AN OVERVIEW OF WORK AND STRESS
(With a Touch of Canadian Content)

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by

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Abstract*

Stress, burnout, Type A behaviour, health and performance are buzzwords of the 1990s. No matter which scientific journal or popular magazine you read you encounter articles about these themes. But, in spite of the voluminous materials on the subject, the concept of stress and stress management remains poorly understood..

This paper attempts to clarify the jargon and explain the basic ingredients in the etiology of stress health and performance at work. It reveals the mechanisms of the stress response and marks the difference between the sources of stress (i.e. stressors) and the consequences of stress (strain); it also emphasizes the importance of individual differences such as Type A personality and Locus of control in explaining people different reactions to identical or similar conditions of stress. Additionally, the importance of social support as a stress buffer is explained. Finally, the paper concludes with a quick survey of the methods and procedures that individuals and organization can use in order to alleviate or manages stress at the workplace; notice that two types of stress prevention and intervention are described: those geared to individuals and those that are at the disposal of management.

INTRODUCTION

The word stress is a familiar one to most of us. Almost everyone has felt "stressed out" at times or, at the very least, knows family and friends who complain of stress. Indeed, there are many who believe that we live in a parabularly stressful age.

But what exactly is stress? What causes it? How do we know its' affecting us? What are its consequences - both for individuals and for organizations? Given the seeming inevitably that everyone will face stress in varying amounts throughout their lives, it is very important that we learn about it and learn how to manage it. In fact, the management of stress has been given a high priority in organizations in recent years. This may be seen in the proliferation of stress management workshops, symposiums and lectures. All these are designed with a view to help employees cope with stressful events both on and off the job. The growth in these services has been accompanied by a corresponding interest in evaluating their individual and organizational benefits. Proponents of stress management interventions advance the theme that effective intervention will increase organizational effectiveness by contributing to higher employee performance and reducing employee withdrawal behaviour such as absenteeism, tardiness and turnover, all potential consequences of stress at work. Similarly, it is argued that employees who are subjected to prolonged (chronic) periods of stress, will most likely be suffering from a variety of physical (i.e. peptic ulcers, high blood pressure, cardiovascular problems) and psychological disorders (i.e burnout, depression). Thus, there is an underlying assumption that an effective stress management program can create a "win - win" situation which both employee health and organizational well being are enhanced (Dolan and Balkin, 1987)[1].

The Meaning of Stress

In spite of the fact that thousands of articles on stress appear in professional and popular journals, the concept is still very poorly understood by the general public. For one, the phenomenon of stress has attracted the attention of researchers in several disciplines (e.g. medicine, psychology and management) each using respectively its own jargon, semantics, models and point of reference. The result is that there are various definitions of stress.

Thus, although we will try in this paper to provide you with a general definition and we will attempt to clarify the semantics and jargon, you should be aware that in the past and most likely in the future, stress will mean different things to different people. While some regard it as a set of stimuli, i.e. a broad range of environmental conditions thought to be stressful, others, notably the late Hans Selye of the University of Montreal, defined stress as a response. Selye, often referred to as the "father of stress", was the first to note that the body reacts to various stressors in the same physiological and biological manner, ultimately leading to "wear and tear" on the body (Selye, 1974)[2]. His findings were previously observed by Cannon, who had noted biochemical and bodily change responses to environmental stressors in the form of "fight or flight" syndrome (Cannon, 1929)[3]. Both noted that bodily response to stress are instantaneous.

Over the years, the concept of **Workplace stress** has evolved in its definition and scope to comprise a far more complex phenomenon. Today, most refer to workplace stress as *the entire process in which people perceive and interpret their work environment in relation to their capability to cope with it.* Under this definition, stress is present when the environment poses (or is perceived to be) a threat to the individual, either in the form of excessive demands or in the form of insufficient resources to meet the individual's needs.

There are many types of situations that can be physically or psychologically demanding such as a fast-paced job, getting married/divorced, having children, being fired, or receiving a promotion. According to stress experts, any event or situation that puts a demand on a person is called a **stressor.** If you stop to think about it, you could probably find many **stressors** in your own life. In fact, another person might be a stressor for you if this person puts physical or psychological demands on you.

Responding to Stress

Take a minute to think back to how you react to stressors. Probably, it is in a physical way; for instance, your heart may beat faster, or your hands may get damp. When we are exposed to a situation that puts demands on us (i.e. a **stressor**), our body responds physically. This is known as the **stress response and also as the fight or flight response**, because the physical changes that occur when we are confronted with a stressor prepare us to either stay and fight the stressor or flee from the situation. The physiogical changes that characterize **the fight or flight response are** :

1)   An increased blood flow to the brain and large muscle groups. This increased blood flow makes us more alert and provides us with extra strength to deal with danger.

2)   Vision, hearing and other sensory processes are sharpened, so that we have heightened awareness of the stressor.

3)   Glucose and other fatty acids are released into the bloodstream to provide us with extra energy during the stressful event.

4)   The efficiency of the immune and digestive system is reduced.

These physiological changes shift a person from a physically neutral state to a state of offensiveness. So, the stress response helps us to perform better when confronted with stressors. In fact, many of us have heard stories in the news of people performing near impossible physical acts when confronted with a crisis. For instance, a few years ago, an ordinary man (not a body builder) lifted up a car which was crushing a person. This is a powerful illustration of how the fight or flight response enables us to transcend our limitations in the face of stress.

Now, if the stress response helps us to deal with stress so effectively you might logically wonder why stress is considered to be a negative thing by most people? The answer to this question is really quite simple. Although most of us are able to adequately respond to stressful situations most of the time, our bodies and minds *have a limited capacity to respond to stressors*. In other words, when a person is exposed to too many stressors over a long period of time, his or her ability to cope with these stressors may diminish. Simply put, constant activation of the stress response (i.e and the corresponding hormonal secretion such as adrenalin and noradrenaline) takes a toll on our physical and mental resources. If this happens, a person suffers from what is known as strain. Strain is excess stress that is characterized by undesirable consequences to our health and/or work performance; it is a sign or symptom of our inability to deal with everyday pressures. The problem is, that some of the signs and symptoms of strain are not always obvious, and in many instances they are hidden; only when the individual is exposed to a prolonged period of strain, an acute state which indicate already the appearance of a serious illness appears. It is for this reason that we need to make an effort to diagnose strains early in the process in order to intervene and prevent serious debilitating state from occurring. We will examine few typical negative consequences of stress (strains) at work, later on in this paper.

