The relationship between leisure-time physical activity and psychological well-being in executive employees of selected African countries

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DECLARATION

The co-authors of the article which form part of this dissertation, Prof. Andries Monyeki (supervisor), Prof. Gert Strydom (co-supervisor), Prof. Lateef Amusa and Prof. Q.M. Temane (Assistant co-supervisors) hereby give permission to the candidate Ms. T.M.Thangavhuelelo to include the article as part of the Masters dissertation. The contribution of the co-authors was limited to their professional advice and guidance as study leaders towards the completion of the study.

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ABSTRACT

Participation in leisure-time physical activity (LTPA) is vital to ensure adequate physical work capacity for the demands of daily living and job performance. Due to work demand, most top and middle (executive) managerial employees become physically inactive and experience psychological and other health problems which may lead to hypokinetic diseases and even premature death. The purpose of this study was twofold: to determine leisure-time physical activity and psychological well-being status of executive employees; and to determine the relationship between leisure-time physical activity and psychological well-being status of executive employees in selected African countries. A cross-sectional study design was carried out on a group of 156 (mean age 41.22±10.17) available executive employees from selected African countries. Participants were grouped according to age (≤35 years; 36–46 years and ≥ 46 years). Standardised questionnaires were used to collect the data. Subsequently, total scores were calculated for all variables. Out of 156 participants in the study, 42.9% occupied top level management and 57.1% middle level management positions. When data was analysed according to age groups, 31.4% and 68.6% in the less than 35 years age group were in the top and the middle level management positions respectively. In the age group 36 to 46 years, 47.2% occupied the top level management position and 52.8% occupied the middle level management position. With regard to LTPA, top level managers (71.6%) scored low LTPA compared to the middle level managers (62.9%). In addition, both the top and middle level managers reported bad emotional index (49.3%; 56.2%) and happiness index (41.8%; 37.1%) respectively. Though not significant, LTPA was positively associated with psychological well-being parameters amongst top level managers. The study concluded that both top and middle level managers exhibited low LTPA, and with no participation in high physical activity among top level managers. In addition, more middle level managers reported bad emotional stage than the top level managers, while the top level managers were less happy than the middle level managers. The study therefore recommends urgent strategic intervention programmes for leisure-time physical activity and psychological well-being.

Key words: Leisure-time physical activity, Executive employees, Stress, Emotional well-being, Happiness, Well-being and quality of life.

OPSOMMING

Deelname aan fisieke aktiwiteite gedurende vryetyd, is noodsaaklik ten einde voldoende fisieke werksvermoë vir daaglikse- sowel as beroepsaktiwiteite te verseker. Vanweë die druk werkprogram, is die meeste van die top- en middelvlak bestuurslede fisiek onaktief en ervaar hulle dikwels psigologiese en ander gesondheidsprobleme, wat uiteindelik tot hipokinetiese siektes en selfs premature sterftes kan lei. Die doel van hierdie studie was tweërlei, naamlik: om die vryetyd fisieke aktiwiteit- asook psigologiese welstandprofiele van uitvoerende amptenare in geselekteerde Afrika-lande te bepaal, asook om die verwantskap tussen die vryetyd fisieke aktiwiteitdeelname en psigologiese welstand te ontleed. 'n Dwarsdeursnit studie is uitgevoer op 156 (gemiddelde ouderdom 41.22 ± 10.17 jaar) beskikbare uitvoerende werknemers van enkele geselekteerde lande in Afrika. Deelnemers is in groepe op grond van hul ouderdom verdeel (≤ 35 jaar; 36 – 46 jaar en ≥ 46 jaar). Gestandaardiseerde vraelyste is gebruik om die inligting in te samel en eindtellings is vir al die veranderlikes bereken. Van die 156 deelnemers, was 42.9% topvlak en 57.1 % middelvlak bestuurslui. Na ontleding van die data het dit geblyk dat in die ≤35 jaar-groep, 31.4 % van die deelnemers in die top- en middelvlak bestuur respektiewelik voorgekom het. In die ouderdomsgroep 36 – 46 jaar was 47.2% en 52.8 % in die top- en middelvlak bestuur respektiewelik. Met betrekking tot die vryetyd fisieke aktiwiteitdeelname het 71.6 % van die topvlak bestuurders teenoor die 62.9% van die middelvlak bestuurders in die lae fisieke aktiwiteit deelname kategorie geval. Verder het die top- sowel as middelvlak bestuurders swak emosionele (49.3%; 56.2 %) en geluk indekse (41.8%; 37.1 %) gerapporteer. Vryetyd fisieke aktiwiteitdeelname is positief (hoewel nie- betekenisvol) geassosieer met psigologiese welstand van die topvlak uitvoerende amptenare. Die studie toon ten slotte aan dat beide top- en middelvlak bestuurders 'n lae vryetydse fisieke aktiwiteitsdeelname handhaaf met geen deelnemers in die hoë aktiwiteit kategorie nie. Verder rapporteer meer middelvlak bestuurders 'n swak emosionele welstand as wat die geval by die topvlak bestuurders is, terwyl laasgenoemde weer laer geluk rapporteer as die middelvlak bestuurders. Die aanbeveling wat uit hierdie studie voortvloei is dat daar dringend aandag aan strategiese intervensieprogramme rakende vryetyd fisieke aktiwiteitdeelname en psigologiese welstand geskenk behoort te word.

Sleutel terme: Vryetyd fisieke aktiwiteit, Uitvoerende amptenare, Stres, Emosionele welstand, Geluk, Welstand en Kwaliteit van lewe.

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List of Abbreviations

LTPA-Leisure-time physical activity

HPA- Hypothalamic pituitary adrenocortical

LINZ- Life in New Zealand

MLTPAQ- Minosota Leisure Time Physical Activity Questionnaire

BPM- Beats Per Minute

US- United States

PA- Physical Activity

PWB- Psychological Well-Being

CDC- Center for Disease Control

APA- American Psychological Association

SANGALA- South Africa National Games and Leisure Activity

AFAHPER-SD- Africa Association for Health, Physical Education, Recreation, Sport and Dance

LTPAI-Leisure- Time Physical Activity Index

EWBI- Emotional Well-being Index

GNP-Gross National Product

List of Symbols

< Less than

> Greater than

≤ Less than or equal to

≥ Greater than or equal to

% Percentage

= Equal

€ Euro currency

± Plus or Minus

n number of participants

(r) Correlation coefficients

Conference presentations

Topic: Leisure-time physical activity and psychological well-being status among executive employees in selected African countries.

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CHAPTER 1

PROBLEM STATEMENT, OBJECTIVES AND HYPOTHESES OF THE STUDY

1.1 INTRODUCTION

Participation in physical activity is vital to ensure adequate physical work capacity for the demands of daily living and job performance (Rowe & Kahn, 1987:143; WHO, 2011). Due to work demand, most of the top and middle (executive) managerial employees turn to be physically inactive (Martinez-Gonzalez *et al*., 2001:1142; Haskell *et al.*, 2007:1423). The decline in physical activity varies significantly as some individuals seem to be physically active, while others are faced with limitations due to factors like workload, age and health problems (Lahtil *et al.*, 2010:246). Work site health promotion programmes, including prevention and cessation of smoking, dietary intervention and exercise are effective in modifying coronary risk factors, reduce absenteeism, accident, health care costs and hospital admission (Karasek, 1979:237). Numerous findings revealed positive association between regular leisure-time physical activity with the promotion of physical health and well-being of an individual (Blair, 1994:579; Kush *et al.,* 1999:128; Rahl, 2010:7), and also lowers the risk profile and mortality rate (US Department of Health and Human Services, 1996; Glenister, 1996:7; WHO, 2011). In addition, regular leisure-time physical activity has also been reported to have positive effect on the prevention and rehabilitation of illness such as heart disease, hypertension, osteoporosis, cancer and diabetes (Ehrman *et al.,* 2009:692). Leisure-time physical activity (LTPA) is the term used to distinguish physical activity (PA) undertaken during non-work time, from physical activity undertaken as part of a person's occupation (Jose & Hansen, 2009:192).

1.2 PROBLEM STATEMENT

McDowell-Larson (2001) reported that a large proportion of employees are not physically active. In a report by the US Department of Health and Human Services (1996), it was revealed that physical inactivity as a result of sedentary lifestyles is more prevalent among employees with lower income, and affects women more than men. Increase in sedentary lifestyle is associated with increased risk of physical disorders such as coronary heart disease, hypertension, colon cancer, obesity and stroke (Powel & Blair 1994:851; Sharkey & Gaskill, 2007:15). Furthermore, employees who are sedentary are one of the contributors to higher medical care expenditure (Edington & Burton, 2003:140).

Poor health status of employees is linked to higher direct health care cost, lower work output (e.g. presenteeism), higher rates of disability, higher absenteeism and higher work compensation (Edington & Burton, 2003:140). In addition, it have been indicated that chronic stress could result in burnout (Robbins, *et al.*, 2005; Dahlgren *et al.*, 2005:277), which can also result in various illnesses (WHO, 2011).

According to Burton *et al.* (2005:343) and Schultz & Edington (2007:547), employees who engage in physical activity experience benefits such as improvement of their personal health, health care costs reduction, and enhanced workforce productivity (Sallis and Glanz, 2009:123). Aldana *et al.* (1996:315) indicated that employees participating in regular physical activity had about half the rate of perceived stress compared to the passive individuals. It has also been suggested that self-esteem is significantly related to job performance (Judge *et al.*, 1998:167).

Physical activity can also play a major role in the control of neuro-endocrine, autonomic, and behaviour responses to physical and psycho-social stress (Marquez *et al*., 2002:601). Stress activates the hypothalamic-pituitary-adrenocotical (HPA) axis, which leads to the release of glucocorticoids into the general vasculature (Marquez *et al*., 2002; Sharkey & Gaskill, 2007:38; Grissom & Bhatnagar, 2009:215). Physically active people have reduced reactivity to physical stressors as well as reduced susceptibility to the adverse influence of life stress (Tucker *et al, 1996:24).* Participation in regular physical activity is, therefore, associated with the lower reactivity of the sympathetic nervous system and HPA to psychological stress (Sharkey & Gaskill, 2007:7). In a highly competitive spirit, the corporate environment and organisations are becoming increasingly aware of the effects of stress on employees' health and productivity (Rothman *et al.*, 2004:55). The South African Heart Association (2005) also indicated that this increase of job strain may lead to a situation where the stress levels of employees may reach uncontrollable limits, leading to negative effects on personnel and company level. In another finding from a South African study, it was suggested that the emotional well-being of employees is also a matter of concern (Grace *et al.*, 2009:9). In this regard various studies indicated that regular participation in physical activity can not only be an effective strategy in coping with high stress levels (Aldana *et al.*, 1996:315; Sharkey & Gaskill, 2007:39), but also facilitates the recovery process (Rudolph & McAuley, 1995:206)

The studies which could be found in Western countries that examine the impact of physical activity on physical health functioning among middle-aged employees were the one by Lahtil *et al.* (2007:246) and Wiljndaele *et al.* (2007:425). In a study by Wijndaele *et al.* (2007:425) exercise is associated with high well-being in various facets of employees. Studies in developing African Countries like Kenya, Botswana and Nigeria, investigating the effect of leisure-time physical activity on stress, emotional well-being, happiness and quality of life especially among the top and middle managerial employees, are scanty. In a study done in South Africa on employees' wellness, it was indicated that a high number of employees is suffering from physical, psychological and emotional health issues (Grace *et al.*, 2009:10). None of the above studies investigated the effect of leisure-time physical activity on stress, emotional well-being, happiness and quality of life in executive employees of some African countries. Therefore, the effect of leisure-time physical activity (LTPA) on selected psychological parameters in executive employees of some African countries needs to be investigated.

The research questions formulated for this study are as follows:

1). What is the profile of the leisure-time physical activity, stress, emotional well-being and happiness and quality of life indexes in some executive employees in selected African countries?

2). What is the relationship between leisure-time physical activity and stress, emotional well-being and happiness and quality of life indexes in some executive employees in selected African countries?

The results obtained from this study may contribute information regarding executive employees' wellness and provide a blueprint for intervention strategies, which may eventually lead to a better and healthier company profile. Also, the outcomes of this study will provide the Biokineticists or Exercise Physiologists with valuable knowledge regarding the employees about the effect of leisure-time physical activity on stress, emotional well-being, happiness and quality of life so as to enable them to compile strategic intervention programmes.

1.3 OBJECTIVES

The objectives of this study were to:

i. Describe a profile of leisure-time physical activity, stress, emotional well-being, happiness and quality of life, of some executive employees from selected African countries.
ii. Determine the relationship between leisure-time physical activity and stress, emotional well-being, happiness and quality of life index of some executive employees from selected African countries.

1.4. Hypotheses

The hypotheses for this study are:

i. The profile of LTPA, stress, emotional well-being, and quality of life parameters will reflect high levels of unhealthy conditions.
ii. Significant positive relationship between high levels of leisure-time physical activity and stress, emotional well-being, happiness and quality of life of some executive employees of selected African countries will be observed.

1.5. STRUCTURE OF THE DISSERTATION

This dissertation will be presented in an article format as approved by the Senate of the North-West University, and it will be as follows:

Chapter 1: Introduction, including problem statement, objectives, hypotheses and structure of the dissertation.

Chapter 2: A literature review: Leisure-time physical activity and psychological well-being parameters of employees in the corporate environment. (Reference list for both Chapters 1 and 2 will be provided at the end of each chapter according the Harvard Style of referencing and according to the guidelines stipulated in the postgraduate manual of the North-West University).

