

LIFESTYLE AND PERSONALITY CHANGES OF PARTICIPANTS ON A COMMERCIAL STRESS MANAGEMENT PROGRAMME

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"Confronting a stressor ... results in a state of tension with which one must deal. Whether the outcome will be pathological, neutral, or salutary depends on the adequacy of tension management. The study of factors determining tension management, then becomes the key question of the health sciences" (Antonovsky, 1987, pxii).

"In a truly rational world, where health and life are of value, the rather straightforward approach of informing persons of why and how they can promote their health should suffice. In the real world, however, the provision of even highly credible information and recommendations have been ineffective in altering health practices...knowledge alone seems insufficient to overcome the many and potent forces maintaining unhealthy patterns" (Hollis, Connor & Matarazzo, 1982, p475).

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GLOSSARY

Coping - cognitive and behavioural efforts made by the individual in order to facilitate management of specific internal or external demands which may be excessive or taxing.

General Adaptation Syndrome (GAS) - Hans Selye's definition of the stress response in the form of three stages: alarm reaction, resistance and exhaustion.

General Resistance Resources (GRRS) - any characteristic of the person, the group, or the environment that can facilitate effective tension management (Antonovsky, 1979, p99).

Health Belief Model (HBM) - a model of health beliefs which explains the likelihood of an individual undertaking a specific preventive action. This is based on four perceptions, namely threat of illness, severity of illness and injury, and benefits of, and impediments to preventative behaviours.

Lifestyle - decisions and behaviours, often health related that may form part of an individual's life.

Locus of Control (LOC) - a perception of control over the environment and events. This is on a continuum from

- a. Internal - whereby outcomes are attributed to self.
- b. External - whereby outcomes are attributed to external factors.

Sense of Coherence (SOC) - a central characteristic that leads to the resistance of stress; an orientation of the person which consisting of three spheres: comprehensibility, manageability, and meaningfulness.

Stress - a behavioural and/or, physiological and/or psychological response to a stimulus.

Stressor - any stimulus that makes demands on an individual requiring adaptation or adjustment.

Stress management programme - a programme that facilitates awareness of stress and stressors and teaches coping strategies.

Type A behaviour - behaviour characterized by competitiveness, aggression, hostility, and time urgency which has been linked to coronary heart disease (CHD).

Type B behaviour - behaviour characterized by a more relaxed and easy-going approach to life.

ABSTRACT

The lifestyle and personality changes of 61 participants after a five day stress management programme were assessed. A pre-and post-programme lifestyle questionnaire was developed to investigate changes in areas covered on the programme: nutrition, fitness, health beliefs and behaviour, relationships, work life and coping resources. Participants were requested to complete this questionnaire before the course, and a follow-up questionnaire three weeks and six months after the course. Personality variables measured were Locus of Control, Sense of Coherence, and Type A behaviour. These variables were assessed prior to the course and at the six month follow-up. The effect of these personality variables on lifestyle and lifestyle change was examined.

Three weeks after the course, significant changes in the self-reported lifestyle measures of nutrition, health beliefs and behaviour, and fitness were found. From the pretest to the six-month follow-up, significant changes in nutrition, health beliefs and behaviour, and relationships were found. The majority of delegates reported positive attitudes towards goals set on the course after three weeks and six months.

No change was demonstrated in personality variables from the pre-test to six months after the course. No relationship was found between personality variables and lifestyle or lifestyle change. Implications for future evaluations, and for stress management programmes in general are highlighted.

CHAPTER 1:

LITERATURE REVIEW

Stress has always been a phenomenon of life. Yogic literature, meditational techniques and respiratory controls are evidence of mechanisms used to deal with stress in the past (Pestonjee, 1992). Today, books, courses, journals, courses and seminars, on the topic abound. The dire consequences that stress may have on health have been recognised. Determining factors which may facilitate stress management has therefore become a key issue for health psychology.

As stress has increasingly become a "buzzword", the expertise of those in the stress management field has become sought after by South African companies and individuals. However, as far as can be established, there has been little methodological and scientifically-based research into stress management programmes in this country.

An understanding of stress and its manifestation is important to the evaluation of stress management programmes. This chapter attempts to present an overview of literature pertaining to the study's hypothesis and objectives. A brief understanding of stress, stressors and the implications of stress is presented. The concept of lifestyle and its utility as a measure of stress management is considered. The personality variables utilized in this study (Sense of Coherence, Locus of Control and Type A/B behaviour) are then reviewed, in terms of their role as moderators to lifestyle, and lifestyle change.

1.1 UNDERSTANDING STRESS

The concept of stress has been addressed by researchers from a variety of disciplines. There are over 120 000 publications dealing with stress from behavioural and medical perspectives (Selye, 1983). Although it is acknowledged that stress is a

on how to deal with it, precise understanding of the concepts and definitions of stress is rare (Beehr & O'Hara, 1987; Goldberger & Breznitz 1982). The definition is further confused by the use of the terms "eustress" and "distress", the distinction between a positive and negative form of stress as perceived by the individual.

There are many stress theories, and these have been reviewed by a number of authors (Bluen, 1986; Hobfall, 1989; Lazarus & Folkman, 1984; Matteson & Ivancevich, 1987; Strümpfer, 1983). Interpretations of stress can range from a stimulus to an inner state, to an observable response to a situation. Walter Cannon (1920) first defined stress as a stimulus or external force which in sufficient magnitude disrupted the individual's normal internal environment. However, the perception of stress simply as an environmental occurrence is a mechanistic approach.

Hans Selye (1956), who originally claimed that stress was a stimulus, later proposed that a stimulus was only a stressor if it produced a response. This response comprises an objective physiological response (General Adaptation Syndrome), which is still the focus of much stress research today. However, this concept does not allow for individual variability of response, nor does it deal with stressors beyond the physical and environmental level. It did however, set a trend in the understanding of how stress can lead to resistance to the stressor, adaptation, and potential damage to the individual.

Everly (1989) describes succinctly the psychophysiological nature of the human stress response as follows: environmental events will trigger mobilization of the stress response. If the individual perceives the event as stressful, neurological, neuroendocrine and endocrine reactions occur. These reactions result in activity in numerous and diverse target organs in the body. This activity will be pathogenic, unless the individual acts environmentally or cognitively (coping), to reduce activity in target organs (p45). The physiological response of stress may affect cardiovascular,, muscular, respiratory, immune and gastrointestinal systems of the body. Examples of more specific responses are sweating, tension headaches, backache, irritable bowel

syndrome, lethargy, and increased blood pressure, Stress may even play a vital role in the causation of cancer (Pestonjee 1992; Beech, Burns & Sheffield, 1982; Allman, 1985). There are many theories that explain the link between the stress response and target organ disease. However these are beyond the scope of this review.

Lazarus (1966) set the trend towards looking at individual variability in the stress responses. The theory utilizes the notion of appraisal whereby the individual evaluates or perceives the event. The type of coping response then depends upon the evaluation of the best way to achieve the desired or least harmful outcome. This model is useful, but does not incorporate personality variables and their effect on coping. Pestonjee (1992) expands the notion, claiming that the stress level depends on criteria such as the nature and magnitude of the perception, the importance of the stressor to the individual, willingness to change the state of stress, and personal and social support available. This indicates that appraisal is influenced by many facets of the individual.

Stress management programmes should attempt to account for those moderator variables which contribute to the individual's experience of stress, such as personality variables and problem management style (Hillenberg & DiLorenzo, 1987). Moderators are behaviours and/or perceptions which modify situations, and facilitate management of stress.

Antonovsky (1985) provides a conceptualization of stress that encompasses individual moderating resources in the stress process. He claims that given the microbiological, chemical, physical, psychological, social and cultural pathogens "it seems that everyone should be dying" (p13). However since this is not the case, it is evident that individual moderators of stress are crucial to the stress outcome.

Antonovsky (1985) describes the process of stress as dependent on a particular personality component (Sense of Coherence) and on generalised resistance resources (GRRs). A GRR is "any characteristic of the person, the group, or the environment" that facilitates effective tension management (Antonovsky, 1979, p99). GRRs can be

divided into the artefactual-material (money), cognitive (intelligence), interpersonal-relational (social support) and macro-sociocultural (rituals and religion). The common factor in GRRs is that they make sense of stressors. The repeated experience of such "sense making" results in the Sense of Coherence (Strümpfer, 1990).

The Sense of Coherence is a "global orientation" which allows the individual a belief that one's environment is predictable and manageable. Sense of Coherence influences health and well being by mobilising the GRRS. This enables the individual to define certain stimuli as innocuous or unwelcome and to manage stress by modifying the situation, and/or controlling the meaning, and/or controlling the stressor. Antonovsky's analysis of stress is useful as it is multi-dimensional and it identifies the importance of individual moderating variables.

According to Lazarus & DeLongis (1983) stress arises from the environment and "personal agendas and characteristics that shape stressful encounters" (p246). If this is so, analysis of stress requires investigation into those personality components and individual resistance resources that moderate stress. Lifestyle and aspects of personality may be moderating variables.

1.2. EFFECTS OF STRESS

A common element in stress theories is the concept of stress eliciting a psychological, physiological and behavioural response. The physiological response has been delineated above. The cognitive response may involve trains of thought which are anxiety generating, unproductive or irrational (Burns, 1981). Depression or anxiety may manifest (Pestonjee 1992). Disturbances in family, marital and work life can also occur. Commonly studied behavioural responses to organisational stress are smoking and alcohol consumption. Eating disorders, particularly overeating, and sexual problems such as impotency, may also be stress related (Beehr & Newman, 1978; Bluen, 1986).

1.3 STRESSORS

Stressors can be described as environmental characteristics or events thought to produce an adverse reaction in a person (Beehr & O'Hara, 1987). According to Everly (1989) stressors can be divided into two types; psychosocial and biogenic. Psychosocial stressors result from the individual's perception or interpretation of the stressor. For example, a traffic jam may be stressful to some individuals, and not to others. Biogenic stressors have an electrical or biochemical property that can induce a stress response, for example coffee, tea, and even exercise.

Kaplan, Sallis & Patterson (1993) provide a broad definition of stressors as "virtually any stimulus that makes demands on an organism requiring adaptation or adjustment... These stimuli can include heat, cold, joy, sorrow, exercise, drugs, lack of sleep, nutrition, fear, anger, frustration, noise, crowding or change in any of these conditions" (p105).

1.4 MEASUREMENT OF STRESS AND COPING

Assessment of stress management necessitates a demonstration of change in stress levels and/or in coping. However, the utility of the concepts of stress and coping have been under question.

It is difficult to measure stress. Subjective psychometric measures of stress abound, and a detailed explanation of the merits of each is beyond the scope of this study. These measurements deal purely with the stress response, and do not consider the personality variables and lifestyle of the individual. Thus, comprehensive models of stress, such as Antonovsky's, are not taken into account by these measurements. Physiological indices that are well accepted in measurement are heart rate and rhythm. However, these results are difficult to interpret due to a lack of baseline data: "what does a 10% increase in heart rate mean, what is a 'dangerous heart rate' etc" (Allman, 1985, p31).

Coping is another major focus of stress research. Coping is regarded as a central part of the process of recognition of and response to stressors which includes "overt and covert responses to threat or danger, usually directed toward overall reduction of stress" (Flemming, Baum & Singer, 1984). In other words, coping is therefore an effort to reduce or terminate the effects of stress. Pearlin & Schooler (1978) claim that coping is certainly "not a unidimensional behaviour. It functions at a number of levels and is attained by a plethora of behaviours, cognitions, and perceptions" (p7). Thus as with stress, the conceptualizations of coping are many, and may necessitate measurement on a number of variables. Research into coping is further complicated by the fact that individuals have many coping styles, and that it is a dynamic process which changes over time. Scales which have been developed often only consider one or two coping styles, or are based on certain examples of behaviour and do not take all responses of individuals into consideration.

1.5 LIFESTYLE AND PERSONALITY VARIABLES: A NEW APPROACH

With today's perceived levels of stress, it may be time for researchers to acknowledge the difficulties in measuring stress reactivity or coping, and to attempt to pin down the mechanisms which mediate the stress reaction. Management of one's life in order to reduce chances of exposure to stressors, has been a neglected area of measurement (Kasl, 1987). This "management" might be a combination of lifestyle and personality variables. An explanation of lifestyle and of three personality variables which may influence the stress reaction is necessary.

1.6 LIFESTYLE

The term "lifestyle", although widely used, has not yet become established in scientific language. However in the field of health psychology the term is more common and definitions are becoming more detailed and tangible. There is no consensus of the definition of lifestyle. Definitions often are too general and too broad to allow for

determination of specific health consequences (Health Education Services, 1986). Abel (1991) claims that the concept of lifestyle is vague, and may constitute a wide variety of behavioural and attitudinal components.

Everly (1989), describes lifestyle as "the overall manner in which one leads ones life. It subsumes factors as occupation, hobbies, diet, exercise levels, and even the consistent manner in which one chooses to view the world" (p4). The definition of Silbert, Schneiderman and Braunstein (1981) is more precise. They define lifestyle as the experiences and events which make up daily patterns of living, and include the following:

1. where he or she lives or conditions of home environment
2. type of work/conditions
3. food
4. personal habits
5. physical activity
6. recreational activities
7. associates

Newman & Beehr (1979) suggest that changing one's lifestyle may be beneficial in dealing with stress, as adherence to certain principles may be a stabilising influence. Wright in (Allman, 1985) suggests that a new lifestyle involving development of extra work-alternative interests and satisfactions, regular health check-ups, exercise, daily planning, adequate leisure time and improving marital and family relationships will reduce stress. Thus, lifestyle may be an indicator of how an individual manages stress. These opinions have not been published in the form of research (Allman, 1985).

Only one international study has been traced which evaluated whether lifestyle had a buffering effect on workplace and personal stressors. In an evaluation of 3337 individuals Steffy, Jones & Wiggins Noe (1990), found that life-style was consistently related to lower levels of job tension/dissatisfaction and psychosomatic distress. Life-style did not have a direct effect on strain outcomes, but the authors questioned the

predictive capacity of the measures used, claiming that such results were preliminary and necessitated further investigation. In the South African context such a study has not been traced. However there is evidence of the harmful lifestyles of South Africans play a major role in the aetiology and maintenance of diseases such as hypertension (Edwards, 1992), and coronary heart disease.

The South African Medical Research Council place one in three white South Africans at risk of a heart attack as a result of high cholesterol, blood pressure, high consumption of alcohol and cigarettes. Twenty seven percent of South African whites have high blood pressure, and twenty two percent smoke in excess of 10 cigarettes per day whilst ten percent have a drinking problem (Zimble, Solomon, Yom Tov & Gruz, 1985). The incidence of coronary heart disease in white South African males in the 30-50 year age group is higher than any country in the western world (Wyndham, 1978). Stress induced absenteeism is believed to cost the country at least R300 million a year (Zimble et al., 1985).

A link has been acknowledged by many authors between lifestyle and health (Schomer, 1990; Walker, Sechrist & Pender, 1987). Abel (1991) believes that lifestyle should focus on health, defining health lifestyles as patterns of health related behaviours, values and attitudes adopted by individuals in response to their social, cultural and economic environments. Although this definition is still not specific, it does delineate the relationship of lifestyle to health. Research into this area has been sparse. There has been no comprehensive study on what constitutes a healthy or unhealthy lifestyle. In order to address this gap, the present researcher believes it is necessary to incorporate the concept of the Health Belief Model (HBM) into that of lifestyle.

Belief in the importance of health

The Health Belief Model (HBM) explains theoretically the likelihood of an individual undertaking a recommended preventative health action. A person's decision about a preventative action related to a disease is mainly influenced by four beliefs:

- a) severity (the perceived seriousness of the disease)
- b) susceptibility (the perceived chance of getting the disease)
- c) perceived benefits of the preventative action
- d) perceived psychological, financial, and other costs of the action (Becker et al., 1979).

Past studies have found the model useful in understanding preventative health behaviours. Patients with better health behaviours and/or higher health values have been found to show better adherence to interventions. Conversely, poor regard for health is associated with poor compliance (Epstein, 1984).

The majority of studies support the HBM. However, although these studies have detected correlations between health beliefs and compliance, they are unable to establish that these links are of a causal nature. It is therefore unclear whether beliefs cause certain compliant behaviours or vice versa, or whether unknown factors cause belief and compliance (Becker et al, 1979). The model as a theoretical construct is also unable to specify which elements are more amenable to intervention. Although it may not determine the specific motivators to health behaviours, the model may serve as an indicator of the degree of motivation. Becker (1975) hypothesizes that a combination of beliefs would lead to an increased probability of compliant behaviour so that it may be important to include a measure of health beliefs and attitudes in the measurement of compliance to a stress management programme.

1.7 PERSONALITY VARIABLES AS MODERATORS OF LIFESTYLE AND LIFESTYLE CHANGE

Eysenck (1983) proposed that personality is tied to stress. Personality variables may also act as "personal resources" during stressful periods (Holahan & Moos, 1986; Everly, 1989), and may affect interpretation of stressors. Thus predictions of stress management cannot be made without referring to "the constitution of the individual for whom the prediction is being made" (Eysenck, 1983, p124).

There has been little exploration into psychological characteristics of persons that may influence an individual's perceptions of stressors, reactors or actions and outcomes. Most models of stress mention the importance of individual characteristics and traits or dispositions in their theoretical formulations but fail to specify which ones should be measured (Anstey, 1989). The personality variables chosen for this study are Sense of Coherence, Type A personality, and Locus of Control. These variables can be termed moderator variables. Folkman & Lazarus (1988) define the moderator as an antecedent condition such as gender, socioeconomic status, or personality traits that interact with conditions in producing an outcome. Thus personality variables may influence lifestyle, and may interact with a stress management programme to produce lifestyle change. Furthermore, personality variables themselves may undergo change after a programme.

1.7.1 Sense of Coherence (SOC)

Antonovsky's theory of stress has been discussed earlier in this review. SOC evolved from this model of stress. The SOC scale is a cross-cultural and cross-situational one (Antonovsky, 1993), which investigates individuals with a salutogenic orientation. Salutogenesis, a term coined by Antonovsky, focuses on successful coping and investigates what facilitates health, rather than what facilitates illness. According to the salutogenic model, stressors are not a "dirty" word, but rather omnipresent and possibly salutary, depending on the character of the stressor and the successful resolution of tension. This is contrary to many other theories of stress which treat stressors as dangerous. The salutogenic model sets out that health problems should be investigated from the perspective of the total story of that being.

SOC provides an understanding of resources which promote health. According to Antonovsky (1987) it is an orientation of the individual which consists of three spheres:

- i. **Comprehensibility:** "the extent to which one perceives the stimuli that confront one, deriving from the internal and external environments

as making cognitive sense" (p16) i.e. events are perceived as predictable, explicable or orderable.

ii. Manageability: "the extent to which one perceives that resources are at one's disposal which are adequate to meet the demands posed by the stimuli that bombard one" (p16) i.e. the ability to cope, not to grieve or feel victimized.

iii. Meaningfulness: "the extent to which one feels that life makes sense emotionally, that at least the problems and demands posed by living are worth investing energy in" (p18).

SOC is a "dispositional orientation" rather than a state. It is the result of a series of concrete behaviours which are successful in dealing with a variety of situations (Strümpfer, 1990). The individual with a strong SOC attempts to find a balance between rules and strategies, between stored and potential information. There is a sense of confidence that new information can be understood and utilized. The world is perceived to be a challenge rather than a threat and the individual is open to feedback. In terms of coping with stress, the high SOC allows the individual to comprehend the nature and dimension of stressors, and to redefine them in a positive manner. Stressors are seen as challenges and worthy of effort, and the individual selects the resources to react (Strümpfer, 1990). According to Antonovsky (1984) it is possible to have a high SOC score and still see parts of life as not being meaningful, comprehensible, or manageable. For example, a high SOC score does not necessarily mean that the individual will have an interest in politics, manual skills, or social welfare.

Antonovsky (1987) is of the opinion that changes in SOC are rare. The person with a weak SOC experiences life in a negative way, and it takes much time to develop the SOC because it is shaped by life's events. Changes might occur when a new pattern of life experiences is initiated, and maintained over a period of years. A strong SOC

person is not likely to increase his/her SOC score. The SOC can be impacted on professionally by

1. Structuring encounters that do not damage the SOC
2. Creating experiences which the individual can perceive as consistent, balanced and particularly meaningful.

This impact may, however, be temporary and modest. According to Antonovsky (1987), planned therapeutic interventions that are consonant with the SOC model, could equip individuals to seek out "SOC enhancing experiences" (p126). These approaches enable individuals to reinterpret experiences that shape their lives, and facilitate a long-lasting change in these experiences.

Antonovsky (1987), pointed out that knowing a person's SOC will not enable prediction of behaviour in response to a stressor. It will however allow prediction of the quality of the behaviour. Thus, rather than attempt to measure the styles of coping, measurement of SOC allows focus on the process which facilitates the coping.

The few test-retest correlations that have been conducted in studies show considerable stability. For example, in the South African context, Afrikaner farmers and businessmen show a test-retest correlation of 0.97 (Antonovsky, 1993, p727).

The SOC scale has proved a valuable research tool in the health field. Petrie & Azaria (1990) found that health promoting variables such as SOC may offer advantages over pathological measures, as predictors to patient response to pain management.

Relations between SOC and health related and work related variables have been investigated in four studies in the South African context. Strümpfer & Louw (1989) found that in a sample of coloured farm workers, a high SOC correlated significantly with a general health rating and a survey measure of psychological health. In a study of black female nurses in Umtata, Danana (1989) found that SOC correlated negatively with intensity of stressful job events, and a survey of psychological health. It

moderated between workload and measure of psychological health, as well as subjective job stress and satisfaction. Relationships were evident only in low SOC groups. Fritz (1989) investigated SOC for 194 data processing professionals. SOC scores moderated 12 out of 54 possible combinations of stressor-outcome relations, distributed equally between health and work-related outcomes. Finally, Anstey (1989) investigated industrial operators and little relationship was shown between the SOC scale and stressors or with health-related or work-related outcomes.

SOC bears a resemblance to the hardiness concept of Kobasa (1979). It was chosen for this study because it has a broader cross-cultural foundation than hardiness, and because of its salutogenic approach.