Costs of stress to organizations and society

Stress is becoming increasingly important concept for Canadian organizations as there is wider recognition of its effect, both on productivity and on the physical and mental well being of the employees. While there is no simple formula to estimate the exact cost of stress in an organization, it is certain that its consequences are very expensive. Here are a few estimates of typical costs:

*   A recent survey of absenteeism in the Canadian Pulp and Paper industry found the average absence to be around 5.5% (which is also the standard rate prevailing in Canadian industry). Absenteeism, which in many cases represent a "flight response", costs a one-thousand-employee firm $1.5 million a year for a 5% absence rate, and for paper mills reporting up to a 15.8% absence rate, the costs are 3 times higher (Dolan, 1991,1992,1993)[4].

* Recent data collected by Angus Reid Research, found that 77% of migraines (about 2.5 million people in Canada) which in many cases are triggered by stress, result in employees having to cease normal activity, 19% of which required absence from work. The resulting annual productivity loss is estimated to be around $500 million.

* Recent studies amongst nurses in the hospital industry, especially those working in "high stress units" such as emergency rooms and intensive care wards, have uncovered an alarming rate of turnover. Within one year, about 20% of nurses left their jobs in the unit and many more expressed their intention to leave in the future. With an estimated cost of approximately $5000 per single nurse replacement, it is costing **each** hospital (having about 500 nurses on staff), about $2.5 million every five years (assuming a 100% turnover rate within this period) (Dolan et al., 1993)[5].

* U.S. data suggest that cardiovascular diseases, which are intimately linked to stress, are responsible for an annual loss of more than 135 million work days; additionally, psychological or psychosomatic problems, which are also stress related, contribute to more than 60 percent of long term employee disability payments and medical bills.

* Accidents can also be triggered by negligence due to stress. The survey cited above in the Canadian Pulp and Paper Industry, found the average rate of time lost due to work injuries or occupational illness to be around 8.5%, ranging from companies experiencing 57% to those having only 0.10%. Due to different regulations and policies pertaining to workers compensation, calculation of the actual cost to each firm varies. Nonetheless, it is basically accepted that the direct and indirect costs are staggering. Recent research completed by the National Safety Council and NIOSH, estimates that 75-85 percent of all industrial accidents are caused by the inability to cope with job demands at a cost to the U.S. industry of $32 billion annually.

* Compensation for occupational stress under the Ontario Workers' Compensation Board produces more than 9,000 claims annually costing upwards of $178 million (according to a study commissioned by the Employers' Council on Workers' Compensation). Because employers' payments to the Workers' Compensation Board are reflected in a formula based on the number of claims, there are many incentives for employers to reduce these numbers.

Based on figures such as the above, the message is clear: the cost of work related stress in Canadian organizations is enormous. Therefore, any program designed to address these issues and to reduce cost, will be beneficial.

A General Model of Workplace Stress

Thus far we have provided general definitions of stress, stress responses (strain) and we also indicated the costs to the organization. Occupational stress concerns itself with employees' ability to meet the demands of the job. An employee may be suffering from occupational stress when either or both of two conditions occur: (a) the employee is unable to adequately respond to the demands of the job, or (b) the employee expectations about the job markedly differ from the reality.

Thus, the occupational/job stress model presented in *Exhibit 1* identifies three principal components involved in the etiology of stress at work:

(1)   *Perception of job demands.* Employee perception of a situation can markedly influence how (and whether) they will experience stress. For example, a manager requesting two subordinates to stay an extra hour to finish up important work can be perceived as stressful by one and have no effect on the other. It should be noted that stress can originate from a single stressor or from a combination of environmental job demands; that is to say, stress is most likely to be a multi-factorial phenomenon;

(2)   *Individual differences.* There are a number of key individual differences which play an important role in the ways that employees experience and respond to stress. Individual differences in needs, values, attitudes, abilities and, of course, personality traits, are important in that they may **amplify** or **reduce** the perception of the harmfulness of work demands. Thus, in order to understand whether job incumbents will be stressed, it is critical to understand their perception about their work and their organization; what one person may consider to be a major source of stress, another may hardly notice.

(3)   *Social Support.* Compensatory mechanisms (commonly referred to as "buffers" or "moderators") which may be present or absent during stressful periods are an important mediators of responses to stress. One such buffer is social support. The support of others in one's social environment includes co-workers, superiors, family and friends. The availability of such support increases individual's confidence, and strengthens his or her ability to cope.

The essence of the model which is illustrated in Exhibit 1, has been validated by our team over the past 15 years. We gather information through questionnaires and objective medical instruments in different organizations covering a variety of occupations ranging from hospital employees, teachers, police officers, crown prosecutors, executives, middle level managers, first line supervisors, programmers, and secretaries, to name a few (for more information see: Dolan, 1987; van Ameringen et al., 1988; Dolan and Tziner, 1988; Dolan, 1990; Dolan 1995)[6]. Notice that the consequences of job stress in Exhibit 1 are labelled **strain**, and are grouped along two distinct axis: those which are detrimental to the individual worker's health (i.e mind and body), and those which are detrimental to the health of the organization.

Exhibit 1
A Prototype Model of Workplace Stress

STRESSORS	MODERATORS	CONSEQUENCES (STRAIN)
		Individual Organizational
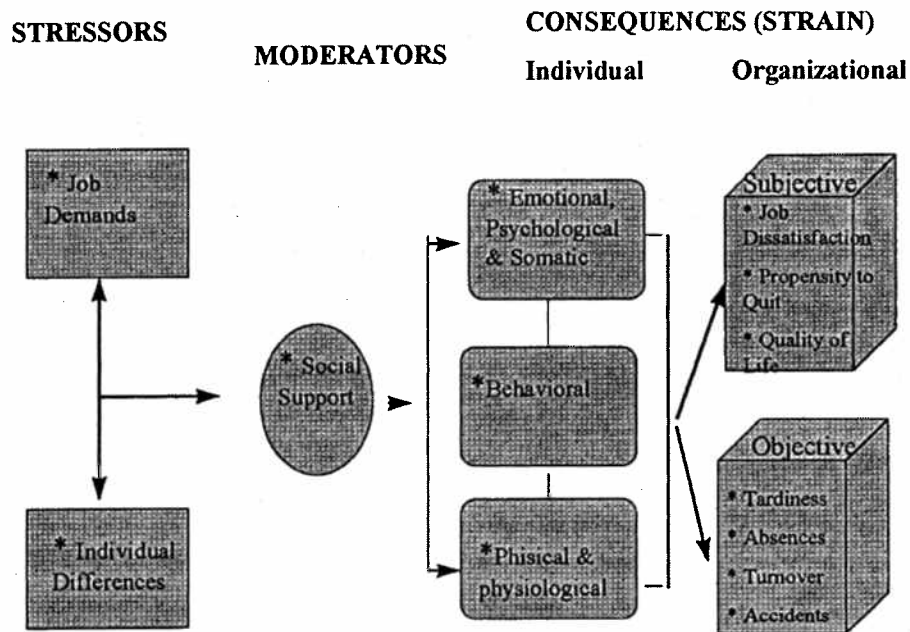
Source: Dolan S.L., "Stress Management Intervention and Assessment: An Overview and an Account of Two Experiences" in Korman K. & Associates: *Human Dilemmas in Work Organizations.*(SIOP Professional Pratice Series), New York. Guilford Press, 1994: p.40. Used with the permission of the author.