Chapter 3: ***Article 1:*** Leisure-time physical activity and some psychological well-being parameters among some executive employees in selected African countries.

(Manuscript is published in *African Journal of Health Physical Education, Recreation and Dance*. The references are prepared in accordance with the guidelines proposed by the *African Journal of Physical, Health, Education, Recreation and Dance).*

Chapter 4: Summary, Conclusion, Limitations and Recommendations. The references of this chapter will be prepared in accordance with the guidelines proposed by the North-West University.

The last chapter will be followed by the appendices.

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CHAPTER 2

LEISURE-TIME PHYSICAL ACTIVITY AND ITS EFFECT ON SOME SELECTED PSYCHOLOGICAL WELL-BEING PARAMETERS IN EXECUTIVE EMPLOYEES: A LITERATURE REVIEW

2.1 INTRODUCTION

In today's corporate environment, companies continuously have to improve their performance in order to stay abreast of their competitors. High levels of psychological and physical illness inter alia, due to lack of participating in leisure-time physical activity, have a detrimental effect on the individual's ability to perform well. Only healthy employees can perform optimally, employee's health and wellness should be a high priority (Ho, 1997:177; Van Dongen *et al.,* 2011). Many factors such as tobacco use, poor nutritional habits, lack of physical activity, increase in stress and burnout may influence the health status of employees (Slack, 2006:1647; Guo *et al.*, 2004:1380). These factors also impose greater indirect costs on companies coupled with employee absenteeism, presenteeism, subsequent worker compensation cost and decrease work performance (Mills *et al*., 2007:45).

It is important for companies to understand the importance of employees engaging in physical activity, as being physically inactive may results in stress and burnout. The resulting effects of these psychological factors could be absenteeism, low work output and poor health conditions (Mills *et al*., 2007:45). It is therefore vital that employees engage in leisure-time physical activity.

Studies have shown that employees who are physically active are more resilient and deal more effectively with stress-producing factors such as work load, work pressure and job insecurity (Thogersen-Ntoumen & Fox, 2005:50; Attridge, 2005:31-55; Slack, 2006:1647). A case study by Vahatera *et al.* (2000:484) concluded that stress level-producing factors in the work environment such as job control, job demands and social support have a strong impact on absenteeism in the workplace. The authors concluded that favourable conditions related to job demands, job control and social support at work, seem to reduce the risk of sickness among employees (Vahatera *et al.*, 2000:492; Christie *et al.* 2010).

The purpose of this chapter therefore, is to provide a literature review on the leisure-time physical activity (LTPA), factors contributing towards lack of LTPA among executive employees in the corporate environment, benefits which can be achieved through regular participation in LTPA, psychological factors on individual health, the consequences of lack of regular leisure-time physical activity on the psychological factors among executive employees in the corporate environment, and ends with conclusion of the chapter.

2.2 LEISURE AS A CONCEPT

Leisure as a concept has been defined and examined in several ways from time immemorial. Tokarski (2003:157) states, "Leisure is where people develop their lifestyles, find their routine for everyday life and work for elements of self-realisation". Leisure viewed in this way is no longer time after work, or recreation for work, but rather, it is an independent and central part of life. According to Tokarski (2003:157) leisure is where people develop their lifestyles, work for elements of self-realisation and physical fitness, wellness and other health-orientated activities. Related to today's world, leisure is defined as "the existence of lifestyles which include motivation, behaviour, and experiences towards wellness and health and leads at least to individual well-being" (Tokarski, 2003:159).

Emenike (1988:137) also conceptualised leisure as a life-style. Leisure is freedom from occupation, employment or engagement. Leisure is further divided into five dimensions; leisure is a block of time, quantitatively distinct from other blocks of time; leisure is freedom from these activities which have to be done – viz. work, household chores; leisure is perceived as an 'end' as distinct from a 'means'; leisure has a minimum of obligation to others to routine and even to oneself; and leisure is seen as recreation which prepares one for better work and helps store up energy or knowledge (Emenike, 1988:137). Leisure is seen as self-development, self-improvement, making new friends or gaining new experiences.

Leisure as a concept has been considered before in a limited and a broader way of having temporal dimensions as a common element. For example, Murphy (1981:40) considered leisure as a discretionary or free time for unobligated activity set apart from work. Cheek & Burch (1976) reported beyond this delimitation by considering leisure as not only discretionary time but also assumed leisure is a property of social groups. Ellis (2010) held the view that leisure is a correlate of economic rationale and social aggregate variables. Izo-Ahola (1980:11) contended that leisure use is regulated by intrinsic motivation such as self-determination.

In summary, leisure can be conceived as part of free time used for recreational pursuits at one's own free will and choice for intrinsic rewards and experience which enables optimum personal self-actualisation and satisfaction but also contributes towards a happy community life. Therefore leisure is a state of mind which allows individuals to get involved in a socially acceptable, but individually satisfaction pursuits.

2.2.1 LEISURE-TIME PHYSICAL ACTIVITY (LTPA)

Physical activity which is defined as an activity involving the use of body muscles leading to expenditure of energy, includes active recreation (e.g. informal play, dance, sport and exercise) active transportation (e.g. walking, cycling jogging) and activity during paid or domestic work (e.g. lawn mowing, dish washing) (Caspersen *et al.*, 1985:126; Ross, 2001:98). Leisure-time physical activity (LTPA) connects the participation in physical activity through the promotion of active forms of leisure (Ross, 2001:98). Physical activity is being viewed world-wide as one important avenue to attain quality of life, good health and well-being. The Surgeon General's (1996) report on Physical Activity and Health by the US Department of Health and Human Services, reflected a paradigm shift in recent times from prescribing exercise for fitness, to promoting physical activity for health (Ross, 2001:98).

Many countries world-wide have studied the LTPA of their populations. A leisure-time survey on 743, eight to seven year old Australians by Cupitt and Stockbridge (1996) shows that, 55% of leisure-time was spent in electronic entertainment like watching television (125 min/day), listening to radio (15min/day), watching videos (9min/day) and computer games (9 min/day) (Ross, 2001).

Literature reviews of physical activity epidemiology (Pate *et al.*, 1994:433; Armstrong, & Van Mechelen, 1998:69) report an almost consistent finding of physical activity participation by males compared to females. The *Dunedin* multi-disciplinary survey (Reeder *et al*., 1991:308) and *the life* in New Zealand survey (Wilson *et al*., 1993:16) as well as an Australian survey (Australian Bureau of statistics, 1997; 1998) observed higher levels of male participation in LTPA and vigorous activity respectively. There are limited comparable results from African countries. Hence there is a need for a study of this nature in African countries.

Several studies on LTPA have indicated positive relation between leisure satisfaction, leisure attitudes and leisure participation. For example Ragheb (1980:138) found that the greater the degree of leisure satisfaction and the more positive the leisure attitude, the higher the frequency of participation in leisure activities. Positive association was also found between leisure satisfaction and leisure participation of older people (Ragheb & Griffith, 1982:295).

Furthermore, Iso-Ahola (1997) indicated that LTPA is positively related to mental health of

individuals. Participation in LTPA was found to affect mental health of people by improving their cognitive functioning, reducing depression and anxiety and producing good moods and improving self-esteem and self-concept.

2.2.2. LEISURE-TIME PHYSICAL ACTIVITY MEASUREMENTS

Poor working conditions have negative effect on employees in relation to low LTPA (Wemme & Rosvall, 2004:379). Low LTPA has been found to be strongly associated with low socioeconomic status groups where psychological stressors have been suggested to play a mediating part (Vilhjamsson, 1998:665; Lidstrom, 2000). Chandola *et al.* (2006:511) indicated that behavioural changes in response to working demands and constrains can happen quickly and therefore research study are important. Numerous methods in assessing LTPA are available.

It is recognised that the questionnaire is widely used though this instrument tends to overestimate physical activity participation (Pate *et al.,* 1994:433). Therefore caution needs to be exercised when using questionnaire findings to assess the leisure-time physical activity of individuals. For example, as observed by Calvert (2000), children from lower socio-economic areas were most active immediately before and after school, whereas those from higher socio-economic areas were active later in the afternoon. The different patterns could be attributed to differences in active transportation to and from school and active involvement in organised leisure-time physical activity (Calvert, 2000). A contribution of the questionnaire method and physiological technique may be appropriate for these two groups.

A summary of the procedures used in assessing the leisure-time physical activity is presented as follows:

2.2.2.1 Physical activity questionnaire

As indicated above, this type of measuring instrument allows researchers to obtain physical activity information from a large number of individuals in a time- and cost efficient manner (Dishman *et al.,* 2004:344). Since the early 1970s, over 30 instruments/scales, such as International Physical Activity Questionnaire (IPAQ), Minnesota Leisure Time Physical Activity Questionnaire (MLTPAQ), Harvard Alumni/Paffenbarger Physical Activity Survey

and the Stanford Seven Day Physical Activity Recall Interview have been developed for the assessment of physical activity (Booth, 2000:31).

Warren *et al.* (2010:127), reported that the inappropriate or crude measures of physical activity have serious implications, and are likely to lead to misleading results and underestimate effect size. Self-report instruments are the most widely used tools to assess physical activity and include self or interviewer administered (face-to-face or by phone) questionnaires, recalls and activity diaries (Sallis & Saelens, 2000:S1). Self-report method is the cheapest and easiest way to collect physical activity data from a large number of people in a short time (Warren *et al.,* 2010:128). There are numerous limitations to self-reported methods, which include: difficulties in ascertaining the frequency, duration and intensity of physical activity, capturing all domains of physical activity, social desirability bias and the cognitive demands of recall (Sallis & Saelens, 2000:S3). The sequential cognitive processes underlying the storage of memories have been described (Baranowski & Domel, 1994:S212) along with models explaining their retrieval (Willis *et al.,* 1991:255), illustrating the complexity of the task especially to report durations. In addition, the problems with reliability, validity and sensitivity have significant effect on the use of a questionnaire (Shepard, 2003:197). However, structured questionnaires provide an assessment of physical activity by domains, which is not obtained when using objective measurement of physical activity and may have the potential to provide valid estimates of PAEE and time spent at different intensity levels on group level (Warren *et al.* (2010:127). As such, a questionnaire of Sharkey and Gaskill (2007:429) is been widely used in assessing LTPA in the workplace.

The *physical activity questionnaire of Sharkey and Gaskill* (2007:429) is also used to determine the leisure-time physical activity index (LTPAI) of the participants. The training principles namely frequency, duration and intensity are reported by each respondent retrospectively and these are used to determine the LTPAI. Respondents are then classified into low active (LTPAI $\leq$ 16), moderate active (LTPAI 17- 44) and high active group (LTPAI $\geq$45) (Swanepoel, 2001).

2.2.2.2 Motor sensors

A pedometer is a simple mechanical motion sensor that records the acceleration and deceleration of movement in one direction. Generally, the pedometer gives a measure of total

activity, or movements, over the time period assessed (Rowlands *et al.*, 1997:258; Rowlands, 2001:151). The pedometer was used to count the steps; however research on the reliability and validity of newer electronic pedometer such as the Digi-Walker is more encouraging (Dishman *et al*., 2004:39). This view was supported by Bassett *et al*. (1996:1071) who reported that the Digi-Walker recorded the number of both left and right steps during outdoor walking in 20 adults with only trivial 1% overestimate of actual steps taken. This finding was again supported by Welk *et al.* (2000:481) who indicated that the mean steps counts from the Digi-Walker during both walking and running on a treadmill and a track by 31 adult volunteer were within 3% to 5% of the actual values.

2.2.2.3 Heart rate monitor

Heart rate monitor is not a direct measure of physical activity; however, it does provide an indication of the relative stress placed upon the cardiopulmonary system by physical activity (Armstrong, 1998:6). There are a number of limitations to the use of heart rate monitoring for assessing physical activity (Rowlands *et al*., 1997:258; Rowlands, 2001:151; Armstrong & Welsman, 2006:1067). Heart rate can be influenced by other parameters, e.g. emotional stress, anxiety, level of fitness, type of muscular contraction, active muscle group, hydration and environment (Rowlands *et al.*, 1997:258; Armstrong & Welsman, 2006:1067). These factors can also have the greatest influence on low activity intensity; hence Riddoch & Boreham (1995:86) recommended that heart rate monitoring should be considered primarily as a tool for the assessment of moderate to vigorous activity and that heart rates below 120 beats per minute (BPM) would not normally be considered to be valid estimates of physical activity. Any heart rate below 120 BPM is considered not to indicate sufficient stress on the heart and is therefore considered sub-maximal.

2.2.3. PHYSICAL ACTIVITY THEORIES

Physical activity is a factor that has a direct impact on a person's well-being and health. Vuori (1998:95) suggested that high and moderate levels of physical activity is linked to lower mortality rates, hold benefits for people because they undergo beneficial physiological and psychological changes when they are physically active. Marshall (2004:60) reported that people who take part in workplace physical activity programmes seem to have less absenteeism, and often have higher job satisfaction and have less job stress.

Physical activity is considered to be an important part of a healthy lifestyle (Pate *et al.,* 1995; 273:402), and can be done in different contexts and divided, for example, into occupational and leisure-time physical activity. Occupational physical activity constitutes work-related tasks such as lifting, standing and walking. The work place can be a stressful environment and employees with high levels of emotional stress are generally at greater risk of colds, flu and other illnesses. Participation in these types of physical activity is a great way of relieving occupational stress as it results in an increased production and release of serotonin into the bloodstream which is responsible for the "good mood" feeling, experienced after activity (Warburton *et al.,* 2006:801).

