less likely to take time off for an illness and/or injury. Distancing as a coping strategy tends to reflect the ability to psychologically step back/distance from a stressful environment and maintain a healthy boundary from the maladaptive patterns of others (i.e. family, co-workers or supervisor). Resilient individuals appear able to keep from becoming enmeshed in and repeating dysfunctional strategies when handling a variety of work and/or life challenges (Anthony, 1987; Beardslee & Podorefsky, 1988). Employees who reported having high
adaptation to change/new situation scores typically used Lazarus and Folkman's self-control coping strategies when handling stressful situations, while individuals who had high anger scores were less likely to use self-control coping strategies. Respondents who generally used escape-avoidance coping strategies were more likely to frequently consume alcoholic beverages and visit a physician. They were also less likely to access EAP or related counselling services and had high sick leave rates.

In addition to being pre-disposed to having resiliency personality characteristics, respondents appear more likely to use proactive coping strategies when handling difficult situations within the past 6-12 months. Therefore, it appears that resilient employees use the following combination of coping strategies when dealing with crisis situations: problem solving; accepting responsibility; distancing; self-control; social support and empathy. In contrast, stress-prone employees are more likely to use escape-avoidance coping strategies when handling difficult situations. As previously outlined in the interpretation and analysis of resiliency characteristics, many of the coping strategies described above align with emotional intelligence-based competencies. In both sets of coping strategies, escape-avoidance coping strategies were not reported to be used that frequently by respondents when dealing with crisis situations. In general, it appears respondents at the Green Leaf Company are not keen on running away from a crisis but choose to meet challenges head on.

In the Occupational Resiliency and Coping study, women were more likely to use social support coping strategies than their male counterparts. This is similar to findings in Long (1998) where female respondents use social support networks more frequently than men. Female respondents in the resiliency study tended to use self-control and empathy coping strategies more often than male respondents. This finding contradicts Parkes'
(1990) findings that men are more likely to use emotional control/self-control coping strategies than women while Folkman and Lazarus (1980) found no gender differences existed between their emotion focused coping strategies (i.e. seeking social support).

In summary, respondents are able to utilize various coping strategies as a means of taking a thoughtful and analytical approach to rectifying the issues presented before them. They acknowledge their own role in the situation and find ways to personally assist with resolving the problem. Though Lazarus and Folkman’s coping strategies provided insights into the frequency with which individuals use various types of coping strategies, they only showed a limited degree of relationships to employee health and productivity outcomes. Caverley’s coping strategies were able to demonstrate a greater range of significant relationships to personality characteristics, employee health and productivity outcomes. In terms of the new coping strategy, empathy, it appears that respondents are attuned to the social signals of others within their given work setting.

Social Support Network

Key social support networks for employees when they are dealing with stressful workplace situations include: direct supervisors; co-workers/staff members; family (particularly spouses/partners); friends outside of work; and the Green Leaf Company’s management/executive.

Direct supervisors and the Green Leaf Company’s management/executive appeared to provide respondents with technical information and tangible assistance support. In terms of providing support to respondents in crisis situations, direct supervisors were viewed as being helpful in prioritizing activities to help lessen the anxiety surrounding the stressful situation. They primarily provide information and tangible support by offering “technical advice on guidelines and rules”. During a crisis
situation, direct supervisors are described as providing direction and ensuring proper information flows to staff members. For example, "(they) outline information on cause, scope and anticipated duration of the crisis and what is being done to fix the problem or mitigate the impact". In addition, direct supervisors "review the situation, look at possible outcomes and available resources and develop a plan of options to address the situation". What was interesting to note that only in very rare occasions did respondents mention that their direct supervisors provided "mentoring" or "support/encouragement"—"people management skills".

Similar to respondents' direct supervisors, the Green Leaf Company's management/executive offered their past experience and technical knowledge/advice to respondents when dealing with a crisis situation. Respondents reported that the management/executive team offer them "policy information... information based on history and experience that will help solve the issue at hand". They provide background on issues and identify options in handling the crisis situation. Typically, the Phase Two respondents felt that their management/executive team have "either dealt with similar (crisis) situations or are familiar with policies and procedures that I could consider in dealing with the situation".

Respondents described their co-workers/staff members as being able to "pitch in" and "provide support by talking to (me) about the given stressful situation". Co-workers and/or staff members offered advice and described how they have dealt with similar situations in the past. They provided positive feedback and were active listeners—"they are respectful, non-judgmental". Co-workers/staff members were ranked second as a support network for respondents. Phase Two respondents reported that their co-workers/staff members provide moral/emotional support to them during crisis situations. They are
very supportive by actively listening to them and not being judgmental in nature. Co-
workers/staff members share past experiences and different perspectives with
respondents as it pertained to dealing with similar workplace crisis situations.

Family members offer respondents emotional and moral support. In particular,
spouses/partners were the primary family members who employees sought support from
in dealing with workplace crisis situations. They actively listen, provide advice and share
practical experiences from an outside perspective. Family members “make me laugh
which I find the best therapy” and “no matter what happens at work, at the end of the day,
they love and support me”. Spouses/partners assisted respondents in maintaining a
work/life balance perspective. They offered a second sober opinion of the given situation
and provided a listening ear as respondents vented about their stress.

Finally, friends outside of work discussed the crisis situation and offered
emotional support to respondents; for example, “(they) let me vent...allowed for open
discussion in a respectful and non-judgmental way”. Also, friends outside of work
offered respondents with different points of view on the situation. They were seen as an
“objective third party” providing their view on the crisis. Friends outside of the
workplace, were active listeners and offered their thoughts/prayers to respondents. They
let respondents know that “(they) were not alone in dealing with the incident”. Similar to
respondents’ co-workers/staff members, they offered advice and described how they have
dealt with similar situations in the past.

In summary, respondents’ social support networks generally offer a sounding
board/listening ear, an opportunity to discuss the workplace stressful situation(s) and
potential solutions to dealing with stressful events by describing how they have dealt with
similar situations in the past. By seeking social support, respondents appear able to seek
out informational support, tangible support or emotional support when dealing with difficult work and/or life situations.

**Employee Health**

In general, respondents reported that their general state of health was "very good". Seventy-eight percent of respondents stated that their general state of health was "good" or "very good". Compared to a year ago, respondents stated that their health rating is "about the same". In 2003, 66% of Canadians aged 45-54 reported that their general state of health was "good" or "very good" (Statistics Canada, 2004g). The self-rated health score for the Green Leaf Company was 12% higher than the Canadian average for individuals within the same age group. In Table 14, a comparison is made between Canadians aged 45-54 and the Green Leaf Company. Though the Green Leaf Company had a higher percentage of respondents who rated their general state of health as being either "good" or "very good", it was 12% lower than the Canadian average in terms of the percentage of individuals who felt they had "excellent" health.

<table>
<thead>
<tr>
<th>Self-rating</th>
<th>Green Leaf Company (%)</th>
<th>Canadians aged 45-54 (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>9.3</td>
<td>21.5</td>
</tr>
<tr>
<td>Very Good</td>
<td>42.1</td>
<td>34.9</td>
</tr>
<tr>
<td>Good</td>
<td>35.8</td>
<td>31.4</td>
</tr>
<tr>
<td>Fair or Poor</td>
<td>12.8</td>
<td>12.2</td>
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As a collective, respondents reported that over the past year, they sought professional help for the treatment of: musculoskeletal diseases or injuries (21%); “other” (14%); digestive diseases (10%); cardiovascular diseases (8%); and dermatological diseases (8%). “Other” included cancer, allergies/sensitivities and infections. In terms of family history of diseases and illnesses, 39% of respondents outlined that they had a family history of cardiovascular disease, 18% had a family history of musculoskeletal diseases or injuries; 14% had a family history of digestive diseases or respiratory diseases; 11% had a family history of dermatological diseases and 11% reported that they had a family history of “other”.

Approximately 60% of respondents reported that they spend, on average, between “1 or 2 times a week” or “3 to 5 times a week” carrying out some form of moderate to vigorous physical exercise. In a typical week, respondents generally spend at least:

1. Fifteen minutes one or two times a week carrying out vigorous physical activities such as aerobics, using exercise equipment/machines, fast cycling, fast walking, running, and/or swimming;

2. Thirty minutes, one to two times a week, carrying out moderate physical activities such as walking, cycling, recreational swimming, golfing, and/or heavy gardening; and

3. Thirty minutes, three or five times a week, engaging in light physical activities such as taking a stroll, light gardening, housecleaning and/or stretching.

Approximately 47% of Canadians aged 45-54 carry out moderate to vigorous physical activity (Statistics Canada, 2004e). Therefore, the Green Leaf Company is 13% higher than the Canadian average in terms of their physical exercise regime. It was interesting to note that respondents' occupation had a significant effect on physical activity scores. Seventy-four percent of scientific/technical specialists and managers spent twice as much time working out/exercising than business/finance/ research officers, clerical/
administrative support staff and "other" specialists. "Other" included enforcement/correction officers, information technology specialists, trades and operations specialists.

In addition to examining physiological ailments that were reported by respondents, "burnout" (as a mental health outcome) was also examined. The subscale "emotional exhaustion" was used from Maslach's Burnout Inventory. A manifestation of burnout is emotional exhaustion which tends to occur from work overload and unresolved workplace conflicts (i.e. difficulties with co-workers and/or supervisors); thus, making employees feel drained (Maslach, 1993). Some of the attitudes and behaviours associated with individuals who are "burned out" include: negativity; cynicism; detached from job and others in the workplace; feelings of inadequacy in terms of their ability to help others; and inability to cope with the demands of the job or given work assignments (Maslach, 1993).

None of the demographic characteristics which were mentioned in this study had significant relationships to burnout rates. On average, respondents had a low rating of emotional exhaustion. Respondents who generally used empathy and problem solving coping strategies were more likely to have lower burnout rates than those individuals who sporadically used these same strategies when dealing with difficult situations. Resilient employees who demonstrated high adaptation to change/new situations and were optimistic generally had lower burnout scores. Stress prone individuals who displayed anger characteristics and used self-control and escape-avoidance coping strategies had higher burnout scores.

Fifteen percent of respondents reported that they used EAP or related counselling services in the past year. Last year, the Green Leaf Company spent approximately $74,000 on EAP-related counselling services (GlaxoSmithKline, 2004). Primary
counselling concerns brought forth by Green Leaf Company staff were: relationship issues (i.e. marital difficulties, parenting, difficulties with family members, balancing family and work); psychological/emotional problems (i.e. depression, anxiety); and work-related issues (i.e. job-related stress, downsizing, conflict with supervisor) (APEX Corporation's EAP service provider, 2004). These findings are similar to Williams (2003) and Crompton (2003)'s studies on various work and life stressors which respondents have experienced in the past 6-12 months. Respondents who generally used escape-avoidance coping strategies when handling crisis situations were less likely to access EAP or related counselling services for professional assistance. This finding reinforces the notion that individuals who use escape-avoidance coping strategies run away from their problems/issues and are not likely to reach out and seek help from others (social support networks or mental health professionals) as a means of resolving the difficulties which are facing them.

Generally, respondents quit smoking more than one year ago. Thirty-three percent of respondents quit smoking either "less than one year ago" or "more than one year ago". According to Statistics Canada, approximately 47% of Canadians aged 45-54 are deemed former smokers (Statistics Canada, 2004h). Though the Green Leaf Company was 14% lower than the Canadian average in terms of the percentage of former smokers in its population, almost half of the respondents (49%) have never smoked in their entire lives.

Geographic location and occupation significantly influenced respondents' smoking habits. Respondents who were either from the Headquarters, Northern region, Interior region, business/finance/research officers, scientific/technical specialists or managers cohorts quit smoking more than one year ago while respondents from either the Coast region, clerical/administrative support and "other" specialists cohorts quit smoking
less than one year ago. "Other" specialists includes enforcement/correction officers, information technology specialists, trades and operations specialists. In the Occupational Resiliency and Coping study, smoking did not significantly influence employee productivity (absenteeism and presenteeism). However, Canadian Fitness and Lifestyle Research Institute (1998a) and Yolles, Carone & Krinsky (1975) found that cigarette smokers experience 45% more days lost due to illness or injury than non-smokers. These studies allude to the fact that smoking is often attributed to cardiovascular and respiratory diseases such as heart disease and lung cancer.

Approximately 14% of respondents drink alcohol on a monthly basis, while 36% of respondents drink on the weekends. In contrast, 57% of Canadians aged 45-54 drink alcohol on a sporadic yearly basis, 22% of Canadians aged 45-54 are monthly drinkers, while 18% drink on the weekends (Statistics Canada, 2004d). Therefore, respondents from the Green Leaf Company were double the Canadian average in terms of alcohol consumption on a weekend basis. Age, occupation, employment status and employee group influenced alcohol consumption. Respondents under 35 years of age and between 35-54 years of age tend to drink alcohol on a monthly basis whereas respondents who are 55 years or older drink on a sporadic yearly basis. Occupation was significantly associated with alcohol consumption. Business/finance/research officers, clerical/administrative support staff, scientific/technical specialists and "other" specialists tend to consume alcoholic beverages on a monthly basis whereas managers tend to drink alcoholic beverages on the weekends.

This same finding mirrors the results for employee groups. The management cohort tends to consume alcoholic beverages on the weekends while bargaining unit employees such as clerical/administrative support staff and scientific/technical specialists
drink on a monthly basis. Regular employees tend to drink alcohol on a monthly basis whereas casual employees consume alcoholic beverages on sporadic yearly basis. Finally, individuals who generally use escape-avoidance coping strategies when dealing with crisis situations tend to consume alcoholic beverages on a more frequent basis. Therefore, employees who use escape-avoidance coping strategies tend to find methods (such as drinking) which assist them in avoiding the stressful situation which they are currently experiencing.

Fifty-four percent of respondents reported that they used prescription medication(s) in the past year. In 2003, approximately $1,200,000 was spent on drug claims for the Green Leaf Company (GlaxoSmithKline, 2004). The Green Leaf Company’s top 5 drug claims were in following disease/injury categories: mental health disorders (i.e. depression); cardiovascular disease (i.e. hypertension); respiratory diseases (i.e. asthma), endocrine and related disorders (i.e. metabolic disorders, diabetes) and musculoskeletal diseases and injuries (i.e. arthropathies and related disorders) (GlaxoSmithKline, 2004). Three out of the five disease/injury clusters (mental health disorders, musculoskeletal diseases or injuries and cardiovascular disease) were health conditions which respondents sought professional help for within the past year.

Respondents who used prescription medication(s) over the past year took an average of 6.3 sick days last year, while employees who did not report using prescription medication only took an average of 3 sick days in 2003. Canadian Fitness and Lifestyle Research Institute (1998a) reported similar findings which indicated that prescription medication is significantly associated with increased sick leave rates. Like the Occupational Resiliency and Coping study, Canadian workers who reported taking prescription medications were more likely than those not taking medication to have lost
six or more days from work in the previous year (Canadian Fitness and Lifestyle Research Institute, 1998a). Therefore, though employees are taking medication to alleviate the stresses and strains associated with diseases and injuries such as mental health disorders, cardiovascular disease and respiratory diseases, their prescription medication usage appears to be linked to higher rates of absenteeism.

Fifty-six percent of respondents reported that they had their regular annual physical check-up in the past year. Gender, age, employment equity status and occupation significantly influenced regular physical check-ups. Female employees, respondents between the ages of 45-55+, employment equity group members, managers and clerical/administrative support staff were more likely to attend their annual physical check up than male employees, respondents less than 45 years of age, non-employment equity group members, business/finance/research officers and “other” specialists.

