

**STRESS MANAGEMENT THROUGH THERAPEUTIC RECREATION IN THE  
BOTSWANA DEFENCE FORCE**

by

**Marié Elizabeth Magdalena Young**

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**Supervisor: Professor Doctor A.E. Goslin**

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## DEDICATION

*In memory of all the soldiers of the world that dedicated their life's and served their countries proudly on military missions.*

This doctoral thesis is dedicated to my family, husband Chris, son Chris Jr, mother Thea and belated father Giel Kruger, my in-laws Sonnette and Chris Young, Mrs. Marie Jacobs, and friends that believed in me and unconditionally supported me in my quest to fulfil my dream. I am greatly indebted to all of them in completing this thesis. They were my sources of strength in moments of despair and discouragement.

I would also like to dedicate this thesis in loving memory of my father Giel Kruger, Grandmother Marie Geyer and Mr. Burtie Jacobs that would have been proud to see me reaching this milestone in life.



## DECLARATION

I, Marié E.M. Young, herewith declare that the language of this thesis has been edited by John Kench and Margaret Rossouw. I further declare that this thesis is my own original work, all sources used have been acknowledged, and that it has not been previously used in full or in part at any other university for degree purposes



MEM Young

03/06/2013

Date

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## ABSTRACT

Military staff are repeatedly exposed to stressful and unpleasant traumatic life events. These can cause psychological injury, leading to mental and emotional stress. The stigma of mental health problems in military settings runs deeper than in civil society. Being admitted with mental health problems while serving can be a career stopper, but at times can also be associated with cowardice or malingering.

It is the primary responsibility of the military to maintain and promote high military/combat readiness among staff. The change in focus of modern military forces, such as the Botswana Defence Force (BDF), with units being deployed more often, places greater demands on troops. Such operations call for increased training exercises, planning sessions and equipment inspections. Training emphasizes discipline and integrity as the core values of the BDF. These form a foundation for healthy and successful coping strategies.

The morale of employees is the starting point for measuring their wellness. Morale in the military is embedded in the fitness programs. These are biased towards military training, creating physical fitness, mental alertness and the qualities of military preparedness. The programs are normally involuntary, mandated through the commander, and form part of a soldier's military duties. Military recreation, morale and welfare programs were introduced as a way to provide soldiers with the opportunity to relax and rejuvenate. Recreation serves as a powerful tool for achieving an optimal experience, motivating people to change and improve their

health and wellness.

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The problem identified for this study was that members of the BDF were exposed to situations in a military context, as well as in their personal lives, which caused stress. It was postulated that BDF members had little knowledge or the resources to utilize appropriate recreation-related coping strategies. The study aimed primarily to explore the use of sport and recreation activities in military settings as means to reduce and manage stress. To achieve this goal, it was necessary first to determine the current sport and recreation participation of BDF staff members, then to assess their existing stress levels, their overall psychological well-being, and any dysfunctional behaviours resulting from stress. On the basis of these findings, a Therapeutic Recreation Stress Management Intervention Model was proposed, designed to reduce stress and promote the psychological well-being of BDF members.

A survey was carried out using a questionnaire. Descriptive statistics were used to summarize the collected data, offering a basic description of the data through frequency distributions, measures of central tendency, variances and relationships. Inferential statistics were used to draw conclusions from the data collected, giving the various factors.

The results revealed that the BDF was a male-dominated institution, recruiting soldiers between the ages of 18 and 44, most of whom had some level of education. Most of the staff members came from the lower ranks and had experienced one or more deployments since being recruited into the military. The results further

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indicated that BDF staff members participated in sport and recreation activities, reflecting an active and healthy lifestyle, with satisfactory levels of involvement. Analysis of stress responses revealed that members experienced stress and that this was related not just to operational or non-operational military stressors but also to personal stressors resulting from their social, financial or emotional conditions. Members of the BDF did not receive the necessary social support from family members and friends to cope with these stressors.

The findings on stress in relation to sport and recreation participation revealed that BDF members were intrinsically motivated to embrace healthy lifestyles which could contribute to lower levels of stress. This could even lead to a decrease in stress, supporting the literature which indicates that engaging in physical activities, as part of living a healthy lifestyle, might lead to a reduction in stress levels.

The results on the stress-coping measures used by BDF members revealed that recreation activities were deliberately used to cope with stress. Although physical exercise was used as a way of coping with stress, sedentary recreation activities were more prevalent among BDF members. Positive stress-coping measures were adopted by respondents, contrary to the findings of previous studies which indicated that military staff adopted dysfunctional behaviour as a coping measure (e.g. excessive drinking) that formed part of the military culture. The stress-coping abilities of BDF members differed in terms of personal and military demographics from those of previous studies, posting a new contribution to military literature. The results further revealed that BDF members were not sufficiently skilled in coping with stress during military training.

This study concluded that the Botswana Defence Force is no different from other military forces, experiencing operational and non-operational stress, as well as personal stress, which need to be addressed. Recommendations were made for further research on stress in military contexts and further guidelines were suggested to the BDF on the use of sport and recreation, together with more specific therapeutic recreation, as ways to reduce stress. A Therapeutic Recreation Stress Management Intervention Model was recommended for further testing in the BDF, as well as in other military forces.

## ABSTRAK

Militêre magte word herhaaldelik blootgestel aan stresvolle en onaangename traumatiese ervarings wat sielkundige letsels veroorsaak en tot geestelike en emosionele stres kan lei. Die stigma van geestesgesondheidsprobleme in die militêre diens is dieperliggend as in die normale samelewing en indien 'n soldaat tydens dienslewering met geestesgesondheidsprobleme opgeneem word, kan dit die einde van sy militêre beroep lei. By tye gaan dit daarmee gepaard dat so 'n soldaat as lafhartig of lui bestempel word.

Die veranderde fokus van militêre magte, byvoorbeeld die Botswana Weermag, het meer ontplooiings tot gevolg, wat meer druk op troepe plaas. Sulke bedrywighede noodsaak 'n toename in opleidingsoefeninge, beplanningssessies en toerustinginspeksies deur troepe. Opleiding beklemtoon dissipline en integriteit as die kernwaardes van die Botswana Weermag. Hierbenewens vorm dit die grondslag vir gesonde en suksesvolle strategieë om stres te hanteer.

Die moraal van werknemers is die beginpunt om geestelike welsyn te meet. Moraal in die weermag hou grootliks verband met hul fiksheidsprogramme, wat gerig is op militêre opleiding, fisieke fiksheid, verstandelike wakkerheid en ander faktore van militêre paraatheid. Hierdie programme is gewoonlik verpligtend en vorm deel van 'n soldaat se militêre pligte. Militêre programme wat op ontspanning, moraal en welsyn gerig is, is ingestel as 'n manier om soldate van die geleentheid te voorsien om te ontspan en te herstel. Rekreasie dien dus as 'n kragtige instrument vir die bereiking

van 'n optimale ervaring en motiveer mense om te verander en sodoende hul gesondheid en geestelike welsyn te verbeter.

Die probleem wat tydens hierdie studie geïdentifiseer is, is dat die personeel van die Botswana Weermag blootgestel word aan situasies in 'n militêre konteks, sowel as in hul persoonlike lewens, wat stres veroorsaak. Daar word beweer dat lede van die Botswana Weermag min kennis van toepaslike ontspanningsverwante streshanteringstrategieë het, en onvoldoende hulpbronne om dit aan te wend. Hierdie studie is hoofsaaklik daarop gerig om die gebruik van sport- en rekreasieaktiwiteite in militêre instellings te verken, asook maniere waarop stres daardeur verminder en bestuur kan word. Om hierdie doel te bereik, was dit nodig om eers die Botswana Weermagpersoneel se huidige deelname aan sport- en rekreasieaktiwiteite te ondersoek en dan hul bestaande stresvlakke, algehele sielkundige welsyn en disfunksionele gedrag as gevolg van stres te assesser. Op grond van hierdie bevindinge is 'n Terapeutiese Intervensiemodel van Stresbestuur deur Rekreasie ontwerp en voorgestel om stres te verminder en die sielkundige welsyn van Botswana Weermaglede te bevorder.

'n Opname is met behulp van 'n vraelys gedoen. Beskrywende statistiek is gebruik om die data wat versamel is, op te som deur frekwensieverdelings, maatstawwe van sentrale neiging, variansies en verhoudings te gebruik om 'n basiese beskrywing van die data te verskaf. Inferensiële statistiek is gebruik om gevolgtrekkings te maak op grond van die data wat versamel is.

Resultate toon dat die Botswana Weermag 'n instelling is wat deur mans gedomineer word. Mense tussen die ouderdomme van 18 en 44 word as soldate gewerf, van wie die meeste oor 'n sekere vlak van opleiding beskik. Die meeste personeellede is afkomstig van laer range en het reeds aan een of meer ontplooiings meegedoen sedert hul toelating tot die weermag. Resultate dui ook daarop dat personeellede van die Botswana Weermag aan sport- en rekreasieaktiwiteite deelneem, wat op 'n aktiewe en gesonde lewenstyl met 'n bevredigende vlak van betrokkenheid dui. Stresresponse het getoon dat lede stres en stressors ervaar – nie net met betrekking tot operasionele en nie-operasionele militêre stressors nie, maar ook in die vorm van persoonlike stressors as gevolg van maatskaplike, finansiële en emosionele omstandighede. Lede van die Botswana Weermag kry nie die nodige sosiale ondersteuning van hulle gesinslede en vriende om hierdie stressors te hanteer nie.

Die ondersoek na Botswana Weermaglede se deelname aan sport- en rekreasieaktiwiteite het aan die lig gebring dat hulle intrinsiek gemotiveerd is en 'n gesonde lewenstyl het, wat tot laer stresvlakke bydra. Ondersteunende literatuur dui aan dat deelname aan fisieke aktiwiteite en 'n gesonde lewenstyl inderdaad tot 'n daling in stresvlakke kan lei.

Die resultate van streshanteringsmaatreëls wat deur Botswana Weermaglede gebruik word, het aan die lig gebring dat rekreasieaktiwiteite doelbewus gebruik word om stres te hanteer. Hoewel fisieke oefening ook gebruik word om stres te hanteer, kom passiewe ontspanningsaktiwiteite meer algemeen onder Botswana Weermaglede voor. Positiewe streshanteringsmaatreëls word deur respondente

toegepas, in teenstelling met wat in vorige studies bevind is, naamlik dat militêre personeel disfunksionele gedrag (byvoorbeeld oormatige drinkery) gebruik om die stres te hanteer wat deel vorm van die militêre kultuur. Die resultate van hierdie studie met betrekking tot Botswana Weermaglede se vermoë om stres te hanteer verskil van die bevindings van vorige studies in terme van persoonlike en militêre demografie. 'n Nuwe bydrae tot militêre literatuur word hierdeur verseker. Die resultate het verder blootgelê dat Botswana Weermaglede nie tydens militêre opleiding genoeg opleiding in streshantering ontvang nie.

Die gevolgtrekking word gemaak dat die Botswana Weermag geensins anders is as ander militêre magte nie en operasionele en nie-operasionele stres sowel as persoonlike stres ervaar wat gehanteer moet word. Aanbevelings word gemaak ten opsigte van verdere navorsing oor stres in 'n militêre konteks en riglyne word aan die Botswana Weermag verskaf oor die gebruik van sport en rekreasie, en meer spesifiek terapeutiese rekreasie, as 'n opsie om stres te verminder. 'n Terapeutiese Rekreasie Stresbestuur Intervensiemodel word aanbeveel vir verdere toetsing in die Botswana Weermag of ander militêre magte.

Sleutelwoorde:

Stres, militêre stres, werkstres, algehele gesondheid, welsyn, streshantering, sport en ontspanning, rekreasie, programme, ontspanningsintervensies, fisieke aktiwiteit, terapeutiese rekreasie, ontspanningsopleiding, gesondheidsopleiding.

## ABBREVIATIONS

BDF:	Botswana Defence Force
LCU:	Life Change Units
PTSD :	Post Traumatic Stress Syndrome
SRE:	Schedule of Life events
SRSS:	Holmes-Rahe Social Readjustment Rating Scale
TAB:	Thebephatshwa Air Force Base Camp
TUT:	Tshwane University of Technology
TRSMIM:	Therapeutic Recreation Stress Management Intervention Model

# CHAPTER 1

## INTRODUCTION, PROBLEM STATEMENT, AIM AND METHODOLOGY OF STUDY

### 1.1 INTRODUCTION

Botswana is a large, flat, dry, sparsely populated non-coastal country situated in Southern Africa, sharing borders with South Africa, Zimbabwe, Zambia and Namibia (Osei-Hwedie, Ntseane, & Jacques, 2006; Mokgwathi, 1999; Wiseman, 1992). Granted independence within the Commonwealth on 30 September, 1966, Botswana had up until then been surrounded by white minority-ruled states, causing considerable political tension between the different countries. However, this tension eased with the advent of independence and majority rule in Zimbabwe (1980), Namibia (1990) and South Africa (1994) (Wiseman, 1992; Molomo, 2000).