Different dimensions of physical activity can be expressed by the frequency, intensity, duration and type of activity (Bouchard *et al*., 2006:3). Frequency can be described as how often one engages in physical activity, for example during a day or a week. Intensity refers to the strenuousness of physical activity. In epidemiological studies intensity is measured as relative or absolute. Measuring relative intensity requires a measure of fitness as well. Duration refers to the time used in one physical activity session. Type refers to activity that one engages in such as jogging, skiing, aerobics or strength training.

2.3. LEVEL OF LEISURE-TIME PHYSICAL ACTIVITY AT THE WORKPLACE

There is strong evidence that physical activity is effective in reducing the risk of chronic diseases such as cardiovascular disease, high blood pressure, diabetes, and depression (Sharkey & Gaskill, 2007:15). Despite this evidence, a majority of adults do not meet the minimal requirements for physical activity wherein health benefits are thought to occur (Cameron *et al*., 2007). Marshall (2004:60) also reported that people who take part in workplace physical activity programmes are absent less often, have higher job satisfaction and have less job stress. It is again reported that they save company time and money, and are more productive (Anderson & Kaczmarek, 2004).

According to U.S statistics, only 26 % of U.S adults engage in vigorous leisure-time physical activity three or more times per week and about 59% of adults do not engage in vigorous physical activity in their leisure-time (Lethbridge-Çejku & Vickerie, 2005). A study

conducted on representative samples of South Africans who are undergoing the transition from rural to urban communities, found that in the Western Cape province, 30-40% of men and women reported being inactive or minimally active in their work or leisure time and that groups at greatest risk for low levels of physical activity in urban and peri-urban communities included young women who left school (15-24 years) and older men and women over the age of 55 years (Bourne *et al.*, 2002).

2.4 FACTORS CONTRIBUTING TOWARDS LACK OF LEISURE-TIME PHYSICAL ACTIVITY IN THE EXECUTIVE EMPLOYEES IN THE CORPORATE ENVIRONMENT

Engagement in physical activity is affected by several factors. The reasons most often cited for not engaging in physical activity relate to factors such as lack of time, poor health and lack of motivation, age, gender, socio-economic position and work characteristics (Trost *et al.*, 2002:350). Some studies have showed that many workers do not participate in regular physical activity because of both internal and external barriers such as job characteristics and working hours (Owen & Bauman, 1992:305; Payne *et al.*, 2002:342; Lalluka *et al*., 2004:48-56; Kouvonen *et al*., 2005:532-539; Schwetschenau *et al*., 2008:371). Owen and Bauman (1992) and Payne *et al.* (2002) beautifully explained the factors that influence participation in physical activities as follows:

2.4.1 Personal factors

These comprise age, gender, marital status, personal obligations, resourcefulness, leisure perception, attitudes and motivations, interests and preoccupations, skills and ability, physical, social and intellectual, personality and confidence, culture born into, upbringing and background (Owen & Bauman, 1992:305; Payne *et al*., 2002:342).

2.4.2 Social and circumstantial factors

These factors consist of occupation, income, disposable income, material wealth and goods, time available, duties and obligation, friends and peer groups, social roles and contacts, environmental factors, mass leisure factors, education and entertainment, population factors and cultural factors (Owen & Bauman, 1992:305).

2.4.3 Opportunistic factors

These factors are resources available, facility type and quality, awareness, perception of opportunities, recreation services, distribution of facilities, transport, management policy and support, social accessibility and political policies (Payne *et al.,* 2002:342).

2.5. PSYCHOLOGICAL FACTORS

Physical activity (PA) is thought to be associated with enhanced psychological well-being (PWB) and reduces stress in both normal and clinical population (Plante, 1993:358; Yeung, 1996:123). The endorphin hypothesis, for example, mood-enhancing effects of exercise and PA can be explained by the action of opioids peptides (Thoren *et al.,* 1990:417). Empirical studies, however failed to correlate mood changes with B-endorphin level. Among the psychological theories, two studies had earlier attempted to depict the relationship between PA and PWB. The first study was a cross-sectional survey of community people in three major United Kingdom cities. Six hundred and eighty questionnaires measuring exercise, personality, and PWB variables were distributed and complete data were available for 252 subjects (37% response rate). The result of a stepwise hierarchical regression demonstrated that there was a modest relationship between physical exercise pursuit and psychological benefits. However, personality factors were by far the best predictors of PWB, although perceived fitness also contributed to the variance (Yeung & Hemsley, 1998:97).
The second study examined changes in several psychological variables in a group of 46 women as they engaged in an 8-week "aerobic" exercise training programme. This study demonstrated that changes in psychological outcomes were correlated with changes in perceived, rather than actual fitness (Yeung & Hemsley, 1996:545). Fitness hypothesis states that exercise may engender positive psychological effects through the actual or perceived, rather than actual fitness (Plante, 1993:358).

The psychological complaints such as general feelings of reduced well-being, burnout, anxiety and depression are main causes of sickness, absenteeism and work disability (Bernards *et al.,* 2004:10). In 2001, about 38% of the work disabilities in the Netherlands were psychological in nature (Houtman *et al.,* 2004:430). The total annual cost of €1444 million and €16330 of work- related sickness absence and work disability was due to psychological complaints (Koningsveld *et al*., 2003:33).

Physical activity is associated with a range of health benefits (Dunn *et al.,* 2001;33:587; Brosse *et al*., 2002;32:741), and its absence can have harmful effects on health and well-being, increasing the risk for coronary heart disease, diabetes, certain cancers, obesity, hypertension and all-cause mortality (CDC, 1996). According to psychologists Myers and Diener (1997:4), happiness is a meaningful and pleasant feeling of life for a long period. Hergenhahn (2005:475) stated that happiness is determined by satisfaction of accumulative inborn needs. Worrall and Cooper (2006) reported that a low level of well-being at work is estimated to cost about 5-10% of Gross National Product per annum.

The case of exercise and health has primarily been made, and its impact on diseases such as coronary heart disease, obesity and diabetes shown. During the last 15 years, there has been an increasing research focus on the role of exercise in the treatment of mental health and mental well-being in the general population (Fox, 1999:418). There is growing evidence that being physically active, is strongly associated with mental health, and that being physically inactive, can contribute to poor mental health. Biddle and Fox (2008:39) broadly suggested that physical activity has the potential to contribute towards enhancement in mood, self-perception and self-esteem; the prevention of the development of mental problem such as depression; and the alleviation of symptoms of mental health problems. Exercise using both aerobic and weight training has been shown to improve the quality of life measures which includes mental health, vitality, general health, reduced strain symptoms such as depression, mental stress, bodily pain and physical functioning (Atlantis *et al.,* 2004:424).

According to psychologists Myers and Diener (1997:4-7), happiness is a meaningful and pleasant feeling of life for a long period. Hergenhahn (2005:475) stated that happiness is determined by satisfaction of accumulative inborn needs. Worrall and Cooper (2006), reported that a low level of well-being at work is estimated to cost about 5-10% of Gross National Product per annum.

2.5.1. IMPACT OF STRESS

Workplace stress is not a simple psychological construct. According to Colligan and Higgens (2005:89), it is important to understand work place stress in the context of stress. Zimbardo *et al.* (2003) define stress as a person's physical and/or mental state as a reaction to stressors that are perceived as a threat or challenge. People experience stress if they have to behaviourally adjust to circumstances or situation (Montgomery *et al.,* 1996:21), prolonged

threats or challenges that are burdensome to individuals and cause them emotional stress and physical illness, also called psychosomatic illness (Coolligan & Higgens, 2005:89). McVicar (2003:633) stated that the ability to deal with stress, differ from person to person and is dependent on an individual's characteristics, experience and coping mechanism as well as circumstances.

Zimbardo *et al.* (2003) describe a three-stage pattern of physical response as a result of prolonged stressor as follows: ***Stage 1*** is described as the alarm reaction stage; this is a short phase during which the individual is physiologically prepared to ward off stressor. The adrenal functions are activated through the hypothalamus which communicates to the sympathetic nervous system to release the body's natural energy and defense resources. This results in an increased heart rate and increased blood flow, preparing the individual to fight or flee. If individuals are exposed to continuous intense and/or prolonged stressors, the body's energy and defence resources are depleted. During ***stage 2***, the resistance stage, the body adapts to the continuing presence of these stressors due to the parasympathetic intervention that stabilises the bodily functions, resulting in decreased adrenal outputs. During ***stage 3***, exhaustion is characterised by a resurgence of the alarm stage and a powerful response from the autonomic system attempts to regulate the hormone response. During this stage, the body's vital resources have been depleted from the immune system, leaving the individual vulnerable to illness, and where the body does not have the capacity to adapt or to deal with the stressor. This can result in various health problems such as irritable bowel syndrome, hyperinsulinism, high blood pressure, high cholesterol, heart attacks, chronic fatigue, psychosis, depression and anxiety (Zimbardo *et al.*, 2003).

Literature highlights specific factors that contribute to workplace stress, namely; working hours, role conflict/ ambiguity and work overload, lack of autonomy, difficult relationship (team and / or leaders), bullying, harassment and organisational climate (McVicar, 2003:633; Snow *et al.*, 2003:214; Coolligan & Higgens, 2005:89). Pousette and Hanse (2002:229) and Demerouti *et al.* (2009:50) state that workplace stress plays a significant role in ill health, sickness and absenteeism. Arsenault and Dolan (1983:227) highlight the relationship between stress and health and state that stress at work is related to the aetiology of a number of physical conditions such as coronary heart disease, peptic ulcer, hypertension and diabetes.

Love *et al*. (2006:513) stated that workplace stress has been recognised as a factor which potentially hinders organisational effectiveness by contributing to lower employees' performance, employee withdrawal and behaviour such as absenteeism. Similarly, too much stress in the form of work demands, too little job control, and lack of social support may result in absenteeism which may be an indirect measure of workers health and well-being (Love *et al*., 2006:513).

Research studies indicate that workplace stress has a direct impact on health (Johnson *et al.,* 2005:178; Cooper, Dewe & O'Driscoll, 2001; McHugh, 2001:43). Darr and Johns (2008:293) state that there is a positive relationship between job stress and absenteeism: when job stress increases, absenteeism also increases. A study by McHugh (2001:43) states that workplace stress causes 88% of employees' absenteeism. Apart from these studies, research undertaken by Griep *et al.* (2010:179) refers more to the impact of workplace stress on ill health and not workplace as a reason for absenteeism.

Workplace is reported as a source of where employees encounter stress in all occupations (Watt *et al.,* 1998). National poll by American Psychological Associations (APA) showed that approximately 75% of Americans experience stress at work and nearly half noted that their work productivity decrease because of stress (Mckee & Ashton, 2004:81). Mckee and Ashton (2004) have gone further to illustrate the dimension and manifestations of stress as indicated in Table 1.

Table 2.1: Manifestation of stress

Dimension	Manifestation
Physical	Musculoskeletal symptoms, Gastrointestinal disorders Hypertension, Cardiovascular conditions, Headache Insomnia, Changes in appetite
Psychological	Anger, Depression, Anxiety, Frustration, Guilt Cynicis, Tense, irritability, Mood swings, Outbursts of temper, Emotional detachment, Decreased coping abilities, Inability to

	concentrate

Adapted from Mckee and Ashton (2004)

2.5.2 Impact of burnout

Job burnout is a multidimensional construct, consisting of three core components, namely; emotional exhaustion, physical fatigue and cognitive weariness (Schaufeli & Buunk, 2003:383-429; Shirom, 2003:245). It develops as a result of prolonged exposure to stressors at one's workplace and therefore could be viewed as a major manifestation of stress consequences (Schwarzer & Greenglass, 1999). Burnout can occur in any setting, from healthcare professionals to teachers, police and prison workers (Maslach, 2003; Weber & Jaekel-Reinhard, 2000:512). If the work environment is not supportive of the individual's efforts and concerns, the individual's expectations begin to diverge and frustration and disappointment arise (Maslach, 2003; Nadan, 2009). As such feelings were associated with job dissatisfaction, and these result in decreased productivity, loss of confidence and enthusiasm, and behaviour changes (Nadan, 2009). If burnout remains untreated, stress accumulates and causes typical stress-related symptoms, and when coupled with emotional emptiness it signifies the first stage of burnout: mental and physical exhaustion (Spinetta *et al.,* 2000:122). Untreated burnout will continue through four stages: indifference, feeling of failure as a professional, feeling of failure as a person, and feeling of emotional numbness (being "dead inside") (Spinetta *et al.,* 2000:122).

Hu *et al.* (2004:892), and Lee and Paffenbarger (2000:293) suggest that physical activity relates positively to such outcomes as quality of life and longevity, and inversely to such outcomes as chronic diseases (for example coronary heart disease, type 2 diabetes). Individuals that engage in physical activities sustain decreased levels of job burnout (Mutrie & Faulkener, 2003:82; Kouvonen *et al.,* 2005:432) as well as depression (Bernaards *et al.,* 2006:10). It is also documented that physical activity-induced biological changes (for example increased body temperature, adrenaline infusion, and elevation of the plasma levels of endorphins) are found to be the main mechanism underlying these benefits of physical

activity. These biological changes were found to be associated with improvements in quality of life through, among others, improved mood states, self-esteem, physical self-perceptions and body image, cognitive function and sleep (Yeung, 1996:123; Salmon, 2001:33), all of which were also found to be inversely related to job burnout and depression (Spinetta *et al.*, 2000:122).