In general, 79% of respondents outlined that they visited a physician (i.e. family physician and/or medical specialist) in the past year. On average, respondents went to a physician 2.8 times in the past year for reasons not relating to an annual check-up and/or maternity visits. Eight-one percent of Canadians aged 45-54 visited a medical doctor in the past 12 months (Statistics Canada, 2004a). Gender, employment equity status and employee group significantly influenced number of visits to a physician. Female respondents, employment equity group members and bargaining unit employees were more likely to visit a physician than male respondents, non-employment equity group members and management staff. Employees who demonstrated high internal health locus of control were less likely to visit a physician. Therefore, a sense of personal control over one’s health appeared to influence the number of visits to a medical doctor/specialist.
Employee Productivity

In general, employers are recognizing that management of productivity (absenteeism and presenteeism) is an important piece of building a healthier workplace. No demographic characteristics such as age, gender, geographic location were associated with employee productivity.

Approximately two million dollars was spent on sick leave last year within the Green Leaf Company (GlaxoSmithKline, 2004). In 2003, the average sick leave rate per respondent was 5 days. Table 15 outlines the various comparison groups in relation to the Green Leaf Company sick leave rate.

<table>
<thead>
<tr>
<th>Table 15</th>
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<tbody>
<tr>
<td>Sick days taken per employee by key comparison groups*</td>
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<tr>
<td>Comparison Groups</td>
</tr>
<tr>
<td>Canadian employees</td>
</tr>
<tr>
<td>Public administration employees</td>
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<tr>
<td>Unionized workplace</td>
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<tr>
<td>45-54 year old employees</td>
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<td>&gt; 14 years of service (tenure)</td>
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*Note. all figures have been rounded to the nearest whole number

The sick leave rate for the Green Leaf Company (5 sick days per employee) was substantially lower than all other key comparison groups in Canada (i.e. Canadian workforce, unionized workplace, public administration sector).

Gender and occupation did significantly influence sick leave rates. In the Occupational Resiliency and Coping study, female respondents took an average of 8 sick days while male respondents took an average of 4 sick days last year. Despite the fact
that Statistics Canada found similar results in that women were more likely than men to take one to ten days off work in a year, the Green Leaf Company’s sick leave rate for both male and female respondents was lower than the Canadian average. Canadian male workers lost approximately 7 days due to a personal illness or injury while Canadian female workers lost approximately 9 days due to an illness or injury (Statistics Canada, 2004b).

In relation to occupation, the average sick leave rate per respondent ranged from approximately 2 sick days for managers to 11 sick days for clerical/administrative support staff. Baumgartel & Sobol (1959) and Yolles et al. (1975) found that employees who held higher positions within the organizational hierarchy (i.e. managers) were less likely to be absent than individuals who held positions lower down in the organizational hierarchy. In 2003, the Canadian average sick leave per occupation ranged from 4 sick days for managers to 8 sick days for clerical/administrative support staff (Statistics Canada, 2004b). Though the number of days lost due to a personal illness or injury for Canadian managers was double the sick leave rate of the Green Leaf Company, respondents in the clerical/administrative support cohort had a 38% higher sick leave rate in 2003 than the Canadian average for clerical/administrative support staff. Respondents who had high internal health locus of control and used distancing coping strategies appeared to have lower sick leave rates compared to individuals who typically used escape-avoidance coping strategies when handling a difficult situation.

Presenteeism measures the ability for employees to concentrate on work despite the possible impact of pain and other health problems on job performance and work productivity (Lowe, 2002b; Lowe, 2002c). Other aspects of “presenteeism” include employees putting in excessive work hours as an expression of commitment or a way of
coping with job insecurity within the workplace (Lowe, 2002c). In addition, presenteeism is often a response to job stress and being overworked (Lowe, 2002c). Ailments such as tension headaches, migraines, allergies and asthma/breathing difficulties are common sources of presenteeism (Worklife Report, 2002; Ceniceros, 2001).

Over the past year, 56% of respondents reported that they have gone to work despite being ill and/or injured. On average, the presenteeism rate for respondents was approximately 7 days. The top 5 reasons employees came to work despite being ill and/or injured was: the need to meet deadlines; heavy workload; no back ups; felt well enough to work; and work ethic.

The number one reason expressed by respondents for coming to work despite being ill and/or injured was the need to meet deadlines. Respondents reported that they are constantly working under tight timelines in the various projects and assignments they are working on either for their management/executive team or clientele. The number two ranked reason for presenteeism was heavy workload. Respondents reported that they had a large volume of work to personally handle on a daily basis. The third ranked reason reported by employees was the perception that there were no back-ups in their given work units and/or their colleagues were carrying out additional work duties. Therefore, if respondents wanted to take a sick leave as they recuperate from an illness and/or injury, they felt that they were unable to find and secure additional resources that could assist them on a given work assignment/project while they were absent from work. The fourth reason reported by respondents was the self-perception that they were well enough to come to work.

The fifth reason centered around respondents' sense of professionalism, duty, commitment and pride to their work, work unit and/or clientele. Often described as the
“Puritan” or “Protestant” work ethic, North Americans (over the years) have typically held on to this value/assumption that by demonstrating how hard one’s work, this may lead to personal, professional and financial success (Peterson & Wilson, 2004). Research on employee work ethic has noted a direct relationship between a strong work ethic and the propensity to come to work (Feldman, 1974; Goodale, 1973). Presenteeism did not demonstrate any significant relationships to other variables which were outlined in the Occupational Resiliency and Coping study; thus, it appears that more work needs to be done in defining and developing a more robust measure which allows researchers to analyze how productive employees are while they are at work.

Summary of Chapter Six

In summary, respondents have experienced a moderate to high level of workplace stress within the past 6-12 months which is similar to other Canadian employees in a variety of work settings and industries. Respondents experienced a moderate to high degree of life stress over the past 6-12 months. However, like workplace stressors, there still appears to be other factors at play, above and beyond the actual event, which are influencing employees’ health and productivity.

Respondents appeared more pre-disposed to having resiliency personality characteristics than stress-prone personality characteristics. In crisis situations, they exhibited high degrees of: self-esteem; adaptation to change/new situations; optimism; and humour. These resiliency characteristics align with the concept of emotional intelligence which recognizes factors such as self-worth, optimism and flexibility as additional competencies that assist individuals in better managing their own emotions and managing relationships with others (Goleman, 1995). In general, respondents are able to utilize various coping strategies as a means of taking a thoughtful and analytical approach...
to rectifying the issues presented before them. They acknowledge their own role in the situation and find ways to personally assist in resolving the problem.

Though Lazarus and Folkman’s coping strategies provided insights into the frequency in which individuals use various types of coping strategies, they only showed a limited degree of relationships to employee health and productivity outcomes. Caverley’s coping strategies were able to demonstrate a greater range of significant relationships to personality characteristics, employee health and productivity outcomes. In terms of the new coping strategy, empathy, it appears that respondents are attuned to the social signals of others within their given work setting.

Social support networks generally offered respondents a sounding board/listening ear, an opportunity to discuss the workplace stressful situation(s) and potential solutions to dealing with stressful events by describing how they have dealt with similar situations in the past. By seeking social support, respondents appear able to seek out informational support, tangible support or emotional support when dealing with difficult work and/or life situations.

Approximately 47% of Canadians aged 45-54 carry out moderate to vigorous physical activity (Statistics Canada, 2003). Therefore, the Green Leaf Company was 13% higher than the Canadian average in terms of their physical exercise regime. In general, respondents were on par with the Canadian average for individuals aged 45-54 as it pertained to visiting a medical doctor in the past 12 months. Though respondents were demonstrating results which were on par or above the Canadian average, alcohol consumption in the Green Leaf Company appeared to be a concern as respondents were double the Canadian average in terms of alcohol consumption on a weekend basis. Presenteeism did not demonstrate any significant relationships to other variables which
were outlined in the Occupational Resiliency and Coping study; thus, it appears that more work needs to be done in defining and developing a more robust measure of productivity levels at the workplace.
CONCLUSION AND RECOMMENDATIONS

Overview of Chapter Seven

The Occupational Resiliency and Coping study was intended to identify key occupational resiliency and coping characteristics which influence employees’ personal health and productivity in a public service work setting. This type of research was intended to determine which characteristics might explain why some employees are more or less resilient, given the same stressful situation. In addition, this study identified which coping strategies are used when employees respond to workplace stress, change and crisis. The findings from this study were also intended to serve a dual purpose from both an academic and practitioner perspective.

From an academic perspective, my research was intended to contribute to the fields of organizational behaviour and health psychology by identifying a set of psychological measures that can be used in future organizational-based research studies on stress, resiliency and coping. From a practitioner’s vantage point, the objectives of this study were: to provide findings on occupational resiliency and coping which can be used by the Green Leaf Company to assist in health and wellness-related employee program development and strategic human resource management planning; and to design a web-based survey tool that public service organizations can use to examine occupational resiliency and coping within their given work settings. Within this research study, there was a move beyond mere “satisfaction” of their work environment and the nature of organizational change by examining and comparing employees’ perceptions of workplace resiliency and coping in relation to “hard measures” pertaining to organizational
efficiency. This meant accessing corporate statistical reports on health-care claims (sick leave rates).

Key Findings & Conclusions

The following is a set of key findings from the Occupational Resiliency & Coping Study:

Demographics

1. Respondents were primarily male employees who were 46 years of age.

2. Average job tenure was 17 years of service in the APEX Corporation and 16 years of service working in the Green Leaf Company.

3. Respondents were typically regular full time employees who worked in areas located outside of the headquarters region.

4. Female respondents reported higher workplace and life stress scores than their male counterparts.

5. Last year, female respondents took approximately 8 sick days while male respondents took approximately 4 sick days.

6. The average sick leave rate per employee ranged from approximately 2 sick days for managers to approximately 11 sick days for clerical/administrative support staff.

Work Stress Experienced

1. High levels of stress were associated with: heavy workload; lack of sufficient time to complete work assignments/meeting deadlines; organizational restructuring; and working on highly complex and multifaceted Green Leaf Company projects.

2. Medium levels of stress were associated with: lack of resources to perform work assignments; new work assignments/duties; leading or managing a work project; managing multiple work projects/assignments; and technical malfunctions of work-related equipment (i.e. computers, machinery or tools).

3. Low levels of stress were experienced when dealing with demanding/confrontational client(s) or disrespectful co-worker(s) or supervisor(s).

4. The average overall workplace stress rating was “medium” to “high”.
5. Heavy workload, lack of sufficient time to complete work assignments/meet deadlines, new work assignments/duties, managing multiple work projects/assignments, and technical malfunctions of work-related equipment (i.e. computers, machinery or tools) had direct relationships to burnout rates.

6. Bargaining unit members reported higher overall workplace stress scores than managers.

Life Stress Experienced

1. The average overall life stress score for respondents was “medium” to “high”.

2. Very high levels of stress were associated with the illness or injury of a close family member.

3. High levels of stress were associated with: dealing with my child’s problem(s)/issue(s); renovating my home/personal residence; and quarreling with my spouse/partner.

4. Medium levels of stress were associated with: feeling that I have not met my personal life goals/expectations; and difficulty managing my work and personal time.

5. Stress levels associated with loaning money to family members was related to alcoholic beverage consumption, while stress levels associated with managing my work and personal time were related to burnout.

Personality Characteristics

1. Respondents described the term “occupational resiliency” as being the ability to: cope with stress; adapt to change/new situations; maintain high performance/productivity; emotionally re-frame a situation; stay healthy; stay strong; and be optimistic.

2. Anxiety and anger were deemed key characteristics of stress-prone individuals.

3. Respondents appeared slightly more pre-disposed to having “resiliency” personality characteristics than “stress prone” personality characteristics.

4. In crisis situations, respondents exhibited a higher degree of self-esteem, adaptation to change/new situations, optimism and humour over stress prone personality characteristics such as anxiety and anger.

5. Individuals who reported having high self-esteem, internal health locus of control and high optimism scores were more likely to have higher perceived health scores (perception of their general state of health).
6. Employees who had high self-esteem, adaptation to change/new situations and optimism scores had higher physical activity scores (increased frequency of carrying out either light, moderate and/or vigorous physical activity).

7. Respondents who reported having higher adaptation to change/new situations and optimism scores had lower burnout rates.

8. Individuals who reported higher anger scores typically had high burnout rates.

Coping Strategies

1. Fifty-four percent of crisis events reported by respondents were personal/life crises while 46% were work-related.

2. Lazarus and Folkman’s planful problem solving, self-control and social support coping strategies were the primary approaches used when handling a crisis situation.

3. Caverley’s empathy, distancing, social support, proactive problem solving and accepting responsibility coping strategies were the primary approaches used by respondents when dealing with crisis events.

4. Lazarus and Folkman’s *Ways of Coping* scales demonstrated only one significant relationship with employee health, while there were seven significant relationships between Caverley’s coping strategies and employee health outcomes.

5. Individuals who used either Lazarus and Folkman’s or Caverley’s escape-avoidance coping strategies had high sick leave rates.

6. Employees who used Caverley’s distancing coping strategy were less likely to take time off for an illness and/or injury.

7. Lazarus and Folkman’s coping strategies demonstrated 4 significant relationships with both resiliency and stress-prone personality characteristics while Caverley’s coping strategies demonstrated 16 significant relationships with these same personality characteristics.

Social Support Networks

1. When dealing with a workplace crisis, the top 5 social support networks for respondents were: direct supervisor; co-workers/staff members; family members; Green Leaf Company’s management/executive; and friends outside of work.
Employee Health

1. In general, 78% of respondents rated their health as being either "good" or "very good".

2. When asked to compare their general health now to one year ago, the average response was 3.19; thus, reflecting a rating of "about the same".

3. In terms of overall physical activity, respondents spend, on average, between "1 or 2 times a week" or "3 to 5 times a week" carrying out some form of physical exercise.

4. Respondents generally had a low burnout rate.

5. Fifteen percent of respondents reported that they made use of the APEX Corporation’s EAP or related counselling services in the past 12 months.

6. On average, respondents reported that they quit smoking more than a year ago.

7. Respondents generally drink alcoholic beverages on a monthly basis.

8. Fifty-four percent of respondents used prescription medications in the past year.

9. Fifty-six percent of respondents reported that they had their regular annual physical check-up in the past year.

10. On average, respondents went to a physician 2.8 times in the past year (excluding annual check-ups and maternity visits).

11. Respondents who used prescription medication(s) over the past year took an average of 6 sick days in 2003 while employees who did not use prescription medication only took an average of 3 sick days.

12. Occupation was significantly associated with physical activity scores.

13. Geographic location and occupation significantly influenced smoking habits.

14. Age, occupation, employment status and employee group influenced alcoholic beverage consumption.

15. Employee group was associated with burnout rates.

16. Gender, age, employment equity status and occupation had significant effects on annual physical check up scores and the number of visits to a physician.
Employee Productivity

1. The average sick leave rate per respondent in the Green Leaf Company was approximately 5 days for 2003.

2. Over the past 12 months, 56% of respondents reported that they went to work despite being ill and/or injured.

3. On average, the presenteeism rate for respondents was approximately 7 days.

4. The top 5 reasons employees attended work despite being ill and/or injured were: need to meet deadlines; heavy workload; no back ups/lack of staff to fill in while I am absent from work; felt well enough to attend work; and work ethic.

5. There were no significant relationships between individual work and life stressors, overall workplace and life stress scores with productivity outcomes.

6. Employees who had high health locus of control scores were less likely to take time off from work due to an illness and/or injury.

