THE STRESS OF LIFE

Understanding and managing stress

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SECTION 1 - UNDERSTANDING STRESS

WHAT IS STRESS

Despite decades of research into stress there is still no agreed upon definition of what stress is (Rees & Redfern 2000:120). Despite this, stress is often defined as "the response of the body to threats or demands" (Schiraldi & Kerr, 2002:277).

The word stress was introduced during the 1930s by scientist Hans Selye. Selye was the first to take serious note of the human physiological systems that were brought into play when a person responded to a challenge (McEwen, 2002:11). Selye's research (1978) led to the conclusion that the human body possesses a mechanism which assists in coping with demands placed upon it. Selye named this mechanism the general adaptation syndrome. Eventually Selye replaced this term with the word stress. The early work of Selye focussed on the body's physiological responses but more recent work, such as that of Lindemann (1944) and Caplan (1964), Holmes & Raye (1967), and Cohen (1988) (Bjorck 1999 cited in Benner & Hill 1999:1170) focuses upon the psychological component of stress.

When a person is stressed, the autonomic (involuntary) nervous system is brought into play. The autonomic nervous system controls involuntary muscles such as heart, stomach and skin. This system has two divisions. These are the sympathetic and parasympathetic systems. It is the sympathetic division that comes into play when stressed. It is this system that prepares the body for "fight or flight." The heart rate increases, pupils become dilated, the digestive system stops, respiration increases, adrenaline is pumped into the body by the adrenal glands and peripheral blood vessels constrict (Meier, Minirth, Wichern & Ratcliff, 1996:50-51). The parasympathetic system works in the opposite way and maintains balance (McEwen, 2002:71).

The reality of life for most people is that although they may not be able to define what stress is, they know when they are stressed. The word has become an everyday part of the vernacular. When we are stressed we feel like life is overwhelming us and that we are going to lose control. "Stress refers to the pressure that life exerts on us and the way this pressure makes us feel" (McEwen, 2002:3).

STRESS AND ANXIETY

Stress and anxiety are closely linked and therefore sometimes confused. The words can be used interchangeably by people at times. Anxiety has three layers to it. These layers could be described as behavioural, internal and physiological. Table 1 describes these anxiety layers.

Table 1. – The layers of anxiety

BEHAVIOURAL	INTERNAL	PHYSIOLOGICAL
trembling	dread	rapid heartbeat
shaking	feeling tense	sweating
pacing	sense of unreality	butterflies in stomach
easily startled	(depersonalisation)	nausea
twitching eyelids	fear of dying or 'losing it'	shortness of breath
avoidance	dizziness	clammy hands
difficulty sleeping	continual worrying	dry mouth
stuttering		lump in throat
hand wringing		difficulty swallowing

(based on Ciarrocchi 1993:47-48)

The symptoms of anxiety as shown in the table are the same kinds of symptoms that people might choose to describe as stress. In every day language the two terms are often used interchangeably. My own way of thinking suggests to me that anxiety is the internal feeling that is produced by a perception of threat and danger, and stress is the overall response that I have to that feeling.

STRESS AND BURNOUT

Burnout can perhaps be understood as the end result of prolonged stress. Burnout can occur when the bodies coping mechanism are overtaxed for too long. Psychologist Arch Hart differentiates between stress and burnout in the following table.

Table 2. A stress and burnout comparison.

Stress	Burnout
1. Characterised by over-engagement	Characterised by disengagement
2. Emotions become over-reactive	Emotions become blunted
3. Physical damage primary	Emotional damage primary
4. Exhaustion affects physical energy	Exhaustion affects motivation and drive
5. Produces disintegration	Produces demoralisation
6. Loss of fuel and energy	Loss of ideals and hope
7. Depression: body's need to Protect itself and conserve energy	Depression: grief caused by loss of ideals and hope
8. Sense of urgency; hyperactivity	Sense of helplessness and hopelessness
9. Produces panic, phobia and anxiety disorders	Produces paranoia, depersonalisation type disorders and detachment
10. May kill you prematurely, you wont have time to finish what you started	May never kill you, but your long life may not seem worth living

Source: Pryor (1986:7)

MODELS OF STRESS

Sutherland and Cooper (1990 cited in Irvine, 1997:16-20) outline three models for understanding stress. These are described as the stimulus based model, the response-based model and the interactive model.

The stimulus based model sees a human being as an object affected by external stressors. The person affected in this way has to cope with these stressors. Although such an understanding of stress can assist in identifying external phenomena that create distress, it ignores the subjective reality that is an essential part of human experience. Diagram 1 outlines the stimulus based model.