OCCUPATIONAL SOURCES OF STRESS: THE JOB DEMANDS

In general, occupational stress models have focused on several categories of job stressors. Among them : role problems (conflicts and ambiguities), job content demands (workload and responsibility), work organization (lack of participation, number of hours worked), professional perspectives (career ambiguities, skill underutilisation) and physical environment (noise, temperature, safety).

One interesting way to classify sources of stress is according to their origin: **job context** (extrinsic) origin or **job content** (intrinsic) origin. Some suggest that extrinsic stressors have linear relationships with adverse consequences whereas intrinsic stressors have curvilinear relationships. The implications are very important. In so far as the extrinsic stressors are concerned, they may have an additive and cumulative effect; that is to say, some role conflict, in addition to poor working conditions and added to a strong feeling of pay inequity, may cause stress (an adverse consequence), which is otherwise nonexistent if each stressor is regarded alone. Similarly, a low level of extrinsic stressors may have no negative effect. By way of contrast, the relationships between intrinsic stressors and some consequences are more complex; here, in either the case of over-stimulation (i.e. too much responsibility), or in the case of under-stimulation (i.e. not enough responsibility), adverse consequences may manifest. Thus, the extrinsic sources of stress are linearly related to strains, while the intrinsic sources of stress have a curvilinear relationships to strain. Exhibit 2 illustrate these two distinct relationships. Naturally, the severity of the stress consequence is moderated by the degree of social support and by the personality of the job incumbent.

Exhibit 2
The Relationships between Extrinsic, Intrinsic Sources of Stress and Strain

Extrinsic

Strain

Intrinsic

Strain
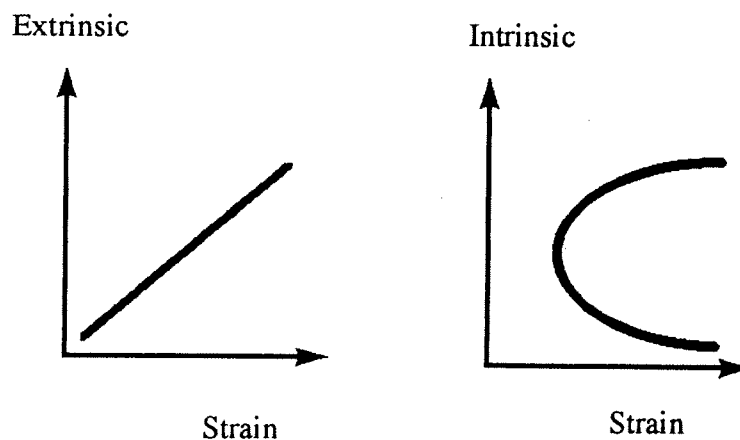
Typical Extrinsic Sources of Stress

Role Conflict and Role Ambiguity - Most of you have probably experienced **role conflict** at one point or another. When someone feels that conflicting demands are being placed upon them they are said to be experiencing role conflict. **Role conflicts** occur in the workplace when a person is expected to fulfil incompatible roles at the same time. For example, very often managers today are required to play the role of team member *and* leader. Playing these two roles simultaneously can be difficult, since managers are usually responsible for evaluation and discipline of other team members. When the manager is working on team projects, he or she may find it difficult to put aside the leadership role and participate on an equal level with other team members.

Other times, employees are asked by their supervisor to stay after work in order to complete an important assignment. The employee may feel frustrated because he/she is not paid for the overtime, but their supervisor expects them to stay anyway. When the performance expectations of an employee are incompatible or confusing (as the last example illustrates), the employee suffers from what is known as **role ambiguity.**

Both **role ambiguity and role conflict** occur in many different types of jobs. However, these types of stressor appear to be particularly common among managers and professionals, where their job descriptions is vague and not always clear. suffer if workers have conflicting roles or are confused about the nature of their job responsibilities.

Poor Systems of Employees' Appraisal and Lack of Feedback - Another quite common source of stress in organizations is lack of feedback or giving erroneous feedback which is based on poor systems of performance appraisal in the organization. Imagine if you, as an employee, worked hard and regularly turned in reports, but didn't receive them back with comments from your supervisor. How would you know how well you were doing and whether you were on the right track as you prepare a new report? How would you react to this information vacuum? (we hope you would protest and demand feedback, but remember, some employees are dependent on their job and often are afraid of asking for feedback). Clearly, feedback is essential in informing people about how they're doing and if they're making mistakes, how to correct them. Unfortunately, quite frequently, employees don't receive much feedback, contributing to feelings of stress. This state of affairs seems due to the fact that managers are almost always overworked, and performance evaluation takes time. In addition, many managers find it difficult to give negative feedback and tend to avoid it if possible. However, we all need feedback in order to learn and progress. And of course, positive feedback reduces stress and improves motivation and satisfaction (Dolan and Schuler, 1994)[7].

Lack of Career Progress - As the workforce ages and as many more organizations today face downsizing trends, the result is a number of career related problems such as fewer promotion opportunities and more competition. When a person does not advance as rapidly as he or she wishes, stress may result. Conversely, a person who is promoted into a job that exceeds his or her abilities may suffer from a different source of stress: the fear of being out of his or her depth and hence failing. Let us elaborate a bit on these two issues.

When a person reaches a point beyond which the probability of advancement is quite low it is called **career plateau**. Employees who reach this stage could be divided into two categories: *solid citizens* who continue to perform well in spite of limited promotion opportunities (i.e. these individuals suffer from less stress), and *deadwood* employees whose performance levels have deteriorated below acceptable levels. Many experts note that labelling an employee as not promotable could be very risky since he or she will be excluded from any career development opportunities and thus will fall into a vicious cycle of skill deterioration and career stagnation. In other words, even solid citizens could be turned into corporate deadwood.