“Resilient” individuals were generally employees who had high self-esteem, were adaptive to change/new situations, were optimistic and had an internal health locus of control. Resilient employees were those individuals who believed in their ability to control their emotions (in a positive way) within a new or ever-changing work environment. “Resilient” employees frequently used a combination of problem solving, self-control (Lazarus & Folkman), accepting responsibility, empathy and distancing coping strategies in managing and overcoming crisis situations. These characteristics and behaviours appeared to be associated with high perceived health ratings, increased duration and frequency of physical activity, decreased visits to a physician, low burnout rates, low absenteeism rates and decreased consumption of alcoholic beverages and prescription medication.

“Stress prone” individuals were typically employees who had high anger levels (i.e. aggressive, loss of temper, frustration). These employees used escape-avoidance coping strategies when they are dealing with stressful situations. These characteristics
and behaviours appeared to be associated with high burnout rates, increased alcoholic beverage consumption, increased visits to a physician, decreased EAP usage, increased prescription medication usage and higher absenteeism rates.

In summary, the Occupational Resiliency and Coping study provided a comprehensive assessment and analysis of the human stress response, resiliency and coping. Though certain demographic characteristics (i.e. gender, occupation), workplace stressors and life stressors were associated with some degree of ill health or lack of productivity in the workplace; ultimately, it appears that key personality characteristics, coping strategies and the presence of social support networks in individual employee's lives influences how events are perceived and handled. Furthermore, it is these key characteristics and coping strategies which also impact employee health and productivity outcomes. Therefore, how individuals perceive a given situation will determine whether they will be able to thrive in the face of difficulty or struggle to handle the situation presented before them.

Recommendations

The following section outlines a series of recommendations for organizational behaviour (OB) and health psychology researchers, counsellors and human resource management professionals in terms of the application of the key learnings presented in the Occupational Resiliency and Coping study. Figure 4 outlines how researchers and practitioners can interact and influence how employees and employers build healthier and more productive work environments.
Implications for future organizational-based research

As many organizations, particularly public service workplaces, continue to grapple with how to build a healthier, safer and more productive work environment, the need for future research within occupational stress, resiliency and coping presents itself in a variety of areas. Overall, continued study of occupational stress, resiliency and coping is important for several reasons. First, studies of this nature help identify some of the key personality characteristics and coping strategies which influence health and productivity. Second, they provide additional findings which assist researchers in deconstructing the multifaceted and complex human stress response. Third, occupational stress may be one of the main preventable ailments and thereby, continued research on
stress, resiliency and coping can potentially provide possibilities for stress interventions (Ivancevich, Matteson, Freedman & Phillips, 1990; Cooper & Cartwright, 1994). Fourth, as policy makers are increasingly realizing, stress-related physical and mental health disorders account for an enormous and growing percentage of disability and employee benefit payments to employees (Watson Wyatt, 2000).

For future research, the Occupational Resiliency and Coping study could be applied to other work settings as a means of further investigating and testing the reliability and validity of the Resiliency and Coping survey instrument. In addition, multiple regression multivariate statistics and path analysis may be used to perform specific comparisons between variables to pinpoint the sources of significant difference within a future study on resiliency, stress and coping. The use of multiple regression statistical techniques can assist researchers in predicting scores from multiple correlations between various independent and dependent variables. For example, the independent/predictor variables within a future study on resiliency, stress and coping could include:

1. **Work environment.** Factors within the immediate workplace which influence employee behaviour such as workload, hierarchy, goals;

2. **Job design.** Aspects/dimensions of jobs which impact employees' motivational levels;

3. **Personal characteristics/demographics.** Personal identifiers of employees such as gender, occupational level, employment status;

4. **Job events.** Workplace events/issues which elicit the perception of stress within an individual employee;

5. **Personality type.** Psychological forces which create a person's individual characteristic patterns of behaviour, thoughts and feelings; and

6. **Coping strategies.** Methods of handling/dealing with stressful life/workplace events.
The dependent/criterion variable could include employee’s degree/level of workplace stress which consists of indicators such as burnout, general health, absenteeism, and health care claims (i.e. Workers’ Compensation claims, Long Term Disability, Employee Assistance Program usage).

For path analysis, researchers could use this technique if they are interested in measuring employees on several variables within the areas of resiliency, stress and coping as a means of analyzing the causal structure – the pathways by which key variables influence one another. Path analysis first involves making a diagram which connects key variables. Figures 5 and 6 outline potential diagrams for investigating and analyzing “resiliency” and “stress prone” personality characteristics and associated coping strategies which impact and influence employee health and productivity.
Figure 5

Resilient employee profile: Mapping out key personality characteristics and coping strategies in relation to employee health and productivity outcomes

**Independent Variables**

Demographics
- employee group
- gender
- age
- occupation
- geographic location
- employee status
- employment equity status

Key Workplace Stressors
- heavy workload
- lack of sufficient time to complete work assignments/meet deadlines
- new work assignments
- managing multiple projects/assignments
- technical malfunction of equipment

Life Stress Experienced
- loaning money to family members
- managing my work/personal life

**Moderators/Intervening Variables**

Resiliency Characteristics
- self-esteem
- adaptation to change/new situations
- optimism
- health locus of control

Coping Strategies
- accepting responsibility
- empathy
- problem solving
- seeking social support
- distancing
- self-control

Social Support Networks
- direct supervisor
- co-workers/staff members
- family members
- management/executive
- friends outside of work

**Dependent Variables**

General Health
- Perceived health
- Physical activity
- Visits to a physician
- Burnout rate
- Alcohol consumption
- Prescription medication usage

Productivity
- Absenteeism
Figure 6

Stress prone employee profile: Mapping out key personality characteristics and coping strategies in relation to employee health and productivity outcomes

**Independent Variables**
- Demographics
  - gender
  - occupation
  - employee group
  - age
  - occupation
  - geographic location
- Key Workplace Stressors
  - heavy workload
  - lack of sufficient time to complete work assignments/meet deadlines
  - new work assignments
  - managing multiple projects/assignments
  - technical malfunction of equipment
- Life Stress Experienced
  - loaning money to family members
  - managing my work/personal life

**Moderators/Intervening Variables**
- Stress Prone Characteristics
  - anger
- Coping Strategies
  - escape/avoidance
- Social Support Networks
  - no social support networks established

**Dependent Variables**
- General Health
  - Burnout rate
  - Alcoholic beverage consumption
  - Visits to a physician
  - EAP usage
  - Prescription medication usage
- Productivity
  - Absenteeism
My study on Occupational Resiliency & Coping could be re-designed as a longitudinal research study, perhaps in the same Green Leaf Company. Long term comparisons would allow researchers to track the effects of changes in the types of stressors bearing on various cohorts within the given workplace. Coping strategies would also be examined on an on-going basis in order to shed light on the utilization and effectiveness of coping responses and their associated influence on managing stress responses.

Though resiliency characteristics such as optimism, self-esteem, health locus of control and adaptation to change/new situations demonstrated significant relationships to employee health and productivity outcomes, there may be more protective factors which impact and influence these same outcomes. Perhaps future studies on resiliency characteristics will seek to test out some of the emotional intelligence and human strength characteristics (i.e. integrity/perseverance, fairness/equity) to determine whether these conceptual “resiliency” characteristics demonstrate significant relationships to such outcomes as sick leave, burnout and physical activity. Beyond investigating resiliency, stressors and coping strategies, there appears to be limited research on the impact of disability management programs on the human stress response – how case management and rehabilitation (i.e. “return to work”) influence how employees handle the stress associated with being seriously ill or injured and away from work for a significant amount of time.

*Implications for Human Resource Management*

From a human resource management perspective, the Occupational Resiliency and Coping study was intended to provide findings which can aid employers in designing targeted strategies and programs to create healthier workplaces. In general, this study
recognized that both employees and the employer have a joint responsibility in developing interventions that improve health and productivity. The following is a set of potential strategies which managers may use in building resiliency within their work units.

1. Recognize what types of stressors (workplace and/or personal life events) are contributing to employee health and productivity problems and take steps to reduce these sources of stress. Potential stressors may be: lack of control over one's work, increased workloads and job insecurity. For example,

   a. Job redesign (via vertical loading of a given position). This strategy has been associated with improving employees' sense of well-being. Vertical loading (aka. job enrichment) gives employees a sense of ownership, responsibility and accountability for their work. Strategies to assist HR professionals and managers redesign jobs are: providing on-going attainment of new knowledge and skills; including a variety of different activities in each job to draw on different employees' strengths; and giving employees freedom, discretion and control over key aspects of their job, such as resources and scheduling (Herzberg, 2002).

   b. Stress-management training for employees at all levels of the organization. Training sessions on stress may assist individuals in knowing how to recognize, understand and effectively manage one's stress response (Cooper & Cartwright, 1994; Clarke & Cooper, 2000; Ivancevich et al., 1990).

2. Provide access to learning resources such as self-assessments, lunch and learns and seminars/workshops on issues such as time management, coping skills training and development, substance abuse, grief and loss/bereavement as a means of educating employees at all levels of the organization about various facts and strategies in handling stressful situations.

3. Enhance existing employee benefit programs (i.e. organizational-based disability management programs and employee assistance programs). For example,

   a. Disability management programs can work with fellow HR colleagues within the given organization to focus on organizational and demographic variables which may be contributing to disability such as job design, motivation, commitment and demographics. By recognizing and tracking how factors such as age, job satisfaction contribute to short term and long term disability issues, this will help organizations to take a preventative approach to handling illness and injury in the workplace.
4. Establishment of on-going partnerships between the given organization and either academic institutions or health research firms as a means of conducting on-going research and analysis on the state of employee health and in the workplace. Organizations will have an opportunity to identify strengths and limitations within the organization in terms of health, productivity and well-being on a regular basis in order to guide future HR strategies, health-related programs and policies. In addition, researchers are provided with an opportunity to expand the existing understanding of topics such as resiliency, coping and stress as a means of designing better measurements to analyze these concepts and/or recommend enhanced strategies and interventions for building a healthier and more productive workforce.

5. Implementation of “resilient”-based or EI-based competencies into existing HR processes such as recruitment, training and personal development. In addition to possessing academic/technical knowledge and skill sets, it appears through this study and the work of Goleman, Salovey and Mayer that resiliency-based or emotional intelligence-based characteristics are just as important for employees to have in dealing with various aspects of their work and personal lives. Employees working in public service work environments need to possess competencies which allow them to cope with massive, rapid changes, design innovative policies, programs and services for citizens and manage huge amounts of information. Consulting firms such as the Hay Group have designed competencies such as self-awareness, self-management, social skills which tap into these resiliency and EI-based behavioural characteristics and abilities.

a. **Recruitment and Selection.** In addition to screening and evaluating applicant’s education, technical skills and prior experience, competencies such as social awareness, adaptability and organizational awareness can be incorporated into the selection process to assess how individuals handle difficult situations and manage their emotions when stressful incidents occur. Behavioural event interviewing can be used in the screening process – this involves interviewees’ recalling prior events in which they demonstrated a particular competency or set of competencies (Goleman, 1995).

b. **Training and Development.** While hiring the next generation of “resilient” employees, HR professionals and managers can also be training and developing existing employees within the organization. By training and developing employees on how to manage change/new situations and how to discover and fully utilize their strengths within the workplace, this provides opportunities for employees to exhibit adaptability and perhaps a greater sense of confidence when handling change or crisis situations within their work and/or personal life. On-site practice, coaching and mentoring are some of the main methods in which resiliency-based competencies can be developed and enhanced in the workplace (Goleman, 1995).
6. Encourage the development of social support networks which provide emotional and tangible assistance for employees. Within the Occupational Resiliency and Coping study, social support networks and resources were important factors in how individuals perceived and responded to stressful situations within their work and/or personal life. Potential strategies may include: expanding the use of collaborative, multidisciplinary work teams and developing peer support networks (i.e. peer counselling); and utilizing mentoring and coaching relationships to build and enhance resiliency and emotional intelligence within the workplace. Supervisors can also encourage social support by promoting employee interaction with community partners and professional organizations in the form of networking and attendance at annual meetings or conferences; thus, supervisors are reinforcing that employees have resources and support networks established to assist in future troubleshooting when the need may arise.

7. Development and implementation of a health and productivity management business case for your organization. A business case allows organizations to map out a framework for successfully implementing various key strategies and initiatives (i.e. preventative health/wellness strategies) which relate to building a healthier and more productive workforce.

8. Finally, none of the above mentioned strategies can be effectively designed and implemented unless the management/executive team of the organization endorses and supports the commitment to build a healthy and more productive workplace. By establishing management/executive champions, this demonstrates leadership and recognition that employees' health, productivity and well-being are valued and an important component of providing quality services and programs to the community at large.

Implications for Counselling Psychology

For counsellors and other mental health professionals, key learnings from the Occupational Resiliency and Coping study can assist therapists in moving individuals from reactive coping (dealing with past or present stressful situations) to preventative coping (preparing individuals to handle uncertain events in the future). From a macro perspective, Employee Assistance Program (EAP) service providers and counsellors as part of their potential expanded services may develop and offer preventative models, strategies/approaches for building healthier and more productive workplaces. For example, counsellors can promote the use of informal and formal peer support networks
(i.e. peer counselling, mentoring, coaching) within organizational settings. Employee Assistance Programs can broaden their scope of counselling services to include educational resources and awareness sessions on topics such as stress, burnout, depression, anger and anxiety. In addition, EAPs may include resiliency and emotional intelligence-based counselling intervention strategies which build psychological and emotional health in employees. For example, counsellors can work with managers/supervisors and individual employees in building resiliency and emotional intelligence in such areas as: leading or developing others; empathy; organizational awareness; self-control; conflict management; communication and achievement orientation; self-awareness; service orientation; initiative and teamwork (Goleman, 1995).

In conjunction with supervisors/managers, counsellors can create emotional and/or instrumental support networks where employees who are in similar positions and/or who have faced similar challenges can share experiences with one another in a safe and trusting environment in order to bring about a personal work and/or life change (i.e. preventing or minimizing burnout, handling an organizational change or downsizing).

From a micro perspective, the use of counselling interventions such as cognitive behavioural therapy (CBT) may be one major approach counsellors can use to build resiliency in their clients. CBT assumes that most problematic behaviours and emotions have been learned and that they can be modified by new learning (Cormier & Cormier, 1998).

This counselling approach teaches clients self management skills that they can use to control their lives by dealing with present and future problems without continued therapy. CBT offers a wide range of techniques and procedures that are rooted in a
variety of learning theories. In general, therapists conduct a behavioural assessment by gathering unique and detailed information about a client’s problem and focuses on the client’s current functioning and life conditions. In a collaborative fashion, the client and therapist develop precise therapeutic goals and a treatment plan which is action oriented in nature (e.g. use of homework, modeling, problem solving, coaching, cognitive restructuring and feedback). On-going objective evaluation is used to measure the relative success of these techniques (Cormier & Cormier, 1998).

For example, stress inoculation is part of CBT, it involves developing anxiety-reducing techniques in managing one’s stress response. The goal of stress inoculation is to develop a procedure that will allow individuals to quickly return to a calm state. Strategies and techniques such as problem solving, relaxation and praise allow clients to build up a repertoire of self-help skills and to become reflective by looking at the given situation in a realistic light without feeling overwhelmed or anxious (Meichenbaum, 1985).

Strength conversation (aka. dependable strengths) can also be used to help clients uncover their strengths and assets that they have minimized, taken for granted, or that are beyond their level of awareness. A dependable strength is a skill, talent or quality that has been developed over a lifetime, from childhood to the present (when you did something well, enjoyed doing it and felt proud of it) (D. de Rosenroll, personal communication, July 5, 2000). This additional technique could be used as part of the broader stress intervention which allow clients to recognize and utilize their basic strengths and achieve their full potential in their work and/or personal life (D. de Rosenroll, personal communication, July 5, 2000). In addition, counsellors have the potential to serve as members of client’s social support networks by providing tangible assistance and
emotional support to individuals who are struggling to cope with difficult situations in life.