1.7.2 Locus of Control

Rotter's (1966) concept of Locus of Control (LOC) has become a popular variable in psychological literature, utilized to ascertain individual differences in behaviour. LOC is associated with the tendency to assume that one's own outcomes can be affected. According to Rotter, those who feel powerless in controlling their fate have an external LOC, whilst those who feel outcomes are determined by behaviour have an internal LOC. The most basic characteristic of individuals with an internal LOC is a greater effort in coping with or mastering their environment, and this has been supported in a variety of populations and situations (Phares, 1976). Reviews of research can be found in Rotter (1966) and Lefcourt (1976).

Health is one of the many areas in which there has been a significant amount of interest in LOC. There is evidence that those with a greater internal LOC will be more motivated to gain information about a health condition and follow advice given, even if the information has negative connotations (Lefcourt 1976). Internals appear to exhibit greater self control in adherence to health behaviours. For example it has been shown that significantly more internals are non-smokers than externals, and significantly more internal females practise birth control (Phares, 1976). Research in both areas is also subject to the effect of variables beyond LOC.

An external LOC may be the basis of chronic stress. This is illustrated in studies such as Naditch (1974), where high discontent and perceived external LOC were related to hypertension. Workers in the field of stress, judge an internal LOC to be more beneficial than an external one, as self-control can be used to combat the effects of stress (Breznitz & Goldberger, 1982). A strong internal LOC may reduce the likelihood of an appraisal of threat or harm (however, the reverse may be true and internals may see stressors as possible threats to control, in much the same way Type A individuals do (Flemming, Baum & Singer, 1983)). Friedman, Lehrer & James (1983), showed that LOC was not an important factor in determining effective stress reduction in a sample of 85 teachers however this may be attributed to response to the LOC questionnaire. In the South African context, Tyson (1981) showed that externals tend to perceive and experience life events as more stressful than internals, suggesting that LOC is a moderator in cognitive appraisal of stressors.

LOC is not perceived as a fixed trait. It seems apparent that scores can be changed by many conditions, ranging from factors that accompany age changes, to special training programmes (Phares, 1976). The questionnaires of LOC are not identical to the construct, nor perhaps even to the real thought of the individual related to causality. They are rather rough approximations of what is believed to be an individual's perceptions of control. Furthermore, the link between LOC and behaviour is reliant on correlational study, which means that no definitive statements can be made from studies. One general LOC score may not depict the attitude of the individual in all situations. Phares (1976) claims that although the concept is a useful one, multi-determined behaviour needs to be examined with a multi-theoretical approach, in order to avoid a simplistic approach where behaviour is predicted with one or two concepts.

1.7.3 Type A personality

Friedman & Rosenman (1974) formulated the coronary prone or Type A personality, whilst working on the relationship between CHD, diet and cholesterol metabolism. An equal number of negative and positive findings for this link now exists (Powell, 1987).

Type A persons are characterised by an overwhelming sense of time urgency, hard driving conscientiousness, hostility, a lack of concern for others, and a need to always exert control over their environment. The behaviour appears to be a combination of overt behaviour, disposition of personality, and appropriate environmental events (Powell, 1987).

The Type B personality is the opposite end of this continuum, characterized by a more balanced attitude to life. The Type B personality is less competitive, more relaxed and appreciative of others, and has been found to be better suited to managerial positions. However, individuals in professional and managerial positions tend to have a higher frequency of Type A behaviour (Glass, 1977).

Type A characteristics include behaviours which encourage stressors, and/or increase sensitivity to stressors. It is believed that stress is an important component of the Type A person (Suinn & Bloom, 1978). Studies which have used stress management techniques with Type A personalities have shown that stress is involved in the dynamics of Type A behaviour, and that Type A behaviour can be reduced (Suinn & Bloom, 1978; Roskies, Spevack, Surkis, Cohen & Gilman, 1978). Reduction in Type A characteristics may therefore be a useful gauge of a stress management course. In terms of lifestyle, there it is suggested that the impatience and time urgency of Type A individuals may lead to fewer health enhancing practices. For example Type A individual tends to smoke more cigarettes and exercise less (Friedman & Rosenman, 1974).

There are indications of an extremely high degree of Type A behaviour among white South African males. A study by Strümpfer (1983) showed mean Type A Scale scores for South African males on the Jenkins Activity Survey (JAS) to be well above those of an American and Dutch standardization sample. This may be due to challenges and demands posed due to the high level manpower shortage as a result of the "brain drain" of skilled manpower. Strümpfer (1988) claims that it may be difficult "to find an intervention that would alter character traits and values that are deeply ingrained by socialization" (p24). If his words are true, it may be unlikely that a brief intervention will

counteract the effect of the South African political, cultural and economic situation which may "ingrain" the Type A behaviour pattern.

The self-report measure of Type A is limited in that Type As may not be aware of, or admit to the characteristics. Those classified as Type A may tend to describe themselves in socially desirable ways (Powell, 1987).

1.8 SUMMARY

Payne & Jick (1982) claim that a combination of methods is important for stress researchers, due to the complexity of the phenomenon under investigation. In order to avoid a simplistic approach where only one personality variable is used to describe behaviour, the above three variables were chosen as potential moderators of lifestyle and lifestyle change.

There may be common elements in the concepts of Sense of Coherence, Locus of Control and Type A personality, that will predict effective coping in terms of lifestyle or lifestyle change. For example, the degree of control an individual has over life may be important, as this may be indicative of ability to change or understand his/her environment. The more an individual has or perceives she/he has control over situations, the more effective that person can be at managing stress (Jaffe, Scott & Orioli, 1986). Folkman (1984) highlights the concern, however, that relationships between stress and coping may be more complex and that believing one has control when encountering stress may actually heighten the threat.

Coping may also be linked to the features of personality which make lifestyle and lifestyle changes salient. Two such features can be patterns of personal commitment, and belief about self and world (Lazarus & DeLongis, 1983). Personal commitments express people's values, and when aroused they are reflected in investment of energy and effort. Belief about self and world is linked to the concept of control.

Thus, from the complexity of available definitions of stress and coping, it becomes evident that researchers need to look at alternative and perhaps broader measurements. A positive change in lifestyle may be indicative of more efficient stress management. Sense of Coherence, Locus of Control, and Internal-External Locus of Control may be moderators to lifestyle change and as potential measures of stress management.

CHAPTER 2:

STRESS MANAGEMENT PROGRAMMES

The programme chosen for this study is a five day stress management programme conducted at a campsite on a river. The provider/programme developer claims that the objective of the course is to "enable delegates to identify and understand their own levels of stress, and to pro-actively plan and implement a way of dealing with this. Increased self knowledge and availability of skills or skills training is a pre-requisite to effective self management and optimising own performance" (Michael Van Reenen & Associates, undated).

This chapter describes briefly some components of stress management programmes. A variety of components may be used, but only those relevant to this study are presented. Criteria that are believed to improve presentation of these components are then discussed. The format of the programme under investigation is then presented.

2.1 COMPONENTS OF A STRESS MANAGEMENT PROGRAMME

Stress management is a flexible and multi-dimensional field. A stress management programme consists of three main phases:

1. Education
2. Skill acquisition
3. Application to a real world setting (Everly, 1989)

In general, three types of interventions may be used. The client can be taught strategies that reduce, minimize or modify exposure to stressors; and/or skills that reduce excessive physiological functioning; and/or techniques that will facilitate healthy expression of the stress response (Everly, 1989).

With an understanding some of the stress theory now in place, the core components aspects of stress management programmes can now be presented. In depth discussion of these areas is beyond the scope of this study.

2.1.1 Exercise

Exercise may attenuate stress responses, and many reasons for this phenomenon have been suggested. These reasons range from the theory that stress response may elicit physical activity as its natural final stage, to the suggestion that benefits are due to increased availability of glucose to the brain, and liberation of beta endorphin (the body's natural opiates).

The benefits of exercise have been well documented. Exercise has been associated with modification of coronary heart disease (CHD), with reductions in the harmful plasma triglycerides and low-density lipoprotein (LDL) cholesterol and with increases in the protective high density lipoprotein (HDL) cholesterol. Although the data are inconsistent, studies have shown that cardiovascular reactions are reduced among fit individuals (Steptoe, 1990).

Exercise may contribute to overall healthy lifestyle behaviours. Regular participation in a physical exercise programme, for example may alter the negative behaviours in a cardiac patient's lifestyle. It has also been argued that exercise has a beneficial effect in attenuating the impact of adverse life events (Kobasa & Puccetti, 1983).

There is extensive evidence that exercise plays an important role in stress management. It has been shown to reduce depression and increase tranquillity for cardiac patients (Schomer & Noakes, 1982) and to enhance mood and stress management (Folkins & Sime, 1981). Changes in mood and worker satisfaction have been investigated in a number of employee fitness programmes (Shephard, 1981). Exercise has also been shown to reduce absenteeism (Baun, Bernacki & Tsai, 1986) which may infer a decrease in stress related symptoms.

However, these results may be due to personality traits of individuals. For example a higher proportion of above-average and excellent performers may already exercise. Employees who continue to fill out self-evaluations may be those who are more conscientious, and have a special interest in health and fitness. Increased group support within the exercise environment may also be causal in these benefits (Giese & Schomer, 1986; Schomer, 1990). In addition, research in this area has often been unreliable, with conclusions reached after short testing periods (less than 3 months) without prior assessment of fitness, or using small, select samples, (Matteson & Ivancevich, 1987). In terms of organisational stress, Sutherland & Cooper (1990) claim that it may be a "leap of faith" for an organisation to believe that improved physical and mental health, mood states, and the ability to cope will have positive organisational benefits (p209).

2.1.2 Dietary factors

Change in dietary habits may be helpful in stress management. Edwards (1979) claims that an inappropriate diet may contribute to stress, whereas stress may be alleviated by a fortified diet. It is believed that certain habits increase susceptibility to stress. These generally include smoking (cigarettes), over- or under-eating, eating the wrong foods, excessive drinking of coffee, tea or alcohol, and dependence on tranquilisers and sleeping pills (Patel, 1989).

According to Steptoe (1990), and Falkner & Light (1986) salt intake appears to be particularly significant, since it may enhance cardiovascular reactions to stress and promote hypertension. Saturated fat tends to encourage the liver to produce cholesterol (Patel, 1989). Cigarette smoking has been shown to increase the cardiovascular responses to stress (Brownstein & Herd, 1986). The effects of caffeine are variable (Shapiro et al 1986 in Steptoe 1990), however there is some evidence that caffeine releases fatty acids and increases cholesterol levels in the blood (Thelle, Arnesen & Forde, 1983). The stress management programme under investigation places emphasis on these aspects of one's diet. However, there is a paucity of studies on the effects of diet upon stress (Newman & Beehr, 1979).

2.1.3 Cognitive techniques

Many cognitive techniques are used for stress management, such as hardiness counselling techniques, Meichenbaum's stress inoculation techniques, anxiety management training, and psychotherapy. The concepts of rational emotive therapy, where the individual is taught to dispute irrational beliefs which are at the core of stress response are introduced in the course under investigation.

Research into cognitive techniques is sparse. However, despite the lack of scientific confirmation of their effectiveness, the techniques are attractive because their rationale is understandable, they are generalisable over a variety of situations and stressors, and they are also inexpensive (Matteson & Ivancevich, 1987).

2.1.4 Relaxation

According to Bandura (1982) perceptions of self efficacy influence the activity of the sympathetic nervous system. Treatments, such as relaxation, may eliminate emotional arousal, heighten perceived efficacy with corresponding improvements in performance.

According to Everly (1989), studies into the effects of relaxation on cardiovascular reactivity have not produced consistent results. The studies that report possible findings, often examine effects in subjects with lower arousal. Research into the relaxation response as a therapeutic tool has been hampered by a lack of conceptual clarity regarding its therapeutic foundations and its mechanisms of acquisition, and by a lack of methodological rigour (Everly, 1989; Matteson & Ivancevich, 1987). Confounding variables such as cognitive expectations are highly significant factors in determining treatment effects. Matteson & Ivancevich (1987) are doubtful about the techniques used in studies which have evaluated the effectiveness of relaxation, as these often rely on self-report and lack proper control groups.

However, in all the studies reviewed by Murphy (1984) there was a relaxation component and statistically significant physiological and psychological benefits were

recorded. Research appears to indicate that the relaxation response can be useful in the treatment of a number of stress-related problems.

2.1.5 Social support

Many authors propose that social support is a key factor in managing stress (Jaffe et al., 1986; Moss, 1981). Social support can be defined as a relationship "with one or more persons that is characterized by relative frequent interactions ... positive feelings, and by an ability ... to give and take" (Moss, 1981, p200). According to Lieberman (1982) there is no apparent link between amount of social resources and stress reduction.

Social support may vary from one situation to another. According to Patel (1989), adequate measures of social support "consider not only the structure of a person's social relationships but also the content, quality, and adequacy of those relationships" (p199). The field of research into social support is, however, leaning toward specification of social resources relevant to particular circumstances. Given the diversity of response in the context of stress, measurement of the effect of social support in particular stress circumstances may be difficult.

2.1.6 Time management

Friedman & Rosenman (1974) first linked impatience and chronic time urgency with heart disease in their identification of the Type A personality. Indeed, establishment control over time is an important factor in stress management, not only in reducing the sense of urgency, but also as a fundamental behavioural strategy in employing other health behaviours. It appears that time management interventions play an interactional role with other health strategies, resulting in positive health outcomes reported in studies. Time management involves the employment of self-responsibility and self-initiated behaviours in order to utilize time as a resource (Everly, 1984).

2.1.7 Environment

The environment in which a stress management programme is held, may be a valuable tool. Worksite programmes have proved to be effective due to the convenience of having the programme on-site, and the improvement in morale of workers that comes from employers' willingness to provide a programme for their benefit (Hart, 1987). Conducting a programme in a health promoting environment, such as a wilderness retreat, may also increase positive health effects (Suedfeld, 1982).

2.1.8 Awareness of personal resources and traits

According to Hobfoll (1988) stress researchers have suggested a number of resources that can be improved or developed to facilitate stress resistance. Amongst the list of resources provided is an internal Locus of Control. Alternatively, interventions may aim at helping people to rid themselves of some traits that inhibit resource acquisition or increase the probability of resource loss. An example of this is Type A behaviour.

Thus, an understanding of certain key personality theories, and an awareness of how these personality traits may affect the individual may be useful to delegates on a stress management course.

2.1.9 Information on stress

It is also important that individuals on the programme are fully informed about the sources and nature of stress in general, as well as stress areas in their particular situation (Zimbler et al., 1985,).

Presentation of threatening information during the course of the programme may be effective for those with low levels of concern, but the information must be sensitively presented in order to avoid resistance (Hollis, Connor & Matarazzo, 1982).

Furthermore, the impact of such information appears to fade unless re-stated (Leventhal & Niles, 1965 cited in Hollis et al., 1982).

2.1.10 Self management

Chesney, (1984) advocates the use of a self management training component which can consist of a number of self regulating skills. Self-management training firstly encourages the client to self-regulate; secondly it selects and/or teaches appropriate standards and finally encourages the skills that will support those standards. In other words, programmes need to instruct people to be more responsible for their health, by cueing, rewarding, directing or correcting their own behaviours (Károly, 1985). Use of self-monitoring and self management skills are believed to play an important role in the maintenance of good health practices (Chesney, 1984), and may lead the way to ensuring that stress management practices will continue.

To summarize, many elements may be utilized in a stress management programme. Presentation of such an abundance of techniques and ways of coping allows the client a choice in appropriate coping mechanisms. However, it does not always allow for detailed teaching of these mechanisms. It is, therefore, necessary to look into what may make the presentation of a stress management programme effective.

2.2 PRESENTATION OF STRESS MANAGEMENT PROGRAMMES

Authors in stress management delineate general criteria which are crucial in the administration of programme components. These are outlined as follows:

2.2.1 Combination of approaches

Different stressors require different coping responses. A stress management programme should therefore nurture a flexible coping repertoire (Meichenbaum, 1985). A multi-modal training package may be advantageous in dealing with individual

differences, as participants can choose to adopt mechanisms that are most efficient for them (Murphy, 1984).

Interdisciplinary teams of health professionals who can present relevant information, and teach skills needed to implement new behaviours, are important in the provision of a comprehensive health intervention programme.

2.2.2 Assessment

Before providing any information on stress, the interests, goals, health belief systems, and current level of understanding of the individual should be considered, in order to provide information that is relevant and meaningful (Hollis et al., 1982). Hillenberg & DiLorenzo (1987) advocate a framework in which assessment is linked to treatment, so that the basis of person and environmental factors contributing to the problem is established before treatment can occur.

Everly (1989) claims that there are instances where chronic stress-related diseases are a direct function of personologic disturbances. Thus, when considering the effectiveness of stress management programmes, the personality type of the individual undergoing the programme is also an important component which needs to be assessed.

2.2.3 Conducting the programme

Aspects of efficient interventions have been described in the literature (Hobfoll, 1988; Meichenbaum, 1985) and these can be summarized as follows. Firstly, the programme should involve the acquisition of new skills that fit better with environmental and personal demands than pre-intervention approaches. These skills should be graduated in difficulty or complexity. It is important that the new challenge is not too difficult, and that there are incentives for investing resources in these new strategies. Secondly, interventions should be individually tailored, and should not promote a single or simple formula or procedure for coping with stress. Thirdly, training should anticipate possible

setbacks and future stressful life events. Finally, training should enlist collaboration and analysis of the problem by the client.

2.2.4. Compliance

Haynes (1979) defines compliance as the extent to which an individual carries out medical or health care advice. According to Frewen (1992), a complier is "one who carries out a prescribed regimen, while a noncomplier does not" (p9). Short term compliance is defined as the completion of a particular regime, whilst long-term compliance is defined as the continuation of health or medical care advice after the completion of a programme. The present study is focused on the latter.

In general, it is evident that for lifestyle change programmes, compliance is low (Frewen, 1992; Haynes, 1979; Hollis et al., 1982). Studies have aided more with the attempt to predict, rather than to understand the phenomenon of compliance. There is a need to examine factors which will improve maintenance of benefits of a stress management programme as, "With few exceptions, lifestyle intervention programmes offered commercially or by health practitioners tend to be of brief duration, ... Such approaches...must encourage rapid change in behaviour patterns ... When intervention ends, the individual is left to face the differences of long term maintenances" (Hollis et al., 1982, p486).

The following five variables are important determinants of compliance and are relevant to the present study:

1. A programme should be one that is effective, in this case one that adheres to the variables deemed important for effective stress management programmes.
2. The programme should provide some form of goal setting and follow up/analysis of effectiveness. Allowing the individual some choice in treatment produces a greater feeling of independence, and in turn may improve self-esteem (Kinnaird et al, cited in Frewen 1992). Goals should facilitate lifestyle

change in small graduated steps in order to allow adaptation to occur and to increase self-efficacy and motivation to continue (Hollis et al., 1982). Follow-up may take the form of contracts drawn up, letters written, or reunions. Studies have yet to determine the optimal rate of contact with the health professional over an extended time period, which may facilitate compliance (Hollis et al., 1982).

3. Murphy (184) warns that caution should be taken in providing too much information in a short training programme, as participants may then be rendered incapable of mastering anything. As more complex programmes negatively affect compliance, a programme should involve a simple set of activities. For example, Davis & Eichorn (1963) noted that cardiac patients tended to make the changes in behaviour that required least effort. Compliance with regimens that demand changes in personal habits, such as smoking, drinking and diet show high rates of dropout (Stone, Cohen & Adler, 1980). Multi-modal stress management programmes, such as the one under investigation, advocate a combination of such changes. This may result in too many changes being made at once, or in an overload of information.
4. Although Murphy (1984) believes that one cannot unequivocally state a direct relationship between programme length and efficacy (due to significant variation in study characteristics), in general studies reporting more contact hours show greater reductions in physiological measures, and less significantly, greater reductions in self-reported symptoms of stress. Ganster, Bronston, Sime & Tharp et al. (1982) claim that 16 hours (the longest contact time in a study) is close to the minimum time required to produce reliable changes.
5. The health-care worker needs to be aware of relationship variables that will improve adherence. Clients should be given control, and their sense of power and trust is reinforced if respect for them is communicated (Hollis et al., 1982). Facilitators of programmes should demonstrate an egalitarian and

nonjudgemental attitude towards clients. Furthermore, the health care worker needs to be a model of health (Sensenig & Cialdini, 1984). To summarize, "health experts who believe in the values of their recommendations, who are respected and well-liked, and whose overriding concern is their patients' welfare, are most likely to be persuasive" (Stone et al., 1982, p483).

2.3 THE FORMAT OF THE PROGRAMME UNDER INVESTIGATION

With a background to the structure of stress management programmes in place, the programme under investigation can now be presented.

The programme developer is a psychologist who has been running the programmes since 1989. He became interested in the field after realising that lifestyle change and stress management were often the focus of therapy sessions. When formulating the programme, his aim was to make it "as comprehensive as possible in terms of accepted psychiatric practice." There is no specific theoretical background from which the programme was developed. It is rather "an eclectic potpourri of different stuff". He was assisted by a team of professionals from various fields.

In the initial interview with the researcher, the psychologist claimed that the course aimed to enable individuals to "take optimum responsibility for oneself, gained through increased self awareness and knowledge". According to the programme brochure, the ultimate objective of the programme is to enable clients to identify their own levels of stress, the sources of stress, and to pro-actively plan and implement a way to deal with this. "The overriding objective of the programmes is to empower people to achieve a lifestyle of wellness and to adopt responsibility for optimal performance" (p2). This can be broken down into four objectives:

1. To provide participants with information about their levels of stress, its manifestation, specific stressors, behaviour patterns and personality traits related to effective stress management.

2. To enhance an awareness of coping skills and of lifestyle changes.
3. To assist clients in drawing up a personalised action plan.
4. To provide a follow-up programme, whereby goals and lifestyle changes are monitored.

These first three objectives appear to be adhered to in the course structure. The final phase appears to be adhered to a lesser extent.