In the last census, held in 2011, the population of Botswana was estimated at 2,024,904 (Central Statistics Office, 2011). The majority of the population is concentrated in the eastern part of the country, the rest being scattered in small settlements in the Kalahari Desert, which covers two-thirds of the country (Mokgwathi, 1999). Given that it is an ethnically and racially diverse population, the notions of 'tribe' and 'ethnic group' are frequently confused. The Setswana word for a social grouping is *morafe*, which is translated as 'tribe'. A tribe could be defined as a chiefdom, in which the people are led by a single chief. The bulk of the population belongs to one of eight tribes: Bangwato (in the past called

Barnangwato), Bakwena, Bangwaketse, Batawana, Bakgatla, Bamalete, Barolong and Batlokwa. However, the ethnic diversity found among the population differs from the tribal structure. The most important ethnic group is of Sotho-Tswana origin (Osei-Hwedie, Ntseane, & Jacques, 2006). Other ethnic groups are Kalanga, Kgalagadi, Herero, Mbukushu, Sibiya, Yei and Ndebele. All the chiefs of the above-mentioned tribes are Tswana, yet the people within the tribes come from different ethnic groups. Such groups are not tribally homogeneous. Two further groups are found in Botswana, both of non-African origin. A small but significant group is of European ancestry, either of Afrikaner or British descent, while the other group is Asian, mainly of Indian ancestry. Both the European and the Asian groups are related to the settlers who migrated to Botswana at the end of the nineteenth century. The boundaries between these groups are extremely porous, as close relations between them, including intermarriage, are common, so they are not discrete, isolated communities. The political process of post-independence has not involved conflict between contending tribal, ethnic or racial groups, and thus does not have any negative overtones, unlike in many other parts of Africa (Wiseman, 1992).

Although multiculturalism is recognized and advocated in Botswana, other social issues, such as the social-economic status of citizens, gender inequality and the HIV/aids epidemic, are evident. Despite the economic wealth of Botswana, many people remain poor and in need of financial assistance. Changing patterns of living, including urbanization and the HIV/Aids epidemic, have necessitated formalized social welfare provision. Extended family structures are common, and

these place emphasis on interpersonal relationships, responsibility and obligation to kinship systems and the community. HIV/Aids is a serious social, health and developmental problem, with Botswana rated in 2003 as the country with the highest infection rate (38.8%) in the world. A large responsibility is thus placed on a single member to take care of a HIV-positive family member and his or her siblings. This sometimes leads to financial and emotional stress (Osei-Hwedie, Ntseane, & Jacques, 2006; Heinecken, 2003).

Gender inequality is another contentious social issue. According to Osei-Hwedie, Ntseane and Jacques (2006), employment opportunities, especially in decision-making structures, are still dominated by men. Although there is evidence of women steadily progressing in terms of educational achievements and higher status occupations, they are still socially marginalized. This is also evident in the Botswana Defence Force (BDF), which only started recruiting female cadets in 2008 (Republic of Botswana, 2008).

At the time of independence in 1966, there was little economic development and almost the entire budget of Botswana came from the United Kingdom. It was even expected at that time that Botswana might become part of the Republic of South Africa (RSA). However, the determination of the country to resist incorporation into South Africa was underestimated. The leadership of Botswana worked hard, not only against incorporation but also for economic independence. Following political independence, the leadership embarked on a program to stimulate economic growth, and in the period 1965-1996 achieved the fastest rate

of economic growth worldwide (Good, 1999). With this strategy in place, the leadership shifted their focus to include other concerns, such as social justice, economic independence, sustained development, employment creation and rural development. To this end, the government invested a large amount of capital in improving the lives of its people. Thus investments were made in terms of public goods, primary and secondary education, and paved roads (Beaulier & Subrick, 2006; Mokgwathi, 1999).

Economic independence was based on two major resources. These were migrant labour, with labourers working in mines and on farms in South Africa, which for the bulk of the population was a major source of income, and agriculture, which because of the nature of the climate was based on a few major cattle owners. The general income level of the people was extremely low. Political and economic changes in South Africa brought about a decline in the demand for migrant labour. However, a remarkable economic and social transformation of the country followed the discovery of mineral wealth (diamonds, coal, copper-nickel, soda ash, potash, sodium sulphate, together with other smaller deposits of other exploitable minerals) which has still not been fully assessed, coupled with a stable political system and sound economic planning (Osei-Hwedie, Ntseane, & Jacques, 2006; Mokgwathi, 1999; Wiseman, 1992).

The democratic political system has enormously aided economic development, while the rapid economic growth and development in turn have helped to sustain the positive features of the political system (Wiseman, 1992). Beaulier and

Subrick (2006: 113) further note that *“Botswana’s limited military spending in the early years helped it avoid problems of corruption and allowed public spending to be allocated to more highly valued public uses.”*

The Botswana Defence Force (BDF) did not exist at the time of independence in 1966. However, in 1977, after the violent decolonization struggles in the region, involving Zimbabwe, Angola, South West Africa (now Namibia) and South Africa, as well as the attacks in the mid-1970’s from the Rhodesian (now Zimbabwean) army, Botswana formed the Botswana Defence Force (BDF) in the interests of self-defence. It was officially raised in April 1977 by an Act of Parliament, referred to as the ‘BDF Act No. 13 of 1977 (Republic of Botswana, 2008; Henk, 2004).

The President of Botswana is the Commander-in-Chief and appoints the Chief of Staff and the Commander of the BDF as the defence council. A fundamental power of the President is that he alone has the authority to declare war and may at any time order that the Defence Force, in whole or in part, be deployed out of or beyond Botswana (Republic of Botswana, 2008; Molomo, 2000; Good, 1999). After the political and economic changes in 1994, both in South Africa and in the greater Southern African region, the focus of the BDF shifted to missions involving anti-poaching activities in the game-rich northern areas of the country, to disaster preparations (e.g. rescue missions during floods, such as those that hit Botswana in 1995 and 1996) and to foreign peacekeeping.

The BDF is a capable and well-disciplined military force and by 2004, it had grown to roughly 12000 members (Henk, 2004). Henk (2004) further notes that the BDF has an organizational culture which features high standards of discipline, with an emphasis on education and competent leadership at all levels. It is also very selective in its recruitment process. Until 2008, only male cadets were recruited (Republic of Botswana, 2008). Personnel are encouraged by a generous scale of pay and allowances which correlate with the pay of civil servants of the country, enabling them to maintain a middle-class standard of living at officer rank (Henk, 2004).

Education also plays a major role in the selection of personnel and the career progression of BDF staff. New recruits undergo six months of rigorous training to prepare them for the complex environment of military life. Further training follows after graduation, when they are placed in their respective specialization units. This training emphasizes discipline and integrity as the core values of the BDF. A large segment of the officer corps of the BDF received their training at military schools, command and staff colleges and war colleges through relationships with foreign partners. These included the United Kingdom, India, Canada and United States, the latter being the largest single foreign contributor to developing the Botswana Defence Force as a professional institution (Henk, 2004). In 2008, due to the limited vacancies at foreign military colleges, the BDF established a Defence Command and Staff College (DCSC). This trains and develops officers (commanders and staff officers) to command and lead units in the defence of the nation by developing military competence and character (Republic of Botswana,

2008). The college is run in partnership with the Centre for Strategic Studies at the University of Botswana. This contributes to enhancing the capabilities of the Botswana Defence Force. It should be noted, however, that DCSC had not yet been established at the time when data were collected for this study.

The BDF functions under three main commands, the Ground Forces, Defence Logistics and Air Arm (Republic of Botswana, 2008). The ground forces are organized into an armoured brigade, three infantry brigades, four infantry battalions, two armoured artillery regiments, one engineer regiment and one commando regiment (Henk, 2004). The Air Arm is part of the BDF, called the Botswana Defence Force Air Wing (BDFAW), and is organized into five squadrons. It was formed in 1977 in response to rising tensions in the area. Its main base is in Molepolole, Thebephatshwa, and was built by foreign contractors between 1992 and 1996. Other bases being used are the international airport in Gaborone, the Sir Seretse Khama International Airport, and the airport in Francistown (Dutch Aviation Society, 2006; Henk, 2004).

Sport and recreation play important roles in a military setting. Most fitness programs in such settings are biased towards military training, aiming to create physical fitness, mental alertness and the qualities of military preparedness. These programs improve the physical fitness of all ranks, boosting unit morale and building inter-rank relations outside the hierarchal structure. They also express intentions over and above the national defence purpose of showing superiority over other countries by enhancing national integration (patriotism) and

encouraging soldiers to take pride in their teams (Mason, 2011; Chien-Yu, Ping-Chao, & Hui-Fang, 2008; Riordan, 1986).

The second role of sport in the military is as part of the centralized control of sports development. Sport participation in the military contributes to the wider world of civilian sport (Mason, 2011; Riordan, 1986). The BDF participates in inter-unit competitions and local leagues involving 16 sports. These are listed as body building/weightlifting, tennis, athletics, karate, badminton, soccer/football, baseball, aerobics, boxing, basketball, volleyball, rugby, cricket, traditional dancing, recreational games and field hockey. A study conducted by Shebu and Moruisi (2010) on the influence of sport on personal development and social investment among Botswana Olympic athletes showed that those athletes who stemmed from the military were encouraged to participate in sport not only for military readiness but also because it prepared them to become national athletes proudly representing their country.

Members of the Botswana Defence Force are also affiliated with the International Military Sports Council, *Conseil International du Sport Militaire* (CISM). The CISM is an apolitical international sport association for armed forces, and is the largest authority for military sports activity in the world. It consists of 127 member nations meeting once a year for a General Assembly and is open to the armed forces of all member nations. As stated by the CISM President, Brigadier General Gianni Cola, its aim is to promote physical activities, friendship, fair play, solidarity and tolerance among military athletes in the interest of international harmony and

universal peace through sport for all armed forces (CISM, 2007). They support 25 sport types in which military personnel take part during the Military World Games. These are hosted every four years, a year before the Olympic Games, and are based on the CISM and Olympic spirit, without political, racial and religious considerations or discrimination. The CISM also supports research and innovation through its CISM Sport and Science Forum, jointly managed by the CISM Sports Medicine Commission and the CISM Sports Commission (CISM, 2007). Correspondence with Major Roberto Correira (Special Staff officer to the Sport Section, CISM, in Brazil), Colonel Peter Jenoure, MD (President of the Sport Medicine Commission, CISM, Switzerland) and Lieutenant Colonel Mpho Mophuting (Permanent Executive Secretariat: CISMESALO, in Botswana), all board members of the CISM, revealed that there is currently no record of studies conducted in military settings around the world related to stress management through sport and recreation (Correira, 2007; Jenoure, 2007; Mophuting, 2007). This study could thus benefit not only the BDF but also other military forces internationally.

The BDF soldiers are continuously deployed to border posts and other areas where their missions involve anti-poaching activities, disaster preparations and foreign peace-keeping in accordance with the official regional (southern African region/Southern African Customs Union [SADC]) peace building policy (Dutch Aviation Society, 2006; Maclean, 1999). When not deployed, they reside with their families in military settings where sport and recreation activities are practiced. They use this time to relax and practice their sports, rejuvenating

themselves mentally and physically in order to stay prepared for combat.

## **1.2 LITERATURE STUDY – AN OVERVIEW**

A literature review is used to demonstrate knowledge of and familiarity with a topic being researched, to provide an outline of the relevant theories and concepts important to the project, to focus on the research question, to determine the extent of past research into the subject matter, to identify successful methodologies and methods used in the past, and to allow comparison of findings (Gratton & Jones, 2004). The literature review for this study will thus focus on topics related to military settings and exposure to stressful situations while in service in the military, and the use of recreational activities as interventions to treat individuals showing symptoms of stress.

### **1.2.1 Sport and recreation participation in the military**

The literature on participation in sport and recreation in military settings mainly focuses on the promotion and maintenance of military efficiency and morale. Military recreation, morale and welfare programs were established as a front-line source of readiness during the First and Second World Wars. More recently, these programs were introduced as a way to provide soldiers with the opportunity to relax and rejuvenate. It was believed that one could not send tired soldiers back into the line of duty, as they could be a danger to themselves and their entire unit (Rice, 1998). Readiness is an important factor in military forces and is a function of the ability of a person to perform his or her full duty (Lauder, Baker, Smith & Lincoln, 2000). It also implies that both the soldier and the unit are fully

equipped and motivated to perform tasks (Phillips, 2006). Sport and recreation are thus used as vehicles to create military readiness.

In order to keep the soldier focused, a holistic approach should be taken (Rice, 1998). It is important to bear in mind that both the soldier and the support staff will be able to focus more on the tasks at hand if their needs are met. This includes being able to relax under stressful circumstances or attend to activities which can help with relaxation. Sport and recreation serve as vehicles to achieve relaxation, as participation puts the personnel into another context. Decreased readiness, due to burn-out of both individuals and units, would be the result if these valuable sport and recreation activities were not provided (Phillips, 2006). Soldiers may have a very demanding schedule or may find themselves with a great deal of free time, depending on their location and duty station. When they have free time, they can take part in sports on either a recreational or a competitive basis (Lauder, Baker, Smith & Lincoln, 2000). Phillips (2006) noted in her study on soldiers during Operation Iraqi Freedom (OIF) that morale, welfare and recreation (MWR) played an important part in a soldier's life.