The specific stressor within the work environment that leads to stress and subsequent burnout varies among occupation and among individuals within a single occupation. These personal risk factors include demographic variables and personality traits (Maslach, 2003; Keidel, 2002:200; Ahola *et al*., 2006:11; Ogińska-Bulik, 2006:113; Garrosa *et al.*, 2008:418). The dimensions of demographic variables, work environment as well as the personality traits (Keidel, 2002; Maslach, 2003; Ahola *et al*. 2006; Ogińska-Bulik, 2006; Garrosa *et al.*, 2008) are shown in Table 2.

Table 2.2: Potential risk factors for burnout

Dimension	Risk Factor
Work Environment	Work overload, Lack of control over one's work, Insufficient reward for one's contributions, Absence of community Lack of fairness, Conflict in values
Demographic Variables	Younger age, Early in career, Lack of life partner or children, Higher level of education
Personality Traits	Low self-esteem or confidence, No recognition of personal limits, Need for approval, Overachieving, Need for autonomy, Impatience, Intolerance, Empathy, Extreme conscientiousness, Perfectionism, Self-giving, Type D personality

Adapted from Maslach and Leither (1997) and McKee and Ashton (2004:81)

In work environment factors, burnout is more likely when an individual's experience (actual or perceived workload) does not match one or more situational factors in a work

environment. The most commonly experienced burnout in any work environment includes (Maslach & Leiter, 1997):

• ***Work overload****:* Limitations in terms of staff, time, and other resources

• ***Lack of control:*** Unable to perform job functions the way an individual believes it is the "right" way

• ***Insufficient reward:*** Absence of acknowledgment of an individual's contributions in the work environment and lack of opportunities to advance

• ***Absence of community:*** Poor working relationships, absence of adequate supervisory or peer support, poor leadership style

• ***Lack of fairness:*** Inequality in workload, salary, or other signs of professional respect

• ***Conflict in values:*** Disagreement between job requirements and an individual's personal principles

Demographic variables have been studied in relation to burnout, and several have been found to influence the risk of burnout, alone or in combination with other factors such as (McKee & Ashton, 2004:81):

• Age

• Race/ethnicity

• Family status

• Educational status

• Gender

• Personality traits

2.5.2.1 Psychological well-being questionnaires

The *stress symptoms questionnaire* of Burns (1988) is used to determine the stress index of the participants. This questionnaire consists of 25 questions describing various stress symptoms namely; *"I have indigestion", "I sleep badly", "I have a headache".* The participants indicated the prevalence of the symptoms in their life by selecting answers ranging from 2 = often, 1 = a few times a month and 0 = rarely. The weighing of the various symptoms was then added to form the stress index. For the purpose of profiling in this study participants are classified into three categories indicating; good (0 – 14), moderate (15 – 25), and bad index (≥ 26) (SANGALA, 2000).

The *emotional well-being index (burnout) questionnaire* of Pines et al. (1981) is used to determine the emotional well-being index (EWBI). This questionnaire consists of 21 questions from which four (4) reflect a positive approach (A), and the rest (17) a negative approach (B). Symptoms of the negative approaches are *"feeling depressed", "being emotional exhausted"*, while positive feelings are described typically by the following: *"being happy", "feeling optimistic".* The participants are asked to describe the prevalence of the symptoms in their lives as: 1 =never, 2 = once, 3 = rarely, 4 = sometimes, 5 = often, 6 = usually, 7 = always. The totals of positive (A) and negative (B) responses are added and the index was calculated by using the equation: 32-B=C+A=D/21=EWBI. For the purpose of profiling in this study participants are classified into three categories indicating, good (1.0 – 3.0). moderate (3.1 – 4.0), bad (4.1 – 5.0) (SANGALA, 2000).

2.5.4 Happiness well-being and quality of life

In recent years, research on positive psychology has emerged highlighting the role of positive psychological variables in making life more successful, improving human function, and increasing happiness (Seligman, 2002:). Furthermore, Seligman (2002) and Diener (2000:34) agree that well-being, is the evaluative reaction of a person to his or her life and it can be divided into a cognitive component (cognitive evaluation of life satisfaction) and an affective component (emotional aspects of the construct, such as happiness).

Well-being is associated with many resources valued by society, such as healthy behaviours, lower delinquent activity, higher incomes, superior mental health, a higher education, a long life, a better performance ratings at work (Lyubomirsky *et al.*, 2005:803; Mahadea & Rawat, 2008:276; Burton *et al.*, 2009:427; Dumitrescu *et al.*, 2010:15). Furthermore, evidence suggests that positive effect of well-being may be the cause of many of the desirable characteristics, resources, and success correlated with happiness (Lyubomirsky *et al.*, 2005:803).

The *happiness well-being and quality of life* is determined by using the questionnaire of Kammann and Flett (1983). This questionnaire, also called Affectometer two (2), is a scale which indicates the current level of general happiness. It consists of 20 questions, some indicating a positive outlook while others are associated with a negative mood, namely; *"my life is on the right track" vs "I feel like a failure".* The respondents are asked to evaluate the

prevalence of these moods in their life on an affectometer scale resembling the following categories; 1= never, 2= occasionally, 3 = sometimes, 4 = often, 5 = all the time. All the positive and negative responses are added and the index was calculated by the following equation (sum of positive values - sum of negative value=index). For the purpose of profiling in this study, participants are classified into three categories indicating, good (25–40), moderate (17–24), bad (0 – 16) according to SANGALA (2000) classifications.

2.6. BENEFITS OF REGULAR LEISURE-TIME PHYSICAL ACTIVITY PARTICIPATION

Regular leisure-time physical activity plays an important role in the promotion of physical health and well-being of an individual (Kush *et al.*, 1997; Van Dongen *et al.*, 2011) and also lowers the health risk profiles associated with sedentary behaviours (Physical Activity Guidelines Advisory Committee, 2008). In addition, regular leisure-time physical activity has also being reported to have positive effect on the prevention and rehabilitation of illnesses such as heart disease, hypertension, osteoporosis, cancer and diabetes (Drahelim *et al.*, 2002), hence mental health (Koningsveld *et al.*, 2003).

The National Association for Sport and Physical Education (2003) suggested that participation in leisure activities makes one to be fit, improves energy level, increases mental alertness, and reduces the level of stress and better time management. It has also been shown that participation in leisure activities contributes to positive health, absence of disease, enhance life satisfaction, and ability to improve the individual's capability to withstand stress (Stewart, 2004; Braith & Stewart, 2006), reduces premature mortality and morbidity (Buchsch, 2004:632; Ford *et al*., 2003: 432), enhances self-esteem, self-confidence and self-concept (Harthworth & Hewis, 2005:67; Barr-Anderson *et al.*, 2011:76), reduces depression (Lampinen *et al.*, 2000).

Leisure-time physical activity is related to work specific outcomes such as higher job satisfaction (Daley & Parfitt, 1996; Parks & Steelman, 2008; Van Dongen *et al.*, 2011), productivity at work (Briazgounov, 1988), fewer days off from work (Daley & Parfitt, 1996), enthusiasm at work (Thørgersen-Ntouman & Fox, 2005:50), and contributes to lower health care costs (Briazgounov, 1988).

Another study shows that physical activity entails many benefits including considerable impact on people's immune system (Vuori, 1998:97). Vuori (1998:97) also stated other health benefits people gain when they are physically active (see Table 3) as follows:

Table 2.3: The physical and psychological benefits of exercise

Function enhanced by regular physical activity	**Impact on health**
Cardiovascular function • Cardiac performance • Blood pressure regulation • Electrical stability of heart muscle	• Minimize the effect of age and chronic disease • Reduce blood pressure in mild hypertension • Reduces risk of cardiac arrhythmias
Skeletal muscle • Metabolic capacity • Nutrient blood supply • Muscle strength	• Decrease the effect of age and chronic disease on reserve capacity of exercise • Increases endurance and reduces fatigue • Reduce risk of injury
Tendons and connective tissue • Strength • Supportive function • Increase joint stability	• Reduce risk of injury especially with age • Reduces muscle disease
The skeleton • Maintenance of bone mass • Adjustment of structure to load	• Prevents osteoporosis and fractures
Joint • Lubrication • Range of movement • Maintenance	• Avoids limitation of movement • Limits effect of degeneration arthritis

Metabolic functions • Body weight control • Regulation of energy balance • Insulin sensitivity and carbohydrates tolerance • Inhibition of blood clotting process	• Prevent obesity and excessive weight • Improve carbohydrates tolerance • Prevents coronary heart disease • Counters acute precipitants of heart attack
Psychological function • Mood • Self-esteem • Psychomotor development • Memory • Stress reduction	• Reduces mild anxiety and depression • Influences mood favourable • Can improve memory in elderly people • Can ameliorate stress-related conditions

Adapted from Vuori (1998:97)

2.7. CONSEQUENCES OF LACK OF REGULAR LEISURE-TIME PHYSICAL ACTIVITY IN EXECUTIVE EMPLOYEES IN CORPORATE ENVIRONMENT

Physical activity is a factor that has a direct impact on person's well-being and health (Vuori, 1998). He further suggested that high and moderate levels of physical activity hold benefits for corporate employees because they undergo beneficial physiological and psychological benefits when they are physically active. Increase in sedentary lifestyle is associated with increased risk of physical disorders such as coronary heart disease, hypertension, colon cancer, obesity and stroke (Powel & Blair, 1994:851; Sharkey & Gaskill, 2007:15). Furthermore, employees who are sedentary contribute to higher medical care expenditure, presenteeism, and absenteeism (Edington & Burton, 2003:140).

Hence a concise discussion of some of the work-related consequences of lack of LTPA.

2.7.1 Presenteeism

Presenteeism refers to being at work but performing below standard and expectation because of illness or medical conditions (Cooper & Dewe, 2008, 8:522). The impact of presenteeism is associated with reduced work output, mistakes on the job and failure to meet company

standards (Schultz & Edington, 2007:547). A study which examined the financial burden of ten common health conditions, found that presenteeism costs were greater than direct heath costs, and that presenteeism accounted for 18-60% of all expenses for each of the ten conditions (Goetzel *et al.*, 2004:398).

2.7.2 Absenteeism

Absenteeism is defined by Van der Merwe and Miller (1998) as an unplanned, disruptive incident and can be seen as non-attendance when an employee is scheduled for work. Absenteeism is widely considered to be a growing problem, and does not only affect productivity due to lost workdays but has a financial implication for companies (Bennet, 2002:430; Ackland *et al.,* 2005). The author further stated that the estimated work days lost due to absenteeism amounted to about 192 million working days for the year 2000 in the United States. Ho (1997:181) stated that poor health and injury account for nearly 60% of all hours from work.

2.7.3 Medical expenditure

The relationship between health risk behaviours and health care costs are complex in nature as poor health behaviour result in increased medical utilisation (Musich *et al.,* 2000:5-15). According to Shephard (1992) factors such as aging, demographic, demand of high technology and improving quality of medical care as the cause of increasing health care costs. Kapp (2003:40) reports that 40% of employees represent more than 90% of all the costs that the organisation spend on health care, according to Pronk *et al.* (1999:2235) employees with cardiovascular disease cost companies 150% more than those without chronic disease risk profile.

2.8. CHAPTER SUMMARY

In this chapter some concepts regarding leisure-time physical activity, psychological factors such us stress, burnout were discussed.

In accordance with Chapter 2, leisure-time physical activity is an important avenue to attain quality of life, good health and well-being. Participation in LTPA was found to be beneficial by improving people's cognitive functioning, reducing depression and anxiety, and producing

good moods and improving self-esteem. Employees who regularly participate in LTPA turn to be more productive at work, miss fewer days from work, and contribute to lower health care costs. Lack of participation in LTPA is associated with physical disorders such as coronary heart disease, hypertension, obesity and stroke; this may also have an impact on the work environment, as employees who are not physically active contribute to higher medical costs. It was evident from the reviewed literature that few studies on LTPA on executive employees are available in Africa. As such, the related studies on LTPA were used in the discussion of the review of which such information was used in the research article in chapter 3.

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CHAPTER 3

Leisure-time physical activity and some psychological parameters among some executive employees in selected African countries

The manuscript is published in the African Journal for Physical, Health Education, Recreation and Dance (AJPHERD). Subsequently the referencing style used in this chapter will be in line with the journal guidelines.