The response based model places the emphasis on the response of the individual to external stimuli. In such a model of stress, the focus is upon the observable response of the person under stress. The response based model assists in understanding the reaction to stress, but the limitation is that the solution to stress is viewed as wholly internal.

Diagram 2 outlines the response based model of stress.

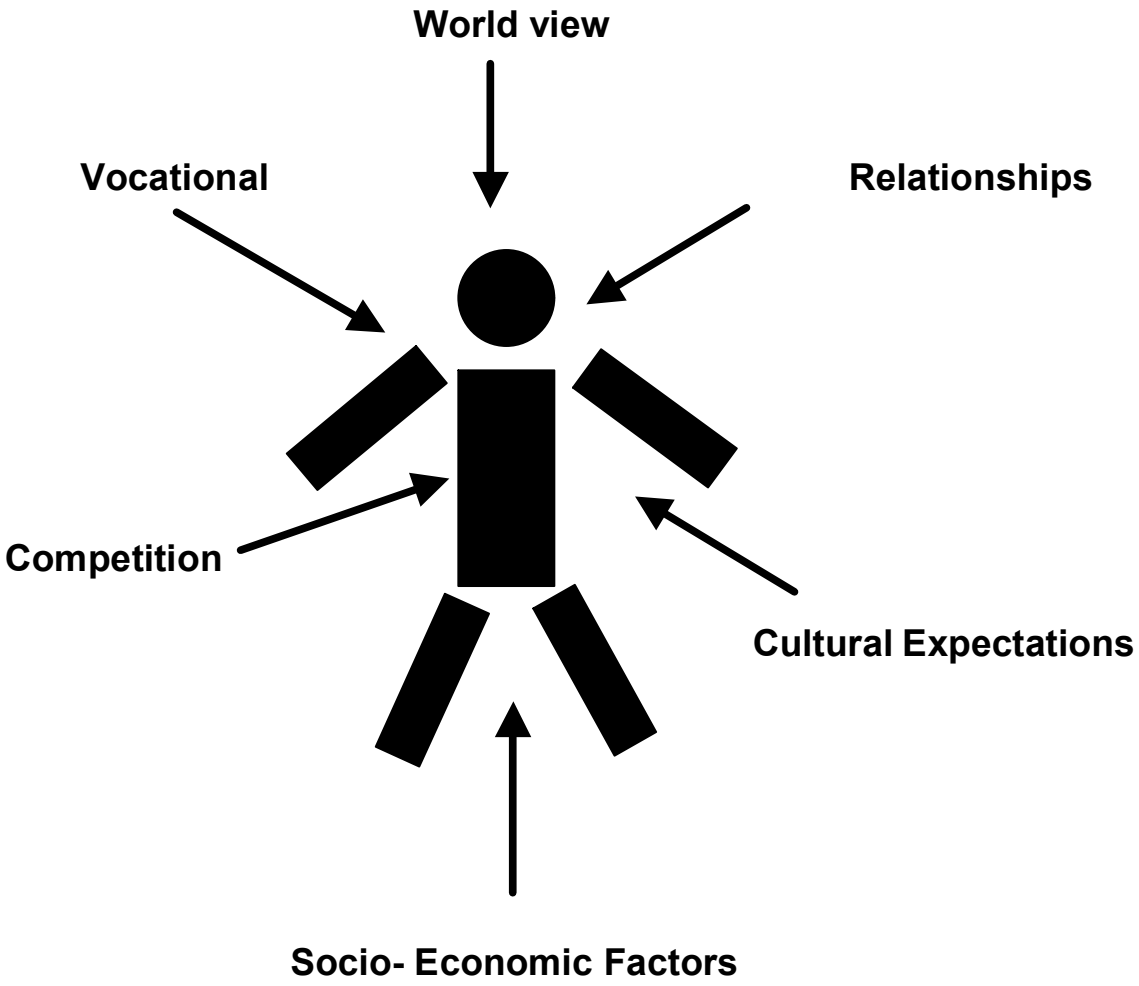

Diagram 1 – Stimulus based model

(based on Irvine,1997:17)

It is generally accepted that an interactive model of stress is needed to incorporate the complexity of the human stress experience (Irvine, 1997:18). An interactive model (Diagram 3), takes into account external stressors, the reaction of the person, the temperament of the person and the interaction of these factors. Sutherland and Cooper (1990:20) state,

> within the interactive model of stress, it is necessary to consider all three conceptual domains in the stress process:
>
> i) Source of stress;
> ii) Mediators of the stress response;

iii) The manifestation of stress. Situations are not inherently stressful, but are potentially stressful.