The clients are usually nominated and sponsored by the company they work for. Participants are requested to have a medical assessment at their own expense before attending the course. The medical examination tests blood pressure, resting pulse, weight, height, triglycerides, serum urate, glucose, total cholesterol and HDL cholesterol. Participants are also sent a comprehensive 59 page test battery a few weeks before their participation on the course in order to identify personal areas that may need to be covered on the course. The battery is extremely comprehensive, as the psychologist believes a broad battery will ensure that delegates identify areas that are relevant to them. Amongst the objectives of the test battery is the provision of each delegate with personal feedback on stress related information, justification of the need for intervention should it be indicated, and identification of the correct and appropriate intervention in a cost effective manner (Van Reenen, undated, p4). Psychological tests have been adapted by the psychologist, and include:

1. **Strain level questionnaire** - This is a 103 item questionnaire which provides an index of manifestations of stress whereby the delegate can assess whether his/her strain level is average, below average, above average, or possibly at a dangerous level. Delegates are required to circle how regularly they experience certain stress symptoms. From this, symptoms can be categorized into cardiovascular, respiratory, gastro-intestinal, muscular, skin, immunity, metabolic, emotional, cognitive and endocrine to enable the delegate to assess where he/she is most strain-sensitive.

2. **Stressor questionnaire** - This consists of 100 items and scores are divided into ten categories, namely, under-utilization, overload, role confusion, organisational structure, role conflict, managing people, interpersonal factors, private life, environmental factors. The first seven categories are specifically related to the work context. Five of these warrant explanation. A high score in under-utilization reflects insufficient stimulation, possible boredom or feeling unimportant. A high score in overload reflects too much pressure, lack of time, inability to keep up. Role confusion scoring highly shows lack of clarity as to responsibility, objectives, degree of authority, and career planning. A high score in organisational structure indicates too little contact with supervisor, an excess of rules, policies, unproductivity, unfair pay. Scores high in the role conflict category can indicate dissimilar demands made by supervisors and subordinates, conflict between time with family and work, and clashes with values.
3. **Type A behaviour questionnaire** - this is a 34-item questionnaire which rates delegates in four categories of Type A behaviour, namely: A+, A-, B-, B+. The questionnaire utilized for this course is one which has been adapted.
4. **Locus of Control questionnaire** - consists of 30 items which categorize individuals as motivated primarily by internal factors, striking a good balance between external and internal motivation, or motivated by external factors. This is also an adapted questionnaire.
5. **Time management checklist** - consists of two sections of 25 and 13 items respectively which investigate time management techniques. From this, delegates can ascertain whether they are utilizing time optimally, adequately, with room for improvement, or whether time is controlling them.
6. **Q Model questionnaire** - assesses behaviour in terms of dominance, submission, hostility and warmth. This consists of three checklists. The first checklist requires the individual to size up another person for whom he/she

has great respect. The second is the same checklist, this time to size up another person for which he/she has little respect. The third checklist is given to someone with whom the delegate associates often, and this person is required to fill out the checklist to describe the actions of the delegate. This enables the delegate to identify different management behaviours, and to categorize him/herself. Dominance is defined as leading, controlling, or making things happen. Submission is defined as following, letting things happen, or reacting. Hostility is a lack of concern for others and their position/ideas. Warmth on the other hand is concern and regard for others. From this; behaviour is ranked as Q1 - a combination of dominance and hostility; Q2 - a combination of submission and hostility; Q3 - a combination of warmth and submission; or Q4 - a combination of dominance and warmth.

7. **Anxiety Management questionnaire** - a 43-item questionnaire which looks at levels of the manifestation of stress management behaviours.
8. **Manifest Anxiety questionnaire** - a 50-item questionnaire which assesses the level of anxiety manifested.
9. **Conflict management questionnaire** - a 30-item questionnaire which scores delegates into certain conflict management styles, namely: competing, collaborating, compromising, avoiding and accommodating. Ideally, in this questionnaire, no style should be higher than 80% or lower than 20% except the collaborating style.
10. **Emotional support assessment** - this questionnaire requires the delegate to select five people who have the most positive influence in his/her life and assesses the support these individuals provide.
11. **Sense of Coherence questionnaire** - a 29-item questionnaire which provides scores for individual categories of comprehensibility, manageability and meaningfulness, and a total score of overall Sense of Coherence.

12. **Health behaviours scale** - a 20 item health behaviour rating scale. Scores out of ten are calculated in the categories of cigarette smoking, alcohol and drugs, eating habits, exercise and fitness, stress control and safety.

The researcher participated in one of the stress management programmes. The following description of the programme was written after the researcher's participation.

Delegates arrived at the camp site on a Sunday afternoon, and spent the afternoon settling in. The camp site is situated outside of Cape Town and consists of rustic but comfortable accommodation. The psychologist who runs the programme believes the venue is "of great importance as it needs to be conducive to relaxation, as well as self examination and introspection" (Van Reenen, undated). However, it becomes difficult to ascertain whether stress levels are reduced as a result of the programme itself, or as a result of being removed from one's usual environment.

The programme commenced in the evening, and was held in a small conference room on the site, with delegates sitting around a large table. Delegates were introduced to each other, and were requested to write down and discuss their expectations and goals for the course. In order to assess their knowledge on stress they were required to fill out a true/false checklist on general stress theory. They then went through this checklist, discussing each question. They were informed about general stress theory such as the General Adaptation Syndrome. The levels and sources of their stressors were identified with questionnaires one and two.

Delegates then completed Rahe's Life Events questionnaire, which reflects the likelihood of their experiencing illness as a result of changes over the last two years. The implications of such a questionnaire were discussed, stressing that the score is not reflective of how competently an individual copes, but serves only as a warning, if the score is high, that the individual needs to attend to the stress in his/her life. Delegates were also taught about the role of selective perception in affecting a stressor, (ie chronic vs healthy responses to a stressor). The concept of belief

systems, as often limiting and irrational was discussed with a brief input on disputing these irrational beliefs.

For the next two days, under instruction of the psychologist, the delegates scored the test batteries which they had completed before the course. The psychological concepts which the questionnaires investigate were discussed. Delegates were told the meaning of their scores, and the theory behind the concepts under investigation as delineated in the above section. Time was allowed at the end of each section to record their goals in that particular area.

The group was exposed to an overview of stress and how it manifests in their lives, in addition to different skills such as assertiveness training, conflict management, and time management through the media of video, lecturer and group discussions and activities. These areas are presented more in the form of an overview, or an introduction to the basic concepts.

In addition, when the weather permitted they were taken out for a few hours onto the river in rubber boats and taught how to ride the rapids. At night delegates ate dinner, talked, played card games and sang around a campfire, often until late.

On the evening of the second day of the programme the consultant team, consisting of dietician, fitness specialist, appearance counsellor and aromatherapist arrived at the campsite. Instruction and comprehensive lectures were presented by the appearance counsellor, dietician and fitness specialist that evening. The dietician offered general nutritional guidelines, emphasising the importance of avoiding fats, eating more whole foods, avoiding excessive sugar, salt and alcohol. The exercise physiologist discussed the components, importance, and benefits of exercise.

On day three the delegates were handed a time schedule which outlined times of appointments with various specialists. They were given a brief talk on coping mechanisms and then were requested to spend the day investigating various ways of

coping that might prove useful. The stations which they were required to attend were as follows:

Dietician - the weight of the delegate, and his/her average daily food intake was discussed. If necessary, a new, healthier eating plan was formulated for the delegate to suit his/her lifestyle and food preferences. Any queries or concerns delegates may have had were answered.

Fitness specialist - a short fitness test was administered. Fitness indices assessed and discussed were blood pressure, present weight, ideal weight, percentage body fat, resting heart rate, average fitness level. Blood values which were assessed in the medical examination prior to the course were examined. The delegate then discussed present exercise behaviours with the specialists and decided on a new exercise plan.

Image consultant - discussed appearance and presentation with the delegate. Advice on dress, and colours to suit the delegate were provided. If the delegate was agreeable, the consultant sometimes even provided a hair cut.

Aromatherapist - provided the delegate with a half-hour aromatherapy and shiatsu session and answered any questions the delegate had on the benefits of this treatment.

Psychologists - delegates were asked the previous night to decide on a problem they would like to discuss with the psychologist. This problem was dealt with in a 45-minute session with the psychologist who runs the programme. A time line assessment was conducted by an associate psychologist. Here, the delegate was required to draw the events of his/her life, and recurring patterns were discussed.

Between these appointments delegates attended additional stations. These are as follows:

Relaxation tape - the delegate was given a walkman with a relaxation tape and requested to listen to it in a quiet place of his/her choice.

Video - this was a South African video that presents a role-play of ineffectual communication between a married couple.

Louise Hayes tape - This was entitled "What I believe and deep relaxation".

The day was structured to provide awareness of various treatments and approaches to stress. As one of the delegates claimed after this day "I've got all the pieces to the jigsaw puzzle, now I just have to put it together."

On the fourth day, delegates were taken out canoeing again. Here the approach was towards team building; for example they were given the task of building a pyramid of rafts whilst on the river. Lectures on this day covered questionnaires from the test battery that were not completed on days one and two. They are also taught how to interpret their cholesterol scores, and informed about the ramifications of high cholesterol. Delegates were also asked to write a composition of their ideal day or dream and this was shared around the campfire that evening.

The final morning was allocated to drawing up a personalised plan of action whereby delegates made use of all collated material and information to implement lifestyle change. They were provided with goal-setting forms to help them to decide what they needed to change in each area of their lives. These forms stated the goal, its deadline, aids and obstacles to the goal, action steps and a review date. Delegates were left to do this on their own and given assistance if necessary. The course ended with each delegate sharing his/her top five goals with the rest of the group. Furthermore they were assisted with various ways and means to ensure implementation of their objectives in their own environment by means of reinforcement procedures, reminders and professional help. They were requested to keep in contact with the psychologist by writing and returning follow-up questionnaires six months later. (It appears, however, that this request is not often adhered to.)

To summarize with the words of the programme developer, the aim of the programme is "to empower people to achieve a lifestyle of wellness and to adopt responsibility for optimal performance. To attain a greater awareness of their total life situation, including the effects of stress, and to put priorities into proper perspective." The delegates come to understand how changes in lifestyle help to alleviate stress.

Lifestyle as covered by this programme, can be categorized into the following areas:

1. **Nutrition:** delegates are informed about healthy nutritional principles. These include limiting fat, caffeine, beef, egg, salt and sugar intake, and increasing consumption of fresh fruit, vegetables, and fibre. They are made aware of their weight, their ideal weight, and how to make their diet healthier.
2. **Exercise:** delegates' fitness levels are assessed. They learn about the benefits of exercise, and about the various components of exercise for example, stretching, strength training, cardiovascular training.
3. **Relationships:** delegates focus on their social support systems. They learn more about their own personalities and so gain some insight into how they relate to others on a personal and organisational level. They are encouraged to talk with the psychologists about problems in their relationships. Delegates to focus on their social support, particularly their relationships at work and at home.
4. **Work environment:** delegates gain awareness of how they function in the work environment. They look at their managerial styles, time management, and communication skills. Again, personal insight into themselves may increase awareness of how they relate to others at work.
5. **Coping mechanisms:** delegates may look at the way they can spend time away from the work environment, in order to facilitate a more balanced, less stressful life.

6. **Health beliefs and behaviours:** delegates become more aware of their health behaviours and how they may contribute to a stressful lifestyle. Health beliefs may also undergo change as they gain understanding of the importance of health.

2.4 COMMENTARY

The programme under investigation demonstrates many of the criteria deemed important in a stress management programme. Particular emphasis is placed on the areas of exercise and diet as stress management tools. An understanding of personal resources and traits, social support, and stress theory are provided. Other techniques in stress management are also addressed, in less detail. These techniques include cognitive techniques (particularly rational emotive therapy), relaxation techniques, and assertiveness training. The programme advocates a self-management approach.

The professionals running the programme do live the lifestyles advocated, and relate to the delegates in an egalitarian manner. This multi-disciplinary team provides an overview of skills that can be utilized in the management of stress. The individual can choose a number of these in dealing with stress. The client and the professionals work together to assess areas of stress, and to plan ways to deal with this in the future.

The final morning of the programme is allocated to goal setting, where delegates make their own choices of attainable goals. Thus, delegates on the programme are given control in terms of being able to score their own questionnaires and choose from the information presented, what will work for them. They are provided with follow-up questionnaires, and occasionally with reunions. However, follow-up questionnaires are often not completed, either because they add to the work load of delegates, or because the process of follow-up needs further attention from the programme.

The programme perhaps does not provide detailed instruction in the acquisition of these skills. It also does not provide clear incentives (aside from explaining the

detrimental effects of stress), or deal extensively with possible setbacks to behaviour change. It is important to note here that the use of some adapted psychological tests, which have not been evaluated in a scientific manner, highlights certain doubts about the initial assessment of delegates. Clients may be led to believe that they fit in a particular category of behaviour or personality, but there is no scientific proof that this is indeed what the adapted questionnaire examines.

According to Yeaton & Sechrest (1981), in choosing a treatment it is necessary to consider its strength, integrity and effectiveness. The strength of a programme may be affected by its duration, and the adequacy of those doing the treatment. Contact hours on this stress management programme are beyond the minimum of 16 hours deemed effective (Ganster et al., 1982). The programme is conducted by professionals in their field. According to Yeaton & Sechrest (1981), integrity of treatment refers to "the degree to which treatment is delivered as intended" (p160). The authors claim that for interventions that are complex and demanding there will be problems in maintaining integrity. Also, the more complex the treatment, the more difficult it is to monitor the quality of the programme. Given the complexity of the programme under investigation, the integrity of its administration may be an issue of concern.

This study utilized delegates from seven such courses that were run over the course a 12-month period. Subjects of this study underwent courses of the same basic format, although it is important to emphasise that this research was conducted outside the laboratory context, and programmes may have been slightly different according to time of year. Structural changes may have been made according to weather, in order to facilitate river rafting in good weather. Also, it is possible that courses may vary according the level of discussion and questioning of delegates themselves. Monitoring of each course by the evaluator, to ensure each treatment was delivered as intended, was not feasible for this study.

CHAPTER 3:

EVALUATION OF STRESS MANAGEMENT PROGRAMMES

Published evaluations of stress management programmes first appeared in international publications in the late 1970s. As yet however, only one other investigation into a stress management programme in the South African context has been traced, that of Allman (1985). This is surprising, considering South African executives rank amongst the highest stressed in the world, perhaps due to the country's unique racial and political tensions.

This chapter gives an introduction to evaluation of social programmes and a review of previous studies is also presented. It is evident from these reviews that claiming efficacy of a programme is a contentious issue. The problems encountered in such studies are discussed in order to provide a rationale for the present study.

3.1 SOCIAL PROGRAMME EVALUATION

Evaluation of social programmes is a relatively new field, and has been defined as "the determination and assessment of the results (outcomes/impacts) of programme activities" (Franklin & Thrasher, 1976, p23). The task of a programme evaluator is to find a design that provides "the most credible information in the situation you have at hand" (Fitz-Gibbon & Morris, 1987, p10).

Models deriving from the controlled experiment tradition are advocated in evaluation, but are seldom used (Franklin & Thrasher, 1976). Reasons for this lie in the ethical problems in withholding treatment, costs, and the impracticality of the approach outside the laboratory. Thus, the quasi-experimental design is the next alternative. A quasi-experiment makes use of treatment and outcome measures, without using

random assignment. As a result, the researcher needs to be aware of threats to validity (Cook & Campbell, 1979).

3.2 REVIEW OF PREVIOUS EVALUATION STUDIES

Investigation of the effects of occupational stress on productivity began in the early 1950s, although programmes for improving employee health and reducing the effects of stressors occurred much later (Beehr & O'Hara, 1987). Published evaluations of stress management programmes began to appear in the late 1970s. Stress management programmes which have been reviewed cover a variety of levels and situations from asymptomatic individuals to patients experiencing from stress associated with medical or surgical procedures.

Newman & Behr (1979) upon reviewing evaluations, claimed that strategies until then were based on professional opinion and few had been evaluated with scientific rigour. In recent years, however, there has been an upsurge and improvement of research into this area.

Murphy (1984), in a literature review of occupational stress management, investigated 13 studies. Of these, four were unpublished reports, dissertations or conference presentations, and two made no use of a control group. All work groups were found to be successful at learning stress management but the durability of these results was questionable. Many investigations were criticized for their small sample sizes. Murphy commented on the need to evaluate the success of clients in terms of attitudinal, job stress and personality dimensions.

DeFrank & Cooper (1987) located only 18 studies which evaluated the efficacy of stress management programmes. Among these, seven had no follow-up, whilst only three had a six-month follow-up. Most of these evaluated individual-focus outcomes, (ie aspects of the programme directed towards the individual and his/her coping mechanisms). Approaches ranged from single modalities to two or more treatments

in combination, with blood pressure and anxiety being the most common measures utilized (muscle tension was measured when biofeedback and relaxation techniques were taught.) A smaller group of studies focused on the role of the individual in the organisation, but here there are few patterns of outcomes that can be matched with the actual programme. Only two studies paid attention to organisational concerns. This is perhaps related to the more onerous task of changing the organisation. On reviewing both personal and organisational programmes DeFrank & Cooper found little systematic evaluation, and attributed this to the difficulties involved in developing programmes and investigating them within organisations.

Nicholson, Duncan, Hawkins, Belcastro & Gold, 1988, published a notable review of stress management studies. Methods and results of 62 stress management programmes from numerous fields were summarized. The paper was restricted to published evaluations. (One question they raise, is whether stress management programmes are effective or are only those with positive effects published? If the latter is true, then reviews may not even be a true reflection of stress management evaluation).

The review showed mildly encouraging results, with serious methodological flaws. Of the 62 programmes, 56 (90,3%) were claimed to be effective by the author/evaluator and reflected positive attitudes and feelings. There was variability in the degree of efficacy described, and as success is difficult to define, interpretation of these results is problematic.

Of the reports claiming effectiveness, 19,6% presented only descriptive data of the investigators' subjective perceptions, therefore these results can be dismissed. Inferential analysis that was technically correct, but could have been improved, was conducted by 19.6% of studies. For example, significant improvements were found within the treatment groups but there was no difference between treatment and control at post-test follow up. Despite this authors concluded that programmes were effective.

Furthermore, there were problems associated with the psychometric properties of the instrumentation. There was no standard criterion measure of stress: 25 studies used a physiological measure; 24 used a behavioural response; and 42 used subjective perceptions of stress. Because programmes are so different, it is difficult to use instrumentation that can be generalized over all studies. Researchers find the need to develop instruments as stress management programmes can be so diverse. One problem, however, has been the brevity in length (1-10 items) and the subjectivity. Steinmetz, Kaplan & Miller, 1982, describe their development of an assessment questionnaire for evaluating interventions and comparing groups at work. The questionnaire was not used with a control group, but the authors suggest that such a questionnaire could be promising, and claim that assessment of personal cognitive style may be beneficial. Aspects of personality may therefore warrant investigation.

Furthermore to clarify and summarize results, Nicholson et al. (1988) transformed the quantitative results of each study into the common metric of a standard score. Only 29% provided adequate data, and of these the average improvement in treatment groups was equal to 3/4 of a standard deviation in the control group scores. This suggests some positive effects of stress management programmes but it is by no means an impressive result. The authors question whether programme effects vary by setting, population or outcome measure, and if so, what are the nature and reasons behind these different programme effects. Given the wide variety of settings and populations to which stress management programmes are now applied, the difficulty in claiming efficacy as a generalization is evident. This again points to the need to examine each programme as an entity.

According to Auerbach (1989) stress management and coping studies in the health care setting have not been sufficiently grounded theoretically. Intervention strategies, in particular, have not taken into account the nature of the stressor under study; in terms of how it forms emotion focused vs problem focused demands on the individual. Stress management literature does tend to focus on treating the problem rather than attending to the sources of stress. Also intervention programmes are more frequently marketed as a combination of techniques rather than an exploration into the causes of the stress.

To summarize, methodologically, studies reviewed should be viewed with caution, and cause and effect conclusions cannot be drawn from them. To date, literature does not provide enough scientific evidence to warrant widespread unquestioned application. There is a need for research that focuses on the levels and components of stress management programmes and on what populations can be best affected by them. For example, Johnston (1989) provides a persuasive case for stress management programmes for hypertensives; combining the results of published studies, of 800 patients investigated, reductions were found in 500. However, it is important to note that these results, though impressive, cannot be generalized to cover conditions outside of the clinic. Matteson & Ivancevich (1987) and Haan (1982) advocate field research rather than laboratory research to improve stress management studies.

In the South African context, one study which investigates the effects of a stress management programme has been traced. In Allman's (1989) study, 17 South African Caucasian males aged 25-57 of managerial or executive status were measured on the S.V.A., a multi-dimensional diagnostic stress measure, before and 3 months after a 2-day stress management programme. A control group of 25 Caucasian males matched in age and occupational status was used. The results showed a significant difference in several test dimensions between the experimental and control groups. Use of the stress measure was problematic however, as the researcher was unsure whether it was "stress" that the research measured.

Two pilot studies of the stress management programme under investigation were conducted in 1991 by the programme coordinator. After 3 months, for a sample of 7 delegates, physical fitness indices showed a 3.8% reduction (from 23 to 19.%) in body fat, and a 5.8% improvement in fitness levels (from 59.% to 65.%). There was a reduction in total serum cholesterol from 6.0 to 5.1. For a sample of 15 delegates, after 3 months reduction in Type A personality from 53.5 to 47.35 was observed, with a movement to higher internal Locus of Control scores (from 37.76 to 30.55), and higher global Sense of Coherence (69.5% to 74.5%). Significance levels were not calculated for these samples, and obviously these results need to be assessed with caution due

to the small sample sizes, and because the course was evaluated by the professionals who run the programme.

3.3 PROBLEMS IN EVALUATING STRESS MANAGEMENT PROGRAMMES

Unequivocal evidence of the effectiveness of stress management programmes is rare (Beehr & O'Hara, 1987; Nicholson et al, 1988). There are several reasons for this. As delineated earlier in this review, precise understanding and definitions of stress and coping are lacking in research, and there is little uniformity between studies that attempt to measure stress reduction or coping skills.

Researchers often look at more than one outcome of a programme, making it difficult to assess the overall result (Nicholson et al., 1988). For programmes that offer multiple treatments, there is the problem of ascertaining which results are attributable to which part of the programme.

The choice of methodology may be problematic. The interview may be an unreliable gauge of compliance. Self monitoring is useful if the client is motivated, but records may be inaccurate. Physiological treatment outcomes may be a further measure of behaviour change (Pomerleau & Brady, 1981), but these usually occur in a laboratory situation, and cannot be generalized outside of this. Pre- and post-tests may be subject to problems of maturation and change within the individual. Similarly, the researchers themselves may change their "standards" between pre- and post-test, as they become more experienced (Beehr and O'Hara, 1987).