Dating back to World War I, it was found that sport and recreation assisted in promoting and maintaining military efficiency and morale (US Army MWR, 2003). Emphasis was placed on mass participation, with everyone involved in sport and recreation programs, regardless of their athletic ability. This arose from the leaders' concern about troops indulging in negative free-time activities, particularly those involving liquor and prostitution, and the lack of organized sport

and recreation activities. Sport and recreation, morale and welfare programs were also introduced during both World Wars, as part of a commander's frontline resources for readiness (Rice, 1998). These morale programs included fitness equipment, telephone services, television and videos, as well as live entertainment. Facilities were open up to 24 hours a day, and were managed by volunteer soldiers. They offered soldiers the opportunity to relax and rejuvenate, as it was believed that one could send a physically tired soldier back into the line of duty, but not a mentally tired soldier, as he could be a danger to himself and his entire unit.

Barriers to sport and recreation participation in the military vary, as military staff and their families who reside on base camps have access to formal programs and activities. Sport and recreation programs are thus a major part of their daily lives (Mull, Bayles, Ross & Jamieson, 1997). Programs are the vehicles through which sport and recreation benefits are made available to military personnel and their families. Programming is the process of planning to meet the diverse needs of people (Badmin, Coombs & Rayner, 1992). A plan could be described as a process of thinking ahead, predicting and controlling events, or as a map to direct the production of sport and recreation programs.

Three approaches can be adopted in devising a program. These are a reaction plan, acting upon existing information; an investigation plan, generating information through research; and a creative plan, developing programs according to one's own thoughts and interests. The most appropriate plan for the

Botswana Defence Force seemed to be an investigation plan, one derived from action research in an attempt to learn about the people's current levels of stress, sport and recreation participation, and the attempts to reduce these stress levels.

The BDF soldiers embark on foreign peacekeeping quests as members of SADC (Maclean, 1999) as well as with the United Nations, already begun in October 1966 (United Nations, 2007). The purpose of the United Nations is to maintain international peace and security, develop friendly relations among nations, to cooperate in solving international and humanitarian problems, promote respect for human rights and fundamental freedom, and to be the centre for harmonizing the actions of nations in attaining these ends (United Nations, 2007). Peacekeeping involves using observers to prevent conflict before it erupts or introducing neutral forces in a conflict area to rebuild war-torn societies and institutions once hostilities have ceased (Maclean, 1999). The purpose of peacekeeping is to keep the disputing groups apart, supervise troop withdrawal and removal, and give warring factions the opportunity to come to the negotiating table. The duties of the United Nations Peace forces include monitoring and enforcing a cease-fire, applying force where necessary to persuade disobedient parties to adhere to the cease-fire agreement. Peacekeeping duties further include contributing to the smooth functioning of humanitarian operations for refugees and displaced persons, as well as providing security and proper treatment for prisoners of war (United Nations Economic Commission for Africa, 2007). Examples of areas of conflict where the United Nations forces, including BDF soldiers, were deployed were Burundi, the Democratic Republic of Congo,

Ethiopia/Eritrea, and Sierra Leone. Difficult challenges, including the impact of sub-regional conflicts and the massive presence of refugees, were encountered in Guinea, Lebanon, Yugoslavia, Somalia, Rwanda and Mozambique (Henk, 2004; Lepgold & Weiss, 1998). The BDF acted in support of the South African defence force in suppressing political unrest in Lesotho in the late 1998's, and intervened as part of SADC with several other national militaries on the opposite sides of the struggle, in the Democratic Republic of the Congo and other regional events (Henk, 2004; Maclean, 1999; Good, 1999).

Such quests are often stressful, as soldiers are sent to countries where people speak other languages, are housed on a plot surrounded with razor wire, live with hundreds of others in dormitory-style tents, and have to walk to a building down the road for showers and personal hygiene. They can only leave the compound when they travel in a convoy on official business. Their business is dangerous and stressful, and is conducted in a hostile environment. Recreation in such conditions remains as essential as weapons, ammunition, food and water. Recreational programs such as the Morale, Welfare and Recreation programs introduced by the US Armed Services Division are offered to soldiers in these compounds (Rice, 1998). They provide support and leisure activities designed to enhance the quality of lives for service members (Phillips, 2006).

The researcher investigated previous studies relating to sport and recreation participation in the BDF. A study conducted by the Department of Sport and

Leisure Management at Tshwane University of Technology (TUT) in 2004-2006, was found most relevant to the present study. It established the perceptions of military staff of the BDF regarding sport and recreation participation. It determined the need for and status of sport and leisure programs, as well as carrying out an audit of all sport and leisure facilities (Tshwane University of Technology, 2006). The perceptions of soldiers regarding sport and leisure were measured, with specific reference to their demographic characteristics, patterns of participation in sport and recreation activities, the usage and needs of sport and leisure programs and services, as well as the specific military sport and recreation facilities. The results indicated that the staff engaged in various activities at different levels, but did not understand the benefits of participation in sport and recreation activities. The BDF was encouraged to enhance the training and coaching of the different activities mentioned above, to create an awareness of their benefits, to promote the activities offered and to offer a wider variety of activities. This is the only recent study relating to the BDF. Sections of their research instrument (demographic characteristics and sport and recreation participation behaviour) were therefore used and adapted in collecting data for the current study.

However, two other studies concerning sport and recreation were identified as they related to Botswana as a country. Amusa, Toriola, Onyewadume and Dhaliwal (2008) and Toriola, Adetoro, Toriola, and Igbokwe (2000) investigated participation in sport and recreation, focusing on gender issues or civilian communities in general. Amusa *et al.* (2008) focused on the barriers to sport and

recreation in Botswana. Their study examined the factors which precluded or limited the frequency and quality of participation in sport and recreation and the extent to which such barriers were distributed among the population. They found that engagement in sport and recreation was constrained mainly by socio-economic and socio-cultural barriers, together with unawareness of or lack of access to facilities. These findings could not be generalized to the BDF, as the military does provide an infrastructure for sport and recreation participation for BDF staff members and their families.

The study of Toriola *et al.* (2000) provided an understanding of the culture of sport participation among Botswana citizens. Limited exposure to sport at school level could have an impact on their participation in sport-related activities after school and could thus affect participation patterns in the BDF. In their study, Toriola *et al.* did a comparative analysis of youth sports programmes in Botswana and Nigeria. In both countries, structured interviews were carried out with top management officials directly responsible for youth sport program development and implementation. These data were analysed qualitatively under the broad areas of youth sport policy, management structure, development programs, the government's role, political interference, the role of physical education, and implementation problems. Findings related to Botswana indicated that youth sport programs were mainly institutionalized, were targeted at schools, more specifically primary schools and to some extent secondary schools, and that little provision was made for the sporting interests of out-of school or disabled youth.

Botswana lacked a national youth sport policy and this negatively impacted the systematic planning and development of youth sport programs. These constraints reflected on the on-going process of socio-economic transformation in the country. The study concluded that the national development plans of youth sport programs would only be achieved through the effective management of scarce economic resources and the active monitoring of policy implementation. This research was conducted in 2000, and the national development plan of youth sport, leading up to this study, could have influenced interest in participation in sport and recreation.

### **1.2.2 Stress in the military**

Military staff are repeatedly exposed to stressful and unpleasant traumatic life events which cause psychological injury leading to mental and emotional stress (Philpot, 2006; Uhaň, Kovač, Muhvič-Urek, Kovačević, Frančišković & Šimunović-Šoškić, 2006; Gallimore, 2002). Psychological injury is complex and can go beyond the diagnostic categories known and defined in current classifications of psychological disorders (Hovens & Drozek, 2002).

Studies specifically relating to stress were conducted by Bonner (2004) and Crouch (2004). Although not militarily based, these looked at stress and stress management from, respectively, an historical developmental perspective and in terms of the broader community. Both provided a theoretical background to stress and stress management, which could help in contextualizing these concepts for the purpose of this study. Bonner (2004) reviewed stress, coping

and corporate stress management, giving a brief overview on the historical development of stress, followed by a discussion on coping methods. The article concluded by illustrating stress-reducing interventions which could be of use by specifically focusing on stress in the workplace. Crouch (2004) focused on the evaluation and development of a tool for community-based stress management. Effective stress management was found to result in improved health and lifestyle of the broader community. The study aimed to make stress management techniques available, particularly to lower socio-economic groups within a broader community. Crouch developed a manual for stress management for use by community workers and other professionals, as well as for occupational therapists, training them to deal with the problems of stress and to use the appropriate coping methods derived from experiments conducted for the study. This manual could also contribute to developing a theoretical background on stress and stress management for the current study, as well as in the development of a therapeutic recreation stress management model.

For decades, more than a hundred regions around the world have been exposed to or disrupted by war and/or social conflict (Ekblad, 2002), including World War I, World War II, the Vietnam War, the Gulf War, the invasions of Iraq and Afghanistan, Pakistan, Israel/Gaza, Rwanda and the war in Bosnia/Croatia/Serbia, to name but a few. All these conflicts aimed to destroy populations psychologically through terror and public violence. The impact of exposure to these conflicts has been profound (United Nations Office on Drugs and Crime, 2005). It is well known that military service often disables people

psychologically, so that they cannot cope when they return to civilian life. Philpot (2006) maintains that the stigma of mental health problems in military settings runs deeper than in civil society, and that being admitted with mental health problems while serving can not only be a career stopper but at times can also be associated with cowardice or malingering. Military staff who are troubled very seldom call for help and are rather encouraged to fall back on the strong drinking culture of the army (Philpot, 2006). Post-traumatic stress disorder (PTSD) and acute stress disorder are the two most common psychological or operational stress disorders soldiers face (McLauchlin, 2006). Uhañ *et al.* (2006) note war as one of the possible causes of PTSD, as this is a situation that includes stress of varying intensity and duration. War is further classified as a catastrophic stressor due to its frequent, repetitive and cumulative effects (Uhañ *et al.*, 2006). Military staff are subject to the violence of war or military combat, terrorism, natural disasters, serious accidents and violent personal assaults, all of which fall outside normal human experiences and put them at risk of developing serious mental health problems such as depression, anxiety, PTSD and generalized psychological difficulties (Bemak & Chi-Ying Chun, 2002; Gallimore, 2002). Extreme traumatic life events such as war and terrorism interfere with intimacy, empathy, emotional expressiveness, control, sexuality, the regulation of anger and hostility towards family members, and individual coping strategies (Ekblad, 2002).

Empirical knowledge about trauma resulted from the concern for soldiers who developed PTSD after exposure to the shock of military combat (Gallimore,

2002). PTSD is often referred to as 'shell shock' and battle fatigue', although these terms have slowly faded as the public became more aware of PTSD (Antonellis, Meshad & Stack, 2006). Historical medical literature describes cases of PTSD during the US Civil War, when it was referred to as Da Costa's Syndrome. Comprehensive research and documentation of PTSD was only done after the Vietnam War, when half of the United States veterans surviving Vietnam suffered from it (Gallimore, 2002). Ekblad (2002) and Hovens and Drozdek (2002) identified the following factors as influencing the reaction after a trauma:

- The nature, intensity and severity of the traumatic event.
- The duration of the event.
- Whether the incident was caused by man.
- The degree of resistance to the trauma.
- The degree of mental readiness for the specific event.
- The degree or sense of coherence and interpersonal cohesiveness.
- The amount of family and social support received before the event.
- The effects of the trauma on symptoms which are age related.

Individuals with PTSD often show symptoms of physical fatigue, enforced passivity, decreased morale and loss of coherence (Ekblad, 2002). These symptoms can appear soon after a trauma or be delayed by months or even years before the person re-experiences the trauma or anxiety. Dramatic symptoms may include rage, depression, emotional numbness, hyper-vigilance, distressing recollections, nightmares or daytime flashbacks of the trauma in which the individual loses touch with reality (Streisand, 2006; Hamden, 2002).

These symptoms can be brought on by a single event or as the result of repeated exposure to trauma (Streisand, 2006). Unresolved PTSD destroys a survivor's ability to cope and can lead to the perception of suicide as the solution to end the suffering, with death being seen as attractive alternative. Religion and its transformative power can, in some cases, override anxiety about death, as witnessed in suicide bombers (Fields, Elbedour & Hein, 2002).

Research to be discussed later in the chapter shows evidence that specific recreational activities such as games, yoga, needlecraft, relaxation exercises and art are used for the general treatment and control of stress.

### **1.2.3 The effect of recreational activities as a means to treat mental illnesses: Therapeutic recreation approach**

As has been noted over the past decades, remarkable changes have taken place in the approach to caring for people with mental illnesses, with the goal of social integration and improved quality of life (McCormick, Funderburg, Lee & Hale-Fought, 2005). Stress and PTSD are strongly associated with decreased physical health, psychosocial and occupational functioning, as well as with the quality of life of both civilian and military populations (Fikretoglu, Brunet, Guay & Pedlar, 2007). Leisure activities, for the purpose of this study referred to as sport and recreation activities or physical activities, are important to the quality of life.

Mood states are affected by the balance of elements of change and skill imbedded in such activities (McCormick, Funderburg, Lee & Hale-Fought, 2005).