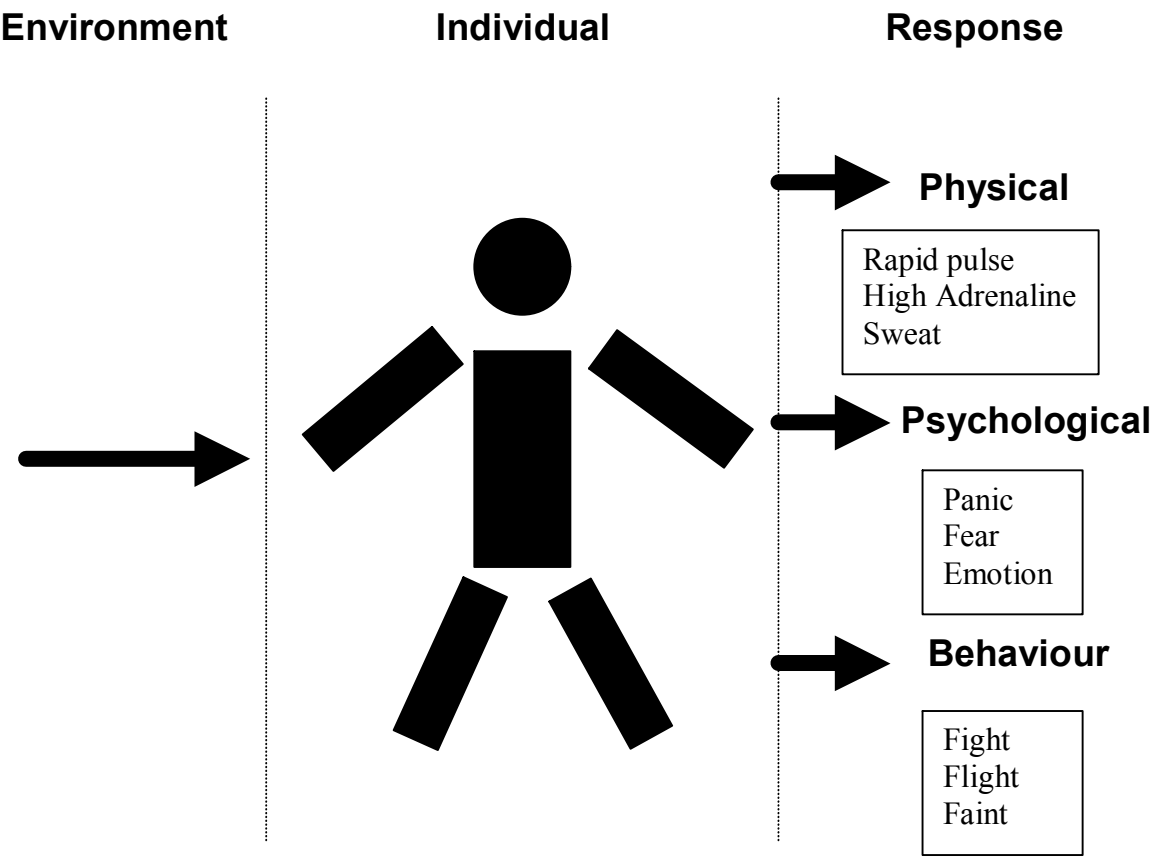

Diagram 2 – Response based model

(based on Irvine, 1997:18)

The interactive model of stress allows for the place of perception in the experience of stress. Perception is the end result of the central nervous system translating sensory input into a new form of information.

Perception means that the individual is not a passive object upon which external stimuli act. A stimuli based model of stress makes no allowance for this aspect of human experience. The response based model is also found wanting in that it doesn't allow for external stimuli influencing the way in which a person thinks about the world and their place in it. It is in an interactive model that there lies the best chance of an understanding of stress that reflects the reality of human experience.