It appears logical to include multiple measurements over the experimental period of the programmes (Schomer & Dunne, 1986). Hart (1987) proposes the use of a multi-level, multi-method "triangulation" approach whereby biological, psychological and behavioural and contextual phenomena are measured using a set of assessment tools. However, this approach may be impractical and costly to implement in field research.

Once definitions for a particular study are decided, demonstration of effectiveness requires that a reduction in stress can be attributed to the programme, and not to non-specific effects e.g. biasing of response due to response tendencies such as social desirability. The type of instruction given to subjects and the quality of subject-experimenter relationship can also contribute to obtained results (Murphy, 1984). It is difficult to assess whether non-specific factors, such as sitting in a comfortable position, or attention from specialists, are responsible for reduction in stress.

Although control groups may assist in dealing with non-specific variables, withholding treatment from a group of potentially stressed participants is unethical (Beehr & O'Hara, 1987; Matteson & Ivancevich, 1987; Franklin & Thrasher, 1976). It is not acceptable to expose the participants of programmes intentionally to different levels of stressors in order to assess the benefits of these programmes. The researcher therefore needs to examine stress where it occurs naturally.

The influence of a personality trait may change subjective perceptions of conditions and their outcome. Auerbach (1989), for example, hypothesizes that whereas individual differences in disposition are significant determinants of response in situations that require a mixture of coping demands, they probably play a less important role when the demands are unambiguous. A critical factor, when assessing the effect of a stress management programme, might be the identification of personalities on the programme.

A further consideration is who should carry out the evaluation, for "Ideally, the evaluator's role is one of an objective observer, aware of but uncompromised by vested interests in the programme being evaluated" (Franklin & Thrasher, 1976, p102). An evaluator who is one of the practitioners administering the programme may become too familiar with the programme, and be unaware of its limitations. Such evaluations may also lack validity.

Finally, few studies investigate the long-term effects of programmes on individuals (Beehr & O'Hara, 1987; DeFrank & Cooper, 1987; Murphy, 1984; Murphy & Hurrell, 1987). Only 8 of the 13 studies reviewed by Murphy (1984) used a follow-up. Thus, although studies do claim efficacy, these results must be viewed with caution. "To conclude on the basis of a single measurement taken at one point in time that a stress management intervention is effective while having no knowledge of its staying power may lead to invalid and costly conclusions" (Matteson & Ivancevich, 1987, p29).

3.4 RELEVANCE OF STUDY

This study looks at stress at management level for a sample of executives. Executive stressors in South Africa include the economic, political, and cultural systems.

A global study on executive stress showed South African executives to be more stressed than their Western counterparts. This could be because the average white South African manager is responsible for 42 workers compared with a responsibility for 14, 12, and 6 workers for managers in Australia, Japan and the United States respectively (Cooper & Abrose, 1984). Maker (cited in Charlton, 1989) discusses stress factors experienced by white South Africans. In listing stressors relevant to 1984 such as the state of emergency, Maker claims "Is it surprising that there are so many marriage and family breakdowns, such a high incidence of stress related diseases amongst white South Africans or the fact that South Africans are so aggressive and easy to anger" (Charlton, 1989, p58). Although stressors in 1994 have changed, with the approaching elections and changes in the country, the researcher believes that the impact of political and social stressors is no less relevant. Maker also discusses the anxiety about the future experienced by the white South African, particularly for the executive who needs to be involved in planning for the future. This remains relevant in 1994.

For black managers, lack of education and exposure to the white business environment has made working in a white system distressing. There has been a lack

of role models as these posts are often newly created (Allman, 1985). There is evidence of an increase of stress related disease amongst urban Africans (Strümpfer, 1983).

South African women have also displayed extremely high levels of stress (Allman, 1992). This may be a result of living and working in a patriarchal society which may cause women to play a multiplicity of roles. (Strümpfer 1983).

Given this information, it is surprising that, only one study into the efficacy of a stress management programme in South Africa has been traced, that of Allman (1989). The high levels of stress in the country at present necessitate further investigation into the effects of stress management programmes. Of the packages available, the programme chosen presented the best combination of elements deemed necessary for an effective programme.

3.5 RATIONALE OF STUDY

The objectives of this study are twofold. Firstly, it aims to assess the effects of a commercial stress management programme on participants. Effects of the programme are measured with short term (three weeks) and longer term (six months) change in lifestyle and/or personality. Perceptions of motivation, and attitudes towards goals set on the programme are also assessed. Although the programme under investigation is one utilized primarily by companies, this study does not evaluate the programme from an industrial/organisational perspective. This is because the programme focuses primarily on the individual and not the company. However, implications on the industrial/organisational level are examined in the final chapter.

Secondly, the study aims to investigate the relationship between the three personality variables (Sense of Coherence, Type A/B personality, Locus of Control) and lifestyle. These may reflect individuals who benefit from stress management programmes, or who are already leading a lifestyle conducive to managing stress. Research into the

area of stress intervention may provide further insight into personality and how individuals differ from one another in the way they adapt to stress management techniques.

From the review of programme evaluation, certain issues become relevant for the methodology followed in the present study.

Firstly, with the contention around the measurement of stress and coping, alternative measures are needed. The present researcher advocates measurement of lifestyle and personality factors. Murphy (1984) claimed that typically, stress management programmes are presented to the physically and psychologically healthy, rather than to those requiring treatment for specific problems. Studies should therefore be described more precisely as health promotion/disease prevention programmes rather than stress reduction. The present study adopts this approach, by choosing to measure lifestyle and personality factors rather than stress.

Secondly, considering that effective programmes offer a combination of approaches, effects in a number of lifestyle areas need to be assessed.

Thirdly, the form of assessment needs to be considered. Standardized tests may not always measure exactly what the programme taught, and therefore are not always the best options in evaluation research. (Fitz-Gibbon & Morris, 1987, p120). Thus, it is necessary to develop instruments which might be more sensitive measures of the programme.

Fourthly, in offering an expensive and attractive treatment to certain individuals, and withholding it from others, the researcher is faced with ethical problems. Even if a control group had been used, in this study it is likely that such individuals would be "non-volunteers" (unwilling to be part research which is of no value to them), which would distinguish them from those on the course who volunteered to answer the questionnaires.

Furthermore, according to Auerbach (1989) findings of studies using control groups should be interpreted cautiously due to inadequate use of control. Control groups may not reflect any differences with the experimental group (Drazen, Nevid, Pace & O'Brien, 1982) or may even demonstrate positive effects. In investigation of organizational stress management programmes, results in control groups may be attributed to the increased morale of employees on recognition of the company's interest in them, and also to the fact that control groups might also be taking time out of the work day. Non-specific factors across treatments such as peer support or routine blood pressure testing, might also be influential.

With these issues in mind, the following methodological approach was adopted for this study.

The manner in which the programme is administered made it suitable for a form of quasi-experimental design, namely the time series repeated measures design. A repeated measures design balances the practical constraints often found in field settings (Matteson & Ivancevich, 1987). Cook & Campbell (1979) delineate some important considerations of this design. Causal analysis of time series has inherent difficulties, and the researcher needs to be aware that no strategy can offer completely confident causal relationships. Also, time series are subject to threats to internal validity due to seasonal trends, the main effect of history and to subject attrition. Changes shortly after the intervention are interpretable as treatment effects. Changes that occur at a later point in the series are more equivocal (West, 1985). However, these limitations should not discourage the use of a method that may be valuable in field research.

With the absence of a control group, the credibility of the design can be improved if the pre-test closely resembles the post-test. This is because the best predictor of an individual's future behaviour is his/her current behaviour in similar circumstances (Fitz-Gibbon & Morris, 1987, p42). This notion was adopted in the formulation of the questionnaires for this study, where pre-test and post-test items measure the same areas of behaviour.

Since the researcher did not have a vested interest in the programme under study, the role of an "objective observer" could be played. This improves the validity of the evaluation.

3.6 RESEARCH QUESTIONS

From the literature and theoretical review, the following research questions and hypotheses were formulated for this study:

1. *Are changes in lifestyle brought about by the stress management programme? If so, do these changes occur for lifestyle in general, or in specific components of the concept, as defined earlier?*

Lifestyle measures utilized in this study are: nutrition, fitness, relationship with spouse/significant other, work life, health beliefs and behaviours, and coping resources. Changes in these areas are examined after three weeks and six months have lapsed since the programme.

It is hypothesized that only prime areas in which in-depth understanding of the concepts was provided will result in a positive behaviour change. The prime areas of focus of the course appear to be fitness and nutrition, and it is predicted that changes will be most significant in these areas. It is also predicted that relationships at work and at home will be changed positively as a result of the input of psychologists and increased self knowledge. It is anticipated that the alternative coping mechanisms presented on the course, but not dealt with in depth (for example aromatherapy and relaxation), will not effectively change. It is predicted that the area of health beliefs and behaviours will show an improvement due to the focus of the delegate's attention to this during the course.

2. *Will attitudes towards goals set and attained after the intervention be more positive after three weeks and less so after six months?*

3. *Will Sense of Coherence have an effect on lifestyle and lifestyle change or is it possible to instil change in all individuals, irrelevant of their SOC score?*

It is hypothesised that higher SOC will be linked to higher initial lifestyle scores and/or higher degree of change of lifestyle. An individual with a high SOC will perceive the new information on the programme as meaningful and comprehensible and manageable, and will implement that information.

Will a higher Type A personality score, according to the adapted course questionnaire, be linked to lower lifestyle scores and less change of lifestyle?

It is assumed that a Type A personality will be less able to incorporate changes in lifestyle that will relieve stress, because of the Type A individual's intrinsic competitiveness and driving traits.

Will a higher internal Locus of Control score, according to the adapted course questionnaire, be linked to higher lifestyle scores and/or degree of change?

It is assumed that the individual with a high internal Locus of Control will be better able to absorb information on the course, and to implement necessary lifestyle changes, or will already be leading a lifestyle conducive to stress management.

If it can be shown that personality variables influence lifestyle factors, programmes can be designed to be more efficient in terms of cost benefit. Also, the use of adaptive scales without scientific backup highlights certain questions about the programme. The psychologist who runs the programme markets these questionnaires as Type A, and Locus of Control but they has not been validated in a scientific manner. The researcher used these adapted questionnaires in order to evaluate utilization of such non-scientific measures. Also, introduction of an alternative Locus of Control or Type A measurement (for example JAS), may have been confusing for delegates, especially if it had placed them in different categories to the adapted questionnaires.

Furthermore, it was felt that plying delegates with more questionnaires than necessary might have increased attrition rates.

4. *Will there be a change in Locus of Control and/or Type A behaviour as measured by the programme, and/or Sense of Coherence six months after the course?*

Reassessment of scores after six months, (despite the adaptation of questionnaires) might still be useful to demonstrate effects of learning about these personality concepts on the course.

CHAPTER 4:

RESEARCH METHODOLOGY

4.1 SUBJECTS

Subjects used were participants in a commercial stress management programme run on the Breede River. Participants were drawn from upper and middle management. The original number of participants who received questionnaires from the researcher was 76. Of these, 61 responded; 53 males and 8 females. Thirty-two of these were from the Western Cape, 27 from the Transvaal, 1 from Natal and 1 from Northern Cape. Mean age of participants was 40,08 years, with a standard deviation of 8,34. Ages ranged from 25 to 58 years. Mean time of involvement with a spouse or partner was 14.7 years. Mean number of children of delegates was 1.7.

4.2 PROCEDURE

The stress management programme under investigation was chosen by the researcher after looking into what was available on the market in Cape Town, South Africa. The programme appeared to provide many of the criteria deemed important in stress management interventions, and also was one of the better known and respected packages on offer. In an initial interview with the researcher, the psychologist who runs the course described it as an intervention for those in stressful situations, and a preventative measure to enable individuals to establish an improved lifestyle and identify priorities. To quote the psychologist, the course is "a time of stocktaking and looking at areas of their lives and taking time out to put priorities into proper perspective".

After the initial interview with the psychologist, it was agreed that the researcher would attend one of his five-day open courses. In June 1992 the researcher acted as a

participant on the course, in order to observe the course structure. After attending the course, the researcher developed questionnaires which were relevant to areas covered on the course (see section 3.3). Since stress management courses are varied in approach, it was deemed important to create a questionnaire that examined the issues specific to the course. It was believed by the researcher that lifestyle change might serve as an indicator of stress management.

Permission was granted to administer these questionnaires to delegates on the courses starting in 1993. Participants on eight courses from March to August 1993 were requested to fill out questionnaire 1 whilst on the course. Details of the courses investigated during this time period were as follows:

Table 1: Details of programmes used in this study

Programme date	N	Male	Female	Province
7-12 March	11	10	1	8 Western Cape 3 Transvaal
18-23 March	9	9	0	9 Transvaal
18-23 April	12	12	0	12 Western Cape
24-27 June	12	12	0	12 Transvaal
6-11 June	9	7	2	7 Western Cape 2 Transvaal
8-13 August	11	9	2	11 Western Cape
22-27 August	12	8	4	6 Western Cape 4 Transvaal 1 Natal 1 Northern Cape

Questionnaire 2 was sent to delegates three weeks after the course and again six months later, with an accompanying letter (see Appendix D), and pre-stamped envelope. Sense of Coherence, Type AB and Locus of Control scores were taken from the test batteries completed by the delegates before the course. These three personality variables were reassessed with questionnaires sent together with questionnaire 2 in the six month follow-up (see Appendix C).

The required number of pre-programme measurements depends on the stability of the traits or events that are being measured. The number of post-programme measurements depends on the expected nature of the impact of the programme, with fewer measurements required for greater impact (Franklin & Thrasher, 1976; Rossi & Williams, 1972). It was assumed in this study that personality traits would be relatively stable, requiring one pre- and one post-test measurement, and that the programme would have a varied impact on lifestyle, hence the use of a three week and six month re-measurement.

The assistance of personnel officers of companies involved was elicited in order to facilitate response to the questionnaires. They sent memos to delegates to respond. The researcher also attempted to remind delegates by telephone on a weekly basis. A written reminder was sent if the delegate could not be contacted by telephone.

Of the 76 questionnaires sent out originally, 68 were returned. Of these 7 could not be used, as they had been either incorrectly or incompletely answered. Analysis were carried out on data for 61 subjects (80% of original sample) who completed the pretest, 42 subjects who completed the three-week follow-up test (68% of pretest sample) and 33 (54% of pretest sample) subjects who completed the 6 month follow up.

Delegates not responding to the follow-ups may have been indicative of those who were less compliant in their change of lifestyle, or those whose stress levels were still high. These delegates may not have had the time to fill in further questionnaires. Some subjects could not be contacted for follow up due to retrenchment, transfer within the company, or leave. The rate of attrition appeared to be equal in all eight courses, which indicates that no comparative bias exists. However, attrition was problematic in determining whether the effects are due to the types of people who chose to respond to one, two or three questionnaires.

4.3 RESEARCH QUESTIONNAIRES

4.3.1 Questionnaire One:

The first questionnaire (see appendix A) comprised eight sections, each with items regarding health and lifestyle behaviours and attitudes. The questions were synthesized from the Health Belief Questionnaire (Health Belief Assessment scale, 1981) for the first section (only questions relevant to the study group were utilized), and formulated by the researcher for the other sections. Items were chosen for their applicability in measuring the lifestyle changes advocated by the current programme. Since the programme focuses on the areas of health behaviours and attitudes, nutrition, fitness, relationships with others and leisure pursuits, these categories were chosen in the formulation of a questionnaire that was applicable to the course.

Sections on nutrition, fitness, relationships, and work life were reviewed by experts in the respective fields: nutrition by the Head of Dietetics Unit, University of Cape Town, fitness by two professors in Sport Science at the University of Cape Town, and relationships and work life by two clinical psychologists. Recommendations of change by the experts were incorporated into the draft of the questionnaires. The questionnaires were then given to a sample of four health psychology interns and one health psychologist for further amendment. The final drafts of the questionnaires were an amalgamation of reviews by these experts.

Questionnaire 1 assessed lifestyle behaviours before the programme and is administered to participants as they start the programme. From the literature on lifestyles, and from the components of the programme under investigation, lifestyle was categorized as follows:

1. Health beliefs and behaviours
2. Nutrition
3. Fitness
4. Relationship with spouse/significant other

5. Work life
6. Coping resources

4.3.2 Questionnaire Two:

A second questionnaire (see Appendix B) assessed the same lifestyle behaviours as questionnaire one and improvements. Sections covered are the same as 1-6 above, with an additional section on goals set during the course as follows:

1. Health beliefs and behaviours
2. Nutrition and changes
3. Fitness and changes
4. Relationship with spouse/significant other and changes
5. Work life and changes
6. Coping resources and changes
7. Goals

Questionnaire 2 also examined ratings of perceived improvements in the sections of nutrition, fitness, relationships, work life, and leisure. Questions were rated on a scale of 1 to 5, 5 meaning "significantly", and 1 meaning "not at all". Mean ratings per lifestyle category were calculated for each questionnaire.

The questionnaire was administered three weeks after the programme, and again six months after the programme. A three-week follow-up was chosen in order to assess changes shortly after the programme, allowing time for the individual to settle back into the same lifestyle as before, or into a changed routine. A six-month follow-up was the longest follow up period possible for the purposes of this study, bearing in mind that courses ran on a monthly basis, and collection of data was over a 12 month period.

Reliability of lifestyle measures

The questionnaires were designed so that the internal reliability would be greater than 0.6 for each questionnaire. The Cronbach Alpha Coefficient (the inter-correlation between the individual questions in a questionnaire), was the statistical tool used to measure this. Items poorly correlated with their respective section totals were removed from that section. Questions 16 and 18 of the nutrition section, question 15 of health beliefs, question 12 of work, and question 1 of coping were all removed. The alpha coefficients for each section are displayed in the following table.

Table 2: Cronbach Alpha Coefficients for lifestyle measures.

MEASURE	CRONBACH ALPHA
HEALTH BELIEFS/BEHAVIOUR	0.74
NUTRITION	0.63
FITNESS	0.87
RELATIONSHIP	0.92
WORK LIFE	0.70
COPING	0.71

The internal reliability coefficients following the second administration of the measures were similar to the original coefficients. The alpha coefficients were > 0.6 for all sections.

4.3.3 Sense of Coherence Questionnaire (Appendix C, questionnaire 11)

This scale is believed by Antonovsky (1993) to be cross-cultural and cross-situational, for it does not refer to a specific type of coping strategy but to factors which are the basis of successful coping for all cultures.

In 26 studies using SOC-29 (the 29-item semantic differential questionnaire) the Cronbach alpha measure of internal consistency has ranged from 0.82 to .95.

Furthermore, the scale was systematically produced, and examined by many colleagues of Antonovsky, all leaving the scale with a high level of content, face and consensual validity. There is also indication of a high level of construct validity, (although there are few data sets available).

Average SOC scores are in the 130-140 range, that is 64-69 percent. Normative values have been calculated for a sample of 122 delegates on the stress management programme. Mean SOC was found to be 64.48 percent, with a standard deviation of 11.38.

4.3.4 Type A personality questionnaire

An adapted version of the Type A questionnaire, has been utilized by the psychologist who runs the programme under study (see appendix C, questionnaire 3). Scores therefore can be compared to those of previous delegates over the years. Interpretation of scores is as follows:

0-25	B+
26-50	B-
50-75	A-
76-102	A+

The normative values of 122 delegates on the course have been calculated for the psychologist who runs the programme. The mean score is 54.82, with a standard deviation of 12.20. This places the majority of delegates on the course into the Type A- category.

4.3.5 Internal/External Locus of Control

An adapted version of the original Locus of Control instrument was used (see appendix C, questionnaire 4). Interpretation of scores is as follows:

0-30	Internal LOC
31-45	Internal/External balance
46-90	External LOC

Here the mean score of 122 delegates on the programme was calculated to be 38.93, with a standard deviation of 11.04. This places the majority of delegates in the internal/external balance category.

CHAPTER 5:

RESULTS AND DISCUSSION

This chapter presents and discusses the findings of this study which set out to answer the following questions:

1. Is there a change in lifestyle measures associated with the stress management programme, and are these different at three weeks and six months after the programme? Change is defined as a difference in scores for lifestyle measures from pretest to three weeks, and from pre-test to six months.
2. Does motivation towards goals lessen from three weeks to six months after the programme?
3. What moderating effect do the personality variables Sense of Coherence, Type A behaviour, and Locus of Control have on lifestyle and lifestyle change?
4. Do the three personality variables change six months after the programme?

5.1 CHANGES IN LIFESTYLE MEASURES

Questionnaire was given a score ranging from 0 to 5 (eg items in the relationship section), 0 to 4 (eg item 5 in the fitness section), or 0 to 3, with healthier or more positive behaviours scoring higher. The questionnaire was coded by the researcher. The coding was based on information presented on the programme, and input from the professionals who assessed the questionnaires in terms of what was considered to be healthier behaviour. For example, item 1, in the fitness section which reads "how often do you exercise?" was rated as follows:

- a. Daily (3)
- b. 6-4 times (2)
- c. 3-1 times (1)
- d. not at all (0)

Maximum and minimum possible scores for each lifestyle measure are presented in the following table:

Table 3: Maximum and minimum scores for each lifestyle measure.

LIFESTYLE MEASURE	MAX SCORE	MIN SCORE
HEALTH BELIEFS/BEHAVIOUR	55	18
NUTRITION	53	10
FITNESS	19	1
RELATIONSHIP	145	25
WORK LIFE	90	18
COPING RESOURCES	84	12

Statistical analysis for all questionnaires was performed using SAS. Mean scores and standard deviations for 61 delegates at the initial assessment, 42 delegates at the three week follow up, and 33 delegates (52% of original study group) after six months were calculated. These are displayed in the following table.

Table 4: Mean scores in lifestyle measures for delegates at pre-test, three weeks and six month follow up.