Summary of Chapter Seven

This chapter was intended to provide an overall summary of the key findings from the Occupational Resiliency and Coping Study. It appears that resilient employees were those individuals who believed in their ability to control their new or ever-changing work environment in a positive way. “Resilient” employees frequently used a combination of problem solving, self-control (Lazarus & Folkman), accepting responsibility, empathy and distancing coping strategies in managing and overcoming crisis situations. These characteristics and behaviours appeared to be associated with high perceived health ratings, increased duration and frequency of physical activity, decreased visits to a physician, low burnout rates, low absenteeism rates and decreased consumption of alcoholic beverages and prescription medication. Stress prone individuals were typically employees who had high anger levels (i.e. aggressively, loss of temper, frustration). These employees used escape-avoidance coping strategies when they are dealing with stressful situations. These characteristics and behaviours appeared to be associated with high burnout rates, increased alcoholic beverage consumption, increased visits to a physician, decreased EAP usage, increased prescription medication usage and higher absenteeism rates.

Finally, a series of recommendations and proposed strategies were presented which acknowledged the roles of organizational behaviour and health psychology researchers, counselling professions and human resource management practitioners in researching and/or implementing programs which tap into various facets of the human stress response. The recommendations presented in Chapter 7 subscribed to a scholar-
practitioner perspective which recognizes the need for future research in the areas of stress, resiliency and coping as well as the need to design and implement policies, programs and practices which assist employers and their employees.
REFERENCES


APPENDIX A:
PERMISSION TO PROCEED LETTER FROM THE APEX CORPORATION

April 2, 2004

To: Whom it May Concern

University of Victoria
Office of the Vice-President, Research
Human Research Ethics Committee

Re: Natasha Caverley’s Application for Ethical Review of Human Research

At this point in time, I would like to advise the Human Research Ethics Committee at the University of Victoria that the XXXX grants permission to Miss Natasha Caverley (PhD Candidate, University of Victoria) to conduct her dissertation study on Occupational Resiliency and Coping in the Government of British Columbia.

XXXX, we have recognized the need to examine workplace stress and other occupational health-related issues. Particularly, how employees are dealing with coping with organizational change in their given workplace. To help us understand and address this, the XXXX has agreed that Natasha Caverley can conduct her research study within a designated public service organization.

XXXX
APEX Corporation
APPENDIX B:
PERMISSION TO PROCEED LETTER FROM THE GREEN LEAF COMPANY

April 20, 2004

To: Whom it may concern

Re: Natasha Caverley’s Occupational Resiliency & Coping Study

At this point in time, I would like to advise the University of Victoria that the Green Leaf Company grants permission to Miss Natasha Caverley (PhD Candidate, University of Victoria) to conduct her dissertation study on Occupational Resiliency and Coping.

We have recognized the need to examine workplace stress and other occupational health-related issues. Particularly, how employees are dealing with coping with organizational change in their workplace. To help us understand and address this, the Green Leaf Company has agreed that Natasha Caverley can conduct her research study within our organization.

XXXX
Green Leaf Company
APPENDIX C:
GENERAL OVERVIEW OF STUDY FOR ALL GREEN LEAF COMPANY STAFF

Occupational Resiliency and Coping Study

One of the issues that has been identified as being extremely important to our employees and managers is workplace health and how they have been dealing with workplace stress. To help us understand and address this, we have agreed with the University of Victoria to sponsor a study on occupational resiliency and coping. Natasha Caverley, PhD Candidate from the University of Victoria is conducting this research.

The purpose of this study is to develop a better understanding of occupational resiliency and coping characteristics in our Green Leaf Company. Specifically, Natasha’s research will examine how people who are more resilient and have better coping strategies respond to workplace stress and change. The information/findings from this study may be used to assist in the Green Leaf Company’s wellness-related employee program development and strategic human resource management planning. Natasha will also provide our Green Leaf Company with a presentation of the Phase Two (web-based questionnaire) findings.

The study will be conducted in two phases.

Stage One: Interviews with up to 15 participants from the Green Leaf Company.

Based on a pre-determined set of criteria, employees will be asked to volunteer to participate in an audio-taped face to face interview (in confidence) with the researcher. Selection criteria such as employee group (bargaining unit or management employees) and employee status (regular or casual employees) will be utilized by Natasha to ensure that she obtains a representative sample of the employees which comprise the Green Leaf Company. Participants will be asked a series of critical incident-styled questions and open-ended questions regarding how they have dealt with organizational changes during the past 6-12 months. Each interview will be conducted by Natasha on an individual basis in an offsite office. Participants who volunteer to participate will be interviewed twice. Each interview should last up to 60 minutes. The first interview is a face to face audio-taped interview. The second interview will be conducted on the telephone. This second interview is intended for participants to review the method in which Natasha has collected their responses to ensure it properly reflects their experience.

Stage Two: Web-based questionnaire sent to a randomly selected group of Green Leaf Company staff.

The occupational resiliency and coping questionnaire will be comprised of questions based on the stage one interviews as well as reliable and validated standardized instruments which are recognized questionnaires within the field of health psychology and organizational behaviour. The web-based survey will take approximately 25 minutes to complete.
Natasha is bound by the University’s Ethics Committee to treat all information with the highest standards of confidentiality. You may verify the ethical approval of this study by contacting the Associate Vice-President, Research at the University of Victoria (XXX-XXX-XXXX).

The targeted launch date of the Occupational Resiliency and Coping Study is June 2004.

Please feel welcome to contact the researcher and/or her co-supervisors at the University of Victoria.

- Natasha Caverley, PhD Candidate, Educational Psychology & Leadership Studies
  Telephone Number: (XXX) XXX-XXXX or by email at: XXXX
- Dr. Honore France, Professor, Educational Psychology & Leadership Studies
  Telephone Number: (XXX) XXX-XXXX or by email at: XXXX
- Dr. Bart Cunningham, Professor, School of Public Administration
  Telephone Number: (XXX) XXX-XXXX or by email at: XXXX

If you require further clarification about the research study, please contact Natasha.

Sincerely,

XXXXXXXX
APPENDIX D:
REQUEST FOR PARTICIPATION E-MAIL INVITATION

Dear XXXXX,

Mapping Out Occupational Resiliency and Coping in a Public Service Work Setting

One of the issues that has been identified as being extremely important to your company is workplace health and how staff have been dealing with workplace stress. To help the company understand and address this, I will be conducting a research study on occupational resiliency and coping.

You are being invited to volunteer as a potential interviewee for Phase One of my study entitled, “Mapping Out Occupational Resiliency and Coping in a Public Service Work Setting”.

I am a Doctoral Candidate in the Department of Educational Psychology & Leadership Studies at the University of Victoria. As a graduate student, I am required to conduct research as part of the requirements for an Interdisciplinary PhD degree in Organizational Studies. It is being conducted under the supervision of Dr. Honore France & Dr. Bart Cunningham. You may contact my co-supervisors at:

- Dr. Honore France, Professor, Educational Psychology & Leadership Studies
  Telephone Number: (XXX) XXX-XXXX or by email at: XXXX
- Dr. Bart Cunningham, Professor, School of Public Administration
  Telephone Number: (XXX) XXX-XXXX or by email at: XXXX

The purpose of this study is to develop a better understanding of occupational resiliency and coping characteristics in a public service work setting. Specifically, my research will examine how people who are more resilient and have better coping strategies respond to workplace stress and change. The information/findings from Phase One of the study will assist me in the design of a web-based questionnaire on occupational resiliency and coping which will be administered to a randomly selected group of Green Leaf Company employees. The survey findings from Phase Two of this study can then be used to assist in wellness-related employee program development and strategic human resource management planning at your company. I will also provide your organization with a presentation of the Phase Two (web-based questionnaire) findings.

Though I am presenting results from Phase Two (web-based questionnaire) of the study to the company, I am not in a position to influence decision-making and/or planning as it pertains to employee health and wellness within your organization.

Through stratified random sampling conducted by Statistics Inc., you were selected based on your employee status (auxiliary or regular employee) and employee group (bargaining unit or management level employee). This selection criteria was used to ensure that a representative sample of employees which comprise this province-wide organization were asked to participate in Phase One of the study.
If you agree to voluntarily participate in this research, your participation will include being asked a series of critical incident-styled questions and open ended questions regarding how you have dealt with workplace stress and organizational changes during the past 6-12 months.

You are being asked to take up to a total of two (2) hours out of your work schedule to participate in the interview. You will be interviewed twice. Each interview should last up to 60 minutes. The first interview is a face to face audio-taped interview to ask you a series of critical incident-styled questions and open ended questions regarding how you have dealt with organizational changes during the past 6-12 months. The second interview will be conducted on the telephone. This second interview is for you to review the method in which I have collected your responses to ensure it properly reflects your experience.

For interviews within the XXXX area, sessions will take place at the XXXX in a private/confidential meeting room. For interviews outside of XXXX, sessions will take place within your given community at a professional offsite office so as to ensure privacy and confidentiality of the interview.

Other planned uses of this data include the use of the data for my dissertation and for academic publications. For my dissertation and academic publications, identification of the organization is not required. Such publications are used for scientific purposes only.

Data from this study will be disposed of after the completion of dissertation and academic publications pertaining to this study. The destruction date for this data will be December 31, 2004.

You may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Associate Vice-President, Research at the University of Victoria (XXX-XXX-XXXX).

If you are interested in participating in the interview process or require further clarification about the research study, please contact Natasha Caverley directly at (XXX) XXX-XXXX or by email at: XXXX
I thank you in advance for your interest and participation in this study!

Sincerely,
Statistics Inc. (sent on behalf of Natasha Caverley, M.Ed, C.C.C., Ph.D Candidate (Organizational Studies), University of Victoria)
APPENDIX E: PARTICIPANT CONSENT FORM

Mapping Out Occupational Resiliency and Coping in a Public Service Work Setting

You are being invited to participate in a study entitled, “Mapping Out Occupational Resiliency and Coping in a Public Service Work Setting” that is being conducted by Natasha Caverley. Natasha is a Doctoral Candidate in the Department of Educational Psychology & Leadership Studies at the University of Victoria and you may contact her if you have further questions by phone at (XXX) XXX-XXXX or by email at: XXXX

As a graduate student, I am required to conduct research as part of the requirements for an Interdisciplinary PhD degree in Organizational Studies. It is being conducted under the supervision of Dr. Honore France & Dr. Bart Cunningham. You may contact my co-supervisors at:

- Dr. Honore France, Professor, Educational Psychology & Leadership Studies
  Telephone Number: (XXX) XXX-XXXX or by email at: XXXX
- Dr. Bart Cunningham, Professor, School of Public Administration
  Telephone Number: (XXX) XXX-XXXX or by email at: XXXX

The purpose of this study is to develop a better understanding of occupational resiliency and coping characteristics in a public service work setting. Specifically, my research will examine how people who are more resilient and have better coping strategies respond to workplace stress and change. The information/findings from Phase One of the study will assist me in the design of a web-based questionnaire (Phase Two) on occupational resiliency and coping which will be administered to a randomly selected group of Green Leaf Company employees. The survey findings from Phase Two of this study can then be used to assist in wellness-related employee program development and strategic human resource management planning at your company. I will also provide your organization with a presentation of the Phase Two (web-based questionnaire) findings.

Though I am presenting results from Phase Two (web-based questionnaire) of the study to the company, I am not in a position to influence decision-making and/or planning as it pertains to employee health and wellness within your organization.

You are being asked to participate in this study because you have met the selection criteria and self-selected to volunteer to participate in a face to face audio-taped interview with the researcher. Through stratified random sampling conducted by Statistics Inc., you were selected based on your employee status (auxiliary or regular employee) and employee group (unionized or management level employee). This selection criteria was used to ensure that a representative sample of employees which comprise this province-wide organization were asked to participate in Phase One of the study.

If you agree to voluntarily participate in this research, your participation will include being asked a series of critical incident-styled questions and open ended questions regarding how you have dealt with workplace stress and organizational changes during the past 6-12 months.
You are being asked to take up to a total of 2 hours out of your work schedule to participate in the interview. You will be interviewed twice. Each interview should last up to 60 minutes. The first interview is a face to face audio-taped interview to ask you a series of critical incident-styled questions and open ended questions regarding how you have dealt with organizational changes during the past 6-12 months. The second interview will be conducted on the telephone. This second interview is for you to review the method in which the researcher has collected your responses to ensure it properly reflects your experience.

- Demographic information will be collected as a means of interpreting the data. However, for reporting purposes, your name, initials and other identifying characteristics will not be connected to your responses. Your identity will remain CONFIDENTIAL.
- No copies of the transcripts or interview notes will be given to your employer.
- If at any point, you elect to withdraw from the study, you may do so without any consequences or any explanations. If you withdraw from the study, your data will not be used in any part of the data analysis and interpretation.
- Your participation is completely voluntary.
- Your decision to participate, whether yes or no, will not affect your employment in any way.
- You can refuse to answer any of the questions put to you throughout the interview process.

If at any time, the questions which I am posing are causing you any stress and/or discomfort, the interview session will cease. Your data will not be used for data analysis and interpretation. I will provide you with the contact number for the service provider of the APEX Corporation’s Employee Assistance Program for confidential, professional counselling. (Contact -- XXXX: XXX-XXXX).

Other planned uses of this data include the use of the data for my dissertation and for academic publications. For my dissertation and academic publications, identification of the organization is not required. Such publications are used for scientific purposes only.

Data from this study will be disposed of after the completion of dissertation and academic publications pertaining to this study. The destruction date of this data will be December 31, 2004.

You may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Associate Vice-President, Research at the University of Victoria (250-472-4362).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher.

_________________________________  ___________________________  _____________
Name of Participant                        Signature                        Date
In addition, this second signature below also indicates that you have agreed to be audio-taped for this interview session.

| Name of Participant | Signature | Date |

A copy of this consent will be left with you, and a copy will be taken by the researcher.
APPENDIX F:
PHASE ONE FIRST INTERVIEW - PROTOCOL FOR OPEN-ENDED INTERVIEWS
WITH RESEARCH PARTICIPANTS

Introduction

1a) Purpose of the study: To determine and analyze what the key occupational resiliency and coping characteristics are that impact and influence an employee’s general health in a public sector work setting.

Focus: To examine how work-related stressors interact and impact employees’ degree of occupational resiliency within the workplace through critical incident-styled questions and open-ended interviewing with you.

1b) Use of information: The interview portion of the study will aid me in the creation of a web-based questionnaire for phase two of the study. Overall, the research findings from this study are intended to provide the organization with information to assist with health and wellness-related program planning.

Confidentiality of responses. My agreement with _____________________________ (print name) is that no copies of transcripts or interview notes will be given to the company. At no time will you be identified by name, initials or other identifying characteristics in your responses in research reports or published documents.

Note. Though demographic information will be collected, it is a means for me to interpret the data from the interview sessions.

1c) Request for audio taping of interview.

The audio tapes used in this session will be stored in my office cabinet under lock and key during the duration of the study. Data from this study will be disposed of after the completion of dissertation and academic publications pertaining to this study. The destruction date of this data will be December 31, 2004.

Note. If participant agrees to be audio-taped during the interview, he/she is to sign the second signature line of the consent form which pertains to audio taping.

Rapport building

I am going to ask you some demographic questions as well as specific questions regarding your job responsibilities.