According to Riddick and Stewart (1994), various studies report a positive relationship between sport and recreation activities and mental health. It has been found that such activities serve, firstly, as a form of preventative medicine, reducing the risk of life-threatening diseases such as cardiovascular disease, cancer, diabetes, osteoporosis, obesity and mental health disorders. Secondly, sport and recreation promote psychological health and wellbeing, reducing anxiety, depression and tension, enhancing a person's self-esteem, self-confidence, and perceived physical competence, and acting as an excellent antidote to stress (Caribbean Community Secretariat, 2003).

Sport and recreation programs can play a unique role in the maintenance and enhancement of the quality of life (Dupuis, Smale & Wiersema, 2005). Quality of life has thus become a central focus for research, receiving a significant amount of attention within the health and human service fields internationally (Janssen, 2004). Many researchers have attempted to determine what constitutes quality of life and what impact various components of experience may have on an individual's perception of it. Leisure has been identified as an important way of promoting healthy lifestyles and activities which enhance the perceived quality of an individual's life (Janssen, 2004).

Soldiers are entitled to the same quality of life as the society which they protect. It takes more than hard work and training to keep them ready to fight and win. A balance needs to be kept between work and play, with leisure activities provided to revitalize them mentally and physically (Phillips, 2006). Lack of activity, in

conjunction with loss of choice and control, can lead to isolation, loneliness, helplessness, and boredom, followed by withdrawal from the environment, instrumental passivity and depression (Dupuis, Smale & Wiersema, 2005). Therapeutic recreation services form an essential part of addressing a person's needs, taking into account the goal of protecting and promoting health (McGhee, Groff & Russoniello, 2005). Such recreation helps people to cope with physical or mental health problems or disability by promoting a personal sense of control and decision making. It could be defined as engaging people in planned recreation and similar experiences to improve functioning, health, well-being, and the quality of life, while focusing on the person as a whole and the changes needed in his or her living environment (Daly & Kunstler, 2006).

Historically, therapeutic recreation developed in the 18th and 19th centuries in Europe, the United Kingdom and the United States, with the latter taking the lead in the field by establishing the first organization for therapeutic recreation professionals, developing standards for practice and personnel qualifications, publishing books and journals and designing curricula for professional preparation (Daly & Kunstler, 2006). This organization, the American Therapeutic Recreation Association (ATRA), is today the largest membership organization representing the interests and needs of recreational therapists. It was incorporated in the District of Columbia in 1984 as a non-profit, grassroots organization following concerns about dramatic changes in the health care industry (ATRA, 1999). Therapeutic recreation services make use of treatment, education and recreation services to assist people with illnesses, disabilities or

other problems, to enhance their health, functional abilities, independence and well-being (McGhee, Groff & Russoniello, 2005). Sport and recreation involves pleasurable and satisfying activities that are freely chosen and that motivate people to participate in them (Daly & Kunstler, 2006). Including such activities in treatment programs enhances a person's self-esteem, improves time management, prevents relapse and reduces the stress associated with recovery (Malkin, Benshoff, Beck & Toriello, 1996). Various models exist for therapeutic recreation. The most appropriate and practical model should be chosen, one which will serve as a guide in directing the types of activities and services that should be offered (Daly & Kunstler, 2006). These models will be investigated and incorporated into a specific therapeutic recreation model for stress management for the Botswana Defence Force.

Previous research in the fields of sport, recreation and therapeutic recreation was investigated, and therapeutic recreation as a treatment method for stress was analysed. The studies of Nel and Spies (2006), Botha (2005), Bhoodram (2001) and Kantor (1994) all included some form of sport or recreational activity (i.e. play therapy, visual arts, physical activity, and following a healthy lifestyle) as a medium to test the influence of such activities in stress management programs in organizational settings and among youth. It confirms that sport and recreation-related activities are beneficial as a means of reducing stress in a working environment, and contributes to the current study, with recreation therapy used to manage stress in a military setting. The study of Bhoodram (2001) was

conducted in a correctional service setting and could be related to the military environment, since staff members in both these settings are exposed to violence and stressful experiences. Bhoodram's study (2001) showed that healthy lifestyle changes, although not proven sufficient to manage stress, can lead to a decrease in stress levels and contribute to the physical health of an individual. It offered contributing evidence that sport and leisure programs could assist in reducing stress levels if Botswana Defence Force staff members were to manage their own lifestyles, including their participation in sport and recreation. Soldiers in the Botswana Defence Force have the opportunity to participate in sport and recreation activities, as the infrastructure is available to them in the form of programs and facilities. The importance of sport and recreation participation should thus be emphasized and promoted to these soldiers, empowering them with the knowledge to enter into self-directed and self-managed programs.

### **1.3 PROBLEM STATEMENT AND AIMS**

#### **1.3.1 Research problem**

There are very few studies in the literature looking at participation in sport and recreation and the use of recreation to prevent stress in military settings or, more specifically, in military forces in Africa. It is therefore important to take into consideration the findings and recommendations from a previous study, conducted by TUT with the Botswana Defence Force (2006), in order to contextualize the current extended study. The 2006 study did not address gender equity, since the respondents were all males less than 50 years old. The majority of the participants were from junior ranks, non-commissioned officers and troops

in the Botswana Defence Force. The findings thus only recorded the perceptions and needs of selected respondents and not of staff members in higher ranks. Dependants of staff members also made use of sport and leisure facilities and partook in sport and leisure activities, but this group were not sampled in the TUT study. Some dependants demonstrated a degree of disability, which suggested that activities for the disabled needed to be included or for the existing facilities to be amended in order to allow for their access and use.

The participants' interests in sport and recreation activities were measured, and the findings indicated that the majority of the respondents took part in team sports such as soccer, volleyball, rugby, basketball, other recreational games, and traditional dancing. The level of participation varied from club level and regional level to national level. Sport and leisure programs were regularly offered at military bases, but these activities and programs were not deemed adequate. More choices, such as hockey, cricket, swimming and badminton, needed to be included as first choice activities. Respondents also noted the lack of an infrastructure to manage these activities and mentioned that facilities were not up to standard. These findings were supported by a facility audit which highlighted the lack of proper facility management, and problems with maintenance, cleanliness, accessibility, availability, and the quality as well as safety and security at the facilities evaluated. The audit also addressed the lack of features such as first-aid provision, changing rooms, toilets and showers. Both the needs assessment and facility audit called for training in the areas of sport and leisure, i.e. facility management, sport and leisure management, coaching of sport codes,

and training of gym instructors (Tshwane University of Technology, 2006).

Recommendations given to the BDF by TUT (2006) focused on promoting more diversified programs to personnel and their dependants. These included programs for female soldiers and disabled participants. The findings and recommendations of their study emphasized a lack of awareness about the benefits of sport and recreation for relaxation and to improve the physical and psychological well-being of BDF staff members and their families. Sport and leisure staff were encouraged to make the military staff, their families and the public more aware of the importance of sport and leisure in their lives. Participation in health and fitness programs was encouraged. It was also recommended that soldiers participate in regular physical activities to keep them healthy and that such activities should be enjoyable for them. Further suggestions were that facilities and swimming pools be upgraded, maintained and made more accessible to disabled participants. TUT (2006) concluded that risk management should be made a priority, in order to reduce exposure to harm, including health and safety hazards.

The central problem that emerged from the literature as well as from the TUT (2006) study was that BDF members are exposed to stressful situations in a military context, as well as in their personal lives, which cause stress. Further, these members have little knowledge or resources to make use of appropriate recreation-related coping strategies.

The research question following from this is therefore formulated as follows:

Do the staff members of the Botswana Defence Force value participation in sport and recreation activities in military settings as therapy in order to reduce or manage stress?

### **1.3.2 Goal and objectives of the study**

The goal of the study specifies and operationalizes the focus of the research (Durrheim & Wassenaar, 2002). Objectives refer to the broad, scientific aspects of a study, which at times articulate on significant statements. Objectives are, however, more focused, and may contribute to the uses of the data (Friedland & Folt, 2009).

The main goal of this study was to determine the use of sport and recreation activities in a military setting as therapy to reduce and manage stress.

In order to achieve the goal of the study, the following objectives were identified:

1. To determine the Botswana Defence Force staff members' sport and recreation participation behaviour.
2. To determine Botswana Defence Force staff members' possible stress levels, stressors and overall psychological well-being, as well as dysfunctional behaviours (e.g. alcohol abuse, drug or other mood-altering drugs, aggressiveness, sleeplessness) as a result thereof.
3. To develop a Therapeutic Recreation Stress Management Model as a possible recreation intervention which could lead to stress reduction and contribute to the psychological well-being of the Botswana Defence Force staff members.

## 1.4 HYPOTHESES

The following hypotheses were formulated to address the objectives of the study:

H<sub>0</sub> (1): Botswana Defence Force members do not participate in physical activities for recreational purposes, either to reduce stress, or to cope with stress.

H<sub>0</sub> (2): Botswana Defence Force members do not experience stress and there is therefore no relationship between their actual and perceived stress scores, nor does a relationship exist between stress and demographics, life factors contributing to stress and coping with stress (i.e. life satisfaction, social support, traumatic life experiences), sport and recreation participation, work environment, or symptoms of physical, psychological or behavioural reactions to stress.

## 1.5 DELIMITATIONS OF THE STUDY

Delimitations are defined as study limitations or restrictions that cannot be controlled and are referred to by researchers as the scope of the study (Thomas, Nelson & Silverman, 2011). The delimitations of this study included the following:

- The study was not limited to any specific rank in the military.
- The study did not attempt to determine the level of participation for each of the activities chosen by participants, but rather the general level of participation.
- The study did not attempt to conduct independent assessments of sport and recreational participation behaviour, stress levels, symptoms or coping strategies of individuals for the purpose of further personal interventions.

- The study did not attempt to conduct pre- or post-test interventions to determine the effect of recreation on a participant's stress levels.
- The study was limited to the use of a survey only in order to determine the perspectives of the participants as part of a structured institution.

## 1.6 CLARIFICATION OF CONCEPTS

Investigating documents related to the topic of research revealed a number of concepts which needed to be clarified; these included:

### 1.6.1 Anxiety

**Anxiety** refers to the unique mix of subjective and physiological events which lead to apprehension, tension or uneasiness, resulting from the anticipation of a danger that is not always known or recognized. When anxiety interferes with a person's effectiveness or emotional comfort, it becomes problematic. The intensity and/or duration of anxiety is measured in proportion to the amount, degree or duration of the threat perceived (Schlebusch, 2000).

### 1.6.2 Coping strategies

According to Van Zyl, Surujal and Singh (2009: 75), **coping strategies** are *'purposeful and contentious actions that are taken in response to events that threaten psychological harm.'* Coping strategies thus involve self-corrective behaviour as a way to reduce the impact of stressful events in one's life (Beech, Burns, & Sheffield, 1982).

### 1.6.3 Intervention

An *intervention* is a purposeful action introduced to change or to modify a process or situation for the improvement of environmental or behavioural factors related to health (Ison, 2010; Bartholomew, Parcel, Kok, Gottlieb, & Fernandez, 2011). A Therapeutic Recreation Stress Management Intervention Model will be introduced in the hope that it will provide military staff with the skills and knowledge needed to reduce and/or manage their stress.

### 1.6.4 Post-traumatic Stress Disorder

*Post-traumatic Stress Disorder*, often referred to simply as PTSD, develops after a traumatic event and involves psychological stress on a scale that would be traumatic for almost anyone who experienced it. Stress is usually the primary cause of PTSD but is not the only factor that should be taken into account (Schlebusch, 2000).

### 1.6.5 Stress

**Stress** is frequently referred to as the physiological, psychological, emotional and behavioural response of a person adjusting to a situation of physical or psychological tension, or to the internal and external demands which originate when a situation requires so much from a person that it becomes a threat or a challenge (Van der Merwe, 2004; Kashalikar, 2005). Stress could thus be described as a series of events which cause damage to a person mentally or physically. Everyone experiences stress caused by life events or daily hassles, but continued stress can lead to symptoms of anxiety and other psychological

conditions (Schlebusch, 2000).

### 1.6.6 Stress management

Linden (2005) defines ***Stress management*** as a strategy to reduce stress arousal or to cope competently with specific stressors (e.g. divorce, separation from family and home, high work load, irregular working hours, poor accommodation, poor nutrition).

### 1.6.7 Therapeutic recreation

***Therapeutic recreation*** refers to the enhancement of leisure in order to maximize an individual's overall well-being, health or quality of life. It is carried out by engaging people in planned recreation, developing written goals and targeting outcomes, while focusing on the person as a whole and the changes needed in his or her living environment (Daly & Kunsler, 2006; Robertson & Long, 2008).

### 1.6.8 Trauma

***Trauma*** is perceived as an attack on the self and derives from the Greek word meaning 'to wound' or 'to pierce' (Gallimore, 2002). Modern armies engage in peacekeeping duties and humanitarian missions which are nevertheless still regarded as combat duties and form part of military operations. These duties are associated with an increase in the potential for traumatic experiences that could cause stress (Greenberg, Langston, & Scott, 2006). Trauma is thus the direct result of exposure to events such as violence and the destruction of war (Miller &

Rasmussen, 2010).