Mid-career and senior employees are specifically vulnerable to **skill obsolescence** which can significantly increase the level of felt stress. This results from a combination of job changes as well as personal changes. Obsolescence can occur when opportunities for training fail to keep pace with changing job requirements. Similarly, skill obsolescence may be the result

of employees falling behind in their abilities to use new techniques. According to a number of studies, older workers are particularly vulnerable to skill obsolescence simply because they have longer work histories, during which skills and knowledge can erode.

Rapid Changes in Pace and Content of Work - In their struggle to become competitive, organizations are experimenting new schemes and methods for processing work. Very often, they implement a program and before it is over a new program takes over. Organizations are so desperate to grasp any new management "technique" or "philosophy" and they do not have the patience to stick to it for a sometimes. This results in significant amount of stress for the employees who are suppose to be able to constantly adopt to changes in the workplace. Buzz words such as TQM (Total Quality Management) are being rapidly replaced with "Flatter Organizations" to be replaced or complemented by "Continuos improvement" or by "reengineering". The fact is that amorphic state of organization and the lack of stability in one job is a major cause of stress.

A related subject which is also a common source of stress for employees in these times is the implementation of new and advanced technology. Although most of you have been using computers for some time now, many older workers did not grow up using computers and the other advanced technologies that are now available to organizations. As a result, they often find the new technology intimidating and are afraid that they will be unable to learn how to use it properly. Indeed, computerization has caused all sorts of problems and stress for both managers and employees alike over the last decade.

Poor Working Conditions - Many organizations have problems with their physical environment. For instance, some offices have poor lighting and poor air circulation. Factories are often very noisy and may be too hot or too cold. Such job conditions can be a source of discomfort and stress for an employee if they are not corrected. Furthermore, poor working conditions often lead to deterioration in work performance. Finally, environmental stressors interact and intensify other sources of stress. Thus, it is very important that managers are aware of poor job conditions and make efforts to correct the situation.

An article appearing in Newsweek magazine and entitled "stress on the Job" identified several occupations as high stress jobs. These include: Air Traffic Controller, Customer service or complaint department worker, Inner city high school teacher, Journalist, Medical intern, Miner, Police Officer, Secretary, Stockbroker and waitress. These jobs are stressful according to the author due to danger, extreme pressure, or having responsibility without control (Miler, 1988)[8]. Canadian studies add the following occupations: Crown attorneys, Nurses in emergency rooms and intensive care units, social workers assigned to youth protection, and needle workers who work on a performance based pay systems.[9]

Typical Intrinsic Sources of Stress

Work Overload/underload - Most people in organizations today complain about the fact that they are being handed too much work without adequate resources (materials, assistance, time) to complete the work satisfactorily; this is the essence of work overload. Naturally, when this is an ongoing state of affairs, it will create feelings of stress. This source of stress is worsened when, in addition to the heavy workload, the employee is not given the necessary resources required to do the job effectively. Unfortunately, it seems that stress due to overload is on the increase. Since the recession of the early 1990s, organizations have been reducing their workforce (i.e. the popular jargon in the 1990s is "downsizing" or "rightsizing") as well as purchasing fewer resources. As a result, the employees who remain (i.e. popular jargon: "the survivors") have seen their workloads increase as they had to take on some of the work of those who have left. Sometimes, too, this might mean taking on new and unfamiliar job responsibilities, further adding to their stress.

Although having too much work can be stressful, so can be having too little. Research has shown that when people have too little to do, they can become bored and irritable and may feel under stress. In one particular case, a senior executive who was stressed by the fact that his bright, highly performing assistant became more visible in the organization than himself,

decided to apply a particular strategy to get rid of his assistant; he simply cut him off all work. Although the assistance continued to be paid, he could not tolerate the fact of sitting hours in the office without anything to do, and when the stress mounted, he finally resigned. This example illustrates that too little work, in many circumstances, can be a powerful source of stress.

Job Control and Responsibility - An individual's level of control is equivalent to the extent to which she/he may determine how, where, why and when to act; the level of access to information necessary to make informed decisions, availability of resources for implementing choices, and the power to bring about desired choices. Low job control is thought to be particularly stressful in combination with high job responsibility. In contrast, jobs characterized by challenging high demands (i.e. responsibility) that provide sufficient control resources are thought to create an "active" job situation that might actually be stimulating and health promoting.

In addition to a persons various work roles, we must remember that employees have roles **outside** the workplace. For instance, many employees have the role of parent. Others may have roles such as secretary of a community organization or member of a sports team. Sometimes work roles and other roles come into conflict. For instance, a business executive might be required to work very long hours in order to get a promotion. As a result, she has little or no time to spend with her partner and children. Such conflicts can cause a great deal of frustration and stress for an employee.

A final major source of stress is simply what we may call **life events**. An argument with a friend, the ending of an important relationship, or a renewal of a mortgage are examples of events that are normal aspects of life and which cause stress. Some life events are, of course, more stressful than others. For instance, divorce, death, and problems with one's children. Obviously, such events may cause severe strain for an employee, and although they occur outside the realm of work, they have an impact on work performance. In summary, individuals may experience stress in the workplace as well as outside it. Although life stressors are not directly related to one's job, they often have an impact on a person's performance. Also,

non work stress can intensify existing work stress to the point that work stress becomes a problem. Both work and life stressors can have negative consequences on an individual's health if they are not properly managed. In the next section, we will take a look at some of these negative consequences.

CONSEQUENCES OF STRESS (STRAINS)

Stress and Health

Stress can affect our health at 4 levels: physically, somatically, emotionally and behaviourally. Some of these effects are listed in Exhibit 3. As you can see, stress may effect our health on many levels. Similarly, stress may also effect the health of the organization in the sense that employees are more absent, have low moral, or more prone to be involved in accidents. In this sense, we can diagnose organizations that are "sick" in a similar manner to diagnosing individuals who are sick, simply the signs and symptoms are a bit different. Moreover, even within the same organizations there might be units that suffer from more stress than other units. All in all, we can conclude that the more frequent and the more severe the indicators of strains (as identified in exhibit 3), the more stress and the less healthier is the individual or the organization.