- Years of age?
- Are you a regular or casual employee?
- How many people report directly to you?
- How long have you been in your current position?
How many years have you worked in the APEX Corporation? (your cumulative service as a casual, co-op, full-time, part-time, and/or seasonal employee);

How many years have your worked in the Green Leaf Company? (your cumulative service as a casual, co-op, full-time, part-time, and/or seasonal employee);

How many sick days did you take in 2003?

Are you a full-time or part-time employee?

Are you a member of a bargaining unit/association?

**Critical Incident-Styled Questions**

I am going to ask you to describe four stressful situations which happened to you within the past 6-12 months.

"SITUATION"

AB

CD

Definition: “Personal situation” – a non-work related event

- Please think of two stressful situations (one work situation “A” and one personal situation “B”) which happened to you that had a successful outcome.
  - List a descriptor of each situation on the cue cards in front of you.

- Please think of two stressful situations (one work situation “C” and one personal situation “D”) which happened to you that had an unsuccessful outcome.
  - List a descriptor of each situation on the cue cards in front of you.

Let’s begin with the scenarios in which you had a successful outcome.

**Successful Outcome**

**Work Situation “A”**
- What happened at the time of the incident?
- Who was involved?

**Personal Situation “B”**
- What happened at the time of the incident?
- Who was involved?

Ok. Let’s discuss the scenario in which you had an unsuccessful outcome.

**Unsuccessful Outcome**

**Work Situation “C”**
- What happened at the time of the incident?
- Who was involved?
Personal Situation “D”

- What happened at the time of the incident?
- Who was involved?

I am now going to have a conversation with you regarding the similarities and differences between the four scenarios. I will ask you to make comparisons in groups of three.

- In what ways are “A” and “B” similar to each other and different from “C”?

Good. This will be the interview format for this portion of the interview. From the set of four cue cards, I am going to ask you to describe similarities and differences of these scenarios in various combinations of three. I want you to tell me one or more ways in which you can put two of them together so that they are like each other and different from the third.

- Tell me something about two of the scenarios within the cue card set that make them different from a third in how you handled the incident.

Coping

In the next section of the interview, I will be asking you to describe how you, personally, handle stress in the workplace.

Pair #1

- In general, when you have handled a stressful work-related situation well, how do you feel?
- In general, when you have not handled a stressful work-related situation well, how do you feel?

Pair #2

- What types of actions are you demonstrating when you are “coping well” with a stressful work-related situation?
- What types of actions are you demonstrating when you are “not coping well” with a stressful work-related situation?

Pair #3

- When others are “coping well” in the workplace, what do you most admire about them?
- When others are “not coping well” in the workplace, what do you least admire about them?

Resiliency

The final section of the interview involves discussing personal characteristics and behaviours of individuals dealing with workplace stress.

Personal Characteristic: A distinguishing trait or quality.
**Behaviour:** An action or response to one's environment.

Before we commence this portion of the interview, what does the term “resiliency” mean to you?

On the sheet of paper in front of you, list as many words as possible which you feel describe the term “resiliency”.

I am now going to have a conversation with you regarding the similarities and differences between six people. Similar to our discussion of stressful work-related and personal situations, I will ask you to make comparisons in groups of three.

- Please think of three people that you know quite well either in your personal or work life who handle workplace stress very well.
  - List the first name of each individual on the cue cards in front of you.

- Please think of three people that you know quite well either in your personal or work life who do not handle workplace stress very well.
  - List the first name of each individual on the cue cards in front of you.

"PEOPLE"
ABC
DEF

**Crisis**

- Tell me something about two of the individuals within the cue card set that make them different from a third in the way they deal with a crisis.
- In what way are two of the individuals within the cue card set similar to each other and different from a third in terms of how they interact with people during a crisis?

*Definition of “crisis”: a turning point; a personal tragedy, emotional upheaval or a state of uncertainty in one’s life.*

**Change**

- Tell me something about two of the individuals within the cue card set that make them different from a third in how they approach new situations.
- In what way are two of the individuals within the cue card set similar to each other and different from a third in terms of how they interact with people in new situations?

After listing constructs...

**Preferences**

While you have been describing similarities and differences between the various individuals outlined in the cue card set, I have written down your responses in the form of
phrases. Based on the various comments you have made so far, I am now going to ask you about your personal preferences in relation to the characteristics which you have outlined in your interview responses.

[Note. Based on constructs elicited from the earlier interview responses on resiliency]

- Which do you think is a better quality of a top performer in the workplace, people who are “X” or people who are “Y”?
- Which do you think is a quality of a poor performer in the workplace, people who are “X” or people who are “Y”?

[Repeat for all constructs listed from the interviewee’s responses]

Feedback/Debriefing

As mentioned at the beginning of the interview, the responses that you have provided will be used in the design and development of a web-based questionnaire on resiliency and coping for phase two of the study. The interview questions were developed and structured in a way to elicit your perceptions, values and feelings on workplace stress. The resiliency definition exercise was for you to begin thinking about resiliency characteristics for that particular section of the interview. Also, as there are many definitions of the term “resiliency” within the literature, I wanted to find out from you what your personal definition is for this particular term. In addition, your responses have allowed me to understand your perceptions around resiliency and coping characteristics.

After our interview session, I will transcribe our interview so we can have one final discussion about your responses before I commence phase two of the study. I will contact you in the next week to ten days to arrange a telephone interview. The second interview is for you to review the method in which I collected your responses to ensure it properly reflects your experience. This interview will take up to 60 minutes (maximum).

Transcription and interview notes will not be given to the Green Leaf Company. At no time will you be identified by name, initials or other identifying characteristics in your responses in research reports or published documents. The audio tapes used in this session will be stored under lock and key during the duration of the study. The tapes will be destroyed after the completion of the study.

Before we conclude today’s interview session, do you have any questions and/or comments regarding the interview or the broader Occupational Resiliency and Coping Study?

Thank you for participating in this portion of the study!

In you have any additional questions and/or comments, please feel free to contact me at (XXX) XXX-XXXX or by email at: XXXX
Note. If a participant demonstrates any verbal or non-verbal signs of distress during the interview process, I will stop the session immediately. I will provide them with the contact number for the APEX Corporation's Employee Assistance Program for confidential, professional counselling. (Contact -- XXXX: XXX-XXXX).
APPENDIX G:
PHASE ONE SECOND INTERVIEW (ONE-ON-ONE TELEPHONE INTERVIEW) - FOLLOW UP

After our first interview session, I transcribed our interview so we could have one final discussion about your responses before I commence Phase Two of the study. This second interview is for you to review the method in which I collected your responses to ensure it properly reflects your experience.

*(Review findings from echo-based and repertory grid questions)*

- Do you have any additional comments to add to your interview responses?

Before we end the session, I have two final questions for you.

- Who do you seek support from if you are dealing with work-related stress incidents?
  - How does the individual(s) help you in dealing with your stress?

**Thank you for your participation!**

The next phase of the study will be the design and administration of a web-based survey on resiliency and coping at the company. Employees in the organization will be randomly selected to participate in this final portion of the study.

Again, if you have any questions regarding the Occupational Resiliency and Coping Study, feel free to contact me at (XXX) XXX-XXXX or by email at: XXXX

*Note. If a participant demonstrates any verbal or non-verbal signs of distress during the interview process, I will stop the session immediately. I will provide them with the contact number for the APEX Corporation's Employee Assistance Program for confidential, professional counselling. (Contact -- XXXX: XXX-XXXX).*
### Appenidix H: Repertory Grid Sheet - Sample

<table>
<thead>
<tr>
<th>Elements</th>
<th>Similarities</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cue Cards: AB-C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
----Original Message-----
From: XXXX
Sent: September 2, 2004 4:15 PM
To: All Green Leaf Company Employees
Subject: Employee Participation on the Occupational Resiliency and Coping Survey

Earlier this year, the executive agreed to sponsor Natasha Caverley, PhD Candidate at the University of Victoria, in her study on occupational resiliency and coping. The results from the study will help us better understand how people who are more resilient and have better coping strategies respond to workplace stress and change. Natasha will provide our company with a presentation of her overall findings. The information/findings from this study will then be used to assist in Green Leaf Company wellness-related employee program development.

The study is being conducted in two stages - with stage one complete (interviews to develop a web-based survey). The second stage of the project is slated to start next week and will be a web-based questionnaire sent to a randomly selected group of Green Leaf Company staff (approximately 1,000 employees). The occupational resiliency and coping questionnaire will be comprised of questions based on the stage one interviews as well as reliable and validated standardized instruments which are recognized questionnaires within the field of health psychology and organizational behaviour. The web-based survey will take approximately 25 minutes to complete.

As this is a Green Leaf Company sponsored initiative - employees that receive an invitation to complete the survey are encouraged to do so. However, completion of the survey is on a voluntary basis.

Please note - Natasha is bound by the University's Ethics Committee to treat all information with the highest standards of confidentiality. If you have any concerns, you may verify the ethical approval of this study by contacting the Associate Vice-president, Research at the University of Victoria (XXX-XXX-XXXX).

If you require further clarification about the research study, please contact Natasha directly <<mailto:XXXX>>.

XXXX
Green Leaf Company
Phone: (XXX)XXX-XXXX

APPENDIX I:
COURTESY E-MAIL REGARDING THE PHASE TWO SURVEY
APPENDIX J:
PRINT OUT VERSION OF WEB-BASED QUESTIONNAIRE

Occupational Resiliency & Coping

WELCOME!

One of the issues that has been identified as being extremely important to your company is workplace health and how staff have been dealing with workplace stress. To help the organization understand and address this, I will be conducting a research study on occupational resiliency and coping.

You are being invited to participate in Phase Two of the study entitled, “Mapping Out Occupational Resiliency and Coping in a Public Service Work Setting” that is being conducted by Natasha Caverley, Doctoral Candidate at the University of Victoria.

I am a Doctoral Candidate in the Department of Educational Psychology & Leadership Studies at the University of Victoria. As a graduate student, I am required to conduct research as part of the requirements for an Interdisciplinary PhD degree in Organizational Studies. It is being conducted under the supervision of Dr. Honore France & Dr. Bart Cunningham. You may contact my co-supervisors and I at:

- Natasha Caverley, PhD Candidate, Educational Psychology & Leadership Studies
  Telephone Number: (XXX) XXX-XXXX or by email at: XXXX
- Dr. Honore France, Professor, Educational Psychology & Leadership Studies
  Telephone Number: (XXX) XXX-XXX or by email at: XXXX
- Dr. Bart Cunningham, Professor, School of Public Administration
  Telephone Number: (XXX) XXX-XXXX or by email at: XXXX

The purpose of this study is to develop a better understanding of occupational resiliency and coping characteristics in a public service work setting. Specifically, my research will examine how people who are more resilient and have better coping strategies respond to workplace stress and change. The data from this survey will be used to identify occupational resiliency and coping characteristics which contribute to employee health (physical and mental health). The survey findings from Phase Two of this study can then be used to assist in wellness-related employee program development and strategic human resource management planning at your company. I will also provide your organization with a presentation of the Phase Two (web-based questionnaire) findings.

Though I am presenting results from Phase Two of the study to the company, I am not in a position to influence decision-making and/or planning as it pertains to employee health and wellness within your organization.

This survey will take approximately 25 minutes to complete. Statistics Inc. is administering this survey to a randomly selected group of 1,027 Green Leaf Company employees. Although Statistics Inc. will collect the data, this survey is not being conducted under the XXXY. The use of the data is governed by the University of Victoria Human Research Ethics Committee (HREC).

- Survey results will only be released in the form of statistical summaries (tables and graphs) that will not allow any individual to be identified.
- When you submit your survey, your name will not be connected to your answers in any way and your identity will remain CONFIDENTIAL.
- If at any point, you elect to withdraw from the study, you may do so without any consequences or any explanations. If you withdraw from the study, your data will not be used in any part of the data analysis and interpretation.
- Your decision to participate, whether yes or no, will not affect your employment in any way.
- Your participation is voluntary.
- You can refuse to answer any of the questions put to you throughout the survey.
Other planned uses of this data include the use of the data for my dissertation and for academic publications. For my dissertation and academic publications, identification of the organization is not required. Such publications are used for scientific purposes only.

Data will be stored on a password-protected computer. The data from this study will be disposed of after the completion of dissertation and academic publications pertaining to this study. The destruction date for this data will be December 31, 2004.

You may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Associate Vice-President, Research at the University of Victoria (XXX-XXX-XXX).

Other individuals that may be contacted regarding this study include: Statistics Inc. at XXXX or by calling (XXX) XXX-XXXX.

Responses are requested on or before September 22, 2004.

I thank you in advance for participating in this study!

Sincerely,
Natasha Caverley, PhD Candidate (Organizational Studies)
Educational Psychology & Leadership Studies, University of Victoria

By clicking on the AGREE button below, this indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher.
SECTIO\[\text{n ONE: DEMOGRAPHICS}

This following set of questions are to better understand your employee background. This information is intended to assist in the interpretation of the data within this survey.

1. How many years have you worked for the APEX Corporation (your cumulative service as an auxiliary, co-op, full-time, part-time and/or seasonal employee)?

2. How many years have you worked for the Green Leaf Company (your cumulative service as an auxiliary, co-op, full-time, part-time and/or seasonal employee)?

3a. Do you have employees reporting directly to you? Yes/No

3b. If so, how many people directly report to you?

4. Please indicate if you are a full time or part time employee.

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<tr>
<td></td>
<td>Full time</td>
<td>Part time</td>
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<tr>
<td>employee</td>
<td>employee</td>
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5. Are you a member of an employment equity group (i.e. aboriginal person, visible minority, person with a disability, or a woman in an underrepresented occupation)? Yes/No

6a. Who do you seek support and guidance from when handling a workplace crisis? Definition: Workplace crisis: an emotional upheaval or state of uncertainty in one's work life, a workplace tragedy or a work-related turning point.

6b. How does each individual which you listed above help you deal with a workplace crisis?

7. What does the term “occupational resiliency” mean to you? Please describe in ten (10) words or less.
1. Which events happened to you at work in the last 6-12 months? For each answer that applies to you, please indicate the level of stress that you felt when you experienced the event.

<table>
<thead>
<tr>
<th>Event</th>
<th>No stress</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
<th>Not Applicable/Did not experience event in the past 6-12 months</th>
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<tr>
<td>Heavy workload</td>
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<td>Lack of sufficient time to complete work assignments/meet deadlines</td>
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<td>Dealing with demanding/confrontational client(s)</td>
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<td>Dealing with disrespectful co-worker(s) or supervisor(s)</td>
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<td>Lack of respect/disregard for my work</td>
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<td>Lack of resources to perform my work assignment(s)</td>
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<td>Afraid of being laid off (i.e. job security)</td>
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<td>Organizational restructuring (i.e. downsizing, office move)</td>
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<td>Handling a workplace hazard/occupational safety incident at my worksite</td>
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<td>New work assignments/duties</td>
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<td>Illness or injury of a co-worker/staff member</td>
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<td>Change to a different line of work</td>
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<td>Death of a colleague/staff member</td>
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<td>Co-worker or supervisor is fired</td>
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<td>Co-worker or supervisor is laid off</td>
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<td>Co-worker or supervisor retires</td>
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<td>Interpersonal conflict with co-worker, supervisor or staff member</td>
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<td>Leading or managing a work project</td>
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<td>Working on a highly complex and multi-faceted Green Leaf Company project</td>
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<tr>
<td>Working on a highly complex and multi-faceted inter-organization project</td>
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<td>Moving to a new job</td>
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<td>Managing multiple work projects/assignments</td>
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<td>Working for a new supervisor</td>
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<td>Going through a job competition process</td>
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<td>Technical malfunction of work-related equipment (i.e. computers, machinery or tools)</td>
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<td>Putting forth a Treasury Board submission for approval</td>
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<td>Managing a budget</td>
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<td>Other (please describe)</td>
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2. Which events happened to you at home or outside of work in the last 6-12 months? For each answer that applies to you, please indicate the level of stress that you felt when you experienced the event.