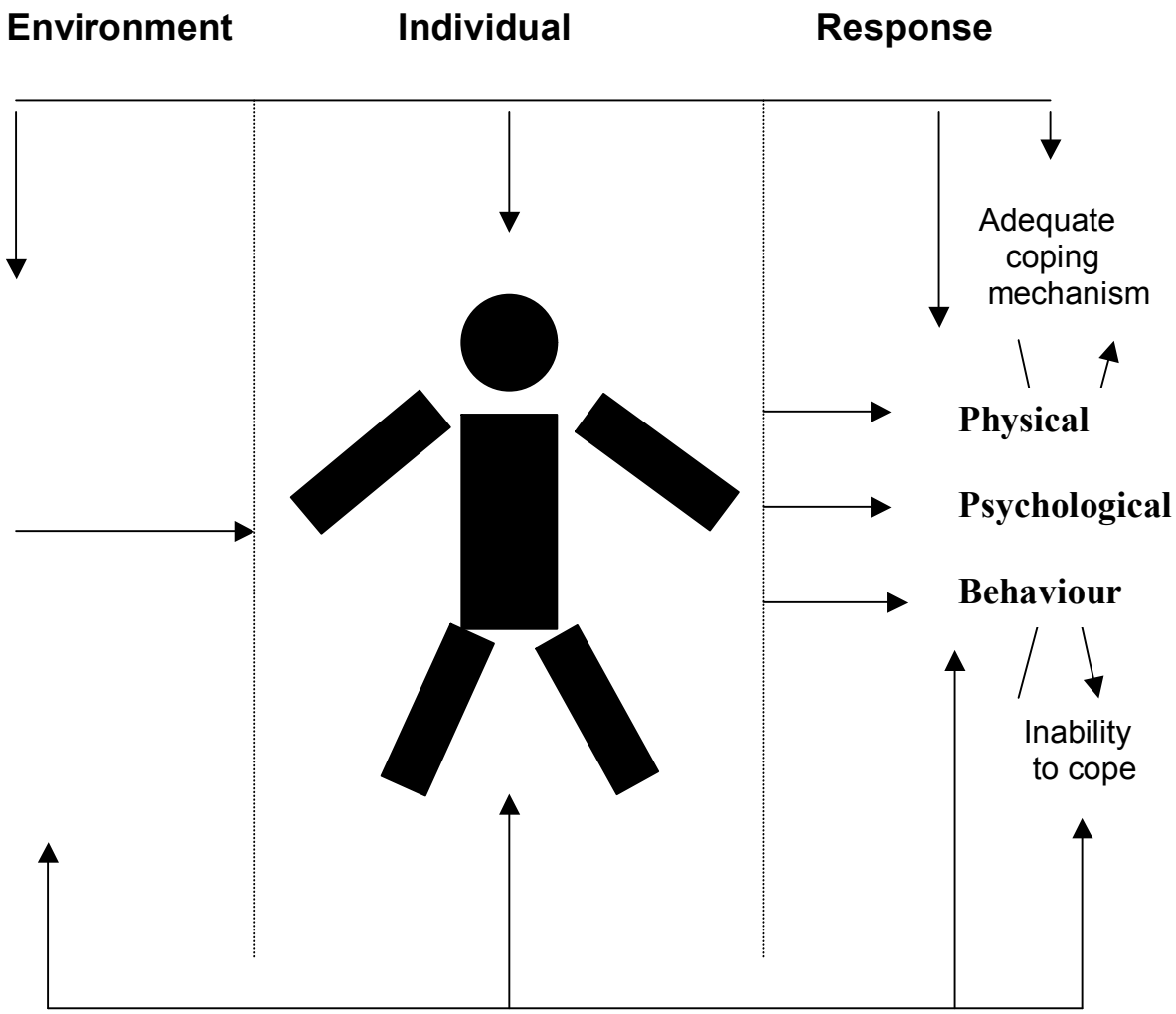

Diagram 3 – Interactive model
(based on Irvine,1997:19)

PSYCHOLOGICAL STRESS

It has already been mentioned that perception plays a major role in the experience of stress. What goes on in the head is important. The way we think about things influences the degree to which things affect us. This explains why what is stressful to one person is not stressful to another. Hans Selye used the terms distress and eustress to describe two different kinds of stress. Eustress is a positive stress that energises for life whereas distress is a negative stress which saps energy.

McEwen (2002:9) places a great deal of emphasis on the place of perception when he says,

> The human mind is so powerful, the connections between perception and physiological response so strong, that we can set off the fight-or-flight response by just imagining ourselves in a threatening situation.

Imagine a person who loves their work. They find that it interests them and that they become totally absorbed in it. They might invest themselves fully in it and lose track of time as a result. This is an example of eustress. It is not unpleasant. The worker in the example could easily become a workaholic. The subtle danger of eustress is that it doesn't necessarily feel unpleasant but it still taxes the system.

ALLOSTASIS AND ALLOSTATIC LOAD

Bruce McEwen (2002), from Rockefeller University in New York, has in recent times argued for the use of the term *allostasis* when discussing stress. He contends that the term stress should only be applied to external events and that the stress response should be referred to as allostasis. He further contends that when the stress response system starts to falter and turn against a person the term *allostatic load* should be used. In arguing his case McEwen begins with a discussion of *homeostasis.* Homeostasis, a term first used by Claude Bernard in the middle of the 19th century refers to the balance that an organism needs to maintain optimum health. It has been described as a "physiological regulatory mechanism that maintains a constant and stable internal environment relative to a variable external environment" (Hill cited in Benner & Hill 1999:570). There are many facets of human functioning that must remain stable for health and survival. Examples are body temperature, the body's acid-base balance, the body's oxygen content and the amount of oxygen that reaches the brain. These things need to remain at an optimum. There is little room for variation (McEwen, 2002:5). These are examples of the homeostatic systems of the body.