MEASURE		N	MEAN	STD DEV
HEALTH BELIEFS/ BEHAVIOUR	Pre-test	61	41.9	4.89
	3 weeks	42	44.9	4.77
	6 months	33	45.6	4.91
NUTRITION	Pre-test	61	33.9	4.66
	3 weeks	42	38.05	4.24
	6 months	33	32.7	4.87
FITNESS	Pre-test	61	10.1	4.55
	3 weeks	42	12.02	3.81
	6 months	33	10.7	2.31
RELATIONSHIP	Pre-test	58	102.20	19.7
	3 weeks	40	109.30	20.53
	6 months	31	111.3	12.11
WORK LIFE	Pre-test	60	65.6	5.97
	3 weeks	42	68.1	6.95
	6 months	31	64.6	5.53
COPING RESOURCES	Pre-test	60	37.58	9.57
	3 weeks	42	40.5	10.87
	6 months	31	34.35	11.76

These mean values are not discussed as the main interest is in the changes in participants. The mean differences between the total scores in the areas of nutrition, fitness, relationships, work life, health beliefs and behaviour, and coping resources between the initial questionnaire and three-week follow-up, and the initial questionnaire and six-month follow-up were calculated in order to assess the hypothesis that there would be an improvement in lifestyle.

To control the multiple tests for measures of improvement, two methods could be used, namely MANOVAS or the Bonferroni method. It was decided to use the latter to tighten the significance level and a level of 0.0083 (0.05 divided by the 6 categories under investigation) was employed. This strategy maintained the overall significance level at 0.05 over six tests. Table 5 compares mean changes in behaviour (the pretest post-test difference scores) of delegates three weeks and six months after the programme, and statistical significance.

Table 5: Mean changes in lifestyle measures for delegates three weeks and six months after programme

MEASURE		N	MEAN CHANGE	STD DEV	t	p
HEALTH BELIEFS/ BEHAVIOUR	3 weeks	42	2.40	3.79	4.11	0.0002
	6 months	33	2.90	3.94	4.28	0.0002
NUTRITION	3 weeks	42	3.71	3.99	6.02	0.0001
	6 months	33	2.42	3.57	3.89	0.0005
FITNESS	3 weeks	42	1.45	2.83	3.31	0.0002
	6 months	33	1.60	2.89	3.18	0.0032
RELATIONSHIP	3 weeks	39	2.71	18.04	0.94	0.36
	6 months	29	6.65	11.53	3.10	0.004
WORK LIFE	3 weeks	42	1.33	6.82	1.27	0.22
	6 months	33	1.09	5.98	1.04	0.31
COPING RESOURCES	3 weeks	41	3.12	9.05	2.21	0.03
	6 months	31	3.32	9.61	1.92	0.064

Changes in all categories were in a direction of improvement three weeks after the programme. Student's t tests showed significant levels of change for three of the six categories, namely nutrition ($t=6.02$; $p=0.0001$), fitness ($t=3.31$; $p=0.0002$) and health beliefs and behaviours ($t=4.11$; $p=0.0002$).

Due to the more stringent significance level used for the five variable multiple comparison, the change for the category of coping resources ($t=2.21$; $p=0.03$) was less marked though it is strongly in the direction of improvement. Relationships and work lives showed improvement but these changes were not statistically significant.

Since nutrition, fitness and health were focused on more than other areas, it was expected that these measures would show more change after three weeks. Information acquired in these areas may have been easier and less ambiguous to apply than the information presented in terms of changes in relationships and work life. Changes in nutrition and fitness may have been more readily in the immediate personal control of the individual. On the final day of the programme, delegates were required to choose their goals in terms of small, attainable steps. These changes

could reflect the areas in which delegates actually chose to make changes. For example, the areas of nutrition and fitness may have been prime goals for the delegates, rather than relationships and work life.

Six months after the programme, significant levels of change (from the pre-test to the six-month follow-up) were observed in the areas of nutrition, health beliefs and behaviour, and relationships.

Significance levels of mean changes in all areas except relationships were consistent with those at three weeks, but were less marked. Changes in relationships were found to be significant ($t=3.0$; $p<0.0043$) at six months, whereas they were not significant after three weeks. This distinction was perhaps due to the fact that such changes may take longer to implement.

The changes in the category of nutrition ($t =3.89$; $p=0.0005$) and fitness ($t=3.18$ $p=0.0032$) showed a lower significance than that calculated three weeks after the course. This suggested that delegates make a more dramatic change in these areas immediately subsequent to the course. Six months after the programme these behaviours have changed, but to a lesser extent. Thus compliance to the regimens of nutrition and fitness possibly began to wear off from three weeks to six months.

The change measured in the category of health beliefs and behaviours ($t=4.28$; $p=0.0002$) was at the same level of significance as in the three week assessment suggesting that delegates' attitudes and health behaviours improved after the programme. In this instance, it might be said that the programme facilitated greater awareness of the importance of health and greater motivation to adopt a healthy lifestyle.

Due to the more stringent significance level used for the five variable multiple comparison, the change in the category of coping resources ($t=1.92$; $p=0.064$) was not considered significant though it is strongly in the direction of improvement, and the change is greater than at the three week measure. This finding implies that the

coping resources discussed as options for stress management on the programme, were not being utilized more. This was perhaps due to the fact that delegates could not find the time to fit in extra coping resources such as relaxation or aromatherapy.

Work lives showed changes towards improvement but not significantly ($t=1.04$, $p=0.31$). This finding highlights questions regarding the utility of such a course for corporate purposes. This issue is addressed in the concluding discussion.

Mean scores and standard deviations for only those delegates who responded to pretest, three-week and six-month follow-ups were calculated, to assess the shift of mean scores in each lifestyle category for the same sample of delegates. These statistics were as follows:

Table 6: Summary statistics for delegates responding to all three questionnaires.

MEASURE		N	MEAN	STD DEV
HEALTH BELIEFS/ BEHAVIOUR	Pre-test	33	42.70	4.51
	3 weeks	30	45.27	4.52
	6 months	33	45.64	4.92
NUTRITION	Pre-test	33	30.36	5.21
	3 weeks	30	33.70	4.72
	6 months	33	32.79	4.87
FITNESS	Pre-test	33	9.18	3.79
	3 weeks	30	10.30	2.82
	6 months	33	10.79	2.31
RELATIONSHIP	Pre-test	29	105.31	14.87
	3 weeks	28	111.64	14.07
	6 months	31	111.35	12.12
WORK LIFE	Pre-test	33	63.61	6.10
	3 weeks	30	64.57	6.66
	6 months	33	64.70	5.53
COPING RESOURCES	Pre-test	31	31.03	7.94
	3 weeks	28	33.07	9.31
	6 months	31	34.35	11.77

Certain items in the questionnaires were not answered in full, hence the difference in sample size. The standard deviation demonstrates how much individuals vary within the data set. The standard error was calculated in order to derive a measure of how the sample mean varied from the true mean. Figures 1 - 6 graphically demonstrate the trends of the average scores for each section. These scales have been drawn to exhibit changes to best effect. The improvements in lifestyle measures demonstrated three weeks after the programme are evident for all categories. The drop-off in scores is evident six months after the programme in the area of nutrition and relationships, whilst fitness, coping, health beliefs and work have upward trends. These graphs appear to confirm the hypothesis that marked changes are evident three weeks after the programme, and within six months changes become less marked. These scores do, however, refer only to those who answered all three questionnaires, and therefore may be a reflection of only those who are more motivated.

fig.1

MEAN +/- SE of NUTRITION SCORES
at pre-test, 3 weeks and 6 months

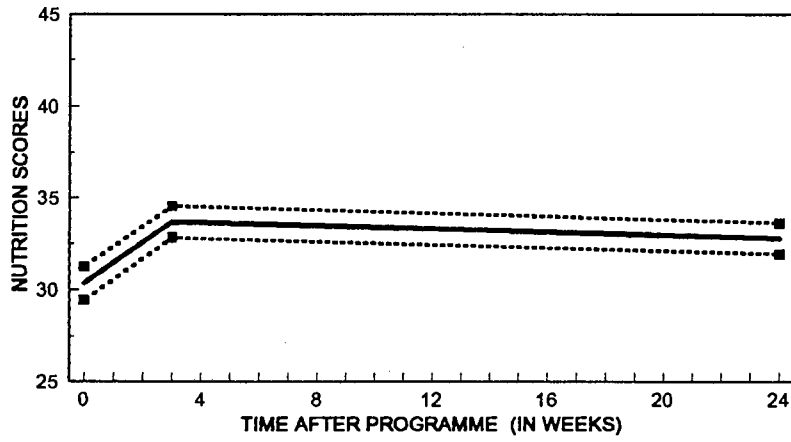


fig.2

MEAN +/- SE of FITNESS SCORES
at pre-test, 3 weeks and 6 months

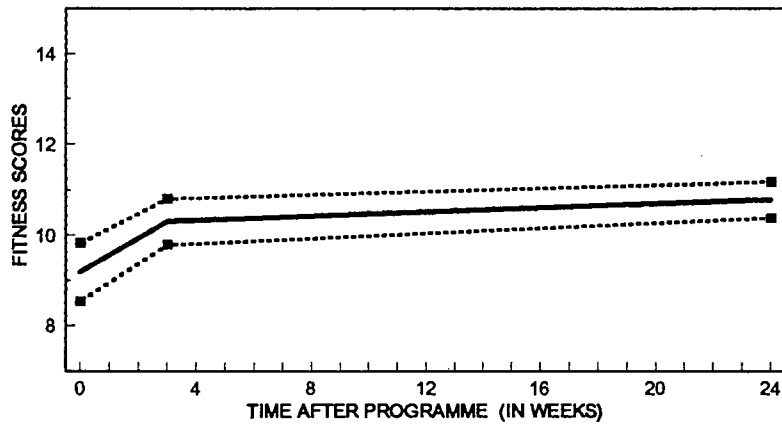


fig.3

MEAN +/- SE of RELATIONSHIP SCORES
at pre-test, 3 weeks and 6 months

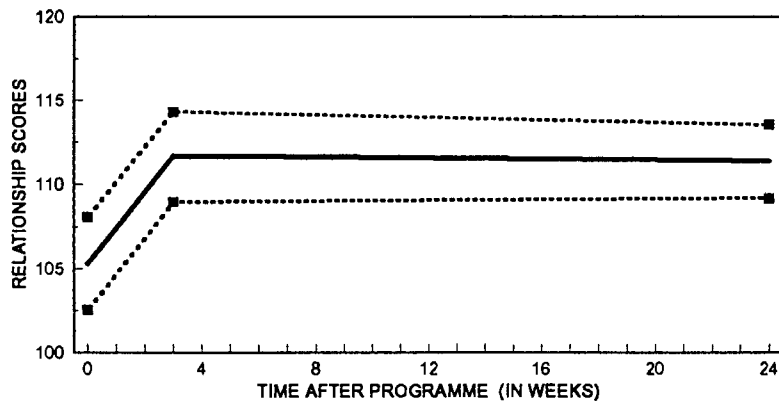


fig.4

MEAN +/- SE of COPING SCORES
at pre-test, 3 weeks and 6 months

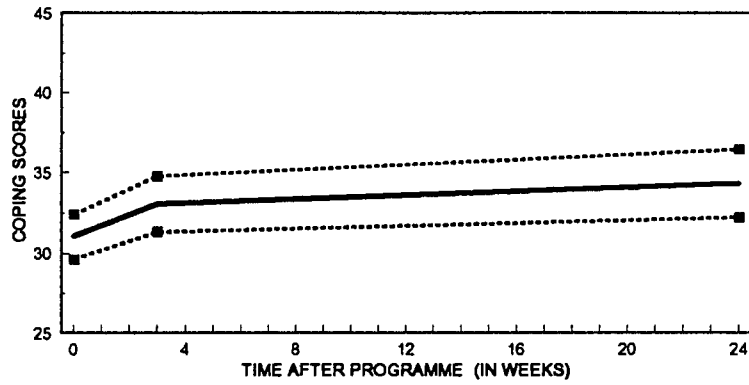


fig.5

MEAN +/- SE of HEALTH BELIEF SCORES
at pre-test, 3 weeks and 6 months

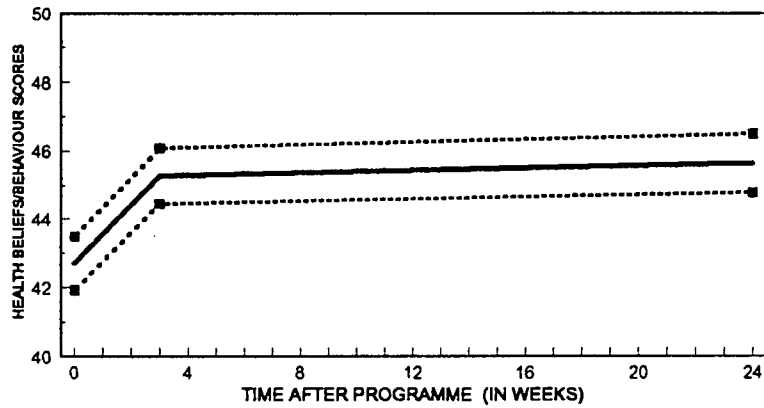
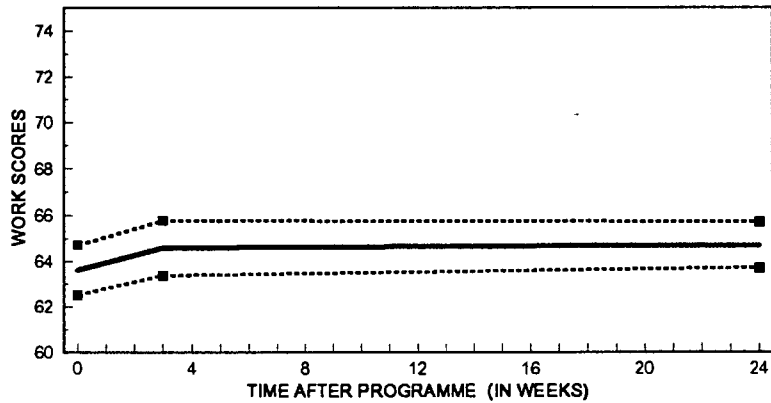


fig.6

MEAN +/- SE of WORK LIFE SCORES
at pre-test, 3 weeks and 6 months



5.2 PERCEIVED IMPROVEMENTS IN LIFESTYLE AFTER THE PROGRAMME

Questionnaire 2 examined ratings of perceived improvements in the sections of nutrition, fitness, relationships, work life, and leisure. Items were rated on a scale of 1 to 5, 5 indicating "significantly", and 1 meaning "not at all". The data are described by the following table.

Table 7: Summary statistics of perceived improvement in lifestyle variables after three weeks and six months

IMPROVEMENT		N	MEAN RATING	STD DEV	PERCENT DELEGATE RATING ABOVE 2
NUTRITION	3 weeks	42	3.62	1.06	35 (85%)
	6 months	33	3.24	1.00	25 (75%)
FITNESS	3 weeks	39	3.17	1.23	25 (64%)
	6 months	33	3.09	1.25	25 (75%)
RELATIONSHIP	3 weeks	39	3.12	1.26	25 (64%)
	6 months	31	3.38	0.99	26 (84%)
WORK ENJOYMENT	3 weeks	42	2.88	1.10	25 (59%)
	6 months	32	2.87	0.97	22 (69%)
WORK RELATIONSHIPS	3 weeks	42	3.10	1.09	28 (64%)
	6 months	32	3.50	0.92	28 (87%)
COPING RESOURCES	3 weeks	42	2.86	1.12	26 (62%)
	6 months	31	1.18	1.18	20 (65%)

It is evident from this table that the majority of delegates reported improvements in the lifestyle measures towards the more positive side of the rating scale (above level 2 on the scale). Only those delegates who felt their behaviours were good before the course rated themselves as not having changed or improved.

The majority of delegates who responded to these rating scales believed, after three weeks, that the changes they had undergone would be permanent. In the nutrition section, 33 delegates (94%) believed that the changes experienced would be permanent. Fifteen (43%) felt that weight or other indicators had improved since the

course. For the fitness section, 32 (76%) felt that changes would be permanent. In the relationship section 35 delegates (91%) felt that changes in their relationships would be permanent, and thirty (71%) delegates felt their partners had noted positive changes in them since the course. Thirty-eight delegates (92%) felt changes were permanent at work. These findings illustrate the high degrees of motivation that may be experienced by individuals directly after such a programme.

The pre- and post-test difference between scores on individual questions were analyzed in order to determine which particular attitudes or behaviours had changed dramatically three weeks after the course. Items exhibiting differences significant at $p=0.0005$ (a level chosen purely as a decision rule to determine changes) were examined as areas of specific, notable changes. These results are of interest, but are viewed as exploratory due to the large number of t-tests conducted. It is therefore still best to examine the programme outcomes in terms of entire categories of lifestyle change. As can be seen from Table 8, very few items demonstrated highly statistically significant changes.

Table 8: Notable changes in lifestyle for delegates three weeks and six months after the course. ($p=0.0005$)

CHANGE IN BEHAVIOUR AFTER THREE WEEKS	N	MEAN CHANGE	STD DEV	p
Eating breakfast	41	0.41	0.83	0.0003
Trimming fat off meat	42	0.45	0.63	0.0001
Eating sweetened snacks	42	0.57	0.77	0.0001
Doing enough to prevent future health problems	42	0.59	0.96	0.0003
CHANGE IN BEHAVIOUR AFTER SIX MONTHS	N	MEAN CHANGE	STD DEV	p
Eating sweetened snacks	33	0.15	0.66	0.0001
Eating puddings and chocolates	33	0.57	0.83	0.0004
Does your lifestyle lead you to abuse your body?	33	0.81	0.91	0.0001

Four items were significant at this level three weeks after the programme. Three of these were in the nutrition category, and the fourth was in the health beliefs and behaviour category.

In the six month follow-up, three items showed a significant change from the pretest score. Two of these were in the nutrition category (dealing with consumption of sweetened foods), whilst the third was in the health beliefs and behaviour category. Out of the large number of items on the questionnaire, only three were significant, (although significance level chosen is extremely high).

5.3 MOTIVATIONS OF DELEGATES TOWARDS GOALS

The final section of questionnaire 2 examined attitudes towards goals set on the course, in order to derive some kind of gauge of motivation levels. The results for the relevant section, for the three week (n = 42) and six month (n = 33) follow up are presented in the following table. These scores were rated on a scale from one (not at all) to five (significantly). The majority of delegates rated this section in a positive manner, with ratings of above 2.

Table 9: Goal setting responses at 3 weeks and six months

MEASURE	MEAN 3 WEEKS	STD DEV	NO OF DELEGATES RATING ABOVE 2	MEAN 6 MONTHS	STD DEV	NO OF DELEGATES RATING ABOVE 2
ITEM 1	3.65	0.79	39 (95%)	3.56	0.82	26 (87%)
ITEM 2	3.51	1.03	34 (83%)	3.51	0.97	24 (80%)
ITEM 3	3.72	0.98	36 (90%)	3.56	1.00	26 (87%)
ITEM 4	3.93	0.82	38 (93%)	4	0.78	28 (83%)
ITEM 5	4.15	0.69	40 (98%)	3.82	0.71	28 (72%)

Comparing percentages at three weeks with those at six months, it is evident that a lower of percentage of delegates per group rated the items at a level above 2 at the

six month follow up. This indicates that fewer delegates reported moderate to very high positive attitudes and motivation towards goals six months after the programme.

Item 1 rated the extent to which the individual felt he/she is on the way to achieving goals. This question was rated as three or above by 95% of delegates after three weeks, and 87% percent after six months. The mean ratings indicated that the majority of delegates responding to this section felt they were moderately to significantly on their way to achieving goals.

Item 2 rated the extent to which delegates were happy with goals attained thus far. The mean rating both at three weeks and six months was 3.5, reflecting moderate-to-significant levels of satisfaction with goals attained. A lower percentage of delegates rated this item highly after six months.

Item 3 rated the degree to which delegates felt the course affected their lifestyle. The mean scores of 3.72 (three weeks) and 3.56 (six months) reflect that most delegates perceived the effect of the course at a moderate-to-significant level. Thus the majority of delegates on the course perceived changes in their lifestyles three weeks and six months after the course, indicating that the course was achieving its objective in terms of lifestyle change.

Item 4 rated the degree to which delegates believed that changes that they had attained were long-term/permanent changes. Ten percent fewer delegates believed their changes were permanent at the six month follow-up. The mean score at six months(4) was higher than at three weeks (3.93), perhaps because the delegates had had a longer time to ascertain whether changes would be permanent.

Item 5 assessed the degree to which delegates felt confident that all or most goals would be attained. A mean of 4.15 at three weeks reflected very high confidence amongst 98% of the study group. Confidence levels at six months were lower, with only 72% delegates rating their confidence level above 2 on the rating scale.

5.4 QUALITATIVE DATA ABOUT CHANGES EXPERIENCED AFTER THE PROGRAMME.

Qualitative data in the three-week follow up was collated from written comments on the questionnaire by the delegates. Comments reflected that it was too early after the course to measure changes in some areas of lifestyle, particularly for the areas of exercise and nutrition. Seven delegates reported weight loss of 2 kilogrammes or more, and three commented on improved eating habits. Comments in the fitness section reflected a feeling of improved fitness and a greater awareness of the importance of different components of exercise, for example, stretching. Some delegates commented in these sections that their behaviours were good prior to the course, and therefore did not need to be changed.

In the work life section, delegates reported changes such as better time management, improved communication with peers and superiors, improved self-image, and a more objective view of competence.

In the relationship section, delegates appeared to be motivated to deal with issues in their relationships. Some comments made in this area were:

"the course provided the opportunity to talk about matters which both of us may have taken for granted ... the positive results have been very surprising,"

"less irritable, more understanding"

"Took an 'away day' to discuss the course and set goals ... trying to be more positive and listen more".

One general comment made summarized the trend of many of the written comments:

"the course was a stop and turn for me, and I am carefully working towards a better balanced lifestyle with effect that I am working to get fitter. I am already better and fitter".

Written comments by delegates after six months indicated that individuals were unsure of notable changes (responded "I don't know"). Four individuals reported loss of

weight (from 2 to 4 kgs), whilst six reported weight increases (from 2 to 10 kgs), one of them due to stress eating. Reduction in cholesterol levels was reported by 3 individuals. In the exercise section there were comments on improvement in muscle tone, strength, and stamina. As one delegate put it "the course helped me to understand and put exercise and health in a better perspective. It raised my levels of motivation to keep on continuing".

In the relationship section, all comments made claimed positive changes in the relationship, with a greater awareness of each other. Changes in work life were also described in a positive light. Improvements were noted in time management, management style, conflict resolution, communication. Improvements within companies as a whole after the course may be reflected in the comment "shared experience of the course in itself has established/entrenched certain shared values as common denominators i.e. language understood by all management". It is interesting to note that although changes in the work life section of the questionnaire were not significant at three weeks or six months, those who did report changes wrote about these in a very positive light.