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<tr>
<td>No stress</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Very High</td>
<td>Not Applicable/ Did not experience the event in the past 6-12 months</td>
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<td>experienced</td>
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- Death of spouse/partner
- Divorce/marital separation/relationship break-up
- Spouse/partner begins or stops working
- Death of a close family member
- Marriage
- Personal injury or illness
- Birth or adoption of child
- Major change in financial state
- Change in home/residence
- Illness or injury of a close family member
- Death of a close friend
- Loaning money to family members
- Renovating my home/personal residence
- Son and/or daughter leaving home
- Dealing with my child’s problem(s)/issue(s)
- Recovering from a surgical procedure/operation
- Caring of an elderly parent(s)
- Dispute with my ex-spouse/partner
- Interpersonal conflict in my volunteer activities (i.e. community board of directors, sport/recreation teams)
- Applying for a mortgage or loan
- Dealing with a household emergency (i.e. basement flood, house fire)
- Purchasing a new mode of transportation (i.e. car, truck or motorcycle)
- Quarrelling with my spouse/partner
- Feeling that I have not met my personal life goals/expectations
- Managing my work and personal time
- Learning a new sport and/or hobby
- Handling the probate process for a family member’s estate
- Other (please indicate)
In point form, please describe a crisis situation that occurred in your life within the last 6-12 months.

1. What happened at the time of the incident?
2. What was it about that incident that made it stressful for you?
3. How did you handle the situation you described above?

Please read each item below and indicate, by using the following rating scale, to what extent you used it in the situation you have just described.

- 1. Not Used
- 2. Somewhat Used
- 3. Used Quite a Bit
- 4. Used a great deal
- 5. Not Applicable

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1. I tried to keep my feelings to myself.
2. Kept others from knowing how bad things were.
3. Tried not to burn my bridges, but leave things open somewhat.
4. I tried not to act too hastily or follow my first hunch.
5. I tried to keep my feelings from interfering with other things too much.
6. I thought about how a person I admire would handle this situation and used that as a model.
7. I tried to see things from the other person’s point of view.
8. Talked to someone to find out more about the situation.
9. Talked to someone who could do something concrete about the problem.
10. I asked a relative or friend I respected for advice.
11. Talked to someone about how I was feeling.
12. Accepted sympathy and understanding from someone.
13. I got professional help.
14. Wished that the situation would go away or somehow be over with.
15. Hoped a miracle would happen.
16. Had fantasies or wishes about how things might turn out.
17. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication, etc.
18. Avoided being with people in general.
19. Refused to believe that it had happened.
20. Took it out on other people.
21. Slept more than usual.
22. I knew what had to be done, so I doubled my efforts to make things work.
23. I made a plan of action and followed it.
24. Just concentrated on what I had to do next – the next step.
25. Changed something so things would turn out all right.
26. Drew on my past experiences; I was in a similar situation before.
27. Came up with a couple of different solutions to the problem.
For each statement, please indicate, using the following rating scale, to what degree is each of the statements like or unlike you as it pertains to dealing with the crisis situation which you described earlier?

1  2  3  4  5  6  7
Very much  UNLIKE
me
Very much  LIKE me

Please make certain you use LOW numbers to describe statements which are unlike you and HIGH numbers to describe statements like you.

1. I ignored/distanced myself from the situation.
2. I used humour (i.e. cracked jokes).
3. I kept silent and clammed up.
4. I stayed the course and continued to carry out my activities, duties or tasks.
5. I got involved with my exercise activities and/or hobbies (i.e. jogging, golfing, gardening, playing music).
6. I expressed my emotions to others (i.e. co-workers, supervisor, family and/or friends).
7. I broke down in tears and became upset.
8. I internalized my feelings/emotions.
9. I remained calm.
10. I became excessively worried about the situation.
11. I lashed out at others (i.e. co-workers, supervisor, family and/or friends).
12. I got angry.
13. I did not bring my emotions into the situation.
15. I vented about my problems but quickly moved on.
16. I met and discussed the situation with my supervisor and/or colleagues.
17. I spoke with others outside of my workplace (i.e. family and/or friends).
18. I asked for support from others (i.e. co-workers, supervisor, family and/or friends).
19. I sought information from others (i.e. co-workers, supervisor, family and/or friends).
20. I went to a higher authority (i.e. senior management, executive, older sibling) for guidance.
21. I took control and responsibility for the situation.
22. I personally took action and helped out during the situation.
23. I blamed myself.
24. I blamed others.
25. I carried out my portion of the work, task or duty.
26. I made a decision on how to proceed in resolving the crisis.
27. I provided my personal input.
28. I drank alcohol.
29. I took prescription medication.
30. I procrastinated.
31. I lost sleep over the situation.
32. I lost my concentration/focus.
33. I worked overtime (i.e. worked on weekends, skipped lunch breaks or worked late).
34. I organized my workload or activities.
Very much UNLIKE me

35. I took on the extra work, duties and/or tasks of others (i.e. co-workers, supervisor, family and/or friends).

36. I used a “briefing note” approach -- developed options, identified pros/cons and provided recommendations.

37. I collected and analyzed information prior to making a decision.

38. I looked beyond my own opinions and broadened my search for options.

39. I provided direction.

40. I took on a leadership role.

41. I notified others (i.e. co-workers, supervisor, family and/or friends).

42. I worked alone/in solitary.

43. I worked with others (i.e. co-workers, supervisor, family and/or friends).

44. I used my technical knowledge, skills and training.

45. I followed standard operating procedures, policy and/or practices.

46. I delegated aspects of the work or activities to others (i.e. family, friends and/or co-workers).

47. I actively listened to others (i.e. co-workers, supervisor, family and/or friends).

48. I showed empathic understanding to others (i.e. co-workers, supervisor, family and/or friends).

49. I let others (i.e. co-workers, supervisor, family and/or friends) know that I was there for them.
For each statement, please indicate, by using the following rating scale, to what degree is each of the statements like or unlike you?

1. I am confident in my abilities and capabilities.
2. I focus on my personal strengths rather than on my weaknesses.
3. I am a highly motivated individual.
4. I rarely dwell on past mistakes.
5. I don’t back down from a situation.
6. I adapt very quickly to new situations.
7. I am comfortable in unknown situations.
8. I would prefer to stick with what is familiar before trying something new.
9. I actively seek out new ways of doing things.
10. I am quick to accept new ideas and situations.
11. I can easily adapt to any given situation.
12. I can be as healthy as I want to be.
13. I am in control of my health.
15. The main thing that affects my health is what I do for myself.
16. I am directly responsible for my health.
17. Efforts to improve your health are a waste of time.
18. I am bored by all the attention that is paid to health and disease prevention.
19. What’s the use of concerning yourself about your health – you’ll only worry yourself to death.
20. There is too much emphasis on personal responsibility for health in today’s world.
21. Most things that affect my health happen to me by accident.
22. No matter what I do, if I am going to get ill, I will get ill.
23. When I stay healthy, I am just plain lucky.
24. I am a positive person.
25. I am optimistic that a positive outcome will result in any given situation.
26. I usually try to look at the bright side of things.
27. I can usually maintain a positive attitude in any given circumstance.
28. I find it difficult to be positive.
29. I have a natural sense of humour.
30. I often lose my sense of humour when I’m having problems.
31. I have often found that my problems have been greatly reduced when I tried to find something funny in them.
32. I must admit my life would probably be easier if I had more of a sense of humour.
33. It has been my experience that humour is often a very effective way of coping with problems.
34. I often get angry at the way people treat me.
35. I'm an even-tempered person.
36. I am known as hot-blooded and quick-tempered.
37. I am not considered a touchy or temperamental person.
38. I often get disgusted with people I have to deal with.
39. It takes a lot to get me mad.
40. At times, I have felt bitter and resentful.
41. Even minor annoyances can be frustrating to me.
42. I am not a worrier.
43. I am easily frightened.
44. I rarely feel fearful or anxious.
45. I often feel tense and jittery.
46. I'm seldom apprehensive about the future.
47. I often worry about things that might go wrong.
48. I have fewer fears than most people.
49. Frightening thoughts sometimes come into my head.
50. I am easy-going.
51. I am a laid back person.
52. I can remain calm when facing difficulties because I can rely on my coping abilities.
53. I am often irritable.
54. I don't get rattled easily.
1. In general, would you say your health is:

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<tr>
<td>Poor</td>
<td>Fair</td>
<td>Good</td>
<td>Very Good</td>
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<td>5</td>
<td>Excellent</td>
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2. Compared to one year ago, how would you rate your health in general now?

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<tr>
<td>Much worse now</td>
<td>Somewhat worse now</td>
<td>About the same now</td>
<td>Somewhat better now</td>
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<tr>
<td>5</td>
<td>Much better now</td>
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3. In a typical week, how often do you spend at least 15 minutes at a time in vigorous physical activity?

   Vigorous physical activity: exercise which involves breathing much harder than normally and feeling so warm that you are sweating from doing such things as: aerobics, using exercise machines, fast cycling, fast walking, running, swimming, etc.

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<td>Less than once a month</td>
<td>Less than once a week</td>
<td>1 or 2 times a week</td>
<td>3 to 5 times a week</td>
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<td>5</td>
<td>More than 5 times a week</td>
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4. In a typical week, how often do you spend at least 30 minutes at a time in moderate physical activity?

   Moderate physical activity: exercise which involves breathing harder than normally and the body feeling warm from doing such things as brisk walking, cycling, recreational swimming, golfing, heavy gardening, etc.

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<tr>
<td>Less than once a month</td>
<td>Less than once a week</td>
<td>1 or 2 times a week</td>
<td>3 to 5 times a week</td>
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<tr>
<td>5</td>
<td>More than 5 times a week</td>
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5. In a typical week, how often do you spend at least 30 minutes at a time in light physical activity?

   Light physical activity: exercise which involves such things as taking a stroll, light gardening, housecleaning, stretch exercises, etc.

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<td>4</td>
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<tr>
<td>Less than once a month</td>
<td>Less than once a week</td>
<td>1 or 2 times a week</td>
<td>3 to 5 times a week</td>
</tr>
<tr>
<td>5</td>
<td>More than 5 times a week</td>
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</table>

PERSONAL ILLNESSES/INJURIES

6. Within the last year, which of the following illnesses have you been diagnosed with? Check all that apply.

   ___ Musculoskeletal diseases and injuries (i.e. chronic back pain, arthritis)
- Within the last year, have you received professional help in treating this illness? Y/N
- Is there a family history of this illness? Yes/No/Don’t Know

Cardiovascular diseases (i.e. heart disease, hypertension)
- Within the last year, have you received professional help in treating this illness? Y/N
- Is there a family history of this illness? Yes/No/Don’t Know

Endocrine and related disorders (i.e. hypothyroidism, diabetes)
- Within the last year, have you received professional help in treating this illness? Y/N
- Is there a family history of this illness? Yes/No/Don’t Know

Digestive diseases (i.e. irritable bowel syndrome, ulcers)
- Within the last year, have you received professional help in treating this illness? Y/N
- Is there a family history of this illness? Yes/No/Don’t Know

Nervous system/sense organ diseases (i.e. migraines, epilepsy)
- Within the last year, have you received professional help in treating this illness? Y/N
- Is there a family history of this illness? Yes/No/Don’t Know

Genitourinary diseases (i.e. renal failure, ovarian cysts)
- Within the last year, have you received professional help in treating this illness? Y/N
- Is there a family history of this illness? Yes/No/Don’t Know

Respiratory diseases (i.e. asthma, bronchitis)
- Within the last year, have you received professional help in treating this illness? Y/N
- Is there a family history of this illness? Yes/No/Don’t Know

Dermatological diseases (i.e. eczema, dermatitis)
- Within the last year, have you received professional help in treating this illness? Y/N
- Is there a family history of this illness? Yes/No/Don’t Know

Mental health disorders (i.e. anxiety, depression)
- Within the last year, have you received professional help in treating this illness? Y/N
- Is there a family history of this illness? Yes/No/Don’t Know

Other (please indicate)
- Within the last year, have you received professional help in treating this illness? Y/N
- Is there a family history of this illness? Yes/No/Don’t Know

For each statement, type a number in the blank to the left of the statement below, based on this scale:

In general, to what degree is each of the statements like or unlike you?

Very much  2  3  4  5  6  Very much
UNLIKE ME

Please make certain you use LOW numbers to describe statements which are unlike you and HIGH numbers to describe statements like you.
7. I feel emotionally drained from my work.
8. I feel used up at the end of the work day.
9. I feel fatigued when I get up in the morning and have to face another day on the job.
10. Working with people all day long is really a strain for me.
11. I feel burned out from my work.
12. I feel frustrated by my job.
13. I feel I am working too hard on my job.
14. Working directly with people puts too much stress on me.
15. I feel like I am at the end of my rope.

HEALTH BEHAVIOURS/HABITS

16. Within the last year, have you made use of the APEX Corporation's Employee Assistance Program or related counselling services? Yes/No

17. Within the last year, how many days have you been absent from work due to illness and/or injury?

18. During the past 12 months, how many days did you work despite having an illness and/or injury because you felt you had to?

19. What were your reasons for coming to work despite having an illness and/or injury (list up to 3 reasons)?

20. Which best describes your smoking habits?

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<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Never smoked</td>
<td>Quit more than a year ago</td>
<td>Quit less than a year ago</td>
<td>1-2 cigarettes/day or occasionally</td>
<td>Between 3-10 cigarettes/day</td>
<td>11-20 cigarettes/day</td>
<td>1-2 packs/day</td>
<td>More than 2 packs/day</td>
</tr>
</tbody>
</table>

21. When consuming alcoholic beverages, which drinking pattern most closely describes you?

<p>| | | | | |</p>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Never or Quit at least 6 months</td>
<td>Sporadic yearly</td>
<td>Monthly</td>
<td>Weekends</td>
<td>Daily</td>
</tr>
</tbody>
</table>

22. Within the last year, have you used prescription medication(s)? Yes/No

HEALTH CARE

23. In the past year, have you had a regular physical checkup (annual exam)? Yes/No

24. Not counting check-ups and maternity visits, how many times during the last 12 months have you seen a physician? __________

Thank you for completing this survey!
APPENDIX K: DEFINITION OF TERMS

The following is a list of key terminology that I will make reference to throughout my dissertation. In general, these terms are rooted within the areas of health psychology, human resource management, organizational behaviour, business and public administration. Terms such as "public service" and "bargaining unit employees" provide a scope for the types of individuals (participants) the study will be focusing on. Finally, the organizational-based terms such as "alternative service delivery", "devolution" and "reorganization" will allow readers to develop a context for understanding issues and policy initiatives associated with today's public service organizations.

Absenteeism: The number of days missed from the workplace which may include sick leave (Burton & Conti, 1999). Within this study, the term "absenteeism" will be used interchangeably with the term "sick leave".

Alternative service delivery: "A creative and dynamic process of public sector restructuring that improves the delivery of services to clients by sharing governance functions with individuals, community groups and other government entities" (Ford & Zussman, 1997, p.6).

Bargaining unit employees: Employees who are in an association or union for which there is a collective bargaining process between the union/association and the employer (Belcourt, Sherman, Bohlander, & Snell, 1999).

Burnout: The prolonged exposure to severe workplace stress which has severe impacts on an employee's physical, psychological, emotional and functional abilities (Fisher, 2003).