In contrast to the body's homeostatic systems, are other systems that allow us to cope with environmental changes. These systems are able to operate within a wide range of parameters. Examples of these systems are heartbeat, breathing, the amount of glucose in blood and the amount of fat. McEwen applies the term allostasis to these systems. The word is derived from the Greek *allo* which means variable. McEwen emphasises that it is these allostatic systems that enable the body to remain stable and that it is in the human response to stress that we see the most marked changes in these systems (McEwen, 2002:6).

'FIGHT OR FLIGHT' AND 'TEND AND BEFRIEND'

It is often assumed that the "fight or flight" stress response applies to both male and females but recent research is beginning to cast doubts on this assumption.

Up until 1995, research investigating the fight or flight response had been conducted primarily with males, females only constituting 17 per cent of the participants (McCarthy, 2005: para.2).

Recent research beginning with the work of Taylor et al. (2000) has raised questions about the relevance of applying fight or flight to the female stress response. The research indicates that the "fight or flight" response so long assumed to apply to men and women is predominantly a male response. Taylor's research team coined a new term "tend and befriend" to describe the behavioural response to stress by women. They suggest that while it may be true that the physiological responses of both men and women fit the fight or flight paradigm, the behavioural response of women is tend and befriend. The research suggests that the tending part of the equation focuses on nurturing activities focussed on protection of self and offspring. Befriending is the establishment of a network for aiding in this process.

The research mentioned was conducted on rodents but there have also been human studies suggesting similar outcomes (Heinrichs, Baumgartner, Kirschbaum and Ehlert 2003, & Frydenberg & Lewis, 2002).

Taylor et.al theorise that whereas testosterone is the key to the fight or flight response to stress in men, the key to the female tend and befriend response is the neuropeptide oxytocin. It has been shown that oxytocin decreases blood pressure and reduces levels of cortisol, a hormone believed to be indicated in the fight or flight response. Taylor et al. have hypothesised that females release oxytocin in response to stress.

The hypothesis outlined by Taylor et al. represents a marked shift in thinking about stress. It is therefore not surprising that not everyone is convinced. However, it is interesting that it is far easier to establish support groups for women than for men. Women seem to want to get together and talk when they are stressed, whereas men seem to prefer to isolate themselves. Some would say this is cultural but research is beginning to suggest that maybe there is some inherent biological gender differences at play.

THE IMPACT OF STRESS

The stress response (allostasis) is a protective system. It assists us to face a challenge. The protective stress response is designed for short term activation. When a person is faced with perceived danger, the body prepares the person for the challenge. Such a response is meant to be infrequent. When that person lives out a lifestyle that overtaxes the inbuilt coping mechanism then health can start to suffer. When this happens allostasis has given way to allostatic load (McEwen, 2002).

Allostatic load affects people in various ways. The cardiovascular system is particularly sensitive to stress. When stimulated the human body needs extra

reserves of oxygen and glucose. In response to these requirements the heart beats faster to drive more oxygen and glucose through the body. When repeated surges in blood pressure occur as in the case for people under constant stress, hypertension can be the result. Hypertension increases the likelihood of heart attack. As part of the process for keeping the body supplied with fuel when under stress, adrenaline and cortisol work together to balance the energy supply. If a person remains under stress and cortisol levels therefore stay high, energy becomes stored as fat. This fat often accumulates along blood vessel walls, increasing the likelihood of atherosclerosis, another risk factor in the likelihood of heart attack (McEwen, 2002:68-69).

The immune system like the cardiovascular system is sensitive to stress. If stress continues for an extended period of time the immune system can start to falter (Hempel, 2003). When stress is present the immune system sends white blood cells to where they are needed. If stress is ongoing and becomes allostatic load, the immune system becomes suppressed and the likelihood of infection increases (McEwen, 2002:91). In some people ongoing stress does not suppress the immune system. In these people the opposite occurs and the immune system becomes so sensitive it starts to attack threats that don't exist. This is the basis of many autoimmune diseases (McEwen, 2002:99).

SECTION 2 – MANAGING STRESS

McEwen (2002:15-16) says;

> for decades scientific research has shown that we can guard against the ravages of stress by following advice our grandmothers could have given us: restful, plentiful sleep, a good diet, and regular exercise, as well as the support of family, friends, religious organisations, and community (isolation is one of the chief contributors to allostatic load), and a sense of control over and contribution to one's own life – often noticeably absent in those who suffer from heart attacks or depression.