Leisure-time physical activity and some psychological parameters among some executive employees in selected African countries

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Short title: Leisure-time physical activity and psychological parameters in executive employees

ABSTRACT

Participation in leisure-time physical activity (LTPA) is vital to ensure adequate physical work capacity for the demands of daily living and job performance. Due to work demand, most top and middle level (executive) managerial employees become physically inactive and experience psychological and other health problems which may lead to hypokinetic diseases and even premature death. The purpose of this study was twofold: to determine leisure-time physical activity and psychological well-being of executive employees; and to determine the relationship between leisure-time physical activity and psychological well-being of executive employees in selected African countries. A cross-sectional study design was carried out on a group of 156 (mean age; 41.22±10.17 years) available executive employees from selected African countries. Participants were grouped according to ages (≤35 years; 36–46 years and ≥ 45 years). Standardized questionnaires were used to collect the data. Subsequently, total scores were calculated for all variables. Out of 156 participants in the study, 42.9% occupied top level management and 57.1% middle level management positions. Age groups analysis indicated that, 31% and 68.6% in the less than 35 years age group were in the top and the middle levels management positions respectively. In the age group 36 to 46 years, 47% occupied the top level management position and 52.8% occupied the middle level management position. With regard to LTPA, top level managers (71.6%) scored low LTPA compared to the middle level managers (62.9%). In addition, both the top and middle level managers reported bad emotional (49.3%; 56.2%) and happiness indexes (41.8%; 37.1%) respectively. Though not significant, LTPA was positively associated with psychological well-being parameters amongst top level managers. The study concluded that both top and middle levels managers exhibited low LTPA, and with no participation in high physical activity among top level managers. In addition, more middle level managers reported bad emotional stage than the top level managers, while the top level managers were less happy than the middle level managers. It is recommended that urgent strategic intervention programmes for leisure-time physical activity and psychological wellness are needed to promote physical health and well-being of the executive employees.

Keywords: Leisure-time physical activity, stress, burnout, happiness, executive employees.

INTRODUCTION

Studies have revealed that regular leisure-time physical activity plays an important role in the promotion of physical health and well-being of an individual (Kush, Fee, Folsom, Mink, Anderson & Sellers, 1999), and also lowers the health risk profiles associated with sedentary behaviours (Physical Activity Guidelines Advisory Committee, 2008). In addition, regular leisure-time physical activity has also being reported to have positive effect on the prevention and rehabilitation of illness such as heart disease, hypertension, osteoporosis, cancer and diabetes (Draheim, Williams & Mccubbin, 2002), and mental health (Paluska & Schwenk 2000; Lawlor & Hopker, 2001; Koningsveld, Zwinkels, Mossik Thie & Abspoel, 2003).

Work-related stress is reported to be the second common work-related health problem, after back pain, affecting 28% of workers across all type of employment sectors in European Union countries (Factsheet, 2002). Job strain is defined as the combination of high psychological job demands and low decision latitude on the basis of the demand-control model (Karasek, 1979). Some studies have reported that high job demands (Johansson, Johnson & Hall, 1991; Payne, Jones & Harris, 2005) or low job control (Johansson et al., 1991) are associated with low or non-existent leisure-time physical activity (LTPA). It is reported that people who exercise less do have high probability of being depressed (Ross & Hayes, 1988; Kaplan, Lazarus, Cohen & Leu, 1991; Weyerer, 1992; Rajala, Uusimaki, Keinanen-Kiukaanniemi & Kivela, 1994). Due to work demand most top and middle (executive) managerial employees turn to be physically inactive (Martinez-Gonzalez et al., 2001; Haskell et al., 2007). The decline in physical activity varies significantly as some individuals maintain their physical activity level, while others are faced with limitations due to factors like workload, age, and health problems (Lahtil, Laaksonen, Lahel & Rahkonen, 2010). Regular leisure-time physical activity (LTPA) has been found to promote physical health and well-being of an individual (Blair, 1994; Kush et al., 1999; Rahl, 2010), and also lowers the risk profile and mortality rate (US Department of Health and Human Services, 1996; Glenister, 1996). In addition, regular physical activity has also been reported to have positive effect on the prevention and rehabilitation of illness such as heart disease, hypertension, osteoporosis, cancer and diabetes (Ehrman, Gordon, Visich & Keteyian, 2009). It has been revealed that employees who participate in physical activity, are assets to their companies which benefit a lot in aspects such as greater productivity, reduced chronic stress

responses (e.g., absenteeism, turnover) and greater job satisfaction (Opatz, 1994; Innstrand, Espnes & Mykletun, 2004; Kouvonen, Kivimaki, Elovainio, Virtanen, Linna & Vahtera, 2005; Tian & Wang, 2005; Van Rhenen, Blonk, Van der Klink, Van Dijk & Schaufeli, 2005).

LTPA plays a significant role in the management of chronic stress through the control of neuro-endocrine, autonomic, and behaviour responses to physical and psycho-social stress. Stress activates the hypothalamic-pituitary-adrenocotical (HPA) axis, which leads to the release of glucocorticoids into the general vasculature (Marquez, Nadal & Armario, 2002; Grissom, Kerr & Bhatnagar, 2007; Sharkey & Gaskill, 2007). As such, physically active people are found to have reduced reactivity to physical stressors as well as reduced susceptibility to the adverse influence of life stress (Tucker, Cole & Friedman, 1986). Participation in regular physical activity is therefore, associated with the lower reactivity of HPA to psychological stress (Sharkey & Gaskill, 2007). In a highly competitive nature of the corporate environment, organisations are becoming increasingly aware of the effect of stress on employee's health and productivity (Rothmann, Steyn & Mostert, 2004). Moreover, the South African Heart Association (2005) indicated that the increase of job strain may lead to a situation where the stress level of employees may reach uncontrollable limits, leading to negative effects on personnel and company level. In another finding in South Africa, it was stated that the emotional well-being of employees is also a matter of concern (Grace, Wilders & Strydom, 2009). In this regard, various studies indicated that regular participation in physical activity can be an effective strategy in coping with high stress levels (Aldana, Sutton, Jacobson & Quirk, 1996; Sharkey & Gaskill, 2007), and also facilitates the recovery process (Rudolph & McAuley, 1995).

It has been being theorized that those who had high job discretion engaged more frequently in sports activities during their leisure time, than those who had a low job discretion who engaged themselves more frequently in sedentary activities at home (for example TV watching) during their leisure time (Choi, Schnall, Yang, Dobson, Landsbergis, Israel, Karasek & Baker, 2010). In addition, those who had "low strain" jobs (a combination of low control and high demands) would have intermediate levels of the leisure activities or sports activities during leisure time (Choi et al., 2010). There is limited information available on the effect of leisure-time physical activity on stress, emotional well-being, happiness and quality of life in African countries like Kenya, Botswana and Nigeria, more especially on top and middle managerial employees. The studies which could be found in Western countries that

examined the impact of physical activity on physical health functioning among middle-aged employees were the one by Lahtil et al. (2010) and Wiljndaele Matton Duvigneaud, Lefevre, De Bourdeaudhuij, Duquet, Thomis and Philippaerts (2007). In a study by Wiljndaele et al. (2007) exercise was associated with high level of well-being in various facets of employees. In a study carried out in South Africa on employee wellness, indicated that a high number of employees are experiencing physical and psychological emotional health problems (Grace et al., 2009). However, there is still paucity in studies that investigated the effect of leisure-time physical activity on stress, emotional well-being, happiness and quality of life in executive employees of African countries on a wider scale. It has been suggested that planned health promotion aimed at behavioural change should be based on empirical knowledge about present behaviour, behavioural determinants and mechanisms of behaviour change (Green & Kreuter, 1991). Therefore, the leisure-time physical activity (LTPA) and selected psychological parameters in executive employees of some African countries need to be investigated. The purposes of this study therefore, were to determine leisure-time physical activity and psychological well-being, and to determine the relationship between leisure-time physical activity and psychological well-being of executive employees of selected African countries.

Methodology

Study design

This was a cross-sectional study design on an available sample from selected African countries. This study used the protocol of the South African National Games and Leisure Activities (SANGALA) (Dreyer & Strydom, 1994) which was initiated by the National Government, Department of Sport and Recreation of South Africa in 1995. The initiative was supported by the Heart Foundation of South Africa, International Institute for Health Promotion and the Africa Association for Health, Physical Education, Recreation, Sport and Dance (AFAHPER-SD). After the SANGALA study was completed in South Africa, it was expanded to involve more African countries in 2002 to 2006.

Participants

A total number of 156 participants were purposively recruited from the available population to participate in the study. The participants comprised the middle and top level employees

with age ranging from 35 years and above (mean age: 41.2±10.1 years). Participants were recruited from the following African countries namely: Botswana, Kenya and Nigeria. Nigeria is located on the Western part of Africa while Botswana represents Central Africa sub-region and Kenya, the East Africa Sub-region. Nigeria further represents the most populous Black Country in Africa; Botswana represents an emerging democracy and economy while Kenya represents a success story in sport. These features are bound to influence the lifestyles of the citizens of these countries.

Measuring instruments

The *physical activity questionnaire of Sharkey* (1997) was used to determine the leisure-time physical activity index (LTPAI) of the participants. The training principles namely frequency, duration and intensity were reported by each respondent retrospectively and these were used to determine the LTPAI. Respondents were then classified into low active (LTPAI ≤ 16), moderate active (LTPAI 17- 44) and high active group (LTPAI ≥45) (Swanepoel, 2001).
The *stress symptoms questionnaire* of Burns (1988) was used to determine the stress index of the participants. This questionnaire consists of 25 questions describing various stress symptoms namely, *"I have indigestion", "I sleep badly", "I have a headache".* The participants indicated the prevalence of the symptoms in their life by selecting answers ranging from 2 = often, 1 = A few times a month and 0 = Rarely. The weighing of the various symptoms was then added to form the stress index. For the purpose of profiling in this study participants were classified into three categories indicating; good (0 – 14), moderate (15 – 25), and bad index (≥ 26) (SANGALA, 2000).

The *emotional well-being index (burnout) questionnaire* of Pines, Aronson and Kafry (1981) was used to determine the emotional well-being index (EWBI). This questionnaire consists of 21 questions from which four (4) reflect a positive approach (A), and the rest (17) a negative approach (B). Symptoms of the negative approaches are *"feeling depressed", "being emotional exhausted"*, while positive feelings are described typically by the following: *"being happy", "feeling optimistic".* The participants were asked to describe the prevalence of the symptoms in their lives as: 1 =Never, 2 = once, 3 = Rarely, 4 = Sometimes, 5 = Often, 6 = Usually, 7 = Always. The totals of positive (A) and negative (B) responses were added and the index was calculated by using the equation: 32-B=C+A=D/21=EWBI. For the purpose of profiling in this study participants were classified into three categories indicating, good (1.0 – 3.0), moderate (3.1 – 4.0), bad (4.1 – 5.0) (SANGALA, 2000).

The *happiness well-being and quality of life* was determined by using the questionnaire of Kamman and Flett (1983). This questionnaire also called Affectometer two (2), is a scale which indicates the current level of general happiness. It consist of 20 questions, some indicating a positive outlook while others are associated with a negative mood, namely *"my life is on the right track" vs "I feel like a failure".* The respondents were asked to evaluate the prevalence of these moods in their life on an affectometer scale resembling the following categories, 1= Never, 2= Occasionally, 3 = Sometimes, 4 = Often, 5 = All the time. All the positive and negative responses were added and the index was calculated by the following equation (sum of positive values - sum ofnegative value=index). For the purpose of profiling in this study participants were classified into three categories indicating, good (25 – 40), moderate (17 – 24), bad (0 – 16) (SANGALA, 2000).

Procedure

The African Association for Health, Physical Education, Recreation, Sport and Dance (AFAHPER-SD) regional structure was used to distribute the questionnaires in each of the selected countries. After negotiating with the President of AAHPERD-SD, contact persons were identified in the selected countries and the questionnaires were posted to them. Follow-up letters were sent to the contacts in order to motivate them for the purpose of data collection. They received detailed instructions on administration and data handling.

Statistical analysis

The SPSS version 21.0 (SPSS, inc., Chicago) was used for data analysis. Descriptive statistics (i.e. frequencies, percentages) were applied to the data to determine the leisure-time physical activity and psychological profile of the participants for both top level managers and middle level managers. Correlations coefficients (*r*) were calculated from continuous variables to determine the relationship between the participants' leisure-time physical activity- (LTPA) and some psychological parameters among some executive employees. Statistical significant levels were set at $p \leq 0.05$.

RESULTS

Out of 156 participants in the study, 42.9% occupied top level management positions and 57.1% occupied middle level management positions. When data were analyzed according to

age groups, 31% and 68.6% in the less than 35 years age group were in the top and the middle level management positions, respectively. In the age group 36 to 46 years, 47% occupied the top level management positions while 52.8% occupied the middle level management positions. For the age group older than 46 years, the percentage was 50% each for both top and middle level management positions.

Table 1 presents LTPA profile of top and middle level executive management levels by age categories. Eighteen (71.6%) top level managers and 56 (62.9%) middle level managers reported low activity level (LTPA ≤ 16). Seventeen (25.4%) top level managers and 24 (27.0%) middle level managers were found to be moderately active (LTPA 17-44) while two (3.0%) and nine (10.1%) top level and middle level managers respectively were classified as highly active (LTPA ≥45).

Table 1: Leisure-time physical activity profile of the top and middle level management employees in selected African countries

	Top level Managers		**Middle level Managers**	
	n	**%**	**n**	**%**
Low active (LTPA ≤ 16)	48	71.6	56	62.9
Moderately active (LTPA between 17-44)	17	25.4	24	27.0
Highly active (LTPA ≥45)	2	3.0	9	10.1
Total	67	100.0	89	100.0

Table 2 shows the results of the LTPA of the executive employees by age groups. Fourteen (87.5%) top, twenty four (68.6%) less than 35 years old; seventeen (68.0%) top, fifteen (53.6%) middle level managers age group 36-45 years old and seventeen (65.4%) top and middle level managers age older than 45 years respectively, reported low activity (LTPA ≤16). One (6.3%) top, six (17.1%) less than 35 years old; seven (28.0%) top, eleven (39.3%) middle level managers age group 36-45 years old, and nine (34.6%) top and seven (26.9%) middle level managers age older than 45 years respectively, reported low moderate activity (LTPA 17-44). One (6.3%) top, five (14.3%) less than 35 years old; one (4.0%) top, two (7.1%) middle level managers age group 36-45 years old, and none (0%) top and two (7.79%) middle level managers age older than 45 years respectively, were highly active (LTPA≥45).