## **1.7 RESEARCH DESIGN AND METHODOLOGY**

Research can be viewed as a developmental process designed to effectively observe and monitor the acquisition of new knowledge, finding facts in order to solve problems or address issues, and looking at the interrelationships between variables, all of which allow the researcher to draw relevant conclusions and offer recommendations (Leedy & Omrod, 2005; Harris, 2006). Research is based on empirical evidence, supporting the development of new ideas, verified through the data which are collected, and used to take decisions (Gratton & Jones, 2004; Terre Blanche & Durrheim, 2002; Durrheim, 2002). Research in the social sciences requires definite and appropriate methods or logical and empirical procedures (Terre Blanche & Durrheim, 2002). Research methods offer a strategic framework that guides the process and ensures a thorough investigation, resulting in conclusions being adequately justified and carefully reasoned (Pretorius, 2007; Durrheim, 2002).

Botswana is a very accessible country, encourages research and has an excellent record in granting permission for research to visiting scholars. The government and people of Botswana are cooperative and welcoming (Wiseman, 1992). Given the previous research interventions with the BDF, it was deemed appropriate to build on the good relations and to extend this research to more applicable studies which could be beneficial to the BDF.

### **1.7.1 Research design**

Gratton and Jones (2004) state that empirical research aims to develop new ideas through the collection of data, rather than relying on theoretical reasoning alone. This is an empirical study, based on quantitative research methods, on stress management through recreation in the BDF. Quantitative research refers to the characteristics of the data collected by the researcher and makes use of numerical measurement and analysis by statistics to provide an objective interpretation of these data (Pretorius, 2007; Gratton & Jones, 2004). This method of data collection was deemed most suitable in view of the research goal and the objectives of this study, as it measured sport participation, stress levels and symptoms, as well as the coping measures of a sample of military staff which could be generalized to the larger population, rather than focusing on the feelings and thoughts of a small, selected group of participants.

Data were collected using the survey technique. This is most suitable when informative and explorative research is undertaken and involves the collecting of information from one or more groups of people (Leedy & Omrod, 2005). It is a convenient design technique when standardization in approach and uniformity of information are sought. A questionnaire is “a standardized set of questions to gain information from a subject” (Gratton & Jones, 2004: 115). A questionnaire, which included both closed and open-ended questions, was therefore used as the survey technique. Statistical procedures were followed by capturing the data on an Excel spread sheet and feeding it into the Statistical program SPSS v.20 to generate quantifiable descriptive and inferential statistics from the survey.

### **1.7.2 Research instrument**

A comprehensive questionnaire was developed by the researcher. In the design of a questionnaire, checklists and rating scales are used to gain information. Checklists include a list of behaviours, characteristics or other entities that are to be investigated, while rating scales are used to evaluate behaviours, attitudes or other phenomena of interest (Leedy & Omrod, 2005). The questionnaire used in this study comprised three sections: A: demographic information, B: sport and recreation program demographics, and C: a stress inventory. Sections A and B were adopted from the questionnaire used by TUT (2006) and were modified for this study. The stress inventory and other stress-related questions were developed in collaboration with a psychologist and were based on the work of Fikretoglu, Brunet, Guay and Pedlar (2007), and Preventative Measures Inc. (2007), Rona, Hooper, French, Jones and Wessely (2006), Hoy and Hoy (2004), Van der Merwe (2004), Clason (2002, a), Clason (2002, b), Schwerin, Michael, Glaser and Farrar (2002), Schlebusch (2000) and Holmes and Rahe (1967). All of these authors either made use of the Holmes and Rahe Stress Inventory or other stress inventories as a way of determining the levels of stress of individuals or related symptoms of stress, thus allowing the researcher to develop Section C of the questionnaire. Their work further helped the researcher to establish different sub-sections related to the various aspects of stress and to incorporate these into the design of the questionnaire. Each section of the questionnaire will now be discussed separately.

### **1.7.2.1 SECTION A: Demographic information**

The first section of the questionnaire focused on personal demographic information from the Botswana Defence Force staff members, including their age, gender, marital status, education levels, religion, military force type, military rank, and military status, as well as their general feelings of satisfaction about their lives and their participation in sport and recreation. It also supported the second objective of the study, to determine if there were any traumatic events in their personal lives over the past decade, and to identify if any of these traumas were work-related, since trauma is related to stress.

Personal information contributed to the study, because it offered insight into the characteristics of the participants, creating an understanding of personal factors which could play a significant role in an individual's stress levels. The questions used consisted of closed and open-ended questions, as illustrated in the questionnaire (Appendix).

### **1.7.2.2 SECTION B: Sport and recreation program demographics**

The second section measured perceptions on sport and recreation program demographics, in order to determine the behaviour of the participants, assessing their sport and recreation preferences, their reasons for participation, frequency of participation, level and quality of the programs and activities offered, place of participation, and range and quality of services. This section related to the first objective of the study, that of determining the sport and recreation behaviour of the BDF staff members and their reasons for participating in such activities. The

researcher made use of both closed and open-ended questions (Appendix), offering possible answers to the questions where applicable and leaving space for comment on those questions requesting any further information that could be of use. Responses to the open-ended questions were captured as text and coded according to the similarities of responses. Individual and team sport and recreation activities were listed respectively. These activities were identified as being practiced on BDF base camps (TUT, 2006) and were therefore presented in a tabular format, allowing the respondents to reflect on those activities in which they preferred to participate. They were also asked to indicate other activities that were not included in the table. This was an open-ended question and activities were coded for statistical purposes (i.e. dancing = 1; painting = 2).

### **1.7.2.3 SECTION C: Stress inventory**

The third section of the questionnaire measured internal perceptions of respondents' stress levels, symptoms of physical, psychological and behavioural reactions to stress, the causes of stress, and stress coping methods. These measurements were taken by means of generic formulated questions which focused on the second objective of this study, that of determining the stress levels and the accompanying symptomatic changes in the Botswana Defence Force staff members, and their coping methods. These questions were developed in collaboration with a psychologist.

Symptoms of physical, psychological or behavioural reactions to stress are those characteristics of a person experiencing stress which affect that person's health

and well-being. In measuring such symptoms, general statements were given to the respondents, related to the different symptoms that they might have experienced over a period of two years leading to this study. These statements concerned their everyday life experiences in military or non-military (civilian) environments. Participants were asked to indicate their level of agreement with these statements on a 5-point Likert scale (1= Never or almost never, 2= Seldom, occasionally, 3= Sometimes, 4= Often, frequently and 5= Almost always). Descriptive statistics were used to determine which of the statements most frequently chosen might be of concern to the military staff members' overall well-being. The most chosen symptoms were addressed when developing the Therapeutic Recreation Stress Management model. The total scores for each table of symptoms were used to determine if there were any relationships or associations between the different variables.

In order to determine the stress levels of the BDF staff members, the Holmes-Rahe Social Readjustment Rating Scale (SRRS) was used (Rahe, 2007; Hoy & Hoy, 2004; Holmes & Rahe, 1967). The SRRS was developed from a psychosomatic perspective focussing on the psychological and physical effects of stress on an individual and was applied within a military context (US Navy) (Rahe, 2007). The SRRS were the only appropriate validated instrument found at the time of data collection that provided a quantitative measurement of stress. Stress will therefore be discussed in chapter two as a psychological phenomenon within a military context that will provide a theoretical framework for this study.

The SRRS follows a simple checklist score approach, listing 43 major life events, referred to as *Life Change Units* (LCU). These LCUs stemmed from the *Schedule of Recent Events* (SRE) developed by Hawkins, Davies and Thomas Holmes in 1957 (Rahe, Mahan, & Arthur, 1970). The SRE looked at the cumulative effect of life events causing stress, from which Holmes and Rahe developed the framework for their SRRS (Cooper & Dewe, 2004). The life events used in the SRRS were selected on the basis of prior clinical experience of the events that could occur over a period of time and that tended to increase the risk of mental health imbalance, including anxiety and depression, and were mainly tested on male subjects (Rahe, Mahan, & Arthur, 1970). The original scale included scores related to those events which were most stressful, with more points being allocated to such events (e.g. Death of spouse = 100; Divorce = 73; Marital separation = 65). Less stressful events scored lower (e.g. Minor violations of the law = 11; Vacation = 13; Change in eating habits = 15). These scores were added together to make a total score of between 0 and 1414.

In a personal interview, Rahe (2007) noted that the SRRS scale had been updated with studies conducted in the Navy, but these added LCU values were not well known or used. The LCUs had to be changed to make them more applicable to the military environment, and the results were correlated with several other studies, such as those conducted on medical residents (Rahe, 2007). The original SRRS scale was used and adapted for this study by including only 29 of the 43 life events. The 12 life events that were excluded (e.g. pregnancy, retirement, beginning or ending school, changing schools) were not

deemed relevant to male military staff of the BDF. According to Brown (1989), events could be added to the list if it were believed that subjecting participants to such events could lead to stress or in severe cases to PTSD. *War circumstances* and *Acts of Terrorism* were therefore added to the list. Both these are significant catalysts of stress in military organizations. Botswana Defence Force staff members are subjected to war circumstances when they engage in peace-keeping missions. They are also subjected to acts of terrorism when they protect their borders or embark on anti-poaching actions. Brown (1989) further maintains that these added events could be weighed against the standard maximum score of 100 for the 'death of a spouse'. The two added events were valued at a score of 53, the same value as 'personal injury or illness' in military settings, where soldiers could be injured during training or combat. Thus the total calculated score used in this study was between 0 and 1193, deviating 15.6% from the original scale (Appendix).

The original study used a timeframe of 12 months (Holmes & Rahe, 1967), but was tested for reliability in other studies for periods of two years, one year and six months (Rahe, 2007). For the purpose of this study, respondents were asked to indicate if they had experienced any of the events within a timeframe of two years prior to the study by selecting either *No* = 1 or *Yes* = 2. For statistical purposes, this was re-coded as *No* = 0 and *Yes* = 1. The scores and weights were not given to the respondents for self-evaluation, but were used to determine the total score of each participant in the three bands created by Holmes and Rahe (Holmes & Rahe, 1967).

Holmes and Rahe placed the scores into three bands. In the first band, a total score of between 0-150 means that there is less of a possibility that a respondent suffers from effects of cumulative stress (minimum to no stress). Total scores of 150–300 indicate that the respondent might be suffering from chronic stress (moderate stress), depending on how he or she perceived and coped with the particular life events that occurred. If the score is over 300, it is likely that the respondent experienced detrimental effects of cumulative stress (high level of stress) (Rahe, Mahan & Arthur, 1970). The same bands were applied to interpret the findings of this study, due to the low deviation rate from the total score of the original inventory.

The final part of Section C prompted respondents to indicate if they were currently experiencing stress (yes/no), followed by an open-ended question asking them to state what they believed caused their stress. They were provided with statements on various stress management coping strategies, and were asked to indicate their level of agreement with these statements on a 5-point Likert scale (1= Never or almost never, 2= Seldom, occasionally, 3= Sometimes, 4= Often, frequently and 5= Almost always). Total scores were generated for this table for statistical purposes. The questionnaire was concluded with an open-ended question requesting respondents to indicate any other method they used to manage their stress, other than those already given.

### **1.7.3 Data collection**

Before undertaking the study, it was necessary to determine the method that would be used to collect primary data. For the purpose of this research, a voluntary, self-report questionnaire was developed and distributed throughout four military base camps in Botswana. These included the three base camps in Gaborone (all three regarded as one base camp), Thebephatshwa/Molepolole (TAB:- Air force base camp), Selebi-Phikwe and Francistown. Two thoroughly trained, Tswana-speaking assistants accompanied the researcher to Botswana to administer the questionnaires. In conjunction with the BDF, the respondents were requested to meet at a specific venue (parade grounds, gym with hall at base camp and open carports) allocated by military command at each base camp where the questionnaires were administered in controlled circumstances. The respondents were informed of the topic and aim of the research and their written consent to participate in the study was secured. They were then told of the changes which had been made to the questionnaire (discussed later in this chapter), and were instructed on how to answer the questions. Both the researcher and the assistants were available at each session to assist the respondents when the questions were not well understood, or to explain questions in their native language, Tswana. The completed questionnaires were collected on site.

### **1.7.4 Data analysis**

The information obtained was captured onto an electronic data sheet using Microsoft Excel. Double entry was used for data capturing to eliminate possible

human errors. The original set of data was compared with the second set to check for any incorrect entries. Errors were corrected by referring back to the completed questionnaires. The information was analysed using the statistical software, Statistical Package for Social Sciences (SPSS) v.20.

Preliminary analysis was conducted to explore the nature of the data (Pallant, 2005). Descriptive statistics were used for this purpose. These are primarily aimed at examining and describing a body of data or the relationship between variables, as indicated by Leedy and Omrod (2005). Matthews and Kostelis (2011) state that descriptive statistics are not used to make interpretations or draw conclusions about the target population, but in essence allow the researcher to describe and summarize the characteristics of the sampled data. In this study, they were used to explore the responses to the various questions. Descriptions of the sample in terms of the demographic information, participation in sport and recreation, as well as the respondents' stress levels and behavioural changes recorded in the questionnaire, were reported in terms of frequencies, means and standard deviation. Scales, symptoms of physical, psychological and behavioural reactions to stress, as well as ways of coping with stress, were regrouped for statistical purposes to make reporting on the data more clear. Scales for symptoms were regrouped either as 'no', indicating that these symptoms had not been experienced before, or 'yes', when the symptoms had been experienced before. Scales for stress coping were regrouped into 'no', indicating that the coping measures had not been used before, and 'yes', when such measures had been used. Tables and graphs were used in some cases to explore useful

information visually and to provide summaries of the data (Pallant, 2005).