Of course, those participants who were motivated to write comments on the questionnaires may not be reflective of the study group as a whole. It may be that those who were more motivated by the course chose to respond, and their views may not be a reflection of the sentiments of the majority of delegates. Those who choose to write additional comments may also generally be more thorough and committed to what they do.

5.5 CHANGE IN PERSONALITY SCORES

The personality scores of delegates before the course show delegates as having a mean SOC score of 51.0, (sd 30.67) which is below the mean normative score calculated for 122 delegates (see Method section). LOC was calculated to be 34.97 (sd 25.41), meaning the majority of delegates were in the internal/external balance

range. Type A scores for this sample were 42.22 (sd 22.35), placing delegates in the B- range compared with a normative score in the Type A- category. It was noted that each personality variable correlated highly with the other at the pre-test ($p=0.0001$): The breadth of personality variables amongst the 61 delegates allowed for a greater chance to observe a pattern. The result might also be attributed to the fact that two of the questionnaires were adapted specifically for delegates on the course. At the six month level there were no significant correlations between personality variables ($p<0.5$). This may be due to subject attrition, as the study group after six months was a self selected one, and presented a narrowed range of personality variables.

Mean differences between personality scores between the six-month follow-up and the pre-test were calculated. The Bonferroni method was used to control for multiple measures of improvement. Results are displayed in Table 10.

Table 10: Mean difference in Sense of Coherence, Type A and Locus of Control scores after six months.

	N	MEAN CHANGE	STD DEV	t	p
SOC	33	-15.76	42.90	-2.11	0.043
TYPE A	33	- 3.94	23.8	-0.95	0.35
LOC	33	- 6.64	28.9	-1.32	0.19

No significant change was found in Type A behaviour and Locus of Control six months after the course. The adapted questionnaires of Locus of Control and Type A personality, failed to demonstrate changes associated with the stress management programme. This may have been the fault of the questionnaires, rather than the concepts they purported to measure. If these questionnaires did tap what they are purported to, the lack of change may have been because there was not a need for the majority of delegates to change in these areas (as most were not Type A and did not display external Locus of Control scores). It is also possible that Type As responded to the questionnaire in a way that was socially desirable (Powell, 1987).

The problem of these adapted questionnaires is discussed in the concluding section of this study.

No significant difference in Sense of Coherence scores was found. Antonovsky (1987) is of the opinion that changes in SOC are rare. This study validates this comment. A strong SOC person is not likely to increase his/her SOC score, whilst planned therapeutic interventions that are consonant with the SOC model, could equip low SOC individuals to seek out "SOC enhancing experiences" (Antonovsky, 1987, p126). This finding does indicate that the course did not focus on the SOC model in such a way to elicit a change. It may also confirm that those delegates with a high SOC already do not change their scores.

Separate correlations were calculated using each of the three personality scores as independent variables, and the pre-test scores as dependent variables (Table 11). This analysis showed that there was no relationship between initial lifestyle measures and personality.

Table 11: The effect of personality variables on initial lifestyle: correlation coefficients R and p values.

PERSONALITY	N	SOC		AB		LOC	
		R	p	R	p	R	p
HEALTH BELIEFS/ BEHAVIOUR	61	0.09	0.50	0.08	0.53	-0.09	0.51
NUTRITION	61	0.06	0.62	-0.03	0.83	-0.12	0.33
FITNESS	61	0.06	0.64	-0.02	0.89	0.037	0.77
RELATIONSHIP	58	0.20	0.12	0.10	0.47	-0.005	0.97
WORK LIFE	60	-0.01	0.93	-0.05	0.68	-0.24	0.07
COPING RESOURCES	61	-0.14	0.30	-0.20	0.12	-0.23	0.08

5.6 THE EFFECT OF PERSONALITY ON BEHAVIOUR CHANGE

The relationships between Sense of Coherence (SOC), Type A/B and Locus of Control and lifestyle change at three weeks and at six months were assessed. ANCOVA's using each of the personality variables in turn as covariates (moderators) and change in each dimension as dependent variates were not significant. Separate t tests were performed for both degree of change and for effect of covariate (moderators) on change.

The results of the analysis of association of lifestyle change and personality are displayed in Tables 12 and 13. The covariate or moderator variables did not appear to influence change in lifestyle after three weeks.

Table 12: Change in repeated measures of lifestyle after three weeks with and without personality variables as moderators.

MEASURE	N	CHANGE 3 weeks	p p SOC	p p AB	p p LOC
HEALTH BELIEFS CHANGE CHANGE x PERSONALITY	42	2.40	0.04 0.62	0.0009 0.256	0.31 0.37
NUTRITION CHANGE CHANGE x PERSONALITY	42	3.71	0.002 0.337	0.02 0.97	0.007 0.84
FITNESS CHANGE CHANGE x PERSONALITY	41	3.12	0.087 0.66	0.34 0.68	0.89 0.13
RELATIONSHIP CHANGE CHANGE x PERSONALITY	39	2.71	0.19 0.06	0.07 0.22	0.047 0.007
WORK LIFE CHANGE CHANGE x PERSONALITY	42	1.33	0.19 0.38	0.13 0.27	0.87 0.65
COPING CHANGE CHANGE x PERSONALITY	42	1.40	0.35 0.09	0.33 0.92	0.31 0.96

Table 13: Change in repeated measures of lifestyle after six months with and without personality variables as moderators.

MEASURE	N	CHANGE	p SOC	p AB	p LOC
HEALTH BELIEFS CHANGE CHANGE x PERSONALITY	33	2.90	0.29 0.65	0.07 0.81	0.17 0.68
NUTRITION CHANGE CHANGE x PERSONALITY	33	2.42	0.38 0.61	0.71 0.21	0.08 0.82
RELATIONSHIP CHANGE CHANGE x PERSONALITY	29	6.65	0.003 0.03	0.004 0.05	0.41 0.58
FITNESS CHANGE CHANGE x PERSONALITY	33	3.32	0.18 0.78	0.43 0.64	0.63 0.36
WORK LIFE CHANGE CHANGE x PERSONALITY	33	1.09	0.02 0.03	0.031 0.06	0.77 0.87
COPING CHANGE CHANGE x PERSONALITY	31	1.60	0.02 0.09	0.05 0.17	0.37 0.92

From Tables 11, 12 and 13 it is clear that personality variables measured by these questionnaires did not directly correlate with lifestyle indicators, or with change in lifestyle variables. There may be various reasons why there was no direct relationship. For example, Locus of Control, as defined in this programme, may not have interacted with lifestyle change because internals may have been less willing to admit to inadequacies and inefficient lifestyle in the pretest questionnaire, resulting in less lifestyle change in the post-test. External attitudes may have been recorded in the questionnaire, but these may have been a defence for expected failure of those who act in an internal way in competitive situations (Friedman et al., 1987).

Type A behaviour, as measured in this programme, may have had no effect on lifestyle change because the Type A personality may have needed a stress management programme that focuses more on letting go of control, rather than increasing control in the form of lifestyle change. This may tie in with the rationale of Folkman (1984) who argues that the Type A person, when told to reduce Type A tendencies in order to reduce risk of illness, may feel he/she is acting against strongly held values. Type A personalities on the programme may have been resistant to the lifestyle changes advocated for this reason. Most important however, is the fact that the LOC and Type

A questionnaires are adapted versions of the original instrument, and may not have tapped these aspects of personality at all.

Sense of Coherence may not be related to lifestyle, indicating that an individual may have a strong perception of meaning to life and the ability to manage life, but this may not be reflective of how s/he actually conducts her/his life. This may tie in with Antonovsky's (1985) claim that it is possible to have a high SOC score and still see parts of life as not being meaningful, comprehensible, or manageable.

5.7 SUMMARY OF RESULTS

This study attempted to evaluate a commercial stress management programme by examining changes in lifestyle and personality. "Despite his cloak of scientific detachment, the evaluator often has a personal desire to demonstrate that a programme of social action is indeed effective, an ambition which will be doomed to frustration by a test which lacks adequate power" (Rossi & Williams, 1972, p57). Despite the fact that the test was developed by the researcher, some significant, although modest changes in lifestyle were found. However these changes are based on self report and may not be true indications of change.

Changes were evident from pretest to three weeks (nutrition, health beliefs and behaviour, and fitness) and from pre-test to six months (nutrition, health beliefs and behaviour, relationships) for those who responded to the questionnaires. Changes from pre-test to six months were less marked. It appeared that attitudes of motivation towards goals was high three weeks after the course, but had dropped slightly within six months. The programme produced some significant changes in specific behaviours, and received positive written feedback from most delegates who chose to write additional comments on the questionnaires.

These findings indicate that a stress management course of the type studied, if conducted in an efficient manner, may result in self-reported lifestyle changes for

delegates in a period as short as three weeks, and in further changes within six months.

No changes were evident in the personality variables of Locus of Control and Type A behaviour, as measured by the programme, or in Sense of Coherence.

The study also set out to examine the relationship if Locus of Control, Type A behaviour and Sense of Coherence with lifestyle. The personality variables also do not appear to influence lifestyle or lifestyle change for this study group of delegates on the programme.

CHAPTER 6:

CONCLUSIONS AND RECOMMENDATIONS

In this section, the limitations of this study are discussed. Despite these, some valuable implications can be drawn for future evaluations, for the structure of the programme itself, and for stress management approaches in the context of organisations.

6.1 LIMITATIONS OF THIS STUDY

The results of this study are limited for the following reasons.

1. As with most single time series designs, a major threat to internal validity arises from processes, other than the programme that occur within the passage of time between pre- and post-tests. These are history and maturation (Cook & Campbell, 1979). Time series designs are subject to influences of a cyclical nature such as seasonal variations in performance. Thus the time interval between attending the course and the time at which he/she was requested to complete the follow-up questionnaires may jeopardise internal validity.

2. Individuals may remember how they answered pretest profiles, and allow such memories to influence their response to subsequent questionnaires. Subjective response is prone to distortions of memory and bias introduced by the checklist or questionnaire. Furthermore, individuals who were sent on the course by their companies may feel the need to respond to questionnaires in a positive manner, or to overestimate adherence to recommendations, in case opportunity to attend such weeks away from work is reduced due to negative feedback about the programme. Positive bias is a problem in self reported evaluation of this type of programme.

3. The use of the lifestyle questionnaire which is developed by the researcher, and of the two adapted personality tests (Type A and Locus of Control) may undermine the validity of the study.
4. This study does not make use of a control group, due to the previously mentioned ethical and practical difficulties.
5. It is difficult to ascertain the degree to which lifestyle changes are adopted and adhered to. The programme under investigation is multi-modal, with a variety of therapies being used as interventions. Different programme outcomes have to be assessed and it is difficult to combine these measures to obtain an overall score regarding efficacy. Systematic assessment of such a programme is further hampered as there are no specific common goals or measurable outcomes applicable to all delegates on the programme.
6. The external validity of the study is problematic, and generalization about the efficacy of similar programmes may not be possible as each programme is unique. Also, a larger sample size is needed for more conclusive results. However, the study can provide a series of recommendations for effective stress management approaches.

Despite these limitations, it is important to bear in mind the view of Laux & Vossel (1982): " ... each available strategy ... laboratory experiment, field experiment, field study ... can serve only some aims of research well. Therefore one should not search for the single right strategy but choose that strategy that is best for one's purposes only and try to minimize its inherent weaknesses" (p204).

This study confirms the difficulties delineated in the literature in evaluating the effects of a stress management programme. Assessment of effects in a scientific manner was problematic, particularly considering that it was a field study, and not all phases of the research were under the control of the researcher. The comment of Haan (1982) may

be applied to the present study: "Researchers who conduct naturalistic investigations will have to tolerate error variance and prediction failure" (p259).

6.2 IMPLICATIONS OF THIS STUDY

This study highlights certain issues which may be useful to consider in future studies. These issues are summarized as follows:

1. The study has shown that lifestyle variables can be used as indications of the efficacy of a stress management programme. Since stress management programmes have a systems effect, rather than a single effect, a multivariate measurement is needed. The author advocates a movement away from the difficult conceptualizations of stress and its measurement, toward the concept of lifestyle, as a broader indicator of management of stress. However, one needs to determine whether these lifestyle changes are sufficient to manage stress. It is also possible that in some cases, change in lifestyle might increase stress. For example, for the person who starts to exercise in an obsessive manner, exercise might become a stress inducing lifestyle behaviour.

Type A behaviour and Locus of Control as measured by the programme may not be useful in assessment of programme effects. Sense of Coherence does not appear to change after the programme.

2. Long-term follow-up is a necessary component in evaluation of such programmes. Future research into this type of programme may continue the follow-up beyond six months, but it is already clear that changes in lifestyle and motivation to change are highest directly after such a programme, and are less marked within six months.
3. The personality variables of Locus of Control, and Type A behaviour, as measured by the programme, and Sense of Coherence, are not moderators

of lifestyle or change of lifestyle for this study group. This implies that the way these individuals conduct areas of their life is influenced by variables other than these particular aspects of personality. Since a number of personality traits have been proposed as modifiers of the stress reaction, it may be possible that these personality traits will affect response to stress, but are not linked to lifestyle or lifestyle change. However, it is possible that a larger sample is needed for more conclusive results.

This study highlights certain considerations about the programme under investigation, and indeed for all similar stress management programmes.

Firstly, Rossi & Williams (1972) claim that "it is part of our responsibility as social scientists and as researchers to make everyone aware that in this period even the best of social action programmes are not likely to produce spectacular results. The age of miracles is long over" (p45). The study has shown that this type of programme may be effective to some degree in changing certain aspects of an individual's lifestyle, in the hopes that stress levels may be reduced. This is important, considering that lifestyle factors play a major role in the aetiology of diseases such as hypertension (Edwards, 1992) and heart disease.

It appears therefore that a five-day programme of this genre can be recommended for individuals who simply need guidance in terms of lifestyle change, in order to deal better with stress factors that may not be conducive to their health. Since the programme does not facilitate positive changes in personality, individuals who would need to change aspects of their personalities in order to better deal with their stress may fare better in a more long term, therapeutic set-up.

Secondly, learning about personality factors such as Type A, Locus of Control and Sense of Coherence, provides delegates with insight into their personalities. However, the likelihood that aspects of personality can change after such a programme is questionable. It may therefore be unproductive to introduce individuals to these concepts without giving constructive practical training into how to approach changing

these personality variables. Given the intrinsic difficulty in such training, it is more beneficial to focus in a stress management course, on other areas that are conducive to behaviour change and compliance.

Thirdly the programme under investigation was not developed from a particular theoretical background, but is developed implicitly from a combination of theories. It cannot therefore be said that the programme adequately tested a particular theory, and it does not provide a theory that could be useful in developing other stress management programmes. If a particular theoretical background is utilized, evaluation could ascertain whether the activities specified by the theory have been successfully implemented (Fitz-Gibbon & Morris, 1987). Utilization of a particular theoretical basis might also make presentation of information on the programme clearer and more logical.

Examining this study from an industrial/organisational psychology point of view certain issues need to be addressed.

Firstly it is difficult to believe that a change in exercise or eating habits will be enough to give the executive the edge in this competitive and difficult economic climate. Without changing the aspects of the organisations in which the individual works, it is doubtful whether it is possible for the individual to adopt stress management techniques learned such a programme. Is the individual going to be given the time to exercise? Is the cafeteria at work going to provide the right foods? In other words, stress management programmes run for companies need to be looking at the corporate structure as well as the individual.

Secondly the professionals who run the programme studied are conducting a short-term intervention, without any previous knowledge of delegates and without gaining any future in-depth understanding of them. It is questionable whether the changes on the stress management programme under investigation are going to last long-term, if after six months there are already signs of decreased motivation.

In this light, it may be more beneficial to have a programme which is run by those who know the corporation and corporate culture, and who have a long-term contact with the employees. Furthermore, stress management on an occupational level perhaps needs to be taught and monitored on a daily and long-term basis by the personnel departments of corporations. In this manner, it may be possible to prevent stress before a stress management intervention is necessary. This approach would mean that individuals can be constantly monitored by the trainers and the problem of compliance might be reduced. Therefore, a programme such as the one under investigation might be useful as an adjunct to an overall approach to stress management in a company.

Finally, the use of adapted questionnaires which claim to tap certain personality constructs, but have not been scientifically validated is questionable. Delegates, or personnel departments examining these scores need to be alerted to this. Adaptations to questionnaires need to be open to scrutiny and explanation. Without this, it is difficult to ascertain whether the adapted questionnaire is actually a better measure of delegates, or is a more limited measure. Future research into this programme would necessitate assessment of direct correlations between the adapted LOC and Type A scores, and those that are well known for example Rotter's scale and the Jenkins Activity Survey.

Given the importance of initial assessment of the client before the programme (Hillenberg & DiLorenzo, 1987), any inaccuracies presented in the test battery used for the programme may lead to an incorrect diagnosis of the client, and to misinformation. Use of these adapted questionnaires may have been formulated particular for the type of individual on this particular programme, and may not be generalizable.

"To the question 'does X program work?' the researcher usually gives the equivocal reply, 'in some ways, yes and in some ways, no'" (Rossi, 1985, p312). Indeed, the researcher is compelled to provide the same reply to the question.

This response might then elicit the question "why evaluate programmes at all?" Beehr & O'Hara (1987) claim that assessment of the effectiveness of a single specific programme is often considered useful knowledge in itself. This study demonstrates that evaluation of a single stress management programme "X" can go beyond the issue of whether the programme works or not, and may provide insights into programmes, the clients, and evaluation research itself.

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APPENDIX A:
Questionnaire One

QUESTIONNAIRE 1

The following questionnaire is for research purposes. The questionnaire enquires about your lifestyle behaviours and general health. We would appreciate your completing the questionnaire and bringing it to the course with you. A further questionnaire will be sent to you in six months' time.

The phrase *healthy lifestyle* in this section of the questionnaire refers to the following behaviours: regular exercise, sufficient sleep, eating sensibly and healthily, maintaining your optimal weight, refraining from smoking, using drugs and excessive drinking, dealing effectively with stress.

NAME:

AGE

MALE

FEMALE

Date of course attended:

Occupation/Designation:

Address:

Tel: (Office): (Home):

HEALTH BELIEFS AND BEHAVIOUR

1. OFFICE
USE
ONLY

Please circle your choice of answer:

1. Are you currently experiencing a health problem?

Yes

Sometimes

No

1.

(a) If YES, please elaborate

.....

.....

a

b

(b) How long have you had this problem?

..... Years

..... Months

c

2. Do you feel it is important to lead a healthy lifestyle?

Yes

Sometimes

No

2.

3. Do you try hard to follow such a lifestyle?

Yes

Sometimes

No

3.

4. Do you feel it is advantageous to live a healthy lifestyle?

Yes

Sometimes

No

4.

5. Do you believe you are abusing your body if you lead an unhealthy lifestyle?

Yes

Sometimes

No

5.

6. Are you happy with your lifestyle regarding health issues?

Yes

Sometimes

No

6.

7. Do you feel you are doing enough to prevent future health problems?

Yes

Maybe

No

7.

8. Do you think you would have to radically alter your current lifestyle in order for it to be more healthy?

Yes

Maybe

No

8.

HEALTH BELIEFS AND BEHAVIOUR (continued)

1. OFFICE
USE
ONLY

9. Do you find it difficult and demanding to follow a healthy lifestyle?

Yes

Sometimes

No

9.

10. Have you ever found that you set yourself unrealistically high standards of health-related behaviour, resulting in failure to improve your lifestyle?

Yes

Sometimes

No

10.

11. Do you feel confident that you could maintain a healthy lifestyle?

Yes

Maybe

No

11.

12. Do you feel that you have coped well when making a change in your lifestyle in the past?

Yes

Not sure

No

12.

13. Would you say your lifestyle leads you to abuse or ill treat your body?

Yes

Sometimes

No

13.

14. Do you keep very late hours, even when physically tired and fatigued?

Never/seldom

Occasionally

Often

14.

15. Do you use tranquilisers or antidepressant drugs as prescribed by your doctor?

Never/seldom

Occasionally

Often

15.

16. Do you have to use pills of any kind to help you sleep?

Never

Occasionally

Often

16.

17. Do you smoke cigarettes or cigars?

Never

Occasionally

Often

17.

18. If you are a smoker, do you feel uneasy if you do not have cigarettes to hand or if you find yourself in a place where you cannot smoke?

N/A

Never

Occasionally

Often

18.

NUTRITION

2. OFFICE
USE
ONLY

1. Are you a vegetarian? YES NO 19.
2. How many meals do you eat each day as a rule?
- a. 1
 - b. 2
 - c. 3 or more
- 20.
2. Do you eat breakfast?
- a. Rarely or never
 - b. Once or twice a week
 - c. Almost every day
 - d. Always
- 21.
3. If you eat breakfast, does it consist in general of:
- a. Cereal and/or toast and/or fruit, plus a beverage
 - b. Fried foods, e.g. bacon and eggs
 - c. Only a beverage
- 22.
4. How often do you eat red meat?
- a. Never/Seldom
 - b. Less than three times per week
 - c. 3 to 6 times per week
 - d. More than 6 times per week
- 23.
5. How many times per week do you eat savoury snacks (e.g. chips, peanuts)?
- a. Never or rarely
 - b. Once or twice
 - c. 3 or more times
 - d. Daily
- 24.

NUTRITION (continued)

2 OFFICE
USE
ONLY

6. How many times per week do you eat sweetened snacks (e.g. cakes, biscuits, chocolates)?
- a. Never or rarely
 - b. Once or twice
 - c. 3 or more times
 - d. Daily
7. How many times per week do you eat fried foods? (i.e. meals that are fried)
- a. Once per week or less
 - b. 2 - 4 times per week
 - c. Most days
 - d. Every day
8. How many portions of fruit do you eat?
- a. None
 - b. 3 or 4 per week or less
 - c. 1 or 2 daily
 - d. 3 or more per day
9. How often do you eat vegetables and/or salads?
- a. 3 or 4 times per week or less
 - b. Once or twice daily
 - c. 3 times per day
10. Do you add salt to your food?
- a. No need to add salt as the food is cooked with enough salt
 - b. Sparingly if at all
 - c. Moderately
 - d. Liberally

25.

26.

27.

28.

29.

NUTRITION (continued)

2. OFFICE
USE
ONLY

11. How often do you eat creamy puddings or chocolate?

- a. Never
- b. Once per week or less
- c. 2 to 4 times per week
- d. Most days

30.