DIET

There is ample evidence to suggest a link between diet and stress. We have seen the impact that stress has upon the cardiovascular system. Part of this impact is the storing of excess fat that is produced by the high energy demands of stress. If we have a diet that is high in fat we add further to the over taxing of the cardiovascular system. Complicating things further is the fact that comfort eating is often a way in which people try and deal with the feelings of being stressed. Comfort eating usually involves food that is easily obtained with a minimum of fuss. A packet of chips from the cupboard or dropping in at a fast food 'joint' after a tough day at the office. A balanced diet is important, particularly if we are living a stressful life.

The following is a brief breakdown of what is helpful in regard to diet (ICBS , Inc. 1998-2006).

Caffeine – Found in coffee, tea, chocolate, coke. It causes the release of adrenaline which in turn increases the level of stress. In moderation caffeine can be helpful in increasing alertness but regular consumption of too much coffee can have the same impact as long term stress. Regular drinking of coke is even worse.

Alcohol – In moderation it can be beneficial for the cardiovascular system but overuse of alcohol is a major stressor. In a catch 22 people often drink as a way of coping with stress. Such a strategy actually increases the effect of stress. High levels of alcohol combined with stress are a deadly combination.

Smoking – Smoking is attractive for some people because it does work short term. This is the problem with most drugs. Smoking is responsible for a number of cancers, hypertension, respiratory illnesses and heart disease.

Sugar – There are no essential nutrients in sugar. The quick input of energy that sugar produces can exhaust the adrenal glands leading to irritability, poor

concentration and in some instances depression. High sugar intake also increase the possibility of diabetes.

Salt – Salt increases blood pressure, depletes adrenal glands. Avoid junk foods that are high in salt. These include bacon, ham, pickles and sausage.

Fat – Fat puts strain on the cardiovascular system and creates obesity. It has also been linked to breast, colon and prostate cancers.

Carbohydrates – These are helpful in that they release the serotonin which has a soothing effect. Good sources of carbohydrates are rice, pasta, potatoes and breads. Experts say that a baked potato or a cup of rice is able to relieve the anxiety of a stressful day.

Fibre – You should have at least 25 grams of fibre a day. Sources are fruits, vegetables and grains. Great for the digestive system which can be effected substantially by stress.

Vegetables – Vegetables like carbohydrates increase the production of serotonin thus assisting in mood stabilising.

EXERCISE

Exercise is an important part of reducing the effects of stress. Exercise guards against the build up of fat thus protecting the cardiovascular system. Schiraldi and Kerr (2002:143) say that,

> Moderate, regular exercise is remarkably effective for improving mental and physical health. It measurably reduces muscle tension and other stress symptoms without the side effects of medication. It improves self-esteem, lowers blood pressure, slows resting breathing and heart rates, increases energy levels and stamina, improves the quality of sleep, promotes weight loss, strengthens the immune system, reduces PMS symptoms, and reduces anxiety and depression.

It has been suggested that a half hour walk each day is as effective in preventing relapse amongst post depressive people as is Prozac. In other words, exercise has antidepressant effects. This is due to the way in which exercise stimulates the release of endorphins into the chemistry of the brain.

PSYCHOLOGY

It has been shown that the experience of stress is largely perceptual. The way that I think about a situation will ultimately determine how stressful I find that

situation to be. What follows are a number of ways that we can 'fine tune' our thought life to minimise the experience of stress.

Differentiating between goals and desires –

A major source of stress in life is created when we try and take responsibility for things that we have no control over. The only possible outcome for this is worry. The worry that is produced is a total waste of time. Some of the wisest words spoken about this problem are the words found in the serenity prayer.

> *God grant me the serenity*
> *To accept the things that I cannot change;*
> *Courage to change the things that I can;*
> *And wisdom to know the difference.*
>
> *(Reinhold Niebuhr)*

The wisdom in these words is about putting our energies into those things that we can influence rather than those things that are outside our control.
This means separating between those things that are desires and those things that are goals. A desire is something that I would like to have happen but which is not within my control. For example, I might like to be liked by everyone I meet. This is not within my control. If I try and take responsibility for this I will just be worrying all the time about what people are thinking of me.

In contrast to a desire, a goal is something I can take responsibility for. I can't make everyone like me but I can take responsibility for the way that I choose to behave toward others. This is something I can put energy into rather than just worry about. A good rule of thumb is to never take responsibility for anything that you don't have both the power and authority to influence.

Challenging Distortions of Thinking – Cognitive restructuring

The core beliefs linked to our sense of identity and place in the world are able to generate distortions to the way we think. For instance, if I have a core belief that I am a failure, and am asked to do something, I may immediately think that I'll mess it up even if I am quite capable of carrying out the required task. The way that this distortion of thinking (DOT) arises will be in the form of negative (–ve) self talk, perhaps something like "say no, you'll only mess it up anyway." If I obey the –ve self talk, then I will re-inforce the core belief.