Further statistical analyses were conducted by means of inferential statistics. These are used to draw conclusions from the data collected from the target population, providing insight into the research question and hypotheses by testing the significance between various factors (Matthews & Kostelis, 2011; Quartaroli, 2009). Tabachnick and Fidell (1996: p. 9) explain that inferential statistics are used to test the *'hypotheses about differences in populations on the basis of measurements made on samples of subjects.'* In order to conduct further analysis, data were manipulated to give overall scores for scales (i.e. stress, symptoms of physical, psychological and behavioural reactions to stress, and stress coping), and collapsing continuous variables into categorical variables (i.e. total stress scores were placed into bands of 'little to no stress', 'moderate stress' and 'high levels of stress', giving a dysfunctional behaviour score) to test for variance and to reduce the number of categories of categorical variables (i.e. marital status, life satisfaction, satisfaction with physical activity) (Pallant, 2005).

The statistical technique used to explore relationships among variables was the Pearson's Product-Moment Correlation. This procedure generally applies to those situations in which the relationship between two variables is mostly linear, where both variables are measured on a more or less continuous scale, or where assumptions of some sort of normality and homogeneity of variance can be made (Howell, 2004). The strength of the relationship is judged by the linear relationship or numerical value of the correlation ( $r$ ). According to Weinberg and

Abramowitz (2002), Pearson's correlation values were often cited by Cohen in 1988. Cohen indicated that the Pearson correlation values are equal to  $r=\pm 0.50$ , considered to be strong;  $r=\pm 0.30$ , considered to be moderate; and  $r=\pm 0.10$ , considered to be weak (Weinberg & Abramowitz, 2002).

This procedure was used to determine whether there were statistically significant relationships between the scales that measured stress, physical, psychological and behavioural symptoms of stress, the coping score and the dysfunctional behaviour score. Cohen's correlation values will be used to indicate the strength of the relationships.

In order to compare groups and to test differences, the researcher made use of cross-tabulations, the Chi-square ( $\chi^2$ ) test, *t*-tests and ANOVA. Post-hoc analysis was used to look for patterns in the data in cases where the ANOVA tested significance between dependent and independent variables. The statistical test used for this purpose was Fisher's Least Significant Difference (LSD) test.

**Cross-tabulation:-** Cross-tabulation calculates the weighted observed frequencies of two categorical variables and is useful before statistical tests of association, such as the Chi-squared test (Gordon, 2012), are performed. Cross-tabulation was carried out in this study to test individual and team sport and recreation activities, as it is associated with the level of participation and reasons for participation, stress scores and the number of deployments. The latter was used to perform further statistics using the chi-square ( $\chi^2$ ) test.

**The Chi-square ( $\chi^2$ ) test:-** Chi-square tests are used to test non-parametric nominal data to determine significant differences between people classified in the categories of the variable. This test compares actual (observed) frequencies ( $F_o$ ) of a variable with expected frequencies ( $F_e$ ) (Matthews & Kostelis, 2011; Gratton & Jones, 2004). Chi-square ( $\chi^2$ ) tests were performed to test for differences between sport and recreation activities and reasons for participation, stress scores and deployment, perceived stress and satisfaction with level of physical activity, as well as stress and life satisfaction.

**t-test:-** The *t-test* assesses the statistical significance of the difference between two independent sample means (Hair *et al.*, 1998). There are two types of *t*-tests, the pairwise sample *t*-test and the independent sample *t*-test. The pairwise sample *t*-test is used to see if there are changes in scores for subjects tested at intervals, and normally requires some intervention to take place. The independent sample *t*-test is used to compare scores of two different independent groups or variables. In the case of this study, it was used to determine the difference between perceived stress and stress scores, stress coping and traumatic life experiences, as well as stress coping and social support. Only one set of data is required for this test (Pallant, 2005).

**ANOVA:-** The ANOVA is a parametric test used to compare the differences and similarities between more than two groups, as compared with the *t*-test. These groups must be independent from one another and must be normally distributed. ANOVA looks at variances between the groups and indicates any significant

differences between them. It does not, however, indicate where the difference lies, so more testing will be required. ANOVA was used in this study to test differences between stress and demographic data, satisfaction with physical activity, frequency of participation in physical activities, life satisfaction and traumatic life experiences. It was also used to test for differences between stress coping and demographic data. To determine which group differences existed, post-hoc tests such as the t-test and the LSD were used (O'Neil, 2009; Pallant, 2005).

**Fisher's Least Significant Difference (LSD) test:-** The LSD test is used as a procedure to make multiple pairwise comparisons among a set of t population means. This test is only used when the analysis for variance is significant (Ott & Longnecker, 2010; Howel, 2004). As indicated, the LSD was used as a post-hoc test for this study in cases where ANOVA tested significant differences in the data, specifically where such differences were tested between stress and military rank, stress coping and demographic data, and stress coping and military type.

Alpha was set at  $\alpha=0.05$  to test statistically significant associations and differences between groups. If the p-value is equal to or less than 0.05, it indicates that there is a statistically significant difference between the two groups identified, on the 5% level of significance.

#### **1.7.4.1 Validity and reliability**

Validity and reliability reflect the degree to which there may be errors in a study's measurements. Durrheim (2002) states that content validity is ensured by determining the extent to which a measure reflects a specific domain of content. He further states that the selection of the 'most representative items' is a matter of judgement and that the researcher should consult others in the academic community to determine if they think the measure and construct definition fit. Pre-existing measurements were used to develop the measurements for this study. Items from each content area were selected to best represent the content. The researcher consulted an academic professional on the use of the measurements in this study.

Validity of a research instrument indicates whether the research instrument measures what it is supposed to measure, and can also be referred to as 'face validity' (Leedy & Omrod, 2005; Gratton & Jones, 2004). To test the face validity of the instrument, a pilot study was conducted. Twenty questionnaires were sent to the BDF staff member assigned to assist with the coordination of the study. The questionnaires were not sent back to the researcher prior to conducting the study, as the timeframe was prescribed to the researcher by the authorities of the BDF. However, the coordinator of the BDF gave the researcher verbal feedback about the instrument at the time appointed to conduct the study. Although the final questionnaires were printed, the researcher was able to make the necessary changes, explaining these to the respondents on arrival at each of the facilities where the research was conducted. The original questionnaire was validated in

conjunction with an independent statistician and the research supervisor.

Leedy and Omrod (2005:29) state that “reliability is the consistency with which a measuring instrument yields a certain result when the entity being measured hasn’t changed.” Thus the measurement of psychological characteristics, such as those examined in this study, is not always reliable, as the interpretation of phrases could change from one day to another. Similarly, internal and external factors may influence a person’s perspectives on a specific aspect. The measuring instrument was tested for reliability using Chronbachs Alpha reliability coefficient. Chronbachs Alpha measures the internal consistency of scales and the reliability coefficient normally ranges between 0 and 1 (Gliem & Gliem, 2003). The following rules of thumbs, as used by Gliem and Gliem (2003: p. 87), was applied to draw conclusions on the reliability of the measuring instrument: “>0.9 – excellent, >0.8 – good, >0.7 – acceptable, >0.6 – questionable, >0.5 – poor and <0.5 – unacceptable”. The Chronbachs Alpha scores were calculated per section. For Section A,  $\alpha=0.352$  (V1-4);  $\alpha=0.160$  (V6-10);  $\alpha=0.688$  (V14-15). This section tested questionable and unacceptable for reliability, since demographic data can change when tested with a different group of participants. Section B could not be tested for reliability, since the variance of the data was too large to calculate. Section C tested excellent for reliability, with Chronbachs Alpha scores of  $\alpha=0.906$  (V16-39);  $\alpha=0.938$  (V97-122);  $\alpha=0.944$  (V123-164) and  $\alpha=0.963$  (V165-195). It was not possible to get a total Chronbachs Alpha score for the whole questionnaire because of the large variance for some of the questions.

### **1.7.5 Research population, sample and sampling method**

A research sample is the representation of a specific population (Gratton & Jones, 2004). Selecting the sample depends firstly on the aim of the procedure and secondly on the careful consideration of the parameters of the population, ensuring that the researcher is able to see the characteristics of the whole population (Leedy & Omrod, 2005). At the time of the research, the Botswana Defence Force consisted of approximately 12,000 troops. The researcher was restricted to including only participants from four of the military base camps: Gaborone, Thebephatshwa/ Molepolole (TAB:- Air force base camp), Selebi-Phikwe and Francistown. The remaining base camps were high-security military camps, and were thus not open to civilians or visitors. The BDF is a military setting, with security policies in place, and this determined when the participants could be made available for the research. For this reason, a convenient sampling technique was used (Leedy & Omrod, 2005; Gratton & Jones, 2004). Soldiers available at base camps at time of data collection that voluntarily consented to participate in the study were sampled. According to the sample size calculator (Creative Research Systems, 2007), a sample size of 855, at a confidence level of 95%, was needed to represent the population. Eight hundred and eighty two (882) questionnaires were distributed and eight hundred and fifty seven (857) were returned by participants. The sample size reached was thus sufficient for the purpose of the study. The base camps were not all of the same size and could not accommodate the same number of soldiers. The following responses were collected from the base camps: Gaborone (n=337), Thebephatshwa/Molepolole (TAB:- Air Force base camp) (n=222), Selebi-Phikwe

(n=113), and Francistown (n=185).

### **1.7.6 Ethical considerations**

Ethical considerations are important in determining whether a study is socially and morally acceptable (Gratton & Jones, 2004). The researcher has an ethical obligation to protect the welfare and rights of all the research participants (Durrheim & Wassenaar, 2002).

Durrheim and Wassenaar (2002) emphasize three basic ethical principles, those of autonomy, non-maleficence and beneficence. To ensure autonomy in the present study, the researcher informed the Commander of the BDF that the defence force was under no obligation to participate in the research. The researcher secured written permission from the Commander to perform the research and to publish the results in accredited journals. Further ethical clearance was obtained from the Ethical Committee at the University of Pretoria. The participants were informed about the investigation procedures and the basic outlines of the research. They were also told that their participation was voluntary and that they were free to withdraw at any time without penalty. Their identities were not revealed to the researcher and their anonymity was ensured at all times, especially in the case of any publication that might emerge. Their informed and voluntary written consent was requested and the raw data has been in the researchers possession at all times and has not been shared in any way with the military. The data were collected at general access points at the respective military bases and no confidential military information was gathered that could

result breach in security.

The principle of non-maleficence did not apply to the study, since there was no risk of any physical, emotional or social harm to the participants. They were only required to complete a questionnaire reflecting their perceptions on the issues of sport and recreation participation and stress.

Military organizations, especially on the African continent, could well benefit from the information gained in this study, and could incorporate the Therapeutic Recreation Stress Management Intervention model as a way of helping military staff to manage their stress in both combat and non-combat situations. Articles will therefore be submitted for publication to accredited journals, in the hope of benefiting the military as well as the academic community at large.

Data will be stored up to 15 years, as per the requirements of the University of Pretoria. The information will be kept safe, stored on a hard drive at two different points, and an electronic copy on a CD will be kept in a personal safe at the home of the researcher. The information will be treated with utmost confidentiality and will not be further released without the consent of the BDF and the University of Pretoria. A hard copy as well as an electronic copy of the thesis will be lodged with the library of the university.

## **1.8 CONTENT OF RESEARCH REPORT**

The layout of the research report is given below:

### **Chapter 1: General introduction, orientation and research methodology**

This chapter contextualized the topic under investigation, that of stress management through therapeutic recreation in the Botswana Defence Force. It briefly orientated the reader on the Botswana Defence Force, sport and recreation within the military, and stress in the military context. This was used to formulate the problem statement and research question, aims and objectives, and hypotheses of the study. The terminology related to the study was clarified.

The chapter also outlined the research methodology that was followed in the study. The research design, research instrument, data collection method and data analyses were discussed in detail.

### **Chapter 2: Employee wellness and stress**

Employee wellness relates to the health and psychological well-being of employees. If the wellness of employees is not prioritized, it may lead to dissatisfaction in the workplace, resulting in low productivity and stress. Employee wellness can, however, be addressed through good management practices and by implementing intervention programs.

With this in mind, this chapter firstly addresses employee wellness within a military context. It further investigates and describes the theory of stress and stress management as a psychological phenomenon, with stress contextualized

in the military community. The chapter contributes to the theoretical framework of this investigation in support of the second objective of the study.

### **Chapter 3: Recreation**

The third chapter provides the theoretical framework for the third objective and supports the main goal of the study with a thorough literature search. This reviews the theory of therapeutic recreation and its methods as a foundation for treating stress as it relates to the military. Different TR models are critically discussed to determine the best model to be incorporated into the intervention model.