Casual employees: Employees who are employed for temporary work within an organization (Belcourt et al., 1999).

Constructs: They are patterns which individuals use to view the world in which they live (Landfield & Leitner, 1980; Ryle, 1975).

Coping: Behavioural and psychological strategies which people utilize to master, tolerate, reduce or minimize stressful events (Lazarus & Folkman, 1984).

Crisis: An emotional upheaval or state of uncertainty in one's work or personal life; a personal or workplace tragedy; or a personal or work-related turning point (Crompton, 2003; Wolkow & Ferguson, 2001).
Critical incident: A recollection of real events where individuals describe specific effective or ineffective performance. When recalling their stories, individuals rely on past observations rather than opinions or judgments of certain events (Patton, 1990).

Devolution: The delegation of authority for programs and/or services typically from a central to regional government body for the purpose of either reducing overlap or placing services closer to the citizen/client (Ford & Zussman, 1997).

Echo-Approach: A research method that assists researchers in describing and understanding individuals’ patterns of value and beliefs in a wide variety of settings (Cunningham, 2001).

Elements: People, objects, events or activities that are described by a participant when using the Repertory Grid Technique (Landfield & Leitner, 1980; Ryle, 1975).

Employment equity groups: Recognized groups who have been identified as being underrepresented within the workforce. They are: aboriginal people; visible minorities; persons with disabilities; and women in underrepresented occupations.

Management employees: Employees who have significant responsibilities for formulating and/or administering policies and programs within their given work unit (Belcourt et al., 1999).

Mixed-methods research design: The integration of both qualitative and quantitative techniques as a means of studying a given phenomenon (Creswell, 2003; Tashakkori & Teddlie, 1998; Tashakkori & Teddlie, 2003).

Occupational resiliency: The ability to cope with workplace stressors (i.e. organizational change and/or crisis) in a healthy, positive and productive manner.

Personal Construct Theory: George Kelly’s theory which is based on the premise that people are capable of applying alternative meanings (“constructs”) to any events in the past, present or future (Landfield & Leitner, 1980; Ryle, 1975).

Presenteeism. Health-related productivity loss while at work. This may include: time not on task; decreased quality of work; or decreased quantity of work (Burton & Conti, 1999; Lowe, 2002c).

Public service: Organizations, ministries, departments and/or agencies that are controlled by or accountable to government (Dyck, 1996).

Regular employees: Employees who are employed for continuous work in an organization (Belcourt et al., 1999).

Reorganization (aka. restructuring): The re-design of an organization in order to prepare for its next stage of growth (Ford & Zussman, 1997).
**Repertory Grid**: A research technique which allows the interviewer to get a mental map of how the interviewee views the world; repertory grid is based on Kelly’s Personal Construct Theory (Fransella & Bannister, 1977; Ryle, 1975).

**Sick leave**: Any recorded absence due to an illness or injury (Statistics Canada, 2004a). The term “sick leave” is used interchangeably with the word “absenteeism”.

**Supervisors**: Individuals (regardless of their job description or title) who have authority in the interest of the employer to hire, transfer, suspend, layoff, promote, assign, reward or discipline other employees within the workplace (Belcourt et al., 1999).

**Values**: An assumption of what ought to be; thoughts and feelings which individuals cherish and prize (Cunningham, 2001).

**Workplace stress (aka. occupational stress)**: The harmful physical and emotional responses that can happen when there is conflict between job demands on the employee and the amount of control an employee has in meeting these demands (Canadian Centre for Occupational Health & Safety, 2003).
APPENDIX L: SUMMARY OF PHASE ONE INTERVIEW RESULTS

The purpose of the Phase One interviews were to assist me in the design and development of a web-based questionnaire on occupational resiliency and coping for Phase Two of the study. The interview questions were developed and structured in a way to elicit respondents’ perceptions, values and feelings on work/life stress issues, resiliency and coping characteristics.

Work Stress Experienced

Respondents were asked to describe four stressful situations which they had personally experienced in the past 6-12 months. Each respondent was to identify two work-related stressful situations and two personal/non-work related stressful situations. In terms of work-related stressful situations, Table 16 outlines the top 5 work stressors for Phase One respondents.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Stressor</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Problem(s) with supervisor</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Working with old equipment/technical malfunction</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Meeting deadlines/timelines</td>
<td>9</td>
</tr>
<tr>
<td>4/5</td>
<td>Interpersonal conflict with co-workers &amp; managing a budget</td>
<td>6</td>
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</table>

The number one ranked work stressor dealt with interpersonal issues/conflicts that Phase One Respondents were having with their direct supervisors. The number two ranked work stressor pertained to Phase One respondents’ frustration in working with and/or
relying on older equipment or computer systems (i.e. databases) which frequently crashed or broke down; thus, creating stress for Phase One respondents. The number three work stressor involved the lack of sufficient time to complete work assignments and meet deadlines. For some respondents, they described a linkage between the stress they felt relying on older/-outdated equipment and systems with the lack of sufficient time to complete their daily work assignments. Finally, the number four and five work stressors involved either the responsibility of managing a budget (i.e. work unit budget, project budget) or dealing with interpersonal conflicts with co-workers within the respondents’ given work unit.

*Life Stress Experienced*

As mentioned earlier, in addition to describing two stressful work-related situations, respondents also outlined two personal (non work-related) stressful situations which happened to them within the past 6-12 months. Table 17 outlines the top 5 life stressors for Phase One respondents.

<table>
<thead>
<tr>
<th>Table 17</th>
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<tr>
<td>Top 5 life stressors for Phase One interview respondents</td>
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<table>
<thead>
<tr>
<th>Ranking</th>
<th>Stressor</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dealing with a child’s problem(s)/issue(s)</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>Relationship break up/martial separation/divorce</td>
<td>11</td>
</tr>
<tr>
<td>3/4/5</td>
<td>Caring for an elderly parent(s)/death of a close family member/child(ren) leaving home</td>
<td>7</td>
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</table>

The number one ranked life stressor centered around behavioural problems and/or interpersonal conflict between Phase One respondents and their children (typically,
teenagers). The number two ranked life stressor involved respondents who were currently going through a relationship break up which took the form of either a formal break up with a partner, trial separation or divorce from a spouse. The number three, four and five life stressors consisted of caring for an elderly parent(s), experiencing the death of a close family member (typically, a respondent’s parent or sibling) and either one or more children leaving home for the first time to travel or attend post-secondary education outside of their hometown.

Resiliency Characteristics

Respondents were asked to write down as many words as possible which they felt described the term “resiliency”. In other words, what did the term “resiliency” mean to them? This resiliency definition exercise was intended for respondents to being thinking about resiliency characteristics prior to describing individuals’ traits and behaviours in relation to dealing with workplace stress. Also, as there are many definitions of the term “resiliency” within the literature, I wanted to find out how respondents personally define this particular term. The following table outlines the top 5 descriptors of the term “resiliency”.

The common descriptors of “resiliency” were: the ability to cope; flexible (in terms of how one approaches a given situation or event); adaptable to change or new situations, the ability to spring back/bounce and stamina/strength.

Table 18

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Descriptor</th>
<th>Percent (%)</th>
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<tbody>
<tr>
<td>1</td>
<td>Able to cope</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>Flexible</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>Adapt to change</td>
<td>13</td>
</tr>
<tr>
<td>4/5</td>
<td>Spring back/Strength</td>
<td>7</td>
</tr>
</tbody>
</table>
In the next section of the interview, respondents were asked to describe personal characteristics and behaviours of six people that they knew quite well either in their personal or work life. Three of individuals that were described by each respondent were people who the respondent felt handled workplace stress very well. The remaining three individuals were people who the respondent felt did not handle workplace stress very well. After identifying six individuals, respondents were asked to describe similarities and differences between the people in groups of three as it related to dealing with crisis situations and change/new situations. The key questions that were posed to respondents were as follows:

(For crisis situations)

Tell me something about two of the individuals within the cue card set that make them different from a third in the way they deal with a crisis.

In what way are two of the individuals within the cue card set similar to each other and different from a third in terms of how they interact with people during a crisis?

(For change/new situations)

Tell me something about two of the individuals within the cue card set that make them different from a third in how they approach new situations.

In what way are two of the individuals within the cue card set similar to each other and different from a third in terms of how they interact with people in new situations?

While respondents’ described similarities and differences between the various individuals outlined on their cue cards, I wrote down each of the participants’ responses in the form of phrase. Based on the various comments they have made so far, I asked them about their personal preferences in relation to the characteristics which they outlined in their
interview responses. Therefore, based on the constructs elicited from the interview thus far, I asked respondents the following questions:

"Which do you think is a better quality of a top performer in the workplace, people who are ‘X’ or people who are ‘Y’?"

"Which do you think is a quality of a poor performer in the workplace, people who are ‘X’ or people who are ‘Y’?"

The key "resiliency" characteristics and/or behaviours which Phase One respondents associated with top performance in the workplace included being:

1. **Able to cope.** Respondents outlined that top performers in the workplace are able to identify what the crisis is about and what has to happen in order to successfully resolve the given situation – "defines the situation and what needs to be done". They can vent their feelings and emotions about the given situation to others (colleagues, supervisors) but quickly move on to a proactive, problem solving mode. Top performers are perceived to use a logical problem solving approach which consists of discussing and considering other opinions from co-workers and supervisors and gathering information to assist them in finding a solution to the situation;

2. **Flexible/adaptable to change and new situations.** Top performers in the workplace are open to new situations and meeting new people, willing to make the best of the new situations and views them as a challenge;

3. **Calm.** Phase One respondents view top performers as calm individuals who do not get easily excited and are even tempered individuals. Top performers do not bring their emotions into the situation and are a calming force to others (i.e. co-workers, staff members);

4. **Optimist.** Top performers are optimistic and they look at the positive side of the stressful situation or given change initiative;

5. **Empathic.** Respondents felt that top performers are empathic individuals. They demonstrate active listening and are caring towards others – "makes sure that others are okay during the stressful situation";

6. **Self-confident.** Top performers are described as having high self-esteem and being self-directed/motivated; and
7. **Humourous.** Phase One respondents reported that top performers are gregarious and have a natural sense of humour (cracking jokes, see the lighter side to the given situation).

On the another side of the coin, Phase One respondents outlined the following key "stress prone" characteristics and/or behaviours associated with poor performance in the workplace. They are as follows:

1. **Blame others (co-workers, staff members, supervisors).** Poor performers are viewed as not taking responsibility for their actions. Instead, they point fingers and look for someone to blame/find a scapegoat before dealing with a crisis;

2. **Anger.** Phase One respondents felt that poor performers get emotional in situations, typically getting visibly angry towards others (i.e. raising their voice, snapping at people and having temper tantrums);

3. **Anxiety-ridden.** Another "stress-prone" characteristic of poor performers is being anxiety-ridden. They are tense, scared of change or new situations, get rattled/overwhelmed easily and become emotional (i.e. whining or crying);

4. **Resistant to change/inflexible.** Respondents reported that poor performers are resistant to change. New situations and change initiatives are viewed as an annoyance and additional workload;

5. **Pessimist (negative).** Poor performers are seen as a negative force. They focus on weaknesses rather than strengths in others, look at the negative aspects of situations and formulate only worst case scenarios for any workplace initiative;

6. **Disrespectful to others.** Phase One respondents viewed poor performers as being disrespectful towards staff members and/or co-workers. In addition, they are perceived as being controlling in their demeanor;

7. **Self-centered.** Respondents associate characteristics and behaviours such as being: unapproachable; arrogant; self-seeking/self-serving with poor performers. Phase One respondents felt that poor performers try to be the sole decision-maker and tell others how to get the job done; instead, of trying to work cooperatively with others (i.e. co-workers, staff members); and

8. **Lacks self-confidence.** Poor performers were seen as having low self-esteem. They seem unsure in how to approach change and do not believe they handle have the necessary skills to handle new situations.
Coping Strategies

In the next section of the interview, respondents were asked to describe how they and their colleagues/co-workers handle workplace stress. Tables 19 and 20 outline how respondents typically feel and how they respond when they are coping well and not coping well with workplace stress. In Table 21, respondents outlined their perceptions of their colleagues/co-workers when they are coping well and not coping well with workplace stress.

Table 19
Top 5 feelings felt by Phase One interview respondents when coping well & not coping well with workplace stress

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Coping Well</th>
<th>Not Coping Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&quot;Relieved and re-energized&quot;</td>
<td>&quot;Frustrated&quot;</td>
</tr>
<tr>
<td>2</td>
<td>&quot;...feel nothing – business as usual&quot;</td>
<td>&quot;...tired/exhausted&quot;</td>
</tr>
<tr>
<td>3</td>
<td>&quot;Positive, happy&quot;</td>
<td>&quot;...stupid, incompetent&quot;</td>
</tr>
<tr>
<td>4</td>
<td>&quot;Sense of accomplishment/challenged&quot;</td>
<td>&quot;...overwhelmed&quot;</td>
</tr>
<tr>
<td>5</td>
<td>&quot;Confident&quot;</td>
<td>&quot;...unfocused/distracted&quot;</td>
</tr>
</tbody>
</table>

When Phase One respondents are coping well with workplace stress, they felt (as a collective), a sense of renewed energy, positive, happy/upbeat, challenged and confident. Respondents also described that when they are coping well, they have a "business as usual" attitude in that they are continuing with their day to day work activities without any feelings of frustration and/or anxiety. On the other side of the spectrum, respondents felt frustrated, overwhelmed, distracted, stupid and tired.
(emotionally exhausted) when they were not handling workplace stress incidents very well.

Table 20

Top 5 behaviours demonstrated by Phase One interview respondents’ when coping well & not coping well with workplace stress

<table>
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<tr>
<th>Ranking</th>
<th>Coping Well</th>
<th>Not Coping Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&quot;...calm&quot;</td>
<td>&quot;...lose my concentration/focus&quot;</td>
</tr>
<tr>
<td>2</td>
<td>&quot;laughing&quot;</td>
<td>&quot;procrastinating/stalling&quot;</td>
</tr>
<tr>
<td>3</td>
<td>&quot;organized&quot;</td>
<td>&quot;...clam up&quot;</td>
</tr>
<tr>
<td>4</td>
<td>&quot;caring about others&quot;</td>
<td>&quot;...mean and angry&quot;</td>
</tr>
<tr>
<td>5</td>
<td>&quot;...balanced (work/life)&quot;</td>
<td>&quot;...frantic&quot;</td>
</tr>
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</table>

In general, Phase One respondents outlined that they are relaxed and ensuring a sense of balance between work and life activities (i.e. managing their time, participating in leisure activities and physical exercise). In addition, respondents reported that they are organizing/prioritizing and supporting others (co-workers, clients or supervisors) when they are coping well with workplace stress. When respondents are not coping well with workplace stress, they described to me that they were losing their concentration, procrastinating on the tasks/assignments at hand and becoming quite quiet within their work unit. If respondents were communicating within the workplace while under stress, they mentioned that could become mean, anger and frantic in their interactions with others (co-workers, clients and/or supervisors).
Table 21

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Coping Well</th>
<th>Not Coping Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&quot;...joking/laughing&quot;</td>
<td>&quot;lack control over emotions...get angry&quot;</td>
</tr>
<tr>
<td>2</td>
<td>&quot;...talking/communicating effectively with others&quot;</td>
<td>&quot;...yell&quot;</td>
</tr>
<tr>
<td>3</td>
<td>&quot;...productive, working with others&quot;</td>
<td>&quot;...become frantic panic&quot;</td>
</tr>
<tr>
<td>4</td>
<td>&quot;...eating healthy, exercising&quot;</td>
<td>&quot;...blame others&quot;</td>
</tr>
<tr>
<td>5</td>
<td>&quot;...depersonalize from the situation&quot;</td>
<td>&quot;...become vindictive&quot;</td>
</tr>
</tbody>
</table>

Respondents observed that when their colleagues/co-workers were handling workplace stress situations well, they were using humour (cracking jokes and laughing), ensuring clear communication with others (co-workers, clients and/or supervisors), working productively with their members, eating healthy, and exercising/engaging in leisure activities. Also, respondents mentioned that their colleagues/co-workers were able to depersonalize from the stressful situation/event. When respondents' co-workers/colleagues were not coping well with workplace stress, they were described as being angry, anxiety-ridden and at times, vindictive. These behaviours tended to manifest themselves in co-workers/colleagues raising their voice at others (fellow co-workers, clients, supervisors) and blaming team members within the work unit for issues related to the stressful workplace event.
Social Support Networks

Finally, as part of the second set of interviews, respondents were asked to identify who they typically seek support from when dealing with work-related stress incident(s). In addition, they also were asked to describe how each of the individuals they described helped them in dealing with their stress. Table 22 outlines respondents' top 5 social support networks.