EXHIBIT 3
TYPICAL STRAIN INDICATORS

PHYSICAL & PHYSIOLOGICAL	SOMATIC	PSYCHOLOGICAL & EMOTIONAL	BEHAVIOURAL
Elevated blood pressure	Muscular complaints	Anger; hostility	Escapist drinking
Increased heart rate		Anxiety	Escapist smoking
Increased cholesterol	Breading difficulties	Irritability	Impulsive behaviour
Sweating	Digestive complaints	Depression	Excessive gain/lost of weight
Hot & Cold Spells	Cardiovascular complaints	Emotional Exhaustion/Burnout	Interpersonal conflicts
Heart Attacks	Neurological complaints & headaches		Tardiness - Absenteeism
Strokes			Quitting a job (Voluntary turnover) Accident proneness

The Phenomenon of Burnout

You may have heard the expression **job burnout** since it is increasingly used in the media. But what exactly does job burnout mean? In the past two decades research on various aspects of occupational demands and their deleterious consequences on the psychological well-being of employees has been flourishing. While psychological manifestations of inability to cope with organizational life vary significantly, by and large, typical measures used in organizational research include assessments of emotional state such as anxiety, depression, irritation and even job dissatisfaction. In the past few years, however, we have witnessed a surge of write-ups in the stress arena using the concept of burnout. While originally the burnout literature concentrated on the helping/caring professions such as nursing, medicine, social work, etc, it is discussed today in other contexts. In broad terms, burnout refers to the *"syndrome of physical and emotional exhaustion involving the development of negative self concept, negative job attitudes and loss of concern and feeling for clients"* (Pines and Maslach, 1978)[10].

Thus, job burnout is a special type of psychological strain that occurs when people work in situations in which they have little control over the quality of their performance but feel personally responsible for their success or lack of it. Others view burnout as the culmination of long term stress and the tedium of prolonged mental and emotional stress. Its main characteristics, however, are physical, mental, and emotional exhaustion which makes the employee unable to cope with work demands. Burnout is a progressive state which starts as feelings of inadequacy and develops to a condition in which physical and mental function deteriorates. People most susceptible to burnout are those who are excessively committed to their jobs, work too long and too intensely, and have little control over their lives. It has been found in all professions, in all walks of life, and at all job levels. However, among different occupations the high risk categories include police officers, prison guards, nurses, social workers, and teachers. Cases of burnout employees these days are innumerable. One example is that of a 32 year old lawyer who "freaked out" and plunged a sharp pencil into the back of his own hand several times. He was taken to the hospital and is now being treated for stress related illness. Burnout has become a hot topic in law offices, which has forced the Canadian Bar Insurance Association to greatly increase its disability payouts. In 1990, for example, burnout prompted 5% of lawyers disability claims Financial Post, 1991)[11].

Although burnout has not been recognized as a defined "mental disorder" in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) of the American Psychiatric Association, it has been recently recognized as a compensable occupational disease by numerous workers' compensation boards and tribunals in Canada.


WAISGLASS/COULTHART
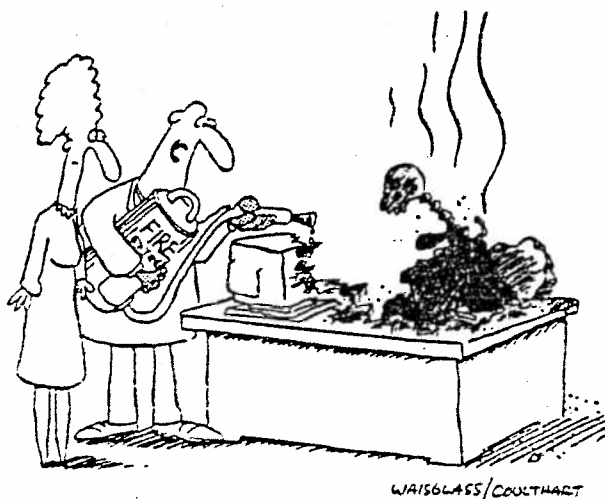
"I'm not sure, but I'd say it's job burn out."

Stress and Performance

As we pointed out earlier in the paper some level of stress (i.e. stimulation) could be conducive to performance and well being. It is only when a person is receiving **too much** *or* **too little** stimulation that adverse effects become apparent. Thus, the relationships between stress and performance could be summarised as in an **inverted U shape** as depicted in Exhibit 4. This exhibit illustrates that there is an optimal zone of performance reflecting moderate level of stimulation. in other words, in order to work most effectively, people need to be at optimal stress conditions. The problem, however, is to determine optimal level of stress! This is a difficult issue to resolve for the simple reason that one person's optimal stress level is another's breaking point. More specifically, research and simple observation show that different types of people respond to stressors differently. Our personalities can play an important role in how we respond to a situation. These will be presented in the next section.

Exhibit 4
Typical Relationship between Stress and Performance
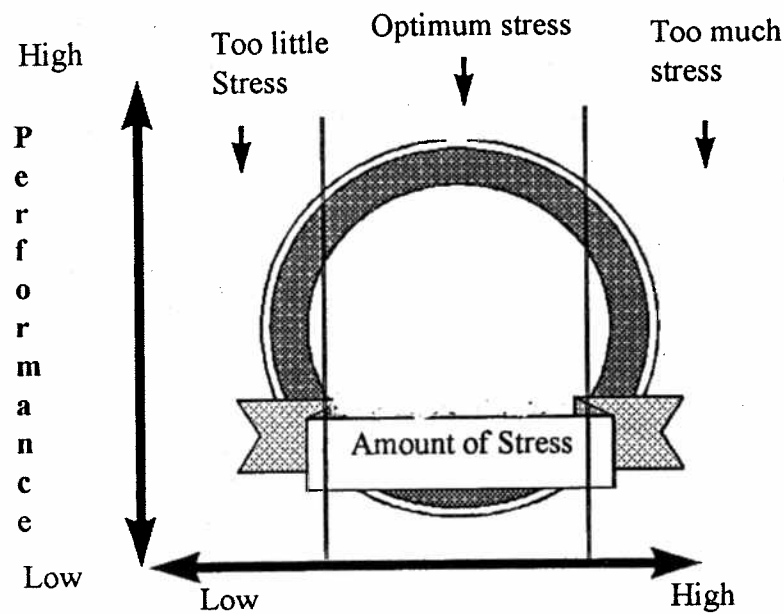
PERSONALITY AND STRESS

The occupational stressors may have either stimulating or debilitating consequences on an individual's behaviour at work, depending on a variety of individual differences (see the general model of stress, Exhibit 1). The inescapable paradox of stress at work is that the consequence is an individual phenomenon. This is to say that a given stressor to one employee is a satisfier to another. Only the individual can define his work stressors as a result of his or her own experience and apprehensions. The concept of stress, then, is **interactional.**

Therefore, the second group of factors listed in the model (Exhibit 1) are the individual differences. In the literature, there are thousands of individual differences that are accounted by researchers. In this section, we will examine the individual differences that pertain to stress, health and performance - namely individual's personality.