### **Chapter 4: Research findings and discussion**

This chapter analyses the questionnaire and gives detailed information on the findings with regard to the sport and recreation behaviour of the Botswana Defence Force staff members, their stress levels, overall psychological well-being, and the different coping methods they use to deal with stress. It reflects on the objectives of the study and the tests used to assess the significance of relationships and the differences between variables. The latter was used to draw conclusions on the hypotheses of the study. Findings are discussed bringing them in line with the objectives of the study

### **Chapter 5: Discussion, conclusion and recommendations**

Chapter 5 is the final chapter, in which the key findings of the study are highlighted and discussed, to determine whether the goal and objectives of the

study have been met. It concludes by offering recommendations as to a way forward for the Botswana Defence Force. These recommendations include the Therapeutic Recreation Stress Management Model.

## **1.9 CHAPTER CONCLUSION**

This chapter contextualized the topic under investigation, that of stress management through therapeutic recreation in the Botswana and its Defence Force. The objective was to provide background on the BDF, to formulate the problem statement and research question, the goal and objectives of the study, to clarify the terminology used, and to describe the research methodology and the limitations of the study.

The next chapter focuses on employee wellness and stress in a military context in order to create a theoretical framework for this psychological and biological disorder.

## CHAPTER 2

### EMPLOYEE WELLNESS AND STRESS

#### IN MILITARY CONTEXTS

### 2.1 INTRODUCTION

In Chapter one, the literature indicated that military readiness is an important factor in military forces. It was also emphasized that military staff are repeatedly exposed to stressful and often unpleasant traumatic life events. Failure to manage these stresses could have an effect on employee wellness and job satisfaction (Renwick, 2009).

Rocco (1998) stated that it is the primary responsibility of the military to maintain and promote high military/combat readiness among staff. The components of military readiness include unit cohesion, fitness, technical competence, organizational citizenship behaviour, preparedness and commitment (McGonigle, Casper, Meiman, Cronin & Harris, 2005). Military readiness can be ensured by promoting health and wellness in the military environment. This includes looking after the psychological wellbeing of the soldiers. This includes reducing stress that can have a negative influence on their physical and mental health. It is thus necessary to understand stress and the stressors experienced by soldiers in order to address the concerns relating to their health, well-being and effectiveness (Bartone, 2005).

Employee wellness will be addressed and its relationship to stress discussed. Emphasis will be placed on the phenomenon of “stress” and how it pertains to the military environment.

## **2.2 EMPLOYEE WELLNESS**

Bagne-Walsh (2008) and Miller and Foster (2012) investigated the term “wellness” from a holistic point of view. In this context, wellness is seen as a positive approach to living, rather than simply the absence of illness (Bagne-Walsh, 2008; Burczy & Bowin, 1994). Els (as cited by Sieberhagen, Rothmann & Pienaar 2009:19) defines wellness as “the experience of optimal health, good relationships with others, being emotionally and cognitively well stimulated and experiencing significance and purpose in life.” It thus includes the integration of the body, mind and spirit, the appreciation of everything a person does, thinks, feels and believes (Bagne-Walsh, 2008). It is a multi-dimensional, integrated and ever-changing state, related to well-being and quality of life, happiness and general satisfaction (Miller & Foster, 2010). It is embedded in a person’s entire lifestyle, mental and physical well-being, as well as the environment in which he or she lives and works. It’s most common dimensions, as identified in the literature by Miller and Foster (2010), are physical, emotional/psychological, social, intellectual, spiritual, occupational, environmental, cultural, economic, and climatic wellbeing.

From an employee wellness perspective, Behm (2009) and Rego and Cunha (2008) indicated that a good workplace is one where employees trust their

employer, take pride in what they do, and enjoy working with their peers. Such a workplace is characterized by five dimensions: credibility, respect, fairness, pride and camaraderie. These are not limited to commercial organizations, but can also be applied to military organizations. This suggests that the military environment can be a source of meaning and growth, building a sense of purpose, self-determination, impact, competence, belonging, meaning and enjoyment, rather than leading to psychological suffering and feelings of alienation (Rego & Cunha, 2008). These qualities are embedded in the workplace or organizational climate, anchoring the health and psychological well-being of employees.

The workplace climate is critical to job satisfaction, to reducing job stress, maintaining health status, and ensuring absence of sickness among employees (Pflanz & Ogle, 2006). Such a climate is not unique to any specific organization or industry, and is constantly challenged by changes. It is important for the productive performance of employees, since it ensures that they add value to the organization, pouring their efforts into their work, and reaching their full potential, for the benefit of the organization (Castro & Martins, 2010). This is directly affected by the morale of the employees (Castro & Martins, 2010).

The morale of employees is therefore the starting point for measuring their wellness (Evans, 2003). It can be defined as the degree to which an employee feels good about his or her work and the related environment. It includes constructs such as intrinsic motivation, job satisfaction, work meaningfulness, organizational commitment and work pride (Behm, 2009). According to Snow

(1984, cited by Brooks, Byrne, & Hodson, 2000: p. 38), the four basic dimensions of morale in the military are: 'confidence in commanders, confidence in equipment and in self as user, unit cohesiveness and perceived legitimacy of the mission.' Behm (2009) placed these in more specific domains, such as credibility, respect, fairness, pride and camaraderie. Compliance with these qualities effectively builds trust.

Morale in the military is embedded in the fitness programs which are biased towards military training, to creating physical fitness, mental alertness and the qualities of military preparedness. These programs are normally involuntary, mandated through the commander, and form part of a soldier's military duties (Novack, 2007). As noted in Chapter one, they improve the physical fitness of all ranks, boosting unit morale by building inter-rank relations outside the threatening hierarchal structure (Mason, 2011; Chien-Yu, Ping-Chao, & Hui-Fang, 2008; Riordan, 1986). Military Welfare and Recreation (MWR) programs have been given to soldiers during military operations since World War I, to promote and maintain efficiency and morale.

Sport and recreation programs in the Botswana Defence Force (BDF), apart from the specifically mandated physical exercise programs, are mainly voluntary, based on self-interest and personal motivation. Although voluntary, they offer support and leisure activities designed to enhance the quality of life of service members (Phillips, 2006). The main purpose of worksite programs is for the employee to maintain good health, to facilitate positive changes both in individual

behaviour and in the organizational culture (Roberts, 2009; Rocco, 1998). Dolbier, Smith and Steinhardt (2007) and Novack (2007) were of the opinion that the implementation of worksite health promotion and wellness programs is an investment in healthier workers, resulting in higher productivity and earnings for the organization, as well as reduced health care expenditure. These authors further maintained that, through these worksite health and wellness programs, ways are created to lessen the stress and illnesses experienced by employees, assisting them in coping with work-related stress, as well as with life balance and facilitating their psychological well-being. Military Welfare and Recreation programs could thus serve a larger purpose than simply maintaining and promoting military efficiency and morale. They could reduce the stress that military staff endure, enhancing unit, command and military readiness to meet military operations. However, military leaders would need to play a significant role in the delivery of this message of wellness in the field (Rocco, 1998). This would be possible through transforming the military culture, providing the military leaders with the 'tools' to ensure this change.

Psychological well-being is perceived by people as happiness and satisfaction (Rego & Cunha, 2008). It can be created through the empowerment of employees and is positively associated with job performance and job satisfaction, as well as with the ability to cope with stress (Stander & Rothman, 2009). In the military environment, it is referred to as psychological fitness and is a vital component of military readiness. Psychological fitness is defined as the integration and optimization of mental, emotional and behavioural abilities and

the capacity to optimize performance (Bates, *et al.*, 2010). It further strengthens the resilience of soldiers, which is vital to force protection. Resilience refers to when a person remains healthy despite the high stress levels he or she may be experiencing. The pathway to resilience is personality hardiness (Bartone, 2006). Hardiness leads to better health and fewer symptoms in soldiers exposed to a range of stressors (Bartone, 2005).

Louw and Viviers (2010) state that military work is society's most stressful occupation. Stress and stress-related illnesses are major causes of occupational ill-health (Sieberhagen, Rothmann, & Pienaar, 2009). They are associated with various biological reactions leading to compromised health or, in extreme cases, to death (Smith, 2011). Job stress may directly influence an organization, resulting in low productivity and increased errors and accidents, a high labour turnover, increased absenteeism, increased medical costs or even injury (Sieberhagen, Rothmann, & Pienaar, 2009). Positive employee health and wellness could thus be promoted through good supervisory relationships, support, growth opportunities and adequate job resources (Sieberhagen, Rothmann, & Pienaar, 2009). These issues need to be addressed in order for soldiers to be productive, to stay mentally fit and to maintain their personal health and wellness (Bagne-Walsh, 2008).

Stress will now be discussed as it pertains to the military context.

## 2.3 STRESS

Stress is a well-known phenomenon, one which has been well researched. Anyone can become a victim of stress in his or her daily life (Schlebusch, 2000; Feldman, 1999). It is a concept familiar in modern society, both to the medical profession and to the general public. Knowledge of stress and the coping mechanisms needed to manage it are very powerful tools. Three concepts useful in understanding stress from a psychological perspective are stress, strain and load.

Stress is the physiological, psychological, emotional and behavioural reaction of a person trying to adapt to internal and external pressures or expectations. It can also be seen as a force (Van der Merwe, 2004; Schlebusch, 2000). If continuous force is applied, for example, to a piece of metal, it causes stress, so that the metal will be weakened and will eventually break. This could be related by analogy to any form of living organism. Plants, animals and human beings all show a reaction to stress. For example, when fireworks are set off in a residential area, animals become so stressed that they may break through fences or run away (Van der Merwe, 2004; Schlebusch, 2000).

Everyone experiences stress caused by daily hassles or life events. Continuous stress may lead to symptoms of anxiety and other psychological or physical symptoms. These need to be dealt with to prevent discomfort, or mental or physical disorders (Schlebusch, 2000; Patel, 1991). This relates to the General Adaptation Syndrome Theory (GAS), which states that stress produces a definite

series of reactions in the body. The GAS theory stems from the writings of Hans Selye in the 1950's (Smith, 2011; Dolan, 2007; Cox, 1978). It focuses on the internal aspects of stress, maintaining that a person goes through three distinct phases when experiencing stress: Stage 1: the **alarm reaction phase**, Stage 2: the **resistance phase** and Stage 3: the **exhaustion phase**.

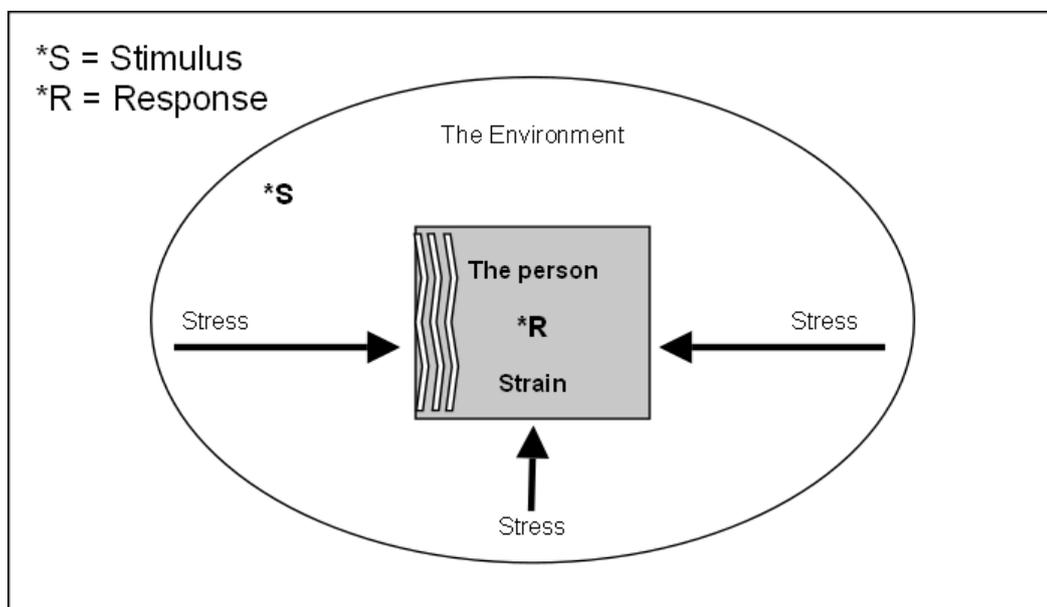
The **alarm reaction phase** is similar to the 'fight-or-flight' response and includes neurological (brain) and physiological (body) responses when the subject is confronted with stressors in the environment or in a given situation. Adrenalin (adrenocorticosteroids) is rapidly released into the body, acting on the suprarenal cortex to produce cortisol. This prepares the body not only for action but also to rapidly overcome the situation. Responses to stressful situations are identified as anxiety or fear, sorrow or depression, shock or confusion.

Normally, these are self-correcting, but if not quickly corrected will trigger the second stage. The **resistance phase** is a continuous state of arousal, with severe physiological or biological consequences if the stressful situation is prolonged. In this phase, the body prepares a particular organ or muscle group to cope with the specific situation, for example your legs if you need to run, and is crucial for coping with the effects of the situation and to prevent tissue damage. The body tries to adapt to the strains or demands of the environment, but cannot continue to carry these demands indefinitely, since its resources will be gradually exhausted. Reactions related to the resistance phase are aggression, regression, repression, withdrawal and fixation.