Table 2: Leisure–time physical activity index in the top and middle level managers by age groups

	Top level managers						Middle level managers					
	≤35 years		36-45 years		≥46 years		≤35 years		36-45 years		≥46 years	
	n	%	n	%	n	%	n	%	n	%	n	%
Low active (LTPA≤16)	14	87.5	17	68.0	17	65.4	24	68.6	15	53.6	17	65.4
Moderately active (LTPA between 17-44)	1	6.3	7	28.0	9	34.6	6	17.1	11	39.3	7	26.9
Highly active (LTPA≥45)	1	6.3	1	4.0	-	-	5	14.3	2	7.1	2	7.7
Total	16	100	25	100	26	100	35	100	28	100	26	100

Table 3 shows the stress index of the top and middle level managers. Forty eight (71.6%) top level managers and sixty five (73.0%) middle managers reported good stress index. Thirty five (19.4%) top and twenty (24.7%) middle managers reported fair stress index, while eight (9.0%) top and two (2.2.%) middle managers showed bad stress index.

Table 3: Stress index profile reported of top and middle level management employees in selected African countries

		Top level managers		Middle level managers	
	Total group	**n**	**%**	**N**	**%**
Good	113	48	71.6	65	73.0
Fair	35	13	19.4	22	24.7
Bad	8	6	9.0	2	2.2
Total	156	67	100.0	89	100.0

Thirty three (49.3%) top level managers and fifty (56.2%) middle level managers reported bad emotional index. Furthermore, the results show that twenty seven (40.3%) top level managers and twenty six (29.2%) middle level managers reported fair emotional index (Table 4).

Table 4: Emotional index profile reported by the top and middle level management employees in selected African countries

		Top level managers		Middle level managers	
	Total group	**n**	**%**	**N**	**%**
Bad	83	33	49.3	50	56.2
Fair	53	27	40.3	26	29.2
Good	20	7	10.4	13	14.6
Total	156	67	100.0	89	100.0

Concerning the happiness index (Table 5), twenty eight (41.8%) top level managers and thirty (37.1%) middle level managers reported poor happiness index. Fair happiness index was reported more among the middle level managers 39.3% (35) than top level managers 25.4% (17), respectively.

Table 5: Happiness index profile reported by the top and middle level management employees in selected African countries

		Top level managers		Middle level managers	
	Total	**N**	**%**	**N**	**%**
Poor	61	28	41.8	33	37.1
Fair	52	17	25.4	35	39.3
Good	43	22	32.8	21	23.6
Total	156	67	100.0	89	100.0

Table 6 displays the stress index profile of top and middle level managers stratified by age groups. Top level managers in the age groups ≤35 (4) and 36-45 (5) years reported fair stress index in 25.0% and 20.0%, respectively. Fair stress index of 20.0% (7)(≤35 years), 21.4% (6)(36-45 years) and 34.6% (9)(≥46 years), respectively were reported by middle level managers. Bad stress index was reported more (12.5%; ≤35 years and 8.0%; 36-45 years) among top level managers than the middle level managers (Table 6).

Table 6: Stress index profile of top and middle level managers by age groups

	Top level managers						**Middle level managers**					
	≤35 years		**36-45 years**		**≥46 years**		**≤35 years**		**36-45 years**		**≥46 years**	
	n	**%**	**n**	**%**	**n**	**%**	**N**	**%**	**N**	**%**	**n**	**%**
Good	10	62.5	18	72.0	20	76.9	27	77.1	21	75.0	17	65.4
Fair	4	25.0	5	20.0	4	15.4	7	20.0	6	21.4	9	34.6
Bad	2	12.5	2	8.0	2	7.7	1	2.9	1	3.6		
Total	16	100	25	100	26	100	35	100	28	100	26	100

The emotional index profile of top and middle level managers according to age groups are presented in Table 7. Top level managers in the age groups of ≤35 years and 36-45 years reported a bad emotional index in 62.5% (10) and 60.0% (15) of the cases, respectively. Bad emotional index was indicated in 65.7% (23), and 42.3% (11), in the participants among middle level managers in the age groups of ≤35 and ≥ 46 years, respectively. Fair emotional index was reported in 31.3% (5) and 32.0% (8) of the individuals in the age groups of <35 and 36-45 years, for top level managers respectively.

Middle level managers in the age categories of ≤35 years and ≥46 years showed a fair emotional index in 28.6% (10) and 38.5% (10) of the cases, respectively (Table 6).

Table 7: Emotional index profile of top and middle level managers by age groups

	Top level managers						**Middle level managers**					
	≤35 years		**36-45 years**		**≥46 years**		**≤35 years**		**36-45 years**		**≥46 years**	
	n	**%**	**N**	**%**	**n**	**%**	**n**	**%**	**N**	**%**	**n**	**%**
Bad	10	62.5	15	60.0	8	30.8	23	65.7	16	57.1	11	42.3
Fair	5	31.3	8	32.0	14	53.8	10	28.6	6	21.4	10	38.5
Good	1	6.3	2	8.0	4	15.4	2	5.7	6	21.4	5	19.2
Total	16	100	25	100	26	100.0	35	100	28	100.0	26	100

Fair happiness index was reported in 31.3% (5)(≤35 years), 36.0% (9)(36-45 years) and 11.5% (≥46 years) of the cases among top level managers, respectively (Table 8). Among the middle level managers a fair happiness index was indicated by 31.4% (11)(≤35 years), 46.4% (13)(36-45 years) and in 42.3% (11)(≥46 years), of the participants in the various age groups.

Table 8: Happiness index profile of top and middle level managers by age groups

	Top level managers						**Middle level managers**					
	≤35 years		**36-45 years**		**≥46 years**		**≤35 years**		**36-45 years**		**≥46 years**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**N**	**%**
Poor	8	50.0	9	36.0	11	42.3	15	42.9	10	35.7	8	30.8
Fair	5	31.3	9	36.0	3	11.5	11	31.4	13	46.4	11	42.3
Good	3	18.8	7	28.0	12	46.2	9	25.7	5	17.9	7	26.9
Total	16	100	25	100	26	100	35	100	28	100	26	100

Table 9: Correlation coefficients (*r*) for LTPA and selected psychological variables for the total groups

Psychological variables	**LTPA (n=156)**	
	r	**p-value**
Stress index	-0.07	0.37
Emotional index	-0.03	0.69
Happiness index	-0.11	0.18

=p≤0.05

The results show non-significant negative relationships between LTPA and selected psychological variables for the total group (Table 9), and for top and middle level managers. When data was analysed separately for top and middle level managers non-significant positive association was found between selected psychological variables with LTPA in top level managers (Table 10).

Table 10: Correlation coefficients (*r*) for LTPA and selected psychological variables for the top and middle level managers

	Top level managers		**Middle level managers**	
	PA		**PA**	
	r	p-value	*R*	p-value
Stress index	0.01	0.92	-0.12	0.28
Emotional index	0.05	0.67	-0.11	0.30
Happiness index	0.02	0.85	-0.05	0.62

$p \leq 0.05$

DISCUSSION

The results of this study indicated low level of leisure-time physical activity amongst top executive employees (71.6%) and middle employees (62.9%), with few (3%) top level managers and nine (10.1%) middle level managers in the high physical activity category. Furthermore, the results show non-significant positive association between LTPA and psychological components of stress, emotional and happiness indexes amongst the top level managers. This condition can possibly lead to hypokinetic disease which can negatively impact on their performance and productivity (Labuschagne, Strydom & Wilders, 2007). Despite the different methods used to assess LTPA participation, the LTPA level that was found in both groups of employees was in line with the results of the study by Hendriksen, Simons, Garre and Hildebrandt (2010), who reported that a large proportion of employees are not physically active. This was also supported by Bourne, Lambert and Steyn (2002) who found that in the Western Cape Province of South Africa, 30-40% of men and women are inactive or minimally active. According to the Centers for Disease Control (2005), employees who have a low physical activity level are prone to suffer from coronary heart diseases, diabetes, certain cancers, and hypertension amongst other health problems. The findings of this study also indicate that both top (49.3%) and middle (56.2%) level managers reported bad emotional indexes. This is in line with the study done by Karasek and Theorell (1990) who reported that when an individual is in a work situation characterized by high demands, low control, and low social support, they tend to have bad emotional symptoms. According to

Edington and Burton (2003), lack of emotional well-being can cause decrease in productivity, loss of confidence and enthusiasm, and behaviour changes. Worrall and Cooper(2006) reported that a low level of well-being at work is estimated to cost about 5-10% of Gross National Product (GNP) per annum. Poor health status of employees is linked to higher direct health care cost, lower work output (e.g. presenteeism), higher rates of disability, higher absenteeism and higher work compensation. It is further reported by Glenister (1996) that people who are physically active have a better emotional health than those who are sedentary. The results of the present study show that top level managers reported poor level of quality of life. Low level of happiness was more prevalent in employees who are less than 35 years of age than in age group of 36-45 years and ≥46 years. These results are also supported by Susniene and Jurkauskas (2009) who found that 33% of employees are unhappy at their work places. Branham (2005) reported that happiness in the workplace leads to higher levels of productivity as well as increase employee's morale, and of which unhappiness is associated with poor productivity in work environment.

The research study by Cooper-Patrick, Ford, Mead, Chang, and Klag (1997) reported no significant association between physical activity and lower clinical depression and psychological distress in midlife. As such, similar findings of non-significant relationships between LTPA and selected psychological variables amongst the studied sample in the present study were observed. Furthermore, a research finding from a large cross-sectional study of Finish public sector employees reported weak association between high job strain and low level of LTPA (Kouvonen et al., 2005). The major limitation in this study has been that the sample size was small which might be associated with the non-significant association found between LTPA and psychological parameters in the study. Therefore it does not permit generalization of the results in the selected countries. In addition, the cross-sectional nature of the study might one way or the other have affected the non-significant association found between LTPA and psychological parameters the present results and as such a follow-up study is required. Generalisation to the African continent is limited due to the fact that fewer countries were studies.

Conclusion

It can be concluded that both top and middle levels managers exhibited low levels of LTPA. It was also clear that the managers in the older age brackets were less active and experienced more psychological problems than those in the young age group. The top level managers

showed low level of physical activity, which may have contributed the tendency to experience more psychological constraints. Thus, it is recommended that strategic intervention programmes geared toward improving health and well-being among the managers in the corporate environment be developed.

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CHAPTER 4: SUMMARY, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

4.1 Summary

According to literature much of advanced technologies such as computers and television viewing have reduced the level of participation in physical activity. Increase in sedentary lifestyle such as long walking hours increases the risk for physical disorders such as coronary heart disease, hypertension, colon cancer, obesity, and stroke (Powel & Blair 1994:851; Warbuton *et al.,* 2006:801; WHO, 2011), and can also result in psychological disorders such as stress and burnout. Significant benefits have been highlighted in the literature regarding participation in LTPA, inter alia to affect mental health by improving the cognitive functioning, reducing depression and anxiety and producing good moods and improving self-esteem and self-concept (Slack, 2006:1647). Lack of participation in physical activity is mostly affected by factors such as lack of time, poor health and lack of motivation, age, gender and socio-economic situation (Trost *et al.,* 2002:350), whereas some workers also claimed working hours as another reason (Owen & Bauman, 1992:305; Payne, *et al.,* 2002:342).

Limited literature on African countries indicated the need for such a study. The purpose of the study was twofold: to compile a profile of LTPA, stress, emotional well-being, happiness and quality of life of some executive employees from selected African countries, and to

determine the relationship between leisure–time physical activity (LTPA) and psychological well-being in executive employees of selected African countries.

A sample included of 156 top and middle executive employees with a mean age of 41.22±10.17 years, participated in this study, and were divided into three age groups namely; ≤35, 36-45 and ≥46 years. The instruments used for collection of data are questionnaires. The results showed that both top and middle management have a low level of physical activity. The majority of the executives also reported high levels of stress and burnout, together with poor happiness and quality of life.

4.2 Conclusion

From the discussion it is clear that employees are not sufficiently physically active, and have psychological complaints such as low general feelings of well-being and burnout. Employees who engage in leisure-time physical activity such as walking, wood chopping, heavy gardening can have a better physical health functioning than those who are physically inactive (Bouchard *et al*., 2006:3). The objective of the study was to compile a profile of leisure-time physical activity and psychological well-being in some executive employees of some African countries, and to determine the relationship between leisure–time physical activity (LTPA) and psychological well-being in executive employees of selected African countries.

The results of this study are in line with hypothesis 1, viz. employees have a low level of leisure-time physical activity, poor psychological well-being in terms of emotional well-being, happiness and quality of life therefore reflecting high levels of unhealthy condition. Hypothesis 1, can therefore be accepted.

Regarding hypothesis 2 viz. that a significant relationship between high level of LTPA and stress, emotional well-being, happiness and quality of life will be observed in top and middle level employees of selected Africa countries, the results indicated non-significant relationship between high level of LTPA and stress, emotional well-being, happiness and quality of life. Hypothesis 2, is therefore rejected.