12. What kind of spread do you use on bread?

- a. None
- b. Low fat margarine product
- c. Butter or margarine
- d. Other

31.

13. How many times per week do you eat fish?

- a. Never
- b. Once or twice
- c. More than twice

32.

14. Before cooking or eating meat, how much fat do you trim off?

- a. Vegetarian - I do not eat meat
- b. None
- c. Some of the fat
- d. All visible fat

33.

15. How many cups of beverage (e.g. fruit juice, tea, coffee, water) do you consume each day?

- a. Less than 4
- b. 7 - 4
- c. 8 or more

34.

16. Of these, how many are cups of coffee?

- a. 2 or less
- b. 3 - 6
- c. More than 6

35.

NUTRITION (continued)

2 OFFICE
USE
ONLY

17. How many alcoholic drinks do you consume each day?

- a. One or less
- b. 2 or 3
- c. More than 3

36.

18. When under stress, do you:

- a. Eat less
- b. Eat more
- c. Have no change in eating habits

37.

FITNESS LEVEL

1. How often do you exercise?

- a. Daily
- b. 6 - 4 times per week
- c. 3 - 1 times per week
- d. Not at all

38.

2. What kind of exercise do you do?

- a. Cardiovascular and toning
- b. Cardiovascular only
- c. Toning only
- d. None at all

(Definitions:

Cardiovascular - exercise which increases heart rate, e.g. brisk walking;

Toning - resistance exercise for building muscle strength.)

39.

3. How enthusiastic are you towards exercise?

- a. Extremely
- b. I enjoy it most times
- c. I do it as a necessity
- d. Not at all

40.

4. How would you describe the degree of effort in your usual exercise session?

- a. Vigorous
- b. Moderate
- c. Easy
- d. Very easy

41.

5. What is the average length of your exercise session?

- a. 60 minutes or more
- b. 41 to 60 minutes
- c. 21 to 40 minutes
- d. 10 to 20 minutes
- e. I do not exercise at all.

42.

3. OFFICE
USE
ONLY

FITNESS LEVEL (continued)

3. OFFICE
USE
ONLY

6. Which statement best describes your exercise behaviour as a young adult (18 - 35 years old). Please answer even if you are younger than 35 years old.

- a. No exercise or sports
- b. Infrequent exercise or sports
- c. Moderately frequent exercise or sports
- d. Frequent exercise or sports

43.

Check here if you do exercise regularly and go onto question 8.

7. People have various reasons for not exercising regularly (at least 3 times per week). Please indicate whether or not the following reasons apply to you *if you do not exercise regularly*:

44.

Yes	No	No real interest or motivation	<input type="checkbox"/> 45.
Yes	No	Not enough time in my day or week	<input type="checkbox"/> 46.
Yes	No	Interested, but can't seem to maintain	<input type="checkbox"/> 47.
Yes	No	Embarrassment	<input type="checkbox"/> 48.
Yes	No	Don't really understand how to exercise properly	<input type="checkbox"/> 49.
Yes	No.	Too tired to exercise regularly	<input type="checkbox"/> 50.
Yes	No	Dislike physical discomfort of exercise (sweating, pain, etc.)	<input type="checkbox"/> 51.
Yes	No	Poor health	<input type="checkbox"/> 52.
Yes	No	The gym/sports facilities are too far away/too expensive	<input type="checkbox"/> 53.
Yes	No	My co-workers are not supportive	<input type="checkbox"/> 54.
Yes	No	My family is not supportive	<input type="checkbox"/> 55.
Yes	No	My spouse does not exercise	<input type="checkbox"/> 56.
Yes	No.	My friends do not exercise	<input type="checkbox"/> 57.

Other, please list

FITNESS LEVEL (continued)

3. OFFICE
USE
ONLY

8. People who exercise regularly (3 or more times per week) do so for various reasons. Please indicate whether or not one or more of the following reasons apply to you if you do exercise regularly:

Yes	No	Interested and motivated	<input type="checkbox"/> 58.
Yes	No.	Part of my daily and/or weekly routine	<input type="checkbox"/> 59.
Yes	No.	Makes me feel good about myself	<input type="checkbox"/> 60.
Yes	No	Understand how to exercise properly	<input type="checkbox"/> 61.
Yes	No	Enjoy the physical feelings associated with exercise for my health.	<input type="checkbox"/> 62.
Yes	No	Gym/sports facilities are close by	<input type="checkbox"/> 63.
Yes	No.	My co-workers are supportive	<input type="checkbox"/> 64.
Yes	No.	My family is supportive	<input type="checkbox"/> 65.
Yes	No	My spouse exercises	<input type="checkbox"/> 66.
Yes	No	My friends exercise	<input type="checkbox"/> 67.

Other, please list

.....

RELATIONSHIP WITH SPOUSE/PARTNER/SIGNIFICANT OTHER

4. OFFICE USE ONLY

The following section deals with the relationship you have with the person closest to you in your life.

- a. How long have you been involved with your spouse/partner/significant other? Yrs Mths
- b. How many children do you have?
- c. What are their ages?

68.
 68a
 68b
 69.

On a scale of 1 (not at all happy with it) to 5 (extremely happy with it), please rate the following statements as they apply to you. Circle your choice:

	Extremely happy	Very happy	Fairly happy	Slightly happy	Not at all happy	
1. The present state of your relationship with your partner	5	4	3	2	1	<input type="checkbox"/> 70.
2. Communication with your partner	5	4	3	2	1	<input type="checkbox"/> 71.
3. Your partner's understanding of you	5	4	3	2	1	<input type="checkbox"/> 72.
4. Time spent with your partner	5	4	3	2	1	<input type="checkbox"/> 73.

On a scale of 1 (never) to 5 (always), please circle your response to the following:

	Always	Often times	Some- times	Rarely	Never		
1. Does your partner find it hard to talk to you about personal matters?	5	4	3	2	1	<input type="checkbox"/> 74.	
2. Do you find it hard to talk to your partner about personal matters?	5	4	3	2	1	<input type="checkbox"/> 75.	
3. Do you encounter sexual problems in your relationship?	5	4	3	2	1	N/A	<input type="checkbox"/> 76.
4. Do you argue with your partner?	5	4	3	2	1	<input type="checkbox"/> 77.	
5. Do you believe your partner feels restricted by your relationship?	5	4	3	2	1	<input type="checkbox"/> 78.	
6. Do you feel restricted by your relationship?	5	4	3	2	1	<input type="checkbox"/> 79.	

RELATIONSHIP WITH SPOUSE/PARTNER (continued)

4. OFFICE USE ONLY

	Always	Often	Sometimes	Rarely	Never	
7. Do you argue about financial matters?	5	4	3	2	1	<input type="checkbox"/> 80.
8. Do you argue about petty issues?	5	4	3	2	1	<input type="checkbox"/> 1.
9. Do you find yourself sulking as a reaction to your partner?	5	4	3	2	1	<input type="checkbox"/> 2.
10. Does your partner sulk as a reaction to you?	5	4	3	2	1	<input type="checkbox"/> 3.
11. Is there irritation/upset about the division of responsibilities in your relationship?	5	4	3	2	1	<input type="checkbox"/> 4.
12. Do your emotions get out of control?	5	4	3	2	1	<input type="checkbox"/> 5.
13. Do your partner's emotions get out of control?	5	4	3	2	1	<input type="checkbox"/> 6.
14. Does your partner try to see your point of view?	5	4	3	2	1	<input type="checkbox"/> 7.
15. Do you try to see your partner's point of view?	5	4	3	2	1	<input type="checkbox"/> 8.
16. Can your partner empathise with you (i.e. put him/herself in your place and understand how you feel)?	5	4	3	2	1	<input type="checkbox"/> 9.
17. Can you empathise with your partner?	5	4	3	2	1	<input type="checkbox"/> 10.
18. Do you help solve each other's problems?	5	4	3	2	1	<input type="checkbox"/> 11.
19. Does your partner express love for you?	5	4	3	2	1	<input type="checkbox"/> 12.
20. Do you express love for your partner?	5	4	3	2	1	<input type="checkbox"/> 13.

RELATIONSHIP WITH SPOUSE/PARTNER (continued)

4. OFFICE USE ONLY

	Always	Often	Sometimes	Rarely	Never	
21. Does your partner compliment you?	5	4	3	2	1	<input type="checkbox"/> 14.
22. Do you compliment your partner?	5	4	3	2	1	<input type="checkbox"/> 15.
23. Does your partner usually thank you in appreciation for what you do for him/her?	5	4	3	2	1	<input type="checkbox"/> 16.
24. Do you usually thank your partner in appreciation for what he/she does for you?	5	4	3	2	1	<input type="checkbox"/> 17.
25. Do you and your partner consciously make time for each other every week?	5	4	3	2	1	<input type="checkbox"/> 18.

WORK LIFE

5. OFFICE
USE
ONLY

On a scale of 1 (never) to 5 (always), please circle your response to the following:

	Always	Often	Sometimes	Rarely	Never	
1. Do you see your work as being mentally stimulating?	5	4	3	2	1	<input type="checkbox"/> 19.
2. Do you perceive your work as being enjoyable?	5	4	3	2	1	<input type="checkbox"/> 20.
3. Do you find your work to be a pleasant challenge?	5	4	3	2	1	<input type="checkbox"/> 21.
4. Are you keen to get back to work after a break?	5	4	3	2	1	<input type="checkbox"/> 22.
5. Do you feel you can cope with the workload expected of you?	5	4	3	2	1	<input type="checkbox"/> 23.
6. Do you feel you produce the quality of work expected of you?	5	4	3	2	1	<input type="checkbox"/> 24.
7. Do you feel competent at the job you do?	5	4	3	2	1	<input type="checkbox"/> 25.
8. Do you get along with your subordinates?	5	4	3	2	1	<input type="checkbox"/> 26.
9. Do you get along with your superiors?	5	4	3	2	1	<input type="checkbox"/> 27.
10. Do you get recognition for the work that you do?	5	4	3	2	1	<input type="checkbox"/> 28.
11. Do you work overtime?	5	4	3	2	1	<input type="checkbox"/> 29.

WORK LIFE (continued)

5. OFFICE
USE
ONLY

	Always	Often	Some- times	Rarely	Never	
12. Does your work take precedence over your social life?	5	4	3	2	1	<input type="checkbox"/> 30.
13. Does your work take precedence over your health?	5	4	3	2	1	<input type="checkbox"/> 31.
14. Does your work take precedence over your family life?	5	4	3	2	1	<input type="checkbox"/> 32.
15. Does your work take precedence over time for yourself?	5	4	3	2	1	<input type="checkbox"/> 33.
16. Do you find yourself struggling to complete your workload?	5	4	3	2	1	<input type="checkbox"/> 34.
17. Do you feel bored at work?	5	4	3	2	1	<input type="checkbox"/> 35.
18. Do you feel like changing jobs/resigning?	5	4	3	2	1	<input type="checkbox"/> 36.

COPING RESOURCES

6. OFFICE
USE
ONLY

On a scale of 7 (daily) to 1 (almost never/never), please circle the number of times a week (approximately) you do the following:

- | | | | | | | | | | |
|-----|--|---|---|---|---|---|---|---|------------------------------|
| 1. | Do you watch TV? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 37. |
| 2. | Do you spend time with friends? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 38. |
| 3. | Do you take the family out for fresh air/exercise? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 39. |
| 4. | Do you go to museums, theatre, cinema, concerts? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 40. |
| 5. | Do you exercise? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 41. |
| 6. | Do you set aside time to relax? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 42. |
| 7. | Do you set aside time to meditate? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 43. |
| 8. | Do you set aside time to look after your appearance? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 44. |
| 9. | Do you set aside time for massage/ facial/aromatherapy, or other similar sessions? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 45. |
| 10. | Do you read for pleasure? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 46. |
| 11. | Are you active in your religion? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 47. |
| 12. | Do you draw strength from your religion/spirituality? | 7 | 6 | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 48. |

SOCIAL SUPPORT

7. OFFICE
USE
ONLY

This section of the questionnaire assesses the social support available to you in the form of the number of friends (including family). Please circle your response.

	Number of friends/family						
	6+	5	4	3	2	1	
1. Do you have friends you can trust?							<input type="checkbox"/> 49.
2. Do you have friends you can confide in?							<input type="checkbox"/> 50.
3. Do you have friends who accept you for what you are?							<input type="checkbox"/> 51.
4. Do you have friends who give you confidence in yourself?							<input type="checkbox"/> 52.
5. Do you have friends who always have time for you?							<input type="checkbox"/> 53.
6. Do you have friends who are honest about you?							<input type="checkbox"/> 54.

HEALTH PRACTICES AND SOCIAL SUPPORT

	Extremely					Not at all					
1. Do your peers practice principles of good nutrition?	5	4	3	2	1						<input type="checkbox"/> 55.
2. Does your spouse practice principles of good nutrition?	5	4	3	2	1						<input type="checkbox"/> 56.
3. Do you practice principles of good nutrition?	5	4	3	2	1						<input type="checkbox"/> 57.
4. Do your peers believe in and pursue the benefits of exercise?	5	4	3	2	1						<input type="checkbox"/> 58.
5. Does your spouse believe in and pursue the benefits of exercise?	5	4	3	2	1						<input type="checkbox"/> 59.
6. Do you believe in and pursue the benefits of exercise?	5	4	3	2	1						<input type="checkbox"/> 60.
7. Are your peers knowledgeable about stress and its effects?	5	4	3	2	1						<input type="checkbox"/> 61.
8. Is your spouse/partner knowledgeable about stress and its effects?	5	4	3	2	1						<input type="checkbox"/> 62.
9. Are you aware of stress and its effects?	5	4	3	2	1						<input type="checkbox"/> 63.
10. Do you feel you are knowledgeable about stress and its effects?	5	4	3	2	1						<input type="checkbox"/> 64.
11. Do you feel supported by others in your efforts to lead a healthy lifestyle?				Yes	No						<input type="checkbox"/> 65.
12. Do you have any comments on this questionnaire? If yes please elaborate.				Yes	No						<input type="checkbox"/> 66.

8. OFFICE USE ONLY

Thank you for completing this questionnaire.

APPENDIX B:
Questionnaire Two

QUESTIONNAIRE 2

The following questionnaire is for research purposes. The questionnaire enquires about your lifestyle behaviours and general health, and how they may have changed as a result of the course. Responses to this questionnaire will be kept anonymous and confidential. Thank you for your cooperation.

NAME:

AGE

MALE

FEMALE

Date of course attended:

Occupation/Designation:

Address:

Tel: (Office): (Home):

HEALTH BELIEFS AND BEHAVIOUR

1. OFFICE
USE
ONLY

The phrase *healthy lifestyle* in this section of the questionnaire refers to the following behaviours: regular exercise, sufficient sleep, eating sensibly and healthily, maintaining your optimal weight, refraining from smoking, using drugs and excessive drinking, dealing effectively with stress.

Please circle your choice of answer:

1. Are you currently experiencing a health problem?

Yes Sometimes No

1.

(a) If YES, please elaborate

.....

.....

a

b

(b) How long have you had this problem?

..... Years

..... Months

c

2. Do you feel it is important to lead a healthy lifestyle?

Yes Sometimes No

2.

3. Do you try hard to follow such a lifestyle?

Yes Sometimes No

3.

4. Do you feel it is advantageous to live a healthy lifestyle?

Yes Sometimes No

4.

5. Do you believe you are abusing your body if you lead an unhealthy lifestyle?

Yes Sometimes No

5.

6. Are you happy with your lifestyle regarding health issues?

Yes Sometimes No

6.

7. Do you feel you are doing enough to prevent future health problems?

Yes Maybe No

7.

8. Do you think you would have to radically alter your current lifestyle in order for it to be more healthy?

Yes Maybe No

8.

HEALTH BELIEFS AND BEHAVIOUR (continued)

1. OFFICE
USE
ONLY

9. Do you find it difficult and demanding to follow a healthy lifestyle?

Yes Sometimes No

9.

10. Have you ever found that you set yourself unrealistically high standards of health-related behaviour, resulting in failure to improve your lifestyle?

Yes Sometimes No

10.

11. Do you feel confident that you could maintain a healthy lifestyle?

Yes Maybe No

11.

12. Do you feel that you have coped well when making a change in your lifestyle in the past?

Yes Not sure No

12.

13. Would you say your lifestyle leads you to abuse or ill treat your body?

Yes Sometimes No

13.

14. Do you keep very late hours, even when physically tired and fatigued?

Never/seldom Occasionally Often

14.

15. Do you use tranquilisers or antidepressant drugs as prescribed by your doctor?

Never/seldom Occasionally Often

15.

16. Do you have to use pills of any kind to help you sleep?

Never Occasionally Often

16.

17. Do you smoke cigarettes or cigars?

Never Occasionally Often

17.

18. If you are a smoker, do you feel uneasy if you do not have cigarettes to hand or if you find yourself in a place where you cannot smoke?

N/A Never Occasionally Often

18.

NUTRITION

1. Are you a vegetarian? YES NO
2. How many meals do you eat each day as a rule?
- a. 1
 - b. 2
 - c. 3 or more
2. Do you eat breakfast?
- a. Rarely or never
 - b. Once or twice a week
 - c. Almost every day
 - d. Always
3. If you eat breakfast, does it consist in general of:
- a. Cereal and/or toast and/or fruit, plus a beverage
 - b. Fried foods, e.g. bacon and eggs
 - c. Only a beverage
4. How often do you eat red meat?
- a. Never/Seldom
 - b. Less than three times per week
 - c. 3 to 6 times per week
 - d. More than 6 times per week
5. How many times per week do you eat savoury snacks (e.g. chips, peanuts)?
- a. Never or rarely
 - b. Once or twice
 - c. 3 or more times
 - d. Daily

2. OFFICE
USE
ONLY

19.

20.

21.

22.

23.

24.

NUTRITION (continued)

2. OFFICE
USE
ONLY

6. How many times per week do you eat sweetened snacks (e.g. cakes, biscuits, chocolates)?

- a. Never or rarely
- b. Once or twice
- c. 3 or more times
- d. Daily

25.

7. How many times per week do you eat fried foods? (i.e. meals that are fried)

- a. Once per week or less
- b. 2 - 4 times per week
- c. Most days
- d. Every day

26.

8. How many portions of fruit do you eat?

- a. None
- b. 3 or 4 per week or less
- c. 1 or 2 daily
- d. 3 or more per day

27.

9. How often do you eat vegetables and/or salads?

- a. 3 or 4 times per week or less
- b. Once or twice daily
- c. 3 times per day

28.

10. Do you add salt to your food?

- a. No need to add salt as the food is cooked with enough salt
- b. Sparingly if at all
- c. Moderately
- d. Liberally

29.

NUTRITION (continued)

2. OFFICE
USE
ONLY

11. How often do you eat creamy puddings or chocolate?

- a. Never
- b. Once per week or less
- c. 2 to 4 times per week
- d. Most days

30.

12. What kind of spread do you use on bread?

- a. None
- b. Low fat margarine product
- c. Butter or margarine
- d. Other

31.

13. How many times per week do you eat fish?

- a. Never
- b. Once or twice
- c. More than twice

32.

14. Before cooking or eating meat, how much fat do you trim off?

- a. Vegetarian - I do not eat meat
- b. None
- c. Some of the fat
- d. All visible fat

33.

15. How many cups of beverage (e.g. fruit juice, tea, coffee, water) do you consume each day?

- a. Less than 4
- b. 7 - 4
- c. 8 or more

34.

16. Of these, how many are cups of coffee?

- a. 2 or less
- b. 3 - 6
- c. More than 6

35.

NUTRITION (continued)

2. OFFICE
USE
ONLY

17. How many alcoholic drinks do you consume each day?

- a. One or less
- b. 2 or 3
- c. More than 3

36.

18. When under stress, do you:

- a. Eat less
- b. Eat more
- c. Have no change in eating habits

37.

	Significantly					Not at all	
	5	4	3	2	1		
19. Rate the extent to which you feel that your eating habits have improved as a result of the course.							<input type="checkbox"/> 38.
20. Rate the extent to which eating habits for other members of your family have improved as a result of the course.							<input type="checkbox"/> 39.
21. Do you think these improvements are permanent?				YES		NO	<input type="checkbox"/> 40.
21. Has your weight or any other indicators (such as serum, cholesterol, blood sugar level) changed as a result of the course?				YES		NO	<input type="checkbox"/> 41.

Please elaborate.

.....

.....

FITNESS LEVEL

1. How often do you exercise?

- a. Daily
- b. 6 - 4 times per week
- c. 3 - 1 times per week
- d. Not at all

42.

2. What kind of exercise do you do?

- a. Cardiovascular and toning
- b. Cardiovascular only
- c. Toning only
- d. None at all

(Definitions:

Cardiovascular - exercise which increases heart rate, e.g. brisk walking;

Toning - resistance exercise for building muscle strength.)

43.

3. How enthusiastic are you towards exercise?

- a. Extremely
- b. I enjoy it most times
- c. I do it as a necessity
- d. Not at all

44.

4. How would you describe the degree of effort in your usual exercise session?

- a. Vigorous
- b. Moderate
- c. Easy
- d. Very easy

45.

5. What is the average length of your exercise session?

- a. 60 minutes or more
- b. 41 to 60 minutes
- c. 21 to 40 minutes
- d. 10 to 20 minutes
- e. I do not exercise at all.

46.

3. OFFICE
USE
ONLY

FITNESS LEVEL (continued)

3. OFFICE
USE
ONLY

6. Which statement best describes your exercise behaviour as a young adult (18- 35 years old). Please answer even if you are younger than 35 years old.

- a. No exercise or sports
- b. Infrequent exercise or sports
- c. Moderately frequent exercise or sports
- d. Frequent exercise or sports

47.

Check here if you do exercise regularly and go onto question 8.

7. People have various reasons for not exercising regularly (at least 3 times per week). Please indicate whether or not the following reasons apply to you *if you do not exercise regularly*:

Yes	No	No real interest or motivation	<input type="checkbox"/> 48.
Yes	No	Not enough time in my day or week	<input type="checkbox"/> 49.
Yes	No	Interested, but can't seem to maintain	<input type="checkbox"/> 50.
Yes	No	Embarrassment	<input type="checkbox"/> 51.
Yes	No	Don't really understand how to exercise properly	<input type="checkbox"/> 52.
Yes	No.	Too tired to exercise regularly	<input type="checkbox"/> 53.
Yes	No	Dislike physical discomfort of exercise (sweating, pain, etc.)	<input type="checkbox"/> 54.
Yes	No	Poor health	<input type="checkbox"/> 55.
Yes	No	The gym/sports facilities are too far away/too expensive	<input type="checkbox"/> 56.
Yes	No	My co-workers are not supportive	<input type="checkbox"/> 57.
Yes	No	My family is not supportive	<input type="checkbox"/> 58.
Yes	No	My spouse does not exercise	<input type="checkbox"/> 59.
Yes	No.	My friends do not exercise	<input type="checkbox"/> 60.