Psychologist Eugene Sagen (cited in Sorrell, 1995) used the term "The Pathological Critic" to describe the –ve self talk that goes on in our minds. He suggested that it was like a voice within that is determined to put us down. Many

people have a “static” of –ve self talk within their minds. It is important that instead of just letting the “pathological critic” have its way we develop a “healthy coach” that separates the lies from the truth.

The first step in combating –ve self talk is to tune into it. While ever we let the self talk go on it will dictate the way we live. Through becoming aware of the –ve self talk we become able to challenge it. –ve self talk is challenged by identifying the irrationality and the inappropriateness of it and by then “fighting” it by actively choosing to challenge it and not live according to it. There are many cognitive techniques that can be used to fight –ve self talk. Some of these techniques are:

Reattribution: Placing responsibility where responsibility belongs

Questioning evidence

De-catastrophising: Also called the “what if” technique?

Reframing: Putting on “new glasses”

Thought stopping: Picture a stop sign, or a bell, or a wall whenever unwanted thoughts start

Paradox: Prescribing the problem

Normalising: Recognise the “normality” of worry in worrisome circumstances

Relaxation and breathing exercises

Support group: Joining or forming a regular/sharing group can build much needed bridges, develop trust and restore confidence

Risk taking exercises: Daring to get out of one’s “comfort zone” – builds self – esteem

Four questions that can be helpful when questioning the evidence for distorted thoughts are,

1. What are the facts and what are my subjective perceptions?

2. What is the evidence for and against my thinking?

3. What distortions or mistakes am I making in my thinking?

4. Are there any other ways of interpreting this situation?

Thought record

When trying to fine tune stress producing patterns of thinking it can be helpful to use a thought record. A thought record is a diary of distorted thinking and the challenging of this thinking. – (See appendix A)

The idea of the thought record is to keep a record of when you recognise a distorted thought and the way that you are able to bring it under your control. The more that this is done the easier it becomes. It builds confidence and self-esteem as well as creating new ways of thinking.

Sailing boats rather than speed boats

We live in a Western society that often reduces humans to producers and consumers. We are what we do and we do it so that we can consume. Success becomes quickly connected to materialism and its constant demands on time. We can end up being driven people. Getting out of the rat race can reduce stress greatly. Remember if you stay in the rat race you may win the race but you'll still be a rat.

A helpful metaphor is to think of the contrast between a speed boat and sailing boat. A speedboat travels in a straight line without having to worry about wind direction or about any other boats on the way. A speedboat is faster than other boats, more threatening than other boats and everyone gets out of the way for it. Speedboats tend to be focussed on the goal that they are aiming for.

In contrast sailing boats are content to have a general sense of direction. They eventually get to where they want to get but they rarely travel in a straight line. They work with the elements, the wind and the waves. The sailing boat is more relaxed and able to enjoy the journey. In fact the journey is as much fun as the arrival at the destination. Living life as sailing boats is a far more relaxing and rewarding way to live. Speedboats often run out of fuel or have the motor burn out.

In trying to combat our society's 'tyranny of the urgent' it can helpful to think of life being divided into four boxes (Rose, 2006). These four squares are important and urgent, important and not urgent, not important and urgent and not important and not urgent (see diagram 4). Obviously those aspects of life that are deemed both important and urgent need to be given some priority in life. Those parts of life that fit into the unimportant and not urgent quadrant need to be questioned and removed from life. The real tension is between the quadrants of urgent and not important and important and not urgent. One might wonder how anything unimportant can creep into life but when life is fast paced and there is little time for personal reflection it is amazing how many "extra" things just seem to become part of life's package. The danger with business is that some really important parts of life that aren't urgent get pushed to the peripheries. These are things like

recreation, family time, spiritual health, sport and leisure. A busy person needs to be quite intentional in ensuring that this quadrant of life doesn't shrink.