4.3. Limitations

The limitations encountered during the course of this study are:

1. Limited literature on leisure-time physical activity and psychological variables of emotional well-being (burnout), happiness and quality of life among executive employees in both African and international countries may have affected the discussions and interpretation of the findings in this dissertation.
2. The cross-sectional design and the sample size of the study may affect the present findings.
3. The use of a self-reported questionnaire may lead to participants either underestimating or overestimating their true LPTA and psychological parameters.
4. The use of convenient sampling rather than random sampling affects generalisation of findings to the whole African continent.

4.4 Recommendations

The finding of this study recommends the need of health promotion programmes such as exercise and stress management, in order to increase employees' psychological well-being, productivity, and decrease health care costs. The literature also indicated the need of employees to participate in leisure-time physical activity.

The study further recommends future research to be conducted, focusing on:

1. The effect of leisure-time physical activity on emotional well-being, happiness and quality of life among executive employees of other African countries.

2. Longitudinal studies and intervention studies on the relationship between leisure-time physical activity, and psychological parameters on top and middle level executive employees, are urgently required.

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APPENDICES

APPENDIX A: GUIDELINES FOR AUTHORS

The African Journal for Physical, Health Education, Recreation and Dance (AJPHERD) is a peer-reviewed journal established to:

i) Provide a forum for physical educators, health educators, specialists in human movement studies and dance, as well as other sport-related professionals in Africa, the opportunity to report their research findings based on African settings and experiences, and also to exchange ideas among themselves,

ii) Afford the professionals and other interested individuals in these disciplines the opportunity to learn more about the practice of the disciplines in different parts of the continent,

iii) Create awareness in the rest of the world about the professional practice in the disciplines in Africa.

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Manuscripts are considered for publication in AJPHERD based on the understanding that they have not been published or submitted for publication in any other journal. In submitting papers for publication, corresponding authors should make such declarations. Where part of a paper has been published or presented at congresses, seminars or symposia, reference to that publication should be made in the acknowledgement section of the manuscript.

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PREPARATION OF MANUSCRIPT

Manuscripts should be type written in fluent English (using 12-point Times New Roman font and 1½ line-spacing) on one side of whiteA4-sized paper justified fully with 3cm margin on all sides. *Guidelines for Authors* 317

In preparing manuscripts, MS-Word, Office 98 or Office 2000 for Windows should be used. Length of manuscripts should not normally exceed 12 printed pages (including tables, figures, references, etc.). For articles exceeding 10 typed pages US$ 10.0 is charged per every extra page. Longer manuscripts may be accepted for publication

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Title page:

The title page of the manuscript should contain the following information:

Concise and informative title.

Author(s') name(s) with first and middle initials. Authors' highest qualifications and main area of research specialisation should be provided.

Author(s') institutional addresses, including telephone and fax numbers.

Corresponding author's contact details, including e-mail address.

A short running title of not more than 6 words.

Abstract

An abstract of 200-250 words is required with up to a maximum of 5 words provided below the abstract. Abstract must be typed on a separate page using single line spacing, with the purpose of the study, methods, major results and conclusions concisely presented. Abbreviations should either be defined or excluded.

Text

Text should carry the following designated headings: Introduction, materials and methods, results, discussion, acknowledgement, references and appendices (if appropriate).

Introduction

The introduction should start on a new page and in addition to comprehensively giving the background of the study should clearly state the problem and purpose of the study. Authors should cite relevant references to support the basis of the study. A concise but informative and critical literature review is required.

Materials and Methods

This section should provide sufficient and relevant information regarding study participants, instrumentation, research design, validity and reliability estimates, data collection procedures, statistical methods and data analysis techniques used. Qualitative research techniques are also acceptable.

Results

Findings should be presented precisely and clearly. Tables and figures must be presented separately or at the end of the manuscript and their appropriate locations in the text indicated. The results section should not contain materials that are appropriate for presentation under the discussion section. Formulas, units and quantities should be expressed in the *systeme* 318 *Guidelines for Authors*

internationale (SI) units. Colour printing of figures and tables is expensive and could be done upon request authors' expense.

Discussion

The discussion section should reflect only important aspects of the study and its major conclusions. Information presented in the results section should not be repeated under the discussion. Relevant references should be cited in order to justify the findings of the study. Overall, the discussion should be critical and tactfully written.

References

The American Psychological Association (APA) format should be used for referencing. Only references cited in the text should be alphabetically listed in the reference section at the end of the article. References should not be numbered either in the text or in the reference list.

Authors are advised to consider the following examples in referencing:

Examples of citations in body of the text:-

For one or two authors; Kruger (2003) and Travill and Lloyd (1998). These references should be cited as follows when indicated at the end of a statement: (Kruger, 2003); (Travill & Lloyd, 1998).

For three or more authors cited for the first time in the text; Monyeki, Brits, Mantsena and Toriola (2002) or when cited at the end of a statement as in the preceding example; (Monyeki, Brits, Mantsena & Toriola, 2002). For subsequent citations of the same reference it suffices to cite this particular reference as: Monyeki et al. (2002).

Multiple references when cited in the body of the text should be listed chronologically in ascending order, i.e. starting with the oldest reference. These should be separated with semi colons. For example, (Tom, 1982; McDaniels & Jooste, 1990; van Heerden, 2001; de Ridder at al., 2003).

Reference List

In compiling the reference list at the end of the text the following examples for journal references, chapter from a book, book publication and electronic citations should be considered:

Examples of one journal references:

Journal references should include the surname and initials of the author(s), year of publication, title of paper, name of the journal in which the paper has been published, volume and number of journal issue and page numbers.

For one author: McDonald, A.K. (1999). Youth sports in Africa: A review of programmes in selected countries. *International Journal of Youth Sports*, 1(4), 102-117.

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Examples of book references: *Guidelines for Authors* 319

Book references should specify the surname and initials of the author(s), year of publication of the book, title, edition, page numbers written in brackets, city where book was published and name of publishers. Chapter references should include the name(s) of the editor(s) and other specific information provided in the third example below:

For authored references: Amusa, L.O. & Toriola, A.L. (2003). *Foundations of Sport Science* (1st ed.) (pp. 39-45). Mokopane, South Africa: Dynasty Printers.

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For chapter references in a book: Adams, L.L. & Neveling, I.A. (2004). Body fat characteristics of sumo wrestlers. In J.K. Manny and F.O. Boyd (Eds.), *Advances in Kinanthropometry* (pp. 21-29). Johannesburg, South Africa: The Publishers Company Ltd.

Example of electronic references:

Electronic sources should be easily accessible. Details of Internet website links should also be provided fully. Consider the following example:

Wilson, G.A. (1997). Does sport sponsorship have a direct effect on product sales? *The Cyber-Journal of Sport Marketing (online*), October, 1(4), at http://www.cad.gu.au/cjsm/wilson.html. February 1997.

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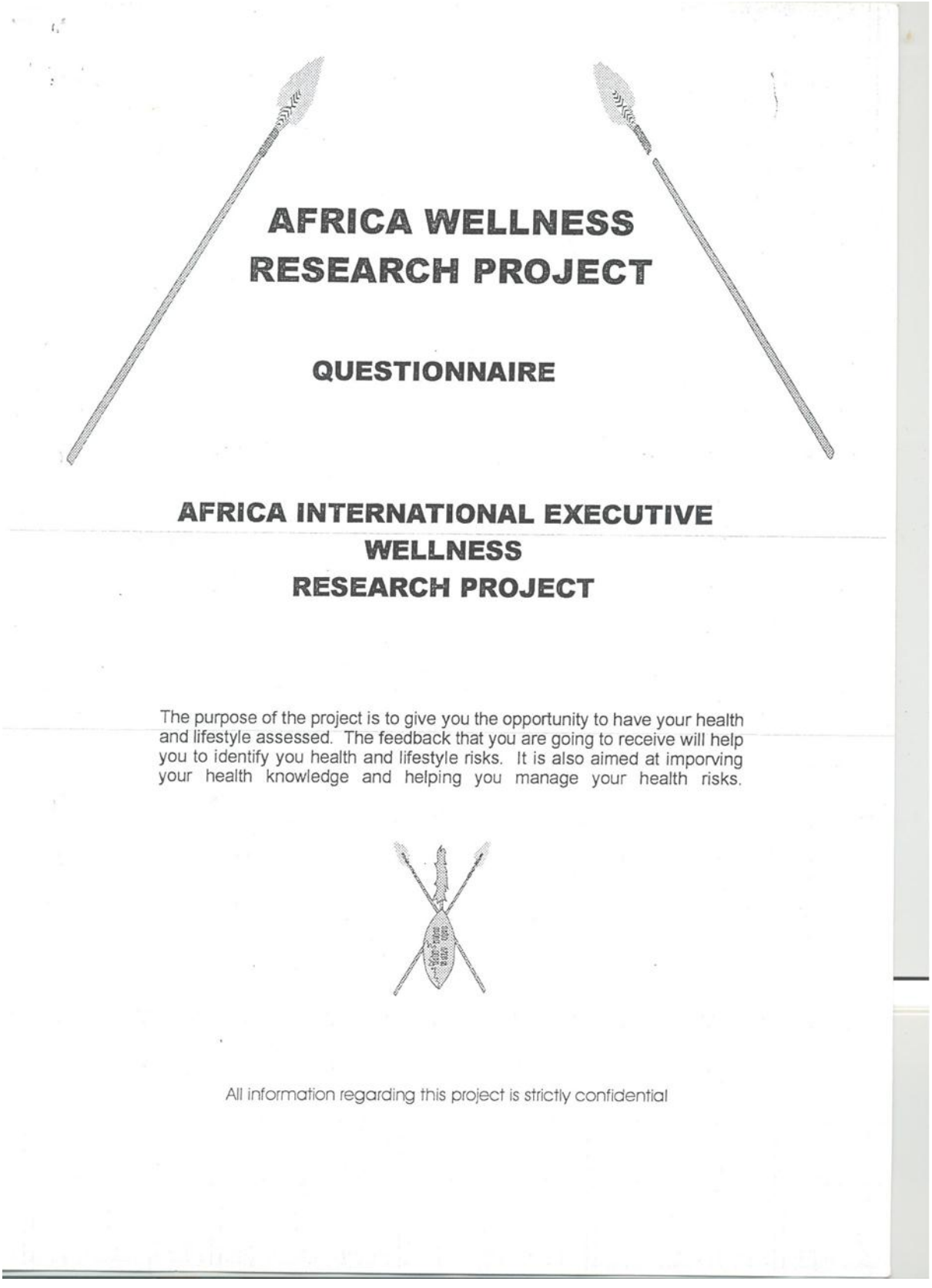
Appendix B: Data forms



AFRICA WELLNESS
RESEARCH PROJECT

QUESTIONNAIRE

AFRICA INTERNATIONAL EXECUTIVE
WELLNESS
RESEARCH PROJECT

The purpose of the project is to give you the opportunity to have your health and lifestyle assessed. The feedback that you are going to receive will help you to identify you health and lifestyle risks. It is also aimed at imporving your health knowledge and helping you manage your health risks.

All information regarding this project is strictly confidential

1. Demographic information

1.1 Surname: _____ Initials: _____

Gender: Male [2] Female [1] [ ]
Mark appropriate box with ✓

1.2 What was your age at your last birthday? (Full years) [ ]

1.3 Name of your company:

1.4 Your residential address:

1.5 What is your current job description?

Management level: Top level [1] Middle level [2] [ ]

Race / Ethnic group*: [ ]

Religious group*: [ ]

* For the purpose of this study, this information is needed to determine the origin of certain dietry and lifestyle practices/patterns.

Mark the appropriate box with a ✓

1.6 What is your company's primary field of activity? ☐

Civil service	1
Motor industry	2
Steel and engineering	3
Finance	4
Academic	5
Building industry	6
Mining	7
Electricity	8
Other: ***Please indicate***	9

1.7 How long have you been in your current position? ☐

< 6 months	1
6 – 12 months	2
1 – 2 years	3
2 – 5 years	4
5 – 10 years	5
> 10 years	6

1.8 In your opinion, are you sufficiently educated/trained to do your current job efficiently? ☐

Not at all	1
To a certain extent	2
Definitely	3

c1.9 What is your highest academic qualifications? ☐

Grade 11	1
Grade 12	2
Diploma (1 year study)	3
Diploma (2 year study)	4
Diploma (3 year study)	5
Diploma (> 3 year study)	6
Degree (3 year study)	7
Post-graduate degree (Hons., M.A., M.Sc., etc.)	8
3 year and diploma	9
Other	10

1.10 What is your nationality? ☐

Mark the appropriate box with a ✓

2. Physical activity index

2.1 Do you participate in sport or any other kind of physical activity or physical recreation on a regular basis? ☐

Yes* 1 No 2

* **If yes,** please complete the table below. Please indicate how tired you get from participating **(intensity)**, for how long you participate **(duration)** and how many times you participate per week **(frequency)**.

Example:

Walking		✓					✓						✓		

Summer															
Activity	**Intensity**					**Duration**				**Frequency**					
	1 = Not tired	**2** = Slightly tired	**3** = Tired	**4** = Very tired	**5** = Exhausted	**1** = < 10 min	**2** = 10 - 19 min	**3** = 20 - 30 min	**4** = > 30 min	**1** = 1 x month	**2** = few times/month	**3** = 1 - 2 x week	**4** = 3 - 5 x week	**5** = Almost daily	
	1	2	3	4	5	1	2	3	4	1	2	3	4	5	
Winter															

Mark the appropriate box with a ✓

3. Lifestyle

3.1 Daily habits

For each of the following statements mark the choice (Yes or No) that indicates your habits.