Type A Personality

A number of years ago medical researchers noticed personality similarities among people who suffer from premature heart disease. Specifically these people seemed to have the following characteristics in common:

(1)   A constant feeling of time urgency, and an obsession with time limitations.

(2)   This sense of pressure is handled by high levels of activity and high levels of competitiveness to the point of being hostile to people who challenge their ideas.

(3)   Workaholic tendencies; i.e. the person may work endlessly, leading to the exclusion of relationships and leisure activities.

(4)   Impatience with anyone or anything that interferes with goal attainment.

This cluster of behaviours became known as the **Type A** personality and gave rise to a large body of research into which attempts to identify and understand the determinants and consequences of Type A behaviour. For instance, it was found that people with these personality traits tend to create stress for themselves or make stressful situations worse than they otherwise might be. Furthermore, particular aspects of the Type A personality (specifically anger, hostility and aggression) not only are associated with increased stress, they also may lead to heart attacks!

Opposite to the **Type A personality** is the **Type B personality.** This type of person is easygoing, relaxed, and far less likely to react to various situations in a hostile or aggressive manner. Research has found that type B personalities are less apt to suffer from the adverse symptoms of stress, and are also less likely to contract premature heart disease.

Locus of Control

Locus of control refers to the expectancy that personal actions will be effective to control or master the environment. People normally vary on a continuum between the two extremes of **external** and **internal** locus of control. External control is the perception that positive or negative events are unrelated to one's own behaviour and thus beyond personal control; most events are viewed as dependent on chance or controlled by external powers. The **internal** person, feels that events are the result of personal actions and thus may be potentially under personal control. Do not forget that most people attribute sometimes events to lack, fate and sometimes to their own behaviour. The extreme locus of control people, however, systematically attribute events to external forces (i.e. external locus of control) or to themselves (internal locus of control). Think about the moment you had received the results of a job interview: did you attribute the results to yourself (I am smart, I knew how to behave in an interview, or I didn't prepare enough) or alternatively did you attribute it to fate (i.e. the questions in the interview were unfair, they were too difficult, or I was lucky to be able to furnish the answers they expected)?

Research suggest that internal people seem to have more efficient cognitive systems; they have the perception that they control things in their life/work and they expend a substantial amount of mental energy obtaining information that will enable them to influence events of personal importance. In this way, a sense of mastery may develop that enables them to cope more successfully with stressful events.

Dolan and Arsenault Personality Classification

In their research, Dolan and Arsenault (The University of Montreal) found that if the two personality types(i.e. Type A/B and Locus of Control, they give rise to four categories of people which enhance significantly our understanding of how individuals perceive stressors in their work and how do they attempt to cope with these stressors[12].

Given that the two trait measures of personality are orthogonal, they were combined using a method of splitting each dimension in its middle point to form four distinct categories of personalities: (a) the high S-A, high internal, was labelled "HOT-CAT"; (b) the high S-A, high external, "HOT-DOG"; © the low S-A, high internal, "COOL-CAT"; and (d) the low S-A, high external "COOL-DOG". Arsenault and Dolan in previous work (1983a), have described these four personality types in the following manner:

A.   The HOT-CAT's are competitive, preoccupied with control of their territory, must engage in immediate action and exert control over their emotional reactions. They see themselves as formal and authoritative leaders, the so-called dominant of the social structure. They will strive in order to maintain control. HOT CATs have a tendency to filter the job stressors and to convince themselves that all is possible and that things could be done; However, when they are faced with situations that they can not control or intervene, they inhibit the symptoms of strain. Exhibiting them might be interpreted as an admittance of failure and consequently they prefer to suffer silently (i.e inside).

B.   The HOT-DOG's are hyperactive optimistic individuals who feel guided by external events. They are restless individuals who find satisfaction in the demonstration that they have kept themselves busy doing whatever has to be done. They are more devoted than faithful and formal roles in an organized social-structure does not interest them. They strive and don't always believe in control. HOT-DOGs have a tendency to be easily irritated and perceive their work demands to be more stressful than HOT-CATs. When they are unable to cope with job demands they manifest symptoms of strains especially along the digestive system (i.e. ulcers).

C.   The COOL-CAT's have a tendency to be overwhelmed by their analytical mind. Being extremely critical, they have a tendency towards pessimism. It is difficult to determine if they are solitary by choice or if others avoid them because of their retreating Behavior. They like to feel unpredictable and do not like to be controlled or directed. They don't strive or compete but believe in control. COOL-CATS have a natural tendency to be depressed (i.e. even without the job environment).

D.   The COOL-DOG's would never act hastily. Their domain is more of quiet reflection and slow pace jobs. They are quite sensitive to all sorts of joys and mishaps, yet do not search and even prefer not to have control over such happenings. They appear more faithful than devoted. They don't strive nor believe in control. However, COOL-DOGs have a tendency to amplify things - when they are stressed, they manifest a variety of strain indicators. When a COOL-DOG comes to the doctor, and the later asks: what's wrong? the COOL-DOG will reply - evrything is wrong!!!. I have aches all over the body!!.

BUFFERING STRESS:
THE IMPORTANCE OF SOCIAL SUPPORT

As mentioned before, we know that people with personality characteristics such as competitiveness, anger, hostility and external locus of control are more likely to suffer from the adverse consequences of stress. Conversely, it seems that some mechanisms can actually *protect* individuals from excess stress. These are known as **stress buffers.** Indeed, researchers and managers alike have long been interested in identifying these mechanisms in which the most marked is the concept of **social support.**

Social support is of growing interest as a potential approach to alleviate job stress and burnout. Although it might seem evident that better support improves coping, the study of social support has been a complex undertaking. There is wide disagreement on both how to define and measure social support. For example, certain define social support via the *number and frequency of relationships with others*; others referr to *an individual's perceptions of the supportive quality of his/her social environment*. The most simple definition of social support is the *help given by colleagues, supervisors and famaly and friends*. Nonetheless, some researchers noted that there are many types of social support; emotional, empathy and understanding, instrumental assistance and provisions of information. Consequently, social support may operate in two ways: First it can enhance employee responses on the job because it meets important needs (such as security, approval, belonging and affection) ; in other words, the positive effects of social support can offset the negative effects of job demands on strain. Second, social support has been thought to buffer the impact of stress on employee responses.