48.

49.

50.

51.

52.

53.

54.

55.

56.

57.

58.

59.

60.

61.

Other, please list

.....

FITNESS LEVEL (continued)

3. OFFICE
USE
ONLY

8. People who exercise regularly (3 or more times per week) do so for various reasons. Please indicate whether or not one or more of the following reasons apply to you if you do exercise regularly:

Yes	No	Interested and motivated	<input type="checkbox"/> 62.
Yes	No.	Part of my daily and/or weekly routine	<input type="checkbox"/> 63.
Yes	No.	Makes me feel good about myself	<input type="checkbox"/> 64.
Yes	No	Understand how to exercise properly	<input type="checkbox"/> 65.
Yes	No	Enjoy the physical feelings associated with exercise for my health.	<input type="checkbox"/> 66.
Yes	No	Gym/sports facilities are close by	<input type="checkbox"/> 67.
Yes	No.	My co-workers are supportive	<input type="checkbox"/> 68.
Yes	No.	My family is supportive	<input type="checkbox"/> 69.
Yes	No	My spouse exercises	<input type="checkbox"/> 70.
Yes	No	My friends exercise	<input type="checkbox"/> 71.

Other, please list

.....

FITNESS LEVEL (continued)

3. OFFICE
USE
ONLY

	Significantly					Not at all	
	5	4	3	2	1		
9. Rate the extent to which you feel that your exercise habits have improved as a result of the course.	5	4	3	2	1		<input type="checkbox"/> 72.
10. Rate the extent to which exercise habits for other members of your family have improved as a result of the course.	5	4	3	2	1		<input type="checkbox"/> 73.
21. Do you think these improvements are permanent?	YES			NO			<input type="checkbox"/> 74.
21. Has your fitness, strength or any other fitness-indicator changed as a result of the course?	YES			NO			<input type="checkbox"/> 75.

Please elaborate.

.....

.....

RELATIONSHIP WITH SPOUSE/PARTNER/SIGNIFICANT OTHER

4. OFFICE USE ONLY

The following section deals with the relationship you have with the person closest to you in your life.

On a scale of 1 (not at all happy with it) to 5 (extremely happy with it), please rate the following statements as they apply to you. Circle your choice:

	Extremely happy	Very happy	Fairly happy	Slightly happy	Not at all happy	
1. The present state of your relationship with your partner	5	4	3	2	1	<input type="checkbox"/> 76.
2. Communication with your partner	5	4	3	2	1	<input type="checkbox"/> 77.
3. Your partner's understanding of you	5	4	3	2	1	<input type="checkbox"/> 78.
4. Time spent with your partner	5	4	3	2	1	<input type="checkbox"/> 79.

On a scale of 1 (never) to 5 (always), please circle your response to the following:

	Always	Often times	Some- times	Rarely	Never	
1. Does your partner find it hard to talk to you about personal matters?	5	4	3	2	1	<input type="checkbox"/> 80.
2. Do you find it hard to talk to your partner about personal matters?	5	4	3	2	1	<input type="checkbox"/> 1.
3. Do you encounter sexual problems in your relationship?	5	4	3	2	1 N/A	<input type="checkbox"/> 2.
4. Do you argue with your partner?	5	4	3	2	1	<input type="checkbox"/> 3.
5. Do you believe your partner feels restricted by your relationship?	5	4	3	2	1	<input type="checkbox"/> 4.
6. Do you feel restricted by your relationship?	5	4	3	2	1	<input type="checkbox"/> 5.
7. Do you argue about financial matters?	5	4	3	2	1	<input type="checkbox"/> 6.
8. Do you argue about petty issues?	5	4	3	2	1	<input type="checkbox"/> 7.
9. Do you find yourself sulking as a reaction to your partner?	5	4	3	2	1	<input type="checkbox"/> 8.

RELATIONSHIP WITH SPOUSE/PARTNER (continued)

4. OFFICE
USE
ONLY

	Always	Often	Some- times	Rarely	Never	
10. Does your partner sulk as a reaction to you?	5	4	3	2	1	<input type="checkbox"/> 9.
11. Is there irritation/upset about the division of responsibilities in your relationship?	5	4	3	2	1	<input type="checkbox"/> 10.
12. Do your emotions get out of control?	5	4	3	2	1	<input type="checkbox"/> 11.
13. Do your partner's emotions get out of control?	5	4	3	2	1	<input type="checkbox"/> 12.
14. Does your partner try to see your point of view?	5	4	3	2	1	<input type="checkbox"/> 13.
15. Do you try to see your partner's point of view?	5	4	3	2	1	<input type="checkbox"/> 14.
16. Can your partner empathise with you (i.e. put him/herself in your place and understand how you feel)?	5	4	3	2	1	<input type="checkbox"/> 15.
17. Can you empathise with your partner?	5	4	3	2	1	<input type="checkbox"/> 16.
18. Do you help solve each other's problems?	5	4	3	2	1	<input type="checkbox"/> 17.
19. Does your partner express love for you?	5	4	3	2	1	<input type="checkbox"/> 18.
20. Do you express love for your partner?	5	4	3	2	1	<input type="checkbox"/> 19.
21. Does your partner compliment you?	5	4	3	2	1	<input type="checkbox"/> 20.
22. Do you compliment your partner?	5	4	3	2	1	<input type="checkbox"/> 21.
23. Does your partner usually thank you in appreciation for what you do for him/her?	5	4	3	2	1	<input type="checkbox"/> 22.

RELATIONSHIP WITH SPOUSE/PARTNER (continued)

4. OFFICE
USE
ONLY

- | | Always | Often | Some-
times | Rarely | Never | |
|---|---------------|-------|----------------|------------|-------|------------------------------|
| 24. Do you usually thank your partner in appreciation for what he/she does for you? | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 23. |
| 25. Do you and your partner consciously make time for each other every week? | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 24. |
| | Significantly | | | Not at all | | |
| 26. Rate the extent to which you feel that your your relationship has improved as a result of the course. | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 25. |
| 27. Rate the extent to which your spouse/partner has noticed positive changes in you since the course. | 5 | 4 | 3 | 2 | 1 | <input type="checkbox"/> 26. |
| 28. Do you believe the changes are permanent? | YES | | | NO | | <input type="checkbox"/> 27. |
| 29. Please elaborate on these changes if possible. | | | | | | |

.....

WORK LIFE

5. OFFICE
USE
ONLY

On a scale of 1 (never) to 5 (always), please circle your response to the following:

	Always	Often	Sometimes	Rarely	Never	
1. Do you see your work as being mentally stimulating?	5	4	3	2	1	<input type="checkbox"/> 28.
2. Do you perceive your work as being enjoyable?	5	4	3	2	1	<input type="checkbox"/> 29.
3. Do you find your work to be a pleasant challenge?	5	4	3	2	1	<input type="checkbox"/> 30.
4. Are you keen to get back to work after a break?	5	4	3	2	1	<input type="checkbox"/> 31.
5. Do you feel you can cope with the workload expected of you?	5	4	3	2	1	<input type="checkbox"/> 32.
6. Do you feel you produce the quality of work expected of you?	5	4	3	2	1	<input type="checkbox"/> 33.
7. Do you feel competent at the job you do?	5	4	3	2	1	<input type="checkbox"/> 34.
8. Do you get along with your subordinates?	5	4	3	2	1	<input type="checkbox"/> 35.
9. Do you get along with your superiors?	5	4	3	2	1	<input type="checkbox"/> 36.
10. Do you get recognition for the work that you do?	5	4	3	2	1	<input type="checkbox"/> 37.
11. Do you work overtime?	5	4	3	2	1	<input type="checkbox"/> 38.

WORK LIFE (continued)

5. OFFICE
USE
ONLY

	Always	Often	Some- times	Rarely	Never	
12. Does your work take precedence over your social life?	5	4	3	2	1	<input type="checkbox"/> 39.
13. Does your work take precedence over your health?	5	4	3	2	1	<input type="checkbox"/> 40.
14. Does your work take precedence over your family life?	5	4	3	2	1	<input type="checkbox"/> 41.
15. Does your work take precedence over time for yourself?	5	4	3	2	1	<input type="checkbox"/> 42.
16. Do you find yourself struggling to complete your workload?	5	4	3	2	1	<input type="checkbox"/> 43.
17. Do you feel bored at work?	5	4	3	2	1	<input type="checkbox"/> 44.
18. Do you feel like changing jobs/resigning?	5	4	3	2	1	<input type="checkbox"/> 45.
	Significantly			Not at all		
19. Rate the extent to which you feel that your your enjoyment of work has improved as a result of the course.	5	4	3	2	1	<input type="checkbox"/> 46.
20. Rate the extent to which relationships have improved as a result of the course.	5	4	3	2	1	<input type="checkbox"/> 47.
21. Do you believe these changes are permanent?	YES		NO			<input type="checkbox"/> 48.
22. Please elaborate on these changes if possible.						
					
					

SOCIAL SUPPORT

7. OFFICE
USE
ONLY

This section of the questionnaire assesses the social support available to you in the form of the number of friends (including family). Please circle your response.

		Number of friends/family						
		6+	5	4	3	2	1	
1.	Do you have friends you can trust?	6+	5	4	3	2	1	<input type="checkbox"/> 62.
2.	Do you have friends you can confide in?	6+	5	4	3	2	1	<input type="checkbox"/> 63.
3.	Do you have friends who accept you for what you are?	6+	5	4	3	2	1	<input type="checkbox"/> 64.
4.	Do you have friends who give you confidence in yourself?	6+	5	4	3	2	1	<input type="checkbox"/> 65.
5.	Do you have friends who always have time for you?	6+	5	4	3	2	1	<input type="checkbox"/> 66.
6.	Do you have friends who are honest about you?	6+	5	4	3	2	1	<input type="checkbox"/> 67.

HEALTH PRACTICES AND SOCIAL SUPPORT

8. OFFICE
USE
ONLY

	Extremely					Not at all						
1.	Do your peers practice principles of good nutrition?					5	4	3	2	1		<input type="checkbox"/> 68.
2.	Does your spouse practice principles of good nutrition?					5	4	3	2	1		<input type="checkbox"/> 69.
3.	Do you practice principles of good nutrition?					5	4	3	2	1		<input type="checkbox"/> 70.
4.	Do your peers believe in and pursue the benefits of exercise?					5	4	3	2	1		<input type="checkbox"/> 71.
5.	Does your spouse believe in and pursue the benefits of exercise?					5	4	3	2	1		<input type="checkbox"/> 72.
6.	Do you believe in and pursue the benefits of exercise?					5	4	3	2	1		<input type="checkbox"/> 73.
7.	Are your peers knowledgeable about stress and its effects?					5	4	3	2	1		<input type="checkbox"/> 74.
8.	Is your spouse/partner knowledgeable about stress and its effects?					5	4	3	2	1		<input type="checkbox"/> 75.
9.	Are you aware of stress and its effects?					5	4	3	2	1		<input type="checkbox"/> 76.
10.	Do you feel you are knowledgeable about stress and its effects?					5	4	3	2	1		<input type="checkbox"/> 77.
11.	Do you feel supported by others in your efforts to lead a healthy lifestyle?					Yes		No				<input type="checkbox"/> 78.
12.	Do you have any comments on this questionnaire? If yes please elaborate.					Yes		No				<input type="checkbox"/> 79.

GOALS

1. OFFICE
USE
ONLY

This section deals with goals that were set during, or as a result of, the course. On a scale of 5 (significantly) to 1 (not at all) please reate your response to the following:

	Significantly					Not at all						
1.	Rate the extent to which you feel you are on the way to achieving your goals	5	4	3	2	1						<input type="checkbox"/> 80.
2.	Rate the extent to which you are happy with the goals attained thus far	5	4	3	2	1						<input type="checkbox"/> 1.
3.	Rate the degree to which the course has affected your lifestyle	5	4	3	2	1						<input type="checkbox"/> 2.
4.	Rate the degree to which you believe that the changes that you have attained are long-term/permanent changes	5	4	3	2	1						<input type="checkbox"/> 3.
5.	Rate the degree to which you feel confident that all or most goals set will be attained	5	4	3	2	1						<input type="checkbox"/> 4.

Thank you for completing this questionnaire.

APPENDIX C:

Questionnaires 3 (Type A), 4 (LOC), and 11 (SOC) of test battery

QUESTIONNAIRE 3

Read through each statement carefully and indicate by encircling the number that is applicable to you.

	DEFINITELY DIFFER	DIFFER	AGREE	DEFINITELY AGREE
1. I feel compelled to do most things in a hurry	0	1	2	3
2. I am usually the first one to finish a meal	0	1	2	3
3. I find it difficult to relax, even for a few hours	0	1	2	3
4. I hate waiting in a line at a restaurant, bank or shop, even for a few minutes	0	1	2	3
5. I frequently try to do several things at the same time	0	1	2	3
6. I am generally dissatisfied with what I have accomplished	0	1	2	3
7. I enjoy competition	0	1	2	3
8. I always feel that I have to win	0	1	2	3
9. I find myself trying to rush people along by finishing their sentences for them	0	1	2	3
10. I become impatient when someone does a job slowly	0	1	2	3

	DEFINITELY DIFFER	DIFFER	AGREE	DEFINITELY AGREE
11. I become irritated when something is not done thoroughly	0	1	2	3
12. I usually rush through my tasks to get them done as quickly as possible	0	1	2	3
13. I feel that I am constantly under pressure to get more done	0	1	2	3
14. I have taken less than my allotted leave over the past few years	0	1	2	3
15. I often find my mind wandering to other tasks and subjects while listening to other people	0	1	2	3
16. I am inclined to talk fast	0	1	2	3
17. I am too busy with my job to have time for hobbies and outside activities	0	1	2	3
18. I function best under pressure	0	1	2	3
19. It frustrates me enormously when people do not have a strong sense of urgency	0	1	2	3
20. People say I become quickly irritated	0	1	2	3
21. I have a tendency to rush into a task before knowing the procedures I would use to complete it	0	1	2	3

	DEFINITELY DIFFER	DIFFER	AGREE	DEFINITELY AGREE
22. I usually take some work along even when I go on vacation	0	1	2	3
23. I feel guilty for taking time off from work	0	1	2	3
24. I find it difficult to delegate	0	1	2	3
25. I tend to lose my temper when under pressure	0	1	2	3
26. I tend to race against the clock	0	1	2	3
27. I have no patience with impunctuality	0	1	2	3
28. I am sometimes accused of attaching too much importance to my work	0	1	2	3
29. I have to finish something once I have started it	0	1	2	3
30. I am never late for appointments	0	1	2	3
31. I seldom reveal my feelings	0	1	2	3
32. I always set deadlines for myself	0	1	2	3
33. I tend to judge performance in terms of numbers (how much / how many)	0	1	2	3
34. I am always in a hurry	0	1	2	3

QUESTIONNAIRE 4

Read each statement carefully and encircle the one most applicable to you.

	DEFINITELY DIFFER	DIFFER MODERATELY	AGREE MODERATELY	DEFINITELY AGREE
1. I tend to compare myself to others	0	1	2	3
2. I become very angry if people are inconsiderate	0	1	2	3
3. I work mainly to gain recognition from my boss	0	1	2	3
4. I attach a great deal of value to status	0	1	2	3
5. I doubt my own abilities when my work is criticised	0	1	2	3
6. I tend to respond to demands rather than initiating action myself	0	1	2	3
7. I am very conscious of etiquette and social conversation	0	1	2	3
8. I think it is important to dress according to the latest fashions	0	1	2	3
9. I feel that money plays an important and decisive role in my happiness	0	1	2	3
10. I find it difficult to call figures of authority by their Christian names	0	1	2	3

	DEFINITELY DIFFER	DIFFER MODERATELY	AGREE MODERATELY	DEFINITELY AGREE
11. I sometimes use tranquilizers	0	1	2	3
12. I smoke or drink to relax	0	1	2	3
13. I like receiving on-going feedback on my work	0	1	2	3
14. I feel that I have very little influence over Top Management decisions	0	1	2	3
15. I feel that one has a better chance in life if one's father holds or held a high position	0	1	2	3
16. I attach value to others' opinions of me	0	1	2	3
17. I tend to adjust my actions to the expectations of others	0	1	2	3
18. I think it is dangerous to rely on intuition	0	1	2	3
19. I feel that even though inadequate, one will be promoted if the time and place is right	0	1	2	3
20. In a conflict situation, I tend to allow the needs of others to be met, rather than my own	0	1	2	3

	DEFINITELY DIFFER	DIFFER MODERATELY	AGREE MODERATELY	DEFINITELY AGREE
21. I feel one's past can have a retarding effect on one's success	0	1	2	3
22. I tend to blame others for my state of mind	0	1	2	3
23. I do not take risks easily	0	1	2	3
24. I have particular heroes/role models according to whom I mould my behaviour	0	1	2	3
25. I find that failures affect my self-confidence adversely	0	1	2	3
26. I expect my boss to formulate all my objectives	0	1	2	3
27. I don't like being on my own	0	1	2	3
28. I feel that luck and coincidence do play a role in my life	0	1	2	3
29. I do not think people see me as an individualist	0	1	2	3
30. I sometimes feel inferior to my colleagues	0	1	2	3

- MA(R) 6. Has it happened that people whom you counted on disappointed you?
- | | | | | | | |
|-------------------|---|---|---|---|---|--------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| never
happened | | | | | | always
happened |
- ME(R) 7. Life is:
- | | | | | | | |
|---------------------|---|---|---|---|---|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| full of
interest | | | | | | completely
routine |
- ME 8. Until now your life has had:
- | | | | | | | |
|------------------------------|---|---|---|---|---|---------------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| no clear goals or
purpose | | | | | | very clear goals
and purpose |
- MA 9. Do you have the feeling that you're being treated unfairly?
- | | | | | | | |
|------------|---|---|---|---|---|-------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| very often | | | | | | very seldom
or never |
- C 10. In the past ten years your life has been:
- | | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| full of changes
without your
knowing what will
happen next | | | | | | completely
consistent and
and clear |
- ME(R) 11. Most of the things you do in the future will probably be:
- | | | | | | | |
|---------------------------|---|---|---|---|---|------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| completely
fascinating | | | | | | deadly
boring |
- C 12. Do you have the feeling that you are in an unfamiliar situation and don't know what to do?
- | | | | | | | |
|------------|---|---|---|---|---|-------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| very often | | | | | | very seldom
or never |

MA(R) 13. What best describes how you see life:

1	2	3	4	5	6	7
one can always find a solution to painful things in life						there is no solution to painful things in life

ME(R) 14. When you think about your life, you very often:

1	2	3	4	5	6	7
feel how good it is to be alive						ask yourself why you exist at all

C 15. When you face a difficult problem, the choice of a solution is:

1	2	3	4	5	6	7
always confusing and hard to find						always completely clear

ME(R) 16. Doing the things you do every day is:

1	2	3	4	5	6	7
a source of deep pleasure and satisfaction						a source of pain and boredom

C 17. Your life in the future will probably be:

1	2	3	4	5	6	7
full of changes without your knowing what will happen next						completely consistent and clear

MA 18. When something unpleasant happened in the past, your tendency was:

1	2	3	4	5	6	7
"to eat yourself up" about it						to say "OK, that's that, I have to live with it" and go on

- C 19. Do you have very mixed-up feelings and ideas?
- 1 2 3 4 5 6 7
 very often very seldom
 or never
- MA(R) 20. When you do something that gives you a good feeling:
- 1 2 3 4 5 6 7
 it's certain that you will
 go on feeling good it's certain that
 something will happen to spoil
 the feeling
- C 21. Does it happen that you have feelings inside you would rather not feel?
- 1 2 3 4 5 6 7
 very often very seldom
 or never
- ME 22. You anticipate that your personal life in the future will be:
- 1 2 3 4 5 6 7
 totally without meaning or
 purpose full of meaning
 and purpose
- MA(R) 23. Do you think that there will always be people whom you'll be able to count on in the future?
- 1 2 3 4 5 6 7
 you're certain there will be you doubt
 there will be
- C 24. Does it happen that you have the feeling that you don't know exactly what's about to happen?
- 1 2 3 4 5 6 7
 very often very seldom
 or never

APPENDIX D:

Letters accompanying 3 week and 6 month follow up.

10 Bond Street
Tamboerskloof
Cape Town 8001.

Dear delegate,

Michael Van Reenen's Stress Management Course.

My name is Linda Kantor and I am currently completing a Masters thesis based on Michael Van Reenen's Stress Management Course. Thank you for completing my initial questionnaire on the first day of the course.

Enclosed is a follow-up questionnaire which is along similar lines to the first. It is important to obtain this data shortly after termination of the course, in order to gauge the initial effects thereof. Your co-operation in the completion (and posting!) of this questionnaire would therefore be much appreciated. Feedback as to changes you may have experienced can be obtained from myself, once I have received replies to a six month follow up questionnaire.

If you encounter any problems or have any questions, please contact me on 021-239502.

Many thanks for your participation in this research.



Linda Kantor.

10 Bond Street
Tamboerskloof
Cape Town 8001.

Dear delegate,

Michael Van Reenen's Stress Management Course.

Six months have now passed since your participation on Michael Van Reenen's Stress Management Course. I would like to thank you for your cooperation in completing my two questionnaires which attempt to investigate lifestyle change after the course.

I now need to administer questionnaires for the third and final time, before I can tie up the research. Enclosed is the follow-up questionnaire, and questionnaires 3,4, and 11, which I require you to complete. Once I have received the above, I will be able to assess lifestyle, behavioral or personality change six months after the course. Results will be treated in a confidential manner, and I will be glad to give you individual feedback if desired.

Your final co-operation in completion (and posting!) of the questionnaires would therefore be much appreciated.

If you encounter any problems or have any questions, please contact me on 021-239502, or I can be faxed on (021) 261962.

Many thanks once again for your participation in this research.


Linda Kantor.