	Yes	No	
1. Do you eat 3 meals a day at regular times with no in-between snacking?	1	0	
2. Do you eat breakfast every day?	1	0	
3. Do you participate in moderate exercise two or three times a week?	1	0	
4. Do you get adequate sleep (7 – 8 hours a night)?	1	0	
5. Are you a non-smoker*?	1	0	
6. Have you been able to maintain your body weight at a moderate level during the last 10 years?	1	0	
7. Do you consume little or no alcohol?	1	0	

* For the purpose of this study, ex-smokers who have stopped smoking for more than 1 year qualify as non-smokers.

3.2 Nutritional evaluation

3.2.1 Eating behaviour pattern

Indicate if the following is a reflection of your eating behaviour (Sometimes or Never).

	1 = Sometimes	2 = Never
1. Have you ever been on a weight reduction diet?		
2. When watching TV, do you usually snack on different snack foods?		
3. Do you tend to eat when you are bored?		
4. Is your appetite usually reduced when you are emotionally upset?		
5. Have you ever used appetite suppressants to help you control your weight?		
6. Do you usually have cravings for starchy or sugary foods?		
7. Do you tend to eat less when under stress?		
8. Do you usually choose rich or creamy foods?		
9. Do you tend to eat more when emotionally upset?		
10. Do you usually wake up at night for something to eat?		

Mark the appropriate box with a ✓

3.2.2 Weekly food intake

Indicate how often you eat the following foods:

	< 1 per week	1 - 3 per week	> 3 per week
	1	2	3
1. Dark green and leafy vegetables, e.g. spinach, green beans, peas, etc.			
2. Dark yellow and orange vegetables and fruit, e.g. pumpkin, carrots and paw paw.			
3. Citrus fruits, e.g. orange, grapefruit, lemon, etc.			
4. Eggs			
5. Red meat, e.g. beef, pork, mutton, veal, etc.			
6. Fish or chicken			
7. Broccoli, cabbage, brussels sprouts, cauliflower			
8. Dairy products like cheese, milk and yoghurt			
9. Legumes, lentils, dried beans and baked beans			
10. Snack foods, e.g. chips, nuts, biltong, pies, etc.			
11. Sweets, chocolates, cakes, sweetened cooldrinks, sweet biscuits			

Mark the appropriate box with a ✓

4. Illness and coronary risk profile

4.1 Risk factors for coronary heart disease

Complete the table below by marking the appropriate space. Read from left to right.

Age	10 – 20 years	1	21 – 30 years	2	31 – 40 years	3	41 – 50 years	4	51 – 60 years	6	61+ years	8	
Hereditary*: Parents and family	No family history of CVD	1	1 with CVD over 60 yrs	2	2 with CVD over 60 yrs	3	1 death from CVD under 60 yrs	4	2 deaths from CVD under 60 yrs	6	3 deaths from CVD under 60 yrs	7	
Weight	5 kg under standard weight	0	Standard weight	1	5 – 10 kg overweight	2	11 – 15 kg overweight	3	16 – 20 kg overweight	5	21+ kg overweight	7	
Smoking	No smoking	0	Occasional cigar/pipe	1	< 10 cigarettes per day	2	11 – 20 cigarettes per day	4	21 – 30 cigarettes per day	6	> 30 cigarettes per day	10	
Exercise	Intensive occupational and recreational exercise	0	Moderate occupational and recreational exercise	1	Sedentary occupational and intensive recreation	2	Sedentary occupation and moderate recreation	4	Sedentary occupation and light recreation	6	Sedentary occupation and no exercise or recreation	8	
Cholesterol	< 5.2 mmol.ℓ^{-1}	1	Don't know	2	5.2 – 6.0 mmol.ℓ^{-1}	3	6.1 – 6.6 mmol.ℓ^{-1}	4	6.7 – 7.3 mmol.ℓ^{-1}	5	7.4+ mmol.ℓ^{-1}	7	
Systolic bloodpressure	111 – 130 mm Hg.	0	131 – 140 mm Hg.	1	Don't know	2	141 – 160 mm Hg.	3	161 – 180 mm Hg.	5	> 180 mm Hg.	7	
Diastolic bloodpressure	80 – 85 mm Hg.	0	86 – 90 mm Hg.	1	Don't know	2	91 – 95 mm Hg.	4	96 – 100 mm Hg.	7	> 101 mm Hg.	9	
Gender	Female	1	Female over 45 yrs	2	Male	4	Bald male	5	Bald, short male	6	Bald, short, stocky male	7	
Stress	No stress	1	Occasional mild stress	2	Frequent mild stress	3	Frequent moderate stress	4	Frequent high stress	5	Constant high stress	7	
Present CVD* symptoms	None	0	Occasional tachycardia** and/or irregular rhythm	2	Frequent tachycardia** and /or irregular rhythm	4	Dyspnea on exertion***	6	Occasional angina***	8	Frequent angina****	10	
Past personal history of CVD*	Completely benign	0	CVD symptoms not medically confirmed	2	History of CVD symptoms, examined by doctor	4	Mild CVD, no present symptoms	6	CVD under symptoms	8	Hospitalised for CVD	10	
Diabetes	No family history	0	Positive family history	1	Diagnosed pre-diabetic	3	Diabetes: dietary control	5	Diabetes: oral control	7	Diabetes: insulin control	9	
Gout	No family history	0	Family history	1	Elevated uric acid. No symptoms.	2	New onset gout: early detected	3	Repeated chromic gouty attacks	5	Gout with renal and ostea complications	8	

* CVD = Cardiovascular disease (example: heart disease, heart attack, bypass, etc.)
** Tachycardia = Fast heartbeat (e.g. seen in normal persons after climbing stairs)
*** Dyspnea = Difficulty in breathing ("out of breath").
**** Agina = Pain in the chest

Circle the number/s

4.2 Illness rating scale

Circle the number indicating all the illnesses that you have experienced during the last year.

1. Dandruff
2. Warts
3. Cold sore, cancer sore
4. Corns
5. Hiccups
6. Bad breath
7. Sty
8. Common cold
9. Farsightedness
10. Nosebleed
11. Sore throat
12. Nearsightedness
13. Sunburn
14. Constipation
15. Astigmatism
16. Laryngitis
17. Ringworm
18. Headache
19. Scabies
20. Boils
21. Heartburn
22. Acne
23. Abscessed tooth
24. Colour blindness
25. Tonsillitis
26. Diarrhoea
27. Carbuncle
28. Chickenpox
29. Menopause
30. Mumps
31. Dizziness
32. Sinus infection
33. Bed sores
34. Increased menstrual flow
35. Fainting
36. Measles
37. Painful menstruation
38. Infection of middle ear
39. Varicose veins
40. Psoriasis
41. No menstruation
42. Hemorrhoids
43. Hay fever
44. Low blood pressure
45. Eczema
46. Drug allergy
47. Bronchitis
48. Hyperventilation
49. Shingles
50. Glandular fever
51. Infected eye
52. Bursitis
53. Whooping cough
54. Lumbago
55. Fibroids of the uterus
56. Migraine
57. Hernia
58. Frostbite
59. Goitre
60. Abortion
61. Ovarian cyst
62. Heatstroke
63. Gonorrhoea
64. Irregular heart beats
65. Overweight
66. Anemia
67. Anxiety reaction
68. Gout
69. Snake bite
70. Appendicitis
71. Pneumonia
72. Depression
73. Frigidity
74. Burns
75. Kidney infection
76. Inability for sexual intercourse
77. Hyperthyroid
78. Asthma
79. Glaucoma
80. Sexual deviation
81. Gallstones
82. Arthritis
83. Starvation
84. Syphilis
85. Accidental poisoning
86. Slipped disk
87. Hepatitis
88. Kidney stones
89. Peptic ulcer
90. Pancreatitis
91. High blood pressure
92. Smallpox
93. Deafness
94. Collapsed lung
95. Shark bite
96. Epilepsy
97. Chest pain
98. Nervous breakdown
99. Diabetes
100. Blood clot in blood vessels
101. Hardening of the arteries
102. Emphysema
103. Tuberculosis
104. Alcoholism
105. Drug addiction
106. Coma
107. Cirrhosis of the liver
108. Parkinson's disease
109. Blindness
110. Mental retardation
111. Blood clot in the lung
112. Manic depressive psychosis
113. Stroke
114. Schizophrenia
115. Muscular dystrophy
116. Congenital heart defects
117. Tumor in the spinal cord
118. Cerebral palsy
119. Heart failure
120. Heart attack
121. Brain infection
122. Multiple sclerosis
123. Bleeding in brain
124. Uremia
125. Cancer
126. Leukemia

Mark the appropriate box with a ✓

5. Stress

Indicate how your behaviour matches the following statements.

	Often	A few times a month	Rarely
	2	1	0
1. I have indigestion			
2. I have difficulty finding enough time to relax			
3. I smoke when I feel tense			
4. I sleep badly			
5. I find it difficult to concentrate on what I am doing because of worrying about other things			
6. I feel anxious			
7. I eat more when I a anxious			
8. I have headaches			
9. People at work make me feel tense			
10. I have aches and pains in my neck or shoulders			
11. Even if I find time, it is hard for me to relax			
12. People at home make me feel tense			
13. I drink alcoholic beverages when I feel tense			
14. My day is made up of may deadlines			
15. I can't turn off my thoughts for long enough at night or weekends to feel relaxed/refreshed the next day			
16. I take tranquillisers (or drugs) to relax			
17. I feel my heart beating fast			
18. My legs feel wobbly			
19. I perspire without even exercising			
20. I get angry/irritated quickly			
21. I am impatient and become frustrated with others			
22. I do things in a hurry			
23. I talk quickly			
24. I worry that there are so many things that I can do nothing about			
25. I cannot sit still for long			

Mark the appropriate box with a ✓

6. Emotional well-being

How often do you have any of the following experiences? Please use the following scale.

	Never 1	Once 2	Rarely 3	Sometimes 4	Often 5	Usually 6	Always 7
1. Being tired							
2. Feeling depressed							
3. Having a good day							
4. Being physically exhausted							
5. Being emotionally exhausted							
6. Being happy							
7. Feeling "wiped out"							
8. Feeling burnout"							
9. Being unhappy							
10. Feeling rundown							
11. Feeling trapped							
12. Feeling worthless							
13. Being weary							
14. Being troubled							
15. Feeling disillusioned and resentful about people							
16. Feeling weak							
17. Feeling hopeless							
18. Feeling rejected							
19. Feeling optimistic							
20. Feeling energetic							
21. Feeling anxious							

32 – B = C ÷ A = D/21

32 - ☐ = ☐ ÷ ☐ = ☐/21

10

Mark the appropriate box with a ✓

7. Happiness, well-being and quality of life

Read each statement and decide how often the feeling was present over the past few weeks. Please use the following response scale.

	Not at all 1	Occasionally 2	Sometimes 3	Often 4	All the time 5
1. My life is on the right track					
2. I wish I could change some part of my life					
3. My future looks good					
4. I feel as though the best years of my life are over					
5. I like myself					
6. I feel there must be something wrong with me					
7. I can handle any problem that comes up					
8. I feel like a failure					
9. I feel loved and trusted					
10. I seem to be left alone when I don't want to be					
11. I feel lose to people around me					
12. I have lost interest in other people and don't like them					
13. I feel I can do whatever I want to					
14. My life seems to be in a rut					
15. I have energy to spare					
16. I can't be bothered doing anything					
17. I smile and laugh a lot					
18. Nothing seems very much fun anymore					
19. I think clearly and creatively					
20. My thoughts go round in useless circles					

☐ - ☐ = ☐

Mark the appropriate box with a ✓

8. Company culture

Rate the following statements with regard to the way they match your experience at work each day.

	Doesn't fit my job at all	Fits my job in some way	Fits my job more or less	Strongly fits the way it is at work
	0	1	2	3
1. People feel free to take risks and experiment at work				
2. Creativity is affirmed daily				
3. A few key advisors take responsibility for projects as opposed to the assignment of projects to committees				
4. People feel that they make a powerful difference and are involved in experiences that prove it				
5. Salaries meet basic needs and also provide incentives				
6. People are rewarded and recognized for excellent performance				
7. Conflicts are resolved with win/win solutions or are mediated by non affected third parties				
8. People are constructively confronted when negative behaviour occurs				
9. People avoid blame placing and finger pointing as a method of problem solving				
10. The decision-making process is highly participatory				
11. People emphasize co-operation over competition among members of the organization				
12. People set their own work objectives and work method				
13. People's beliefs are congruent with their actions				
14. People understand how their work relates to the goals or values of the organization				
15. People seek out the ideas and opinions of others				
16. Leaders follow up on problems and new ideas swiftly				
17. Leaders show a balanced concern between the quality of work that has to be done and the people who are doing it.				
18. Leaders are actively involved in providing quality services and they model the behaviour they expect of others				
19. Some meetings focus on nothing but individual and/or group achievements				
20. Support for and caring of associates is strongly emphasized				
21. People are concerned about the success of the work group				
22. The work environment is relaxing and families are included in some of the organization's programmes				
23. Fitness facilities and programmes are available and their use is encouraged				
24. The organization provides the necessary staff, programmes or other resources to assist people under stress or who are experiencing personal problems.				
25. Change and/or efforts focus on measurable results				
26. Quality is something upper management not only talks about but also does something about				
27. Management acts quickly and decisively on quality improvement suggestions				