One of the most systematic statements on social support is provided by Sidney Cobb (1976)[13]. According to Cobb's analysis, social support conveys three types of information to a person: (1) social support leads a person to have a sense of being cared for and loved (2) social support leads a person to a sense of being esteemed and valued by other people (3) social support leads the person to a sense of belonging to a communication network with mutual obligations. Thus many different social groups can provide support to moderate the efects of stress.

MANAGING AND PREVENTING WORKSTRESS

Because stress is both costly and painful to individuals and organizations, it is important that we learn how to *prevent* it, or more precisely how to *manage* it. In fact, since in most circumstances we cannot be avoid stressors, than emphasis should be placed on the management of this phenomenon in order to increase individual's health and contribute to organizational effectiveness.

Because there is no universal formula or a single recepie to manage stress, this section will be devoted to describing some of the methods and techniques used in stress management. You will notice that the section is divided into two broad categories: **(a)** those that can be used with individuals , and **(b)** those which are geared to make changes in organizations.

Individual Stress Prevention and Intervention

The principle objective of individual stress prevention and intervention is to learn how to manage stress before it becomes a problem. The methods by which we can prevent stress can include activities that are aimed at changing perceptions and habits which are causing stress or activities that are aimed at reducing stress through altering an individual's response to a stressor.

Next we will take a look at some of the individual stress **management** techniques. Stress management techniques have two purposes : (1) they help a person cope with stressful events and (2) they speed up the healing process of an individual who has been subjected to a stressful event and is showing symptoms of stress. Let's now take a closer look at each of these techniques.

Effective Application of Learned Optimism philosophy - **Optimism** and **pessimism** are two different ways of looking at life events. People who are **optimistic** tend to expect a positive outcome in most situations, typically see bad events as temporary and caused by something else other than themselves, face difficult times with hope, and overall believe that life is filled with more good events than bad ones. You probably have already been asked the telltale question "Is the cup half full or half empty?" Well, if you are an optimist you probably answered "half full"!

In contrast, pessimism can be defined as the tendency to expect the worst possible outcome in almost every situation. People who are pessimistic tend to create unnecessary stress for themselves by anticipating negative consequences for most events.

One method of teaching people to become more optimist is through a technique called "cognitive restructuring". This technique is premised on the facts that people respond to identical stressors at two time periods in their lives differently. The reason is that in between they have had experience and manage to see that what was percieved early in life to be a "catastrophic" event (i.e. very stressful) is actually not the end of the world. In fact, learning to interpret events in a less emotional manner (i.e. more rationally) can lead to a higher sense of optimism for the vast majority of cases.

Effective use of Time Management - As we mentioned earlier on, many employees are being given more work to do in shorter amounts of time. When employees have too much to do in too little time, it is essential that they learn how to effectively *manage* their time in order to avoid unnecessary stress. Effective time management involves three basic activities. First of all, the employee needs to decide which tasks are most important. Preference should be given to activities that contribute the person's long term development. Next, the employee must learn what his or her limits are in terms of workload. In other words, the employee needs to learn to avoid taking on too much or too little work. Finally, the employee needs to learn to schedule in time for leisure activities.

Effective use of Leisure Activities - Participation in leisure activities help employees to relax and recover from the demands of work and family life. It is important to remember however, that leisure activities reduce stress levels *only if the person gets pleasure from participating in the activity.* We must recognize that some people have difficulty making time for leisure activities. When they are not at work, they clean their houses or do grocery shopping. If a person finds these activities enjoyable, then they will help to reduce stress and are considered "true" leisure activities. On the other hand, if these activities are not enjoyable, they will likely *increase* stress levels. Thus, the key to reducing stress through leisure time is to participate in *enjoyable* activities!

Physical Exercise - There are two types of exercise which help to prevent and/or reduce stress. First of all, aerobic exercise (that is to say exercise involving cardiovascular exertion), seems to improve a person's ability to *cope* with stressful events. Similarly, people who are aerobically fit will also recover from stressful events more quickly. Examples of aerobic exercise include swimming, jogging, playing squash or tennis and so on.

The second type of exercise associated with stress prevention is flexibility training. Flexibility training involves the stretching of various muscles. You will recall that one of the physiological reactions to stress is the tensing up of muscles. Well, it seems that flexibility training enables a person to stretch and relax these muscles in order to prevent a build-up of muscular tension.

Relaxation Training - The *relaxation response* is the natural "counter response" to the stress response. Indeed, many people claim that by "drawing out" the relaxation response, they can reduce stress levels. In eastern cultures, the relaxation response is elicited through *meditation* whereas in Judeo-Christian cultures, many people experience this response when *praying.* Thus, if you practice regular meditation or prayer, you may have already experienced the relaxation response.

The relaxation response can also be achieved outside of a religious context and has been effectively used to alleviate stress. One way this is accomplished is by helping people learn to remain calm when confronted with demanding situations.

Diet - Interestingly enough, it seems that diet may play a indirect role in stress management. Apparently foods that are high in sugar may provoke the stress response. Furthermore, people who have diets that are high in whole grain foods and low in fat tend to experience improved overall health, thus making them less vulnerable to the symptoms of stress.

Organizational Stress Prevention and Intervention

The previous pages have discussed how individuals can prevent or cope with stressful circumstances. The following section moves on to focus on what organizations can do about stress. Organizational stress management techniques are aimed at reducing stress *by removing the causes of the employee's stress* or by *offering stressed employees professional services enabelling them to receive help.*

Reducing Role Conflicts and Ambiguities - As we already mentioned, one of the principle sources of organizational stress is **role ambiguity.** By defining an employee's work role in clear specific terms, any confusion relating job responsibilities is eliminated. As a result, an employee's stress levels may be reduced simply because the employee knows what is expected of him or her. Furthermore, an employer needs to clearly articulate performance standards to his or her employees. This activity is important for two reasons. First, it will reduce unnecessary frustration and stress within the employer because performance standards are more likely to be met. Secondly, just like role clarification, setting performance standards gives the employee has a better idea of what he or she is expected to do.

Improving Performance Evaluation and Feedback Systems - Since stress is possible consequence of lack of feedback, providing feedback gives employees a clear idea of what they are doing right and what needs to be improved. Indeed, feedback and performance evaluation help reduce uncertainty concerning personal performance, thus removing this source of stress.