When dealing with stressful workplace situations, the number one ranked social support network was co-workers/staff members. Respondents described their co-workers/staff members as being able to “pitch in” and “provide support by talking to (me) about the given stressful situation”. Co-workers and/or staff members offered advice and described how they have dealt with similar situations in the past. They provided positive feedback and were active listeners – “they are respectful, non-judgmental”.

The number two ranked support network was respondents' direct supervisors. Respondents reported that they have a conversation with their direct supervisor who would “assist in evaluating and implementing strategies to alleviate my stress”. Direct supervisors validated respondents' experiences and demonstrated empathy – “served as a sounding board”. They helped respondents deal with the situation right away – “gave me choices/options in dealing with the issues”.

The number three ranked support network was family. The term “family” included the respondent’s spouse/partner, children and siblings. Family members, particularly spouses/partners, provided respondents with “a second sober opinion”. They helped them stay centered and listened to them.

The number four ranked social support network was friends outside of the respondent’s workplace. Friends outside of the workplace, were active listeners and
offered their thoughts/prayers to respondents. They let respondents know that "(they) were not alone in dealing with the incident". Similar to respondents' co-workers/staff members, they offered advice and described how they have dealt with similar situations in the past.

Table 22
Top 5 social support networks for Phase One interview respondents

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Support Network</th>
<th>Percent (%)</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Co-workers/Staff Members</td>
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<tr>
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<td>Direct Supervisor</td>
<td>23</td>
</tr>
<tr>
<td>3</td>
<td>Family*</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td>Friends outside of work</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Other**</td>
<td>10</td>
</tr>
</tbody>
</table>

Note. *Family includes: spouse/partner; children; siblings
**"Other": includes medical specialists and/or mental health professionals

The fifth rank support network was "other" which included medical specialists and/or mental health professionals such as family physicians and psychologists. Medical specialists and mental health professionals served as another set of "sounding boards" who listened to respondents and provided them with helpful coping strategies/skills to alleviate their stress. In summary, respondents' social support networks offer a sounding board/listening ear, an opportunity to discuss the workplace stressful situation(s) and potential solutions to dealing with stressful event by describing how they have dealt with similar situations in the past.
APPENDIX M:
OCCUPATIONAL RESILIENCY & COPING SURVEY SCALE ITEMS
AND ASSOCIATED ALPHAS

Lazarus & Folkman’s Ways of Coping Scales

Scale 1: Self Control (alpha = 0.76)
1. I tried to keep my feelings to myself.
2. Kept others from knowing how bad things were.
3. Tried not to burn my bridges, but leave things open somewhat.
4. I tried not to act too hastily or follow my first hunch.
5. I tried to keep my feelings from interfering with other things too much.
6. I thought about how a person I admire would handle this situation and used that as a model.
7. I tried to see things from the other person’s point of view.

Scale 2: Seeking Social Support (alpha = 0.79)
8. Talked to someone to find out more about the situation.
9. Talked to someone who could do something concrete about the problem.
10. I asked a relative or friend I respected for advice.
11. Talked to someone about how I was feeling.
12. Accepted sympathy and understanding from someone.
13. I got professional help.

Scale 3: Escape-Avoidance (alpha = 0.92)
14. Wished that the situation would go away or somehow be over with.
15. Hoped a miracle would happen.
16. Had fantasies or wishes about how things might turn out.
17. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication, etc.
18. Avoided being with people in general.
19. Refused to believe that it had happened.
20. Took it out on other people.
21. Slept more than usual.

Scale 4: Planful Problem Solving (alpha = 0.81)
22. I knew what had to be done, so I doubled my efforts to make things work.
23. I made a plan of action and followed it.
24. Just concentrated on what I had to do next – the next step.
25. Changed something so things would turn out all right.
26. Drew on my past experiences; I was in a similar situation before.
27. Came up with a couple of different solutions to the problem.

Caverley Coping Strategies

Scale 1: Distancing (alpha = 0.62)

1. I ignored/distanced myself from the situation.
2. I used humour (i.e. cracked jokes).
3. I kept silent and clammed up.
4. I stayed the course and continued to carry out my activities, duties or tasks.
5. I got involved with my exercise activities and/or hobbies (i.e. jogging, golfing, gardening, playing music).

Scale 2: Self-control (alpha = 0.60)

6. I expressed my emotions to others (i.e. co-workers, supervisor, family and/or friends).
7. I broke down in tears and became upset.
8. I internalized my feelings/emotions.
9. I remained calm.
10. I became excessively worried about the situation.
11. I lashed out at others (i.e. co-workers, supervisor, family and/or friends).
12. I got angry.
13. I did not bring my emotions into the situation.
15. I vented about my problems but quickly moved on.

Scale 3: Seeking Social Support (alpha = 0.80)

16. I met and discussed the situation with my supervisor and/or colleagues.
17. I spoke with others outside of my workplace (i.e. family and/or friends).
18. I asked for support from others (i.e. co-workers, supervisor, family and/or friends).
19. I sought information from others (i.e. co-workers, supervisor, family and/or friends).
20. I went to a higher authority (i.e. senior management, executive, older sibling) for guidance.

Scale 4: Accepting Responsibility (alpha = 0.70)

21. I took control and responsibility for the situation.
22. I personally took action and helped out during the situation.
23. I blamed myself.
24. I blamed others.
25. I carried out my portion of the work, task or duty.
26. I made a decision on how to proceed in resolving the crisis.
Scale 5: Escape-Avoidance (alpha = 0.72)

27. I provided my personal input.
28. I drank alcohol.
29. I took prescription medication.
30. I procrastinated.
31. I lost sleep over the situation.
32. I lost my concentration/focus.

Scale 6: Proactive Problem Solving (alpha = 0.87)

33. I worked overtime (i.e. worked on weekends, skipped lunch breaks or worked late).
34. I organized my workload or activities.
35. I took on the extra work, duties and/or tasks of others (i.e. co-workers, supervisor, family and/or friends).
36. I used a “briefing note” approach -- developed options, identified pros/cons and provided recommendations.
37. I collected and analyzed information prior to making a decision.
38. I looked beyond my own opinions and broadened my search for options.
39. I provided direction.
40. I took on a leadership role.
41. I notified others (i.e. co-workers, supervisor, family and/or friends).
42. I worked alone/in solitary.
43. I worked with others (i.e. co-workers, supervisor, family and/or friends).
44. I used my technical knowledge, skills and training.
45. I followed standard operating procedures, policy and/or practices.
46. I delegated aspects of the work or activities to others (i.e. family, friends and/or co-workers).

Scale 7: Empathy (alpha = 0.87)

47. I actively listened to others (i.e. co-workers, supervisor, family and/or friends).
48. I showed empathic understanding to others (i.e. co-workers, supervisor, family and/or friends).
49. I let others (i.e. co-workers, supervisor, family and/or friends) know that I was there for them.

Resiliency Characteristics

Scale 1: Self-esteem (alpha = 0.79)

1. I am confident in my abilities and capabilities.
2. I focus on my personal strengths rather than on my weaknesses.
3. I am a highly motivated individual.
4. I rarely dwell on past mistakes.
5. I don’t back down from a situation.
Scale 2: Adaptation to change/new situations (alpha = 0.64)

6. I adapt very quickly to new situations.
7. I am comfortable in unknown situations.
8. I would prefer to stick with what is familiar before trying something new.
9. I actively seek out new ways of doing things.
10. I am quick to accept new ideas and situations.
11. I can easily adapt to any given situation.

Scale 3: Health Locus of Control (alpha = 0.61)

12. I can be as healthy as I want to be.
13. I am in control of my health.
15. The main thing that affects my health is what I do for myself.
16. I am directly responsible for my health.
17. Efforts to improve your health are a waste of time.
18. I am bored by all the attention that is paid to health and disease prevention.
19. What’s the use of concerning yourself about your health – you’ll only worry yourself to death.
20. There is too much emphasis on personal responsibility for health in today’s world.
21. Most things that affect my health happen to me by accident.
22. No matter what I do, if I am going to get ill, I will get ill.
23. When I stay healthy, I am just plain lucky.

Scale 4: Optimism (alpha = 0.60)

24. I am a positive person.
25. I am optimistic that a positive outcome will result in any given situation.
26. I usually try to look at the bright side of things.
27. I can usually maintain a positive attitude in any given circumstance.
28. I find it difficult to be positive.

Scale 5: Humour (alpha = 0.60)

29. I have a natural sense of humour.
30. I often lose my sense of humour when I’m having problems.
31. I have often found that my problems have been greatly reduced when I tried to find something funny in them.
32. I must admit my life would probably be easier if I had more of a sense of humour.
33. It has been my experience that humour is often a very effective way of coping with problems.
Stress Prone Characteristics

Scale 6: Anger (alpha = 0.60)
34. I often get angry at the way people treat me.
35. I'm an even-tempered person.
36. I am known as hot-blooded and quick-tempered.
37. I am not considered a touchy or temperamental person.
38. I often get disgusted with people I have to deal with.
39. It takes a lot to get me mad.
40. At times, I have felt bitter and resentful.
41. Even minor annoyances can be frustrating to me.

Scale 7: Anxiety (alpha = 0.73)
42. I am not a worrier.
43. I am easily frightened.
44. I rarely feel fearful or anxious.
45. I often feel tense and jittery.
46. I'm seldom apprehensive about the future.
47. I often worry about things that might go wrong.
48. I have fewer fears than most people.
49. Frightening thoughts sometimes come into my head.
50. I am easy-going.
51. I am a laid back person.
52. I can remain calm when facing difficulties because I can rely on my coping abilities.
53. I am often irritable.
54. I don’t get rattled easily.
APPENDIX N: EXTRA STATISTICAL RESULTS AND TABLES

The following series of tables are additional statistical results from the Occupational Resiliency and Coping study.

Phase One Additional Results

Table 23

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Support Network</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Co-workers/Staff Members</td>
<td>27</td>
</tr>
<tr>
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<td>4</td>
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<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Other**</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>Medical Professions and/or</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Mental Health Professionals***</td>
<td></td>
</tr>
</tbody>
</table>

Note. *"Family" includes: spouse/partner; siblings
**"Other" includes: APEX Corporation’s Employee Assistance Program/Critical Incident Stress Management counsellors; myself; Green Leaf Company’s management/executive
***"Medical Specialists and/or Mental Health Professionals" include: family physicians; psychiatrists; psychologists
Phase Two Additional Results

Table 24

Social support networks for Phase Two survey respondents

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Support Network</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Direct Supervisor</td>
<td>31</td>
</tr>
<tr>
<td>2</td>
<td>Co-workers/Staff Members</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>Family*</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>Green Leaf Company's Management/Executive</td>
<td></td>
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<tr>
<td>5</td>
<td>Friends Outside of Work</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>Nobody but myself</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>APEX Corporation's Employee Assistance Program counsellors/Critical Incident Stress Management Counsellors</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>APEX Corporation's central personnel agency/[PARTICIPATING ORGANIZATION]'s Human Resources Unit</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Other Green Leaf Company Employees</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>Union/Shop Steward</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Senior Technical Specialists</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Medical Specialists and/or Mental Health Professionals**</td>
<td></td>
</tr>
</tbody>
</table>

Note: "Family" includes: spouse/partner; children; siblings
**"Medical Specialists and/or Mental Health Professionals" include: family physicians; psychiatrists; psychologists
<table>
<thead>
<tr>
<th>Type of Physical Activity</th>
<th>Frequency</th>
<th>Percent (%)</th>
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<tbody>
<tr>
<td>Vigorous Activity</td>
<td>Less than once a month</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Less than once a week</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>One to two times a week</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Three to five times a week</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>More than five times a week</td>
<td>12</td>
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<tr>
<td>Moderate Activity</td>
<td>Less than once a month</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Less than once a week</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>One to two times a week</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Three to five times a week</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>More than five times a week</td>
<td>16</td>
</tr>
<tr>
<td>Light Activity</td>
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<tr>
<td></td>
<td>Less than once a week</td>
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</tr>
<tr>
<td></td>
<td>One to two times a week</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Three to five times a week</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>More than five times a week</td>
<td>40</td>
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</table>
### Table 26

**Smoking habits of Phase Two survey respondents**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent (%)</th>
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<tbody>
<tr>
<td>Never Smoked</td>
<td>49</td>
</tr>
<tr>
<td>Quit More Than One Year Ago</td>
<td>31</td>
</tr>
<tr>
<td>Quit Less Than a Year Ago</td>
<td>2</td>
</tr>
<tr>
<td>Smoke 1-2 Cigarettes a Day</td>
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<tr>
<td>Smoke 3-10 Cigarettes a Day</td>
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</tr>
<tr>
<td>Smoke 11-20 Cigarettes a Day</td>
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</tr>
<tr>
<td>Smoke 1-2 packs a day</td>
<td>3</td>
</tr>
<tr>
<td>Smoke More than 2 Packs a Day</td>
<td>0</td>
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### Table 27

**Drinking (alcohol) pattern of Phase Two survey respondents**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent (%)</th>
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<tbody>
<tr>
<td>Never drank or quit at 6 months</td>
<td>8.6</td>
</tr>
<tr>
<td>Drink sporadic yearly</td>
<td>25.9</td>
</tr>
<tr>
<td>Drink monthly</td>
<td>13.6</td>
</tr>
<tr>
<td>Drink weekends</td>
<td>36.0</td>
</tr>
<tr>
<td>Daily</td>
<td>15.9</td>
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</table>
Human Research Ethics Committee
Certificate of Approval

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Department/School</th>
<th>Supervisor</th>
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<tr>
<td>Natasha Caverley</td>
<td>EPLS</td>
<td>Dr. Honore France</td>
</tr>
<tr>
<td>Graduate Student</td>
<td></td>
<td>Dr. Bart Cunningham</td>
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<tr>
<td>Co-Investigator(s):</td>
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**Project Title:** Mapping Out Occupational Resiliency and Coping in a Public Service Work Setting

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<th>End Date</th>
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<td>10-Jun-04</td>
<td>10-Jun-04</td>
<td>09-Jun-05</td>
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</table>

**Certification**

This certifies that the UVic Human Research Ethics Committee has examined this research protocol and concludes that, in all respects, the proposed research meets appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Subjects.

Dr. Martin Taylor
Vice-President, Research

This Certificate of Approval is valid for the above term provided there is no change in the procedures. Extensions or minor amendments may be granted upon receipt of "Request for Continuing Review or Amendment of an Approved Project" form.