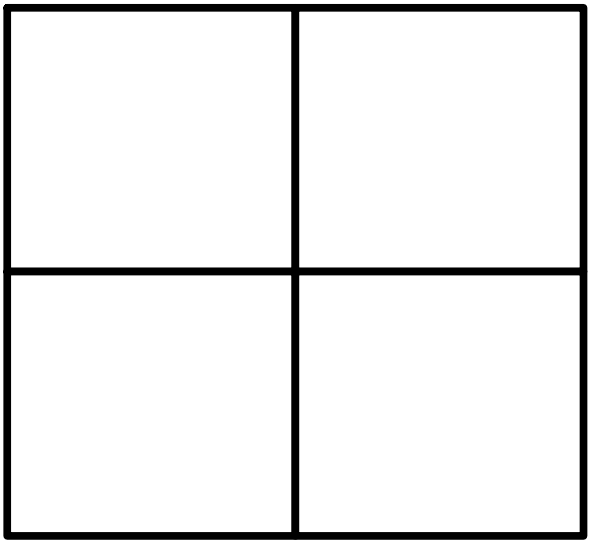

DIAGRAM 4

SPIRITUALITY

Human beings do best when they believe that there is some higher purpose to their lives. A sense of meaning and purpose in life reduces stress. It can lead to greater inner peace and self-esteem. Spirituality has traditionally been the province of religions. It would be wrong though to suggest that all religious systems are equal when it comes to minimising stress. There is ample evidence to suggest that some religious systems increase stress and anxiety (Shreve-Neiger and Edelstein 2004:15).

There are many religious systems that are basically a system of appeasing a demanding God. Such systems work on the basis of people 'jumping through religious hoops' to please God. Such systems are inherently anxiety producing. As a Christian I would want to say that 'grace centred' Christianity (as opposed to many distortions of the gospel) is the best system for reducing stress. I say this because it emphasizes God's love and acceptance of people. It is a spirituality that affirms who we are rather than telling us that we have to be someone that we aren't already.

Part of a helpful spirituality is the ability to major on living by confession and forgiveness. If when we make a mistake and hurt others we confess and seek to make amends, then we remove unhelpful feelings of guilt from our lives. When

we strive to forgive others we remove the poison of resentment from our lives. It has been said that “resentment is like drinking poison and waiting for the other person to die” (Malachy McCourt cited in Schiraldi & Kerr, 2002:181).

CONCLUSION

The topic of stress and how to manage it is too big to deal adequately with in this paper and the seminar for which it was prepared. My hope is that this paper has at least been able to stimulate some reflection on your life and your priorities. You might want to get hold of some of the resources listed in the reference list. I have asterisked those resources that I think are particularly helpful.

REFERENCE LIST

Bjork, J. P. (1997). Stress. *Baker Encyclopedia of Psychology and Counselling*. D. G. Benner, & Hill, P.C. Michigan, Baker: 1170-1171.

Ciarrocchi, J.W. (1993) *A Minister's Handbook of Mental Disorders.* New Jersey, Paulist Press.

Heinrichs, M., Baumgartner, T., Kirschbaum, C., & Ehlert, U. (2003). Social Support and Oxytocin Interact to Suppress Cortisol and Subjective Responses to Psychosocial Stress. *Society of Biological Psychiatry* 54: 1389-1398.

Hempel, K. (Retrieved 28th Mar.2003). Stress. *The Health Gazette.*

ICBS, Inc. (1998-2006). Stress The Silent Killer. *Holisticonline.* http://www.holisticonline.com/stress/stress_diet.htm

Irvine, A. R. (1997). *Between Two Worlds*. London, Mowbray.

McCarthy, L. A. (2005). *Evolutionary and Biochemical Explanations for a Unique Female Stress Response: Tend-and-Befriend*, Rochester Institute of Technology. 2006.

*McEwen, B. (2002). *The End of Stress as we know it.* Washington, Dana Press.

Pryor, R. J. (1986). *At Cross Purposes*. Geelong, The Commission on Continuing Education for Ministry, UCA, Synod of Victoria.

Rees, C. J., & Redfern, D. (2000). Recognising the perceived causes of stress - a training and development perspective*. Industrial and Commercial Training* (MCB University Press) 32(4): 120-127.

Rose, J. (2006). Time Management, *Joni Rose & Suite 101*.

*Schiraldi, G. R., & Kerr, M.H. (2002). *The Anger Management Sourcebook*. New York, Contemporary Books.

Selye, H. (1978). *The Stress of Life, rev.ed*. New York, McGraw Hill.

Shreve-Neiger, A. K., & Edelstein, B.A. (2004). Religion and anxiety: A critical review of the literature. *Clinical Psychology Review 24*(4): 379-397.

Sorrell, G. (1995*) Cognitive Restructuring Course*. Psychology Solutions, 1995.

Sutherland, V., & Cooper, C. (1990). *Understanding Stress: A Psychological Perspective for Health Professions.* London, Chapman and Hall.

Taylor, S. E., Cousino Klein, L, Lewis, B.P, Gruenewald, T.L, Gurung, R.A.R, & Updegraff, J.A. (2000). Biobehavioral Responses to Stress in Females: Tend-and-Befriend, Not Fight-or-Flight*. Psychological Review* 107(3): 411-429.