Improving Planned Change Processes - Change is a source of stress for people both in and out of the workplace. Today in organizationas, many changes are occurring at a rapid rate and very often employees are unprepared for these changes. For instance, many companies are implementing new communication and information systems. This is a major source of stress for older employees; particularly if they are not forewarned of the change or if they do not know how to use the new equipment properly. By implementing change slowly and presenting the positive aspects of the change, complete with evidence that change is necessary, management can help employees cope with the changes in the organization. Indeed, when employees are prepared for the change, a great deal of the stress associated with change is reduced. It is also a good idea to provide the training needed in order to help the employee adjust to the change.

Job Redesign - Many aspects of an employee's job can cause stress. For instance, overwork, underwork or a lack of control over decisions concerning one's job and work environment are likely to be sources of stress. By redesigning jobs so that workers participate in decisions that directly concern them, employers can reduce the stress resulting from a feeling of lack of control. In addition it is a good idea for employers to take the time to analyze their employee's workload in order to ensure that the workers are neither overworked nor underworked.

Another way of restructuring a job is to add more flexibility. Indeed, many employees with families may find the rigid "nine-to-five" work hours a source of stress. Allowing employees flexible work hours or the opportunity to work at home when possible can reduce unnecessary stress, particularly for employees who have family demands.

Job Rotation and Innovative Career Plans - In the current context, many employees are not being promoted as rapidly as they would like. As a result, some of them are losing interest in their jobs. Job rotation provides an opportunity for employees to learn new knowledge and may reduce the stress associated with repetitive work and underpromotion. It can

also improve employee motivation and satisfaction. Thus, a culture where lateral and horizontal moves are encouraged may overcome the traditional view of a career only as a vertical promotion.

Monitoring of the Physical Environment - As we already mentioned, poor physical conditions can be a source of stress or can increase an employee's existing stress. Interestingly enough, very often poor working conditions can be improved with minimal effort and may result in substantial savings for the organization! For instance, improving office lighting may save a company thousands of dollars in absenteeism, sick leave, turnover and so on.

Improved selection, placement and promotion policies - If a person does not "fit" the job he or she is occupying, employer *and* employee stress will increase. Indeed, the employer's stress increases because the worker's performance is inadequate and the employees suffer from stress when they find themselves in jobs that do not suit them. One way to avoid this problem is to improve selection and placement policies. This can be accomplished by thoroughly analyzing the job and pinpointing the abilities and personal characteristics required to perform the functions of the job. The clearer the hiring criteria, the more likely that the best person will be chosen for the job. When a person is doing a job that he or she likes and is good at, the likelihood of suffering from job related stress is reduced. Finally, implementing promotion policies that allow for lateral moves as well as upward moves can reduce stress from underpromotion and mid-career crisis.

Open Communication Channels - When an organization has effective communications, important information is effectively circulated throughout the company employee stress may be reduced. Indeed, when organizational communications are open and effective, employees are able to predict and understand events occurring around them. Thus stress from unexpected changes is reduced.

Improving work schedules - A number of principles can be deducted from the literature reviewed on irregular work schedules. Although elimination of shift schedules from many jobs is impossible, studies on human adaptation to disturbances of biological rhythms yield interesting suggestions for improving the work situation. The shorter the shift work period (2-3 days), the better the body adapts. One should ideally try to design work schedules with a maximum of three consecutive night shifts, or at least increase the rest period immediately after, in order to decrease the ensuing sleep debt. Moreover, studies have shown that direction of shift work has an impact on bodily rhythmic functions. It is much easier to rest and adapt following a day-evening-night rotation than the inverse direction, night-evening-day. Consequently, work schedule planning could easily consider these principles.

Moreover, in order to remedy the negative impact of shift work on diet and on health, some organizations hire a nutritionist, which guides shift workers in promoting better eating habits. A number of easily applicable guidelines include: plan daily meals in order to balance nutrition; take the main meal in the middle of the day, not in the middle of the shift, and reduce caloric intake during the evening and night; increase water and fibre consumption, reduce fats, sugar and caffeine; include daily relaxation periods to help digestion and promote sleep.

Employee WellnessPrograms - Health can be considered as existing continuum with wellness being logically opposite to sickness or illness. Traditionally, medicine concentrated on treating the illness, but with the recent attention being paid to prevention, the focus is shifting to wellness. This has been recognized by an increasing number of organizations who offer employees **wellness programs.** The program encompasses all facets of employees' lives including physical fitness , mental health, spiritual balance, and economic well being. It is important to realize that these programs overlap and that elements of one program could be consistent with another. For example, smoking cessation may be offered in conjunction with a program of physical exercise and lifestyle counselling. A 1984 survey of Ontario companies with more than 50 employees, indicated that one in three companies offered at least one type of wellness program.

Physical Fitness Programs - Physical fitness programs are growing among Canadian corporations. They are being implemented in two forms: in-house and out-of-house. For the **in-house** programs, there are facilities located on site where the employees can work-out on their own, or participate in an exercise class. Some firms have facilities with elaborate settings, numerous staff members, and advanced equipment whereas others have to operate on a much smaller scale.

Northern Telecom has decided to build an extensive in-house facility for both blue and white collaremployees. Air Canada also has an in-house physical fitness program consisting of a weight training room and low impact aerobic classes, which are taught by qualified instructors five days a week. Other examples include Sun-Life Insurance and the Canadian National Railway. However, their facilities are temporary and not quite as extensive. It is perhaps worth mentioning that in Japan, for example, fitness programs are incorporated into the regular work day.

Due to lack of space or facilities, many employers are willing to support their employees by way of subsidizing a portion of their membership fees to a fitness program. Companies such as the Royal Bank and Domtar pay between $100-200 per employee. Additionally, there are companies who contract out existing out-of-house programs. For instance, there are 61 companies in Quebec who are involved with the YMCA's corporate fitness and lifestyle program. Among them, are: Air Canada, Alcan, Bank of Montreal, Bell Canada, Standard Life, and Tilden, to name a few. For them, contracting out is less expensive than doing it themselves.

To conclude, stress can be prevented and managed by both individual and organizational interventions. At this point you may be wondering which type of stress management technique is more effective in reducing organizational stress. Well, according to experts in organizational stress management, it seems that the individual methods used on their own only solve part of the problem since these methods usually do not attack the source of the problem. As a result, many experts believe that implementing a combination of organizational and individual methods is the best way to avoid excess stress among workers. Indeed, the combined effort of modifying worker's perceptions, teaching healthy living habits and removing sources of organizational stress will go a long way in reducing stress in the workplace.

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