If the stress is not resolved, a chronic stress situation will develop, leading to the ***exhaustion phase***. This occurs after a long period of resistance, to which the body then reacts. Bodily energy reserves are exhausted, preventing the body from maintaining its normal functions, and a breakdown occurs which may result in severe illness or death. Reactions in this stage are psychological, physiological, or interpersonal, and involve an inability to defend oneself against stressors (Smith, 2011; Dolan, 2007; Siyanqoba Seminars, 2007; Leatz & Stolar, 1993; Cox, 1978).

It is important to investigate the way each individual perceives a given situation, copes with such a situation, and experiences stress, whether physically, mentally, emotionally or behaviourally. The actual situation causing the stress should be investigated by exploring the meaning and importance of the situation to the individual (Schlebusch, 2000; Patel, 1991). A situation can only be stressful if it is interpreted as stressful or as a threat to a person's well-being. Stressful situations only arise when the environment demands that a person use his or her coping resources. It could be said that stress is a person's physiological, psychological or behavioural reaction when attempting to adapt or adjust to internal and/or external demands or pressures with which he or she cannot cope. It can be imposed by external demands or it can be generated from within, through hopes, fears, expectations and beliefs. The human body shows a specific response to all nonspecific demands (Patel, 1991).

Stress can stimulate a subconscious and biological (physiological) reaction or a conscious and psychological reaction which depends on the person's perception or other psychological factors (Schlebusch, 2000; Feldman, 1999). It can thus be understood from both a psychological and a biological point of view. From a psychological point of view, it could be seen as any action or situation which places special physical or psychological demands on a person and which upsets the natural equilibrium. It is best understood by examining how a person copes when exposed to stressful situations (Feldman, 1999; Cox, 1978). Related to this is the Stimulus-based model of stress, which links health conditions and illnesses to certain factors in the external environment (Figure 2.1 p. 65). It presents a psychological model of stress, defining it as a 'force' which results in a demand or load reaction that causes distortion (Sutherland & Cooper, 2000).



**Figure 2.1: A stimulus-based model of stress** (Sutherland & Cooper, 2000: p. 53)

Biological consequences are normally the first reaction during a stress response, which produces an automatic reaction in the body. The autonomic nervous system forms the basis of the stress response and governs the activities of the cardiac and smooth muscles, digestive and sweat glands, and certain endocrine organs which are not under conscious voluntary control (Cox, 1978). The immediate regulator of stress is the hypothalamus. This process involves a 'cascade effect' as shown in Figure 2.2 (p. 67), where the previous step affects the next step. The body and psyche trigger warning signs when stress becomes problematic (Schlebusch, 2000). Certain hormones (adrenocorticosteroids) are secreted by the adrenal glands, triggering an 'emergency reaction' or 'fight or flight' response (Dolan, 2007; Sutherland & Cooper, 2000; Feldman, 1999). The body releases adrenalin into the bloodstream, which shuts down the digestive system, and increases the heart rate so as to pump more blood around the body quickly; it can also thicken the blood, increasing the likelihood that it will clot (Cooper & Straw, 1998). The hypothalamus stimulates the *hypophysis regica* of the brain and transmits the stimulus to the nerve endings. The central nervous system then projects the stimulus to the rest of the body (Dolan, 2007). This reaction occurs when the body prepares to defend itself through the activation of the sympathetic nervous system.

All these responses may help with more effective coping in a stressful situation. However, continuous exposure to stress and the constant release of

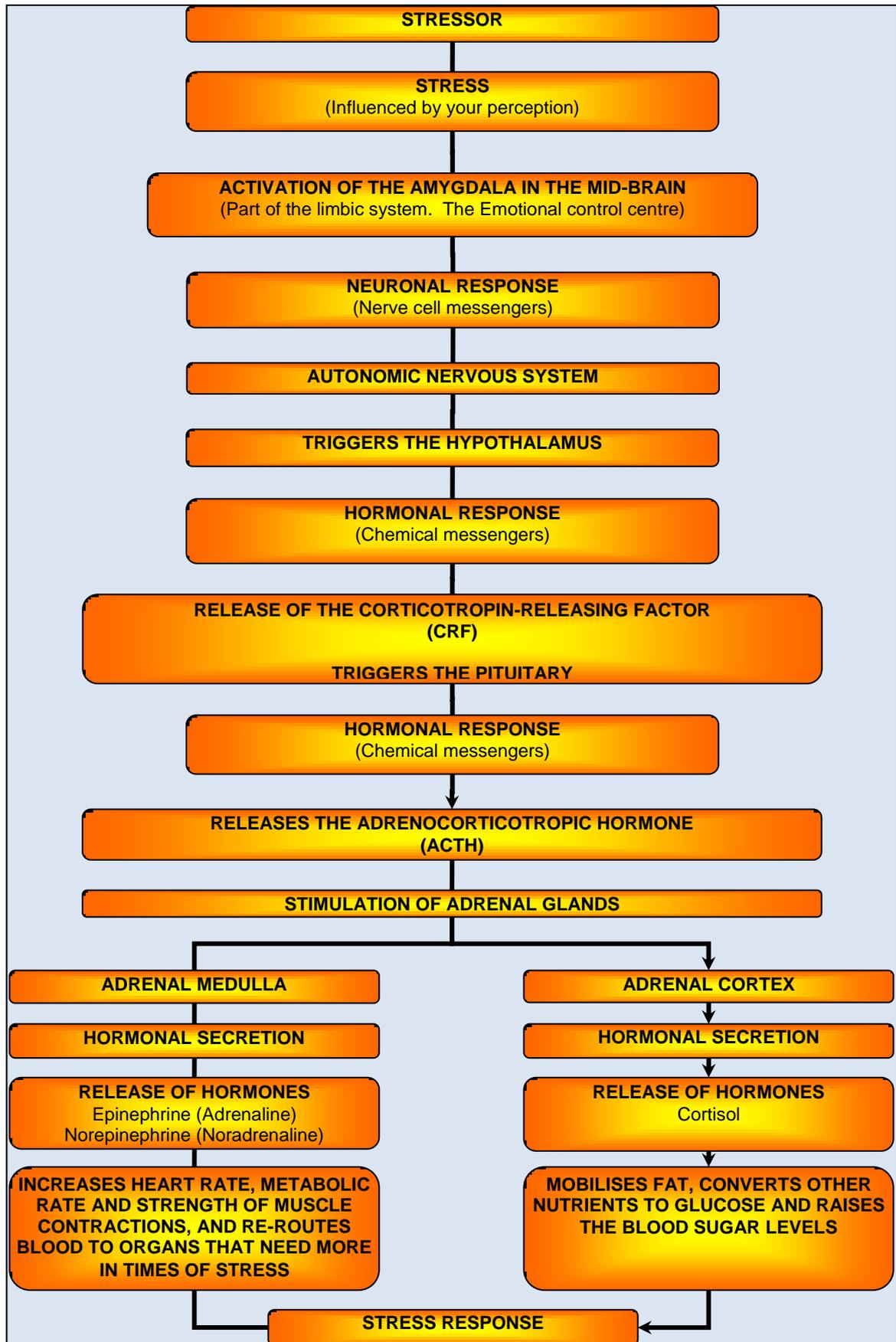
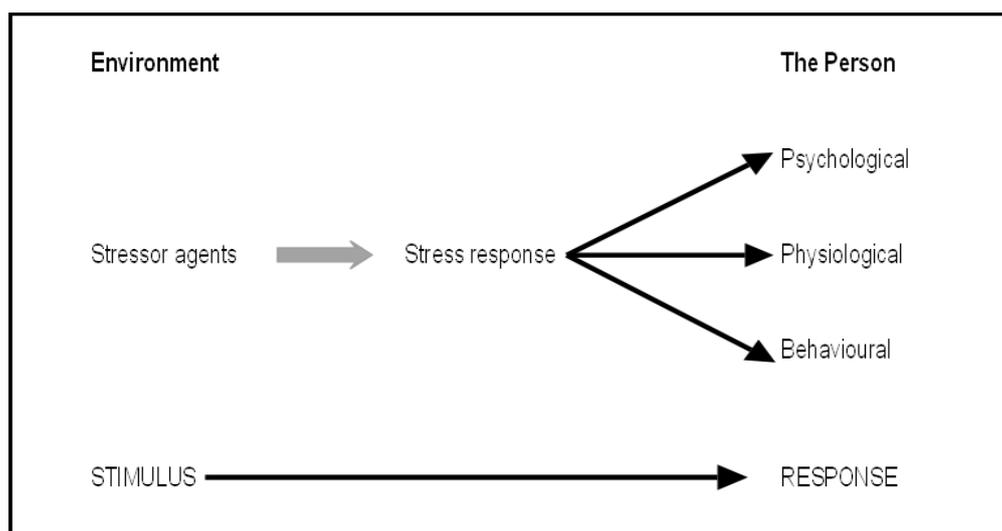


Figure 2.2: The stress cascade (Schlebusch, 2002: p. 19)

stress-related hormones reduces the body's overall level of biological functioning which in turn can promote deterioration of body tissues, for example the blood vessels and the heart. Other minor aches and pains, such as headaches, backache, indigestion, fatigue and constipation, may also be caused by increased stress (Feldman, 1999). Table 2.1(p. 69) shows the physiological changes experienced when the initial 'shock' or stress takes place (Sutherland & Cooper, 2000). When these responses are noted, the deterioration of the biological function of the body, as described by Feldman (1999), is better understood. The response-based approach to stress, viewing it from a physiological perspective, indicates that it is an 'outcome' in medical terminology (Sutherland & Cooper, 2000). The 'outcome' is the 'medical' symptoms of stress. The response-based model of stress is illustrated in Figure 2.3 (p. 68).



**Figure 2.3: A response-based model of stress** (Sutherland & Cooper, 2000: p. 47)

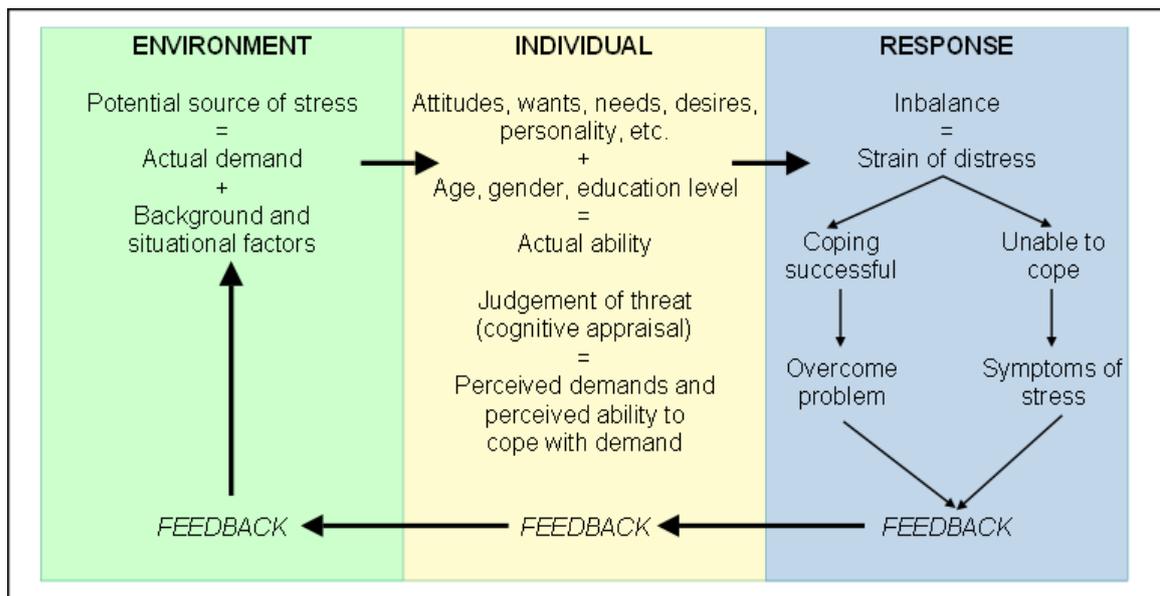
**Table 2.1: The physiology of stress and stress response** (*Sutherland &*

*Cooper, 2000: p. 50)*

<b>ORGAN OR TISSUE INVOLVED REACTION</b>	
<b>Lungs</b>	Airways dilate and breathing becomes more rapid and deeper
<b>Heart</b>	Increased rate – the heart beats faster and harder; heart palpitations and chest pains can be experienced
<b>Legs / arms</b>	An experience of muscle tension or tingling in the arms and legs as the electrical balance of the cells in the muscles undergoes change
<b>Liver and fat tissue</b>	Mobilization of glucose and fats for energy to fuel muscles
<b>Brain</b>	Increased mental activity to be alert for quick decision making
<b>Skin &amp; sweat glands</b>	Increased sweating; hands and feet (extremities) often feel cold as blood supplies are diverted to the brain and muscles; hairs stand erect and ‘goose-pimples’ are experienced
<b>Salivary glands</b>	Decreased flow of saliva; the mouth feels dry
<b>Gut muscles</b>	Gut activity is slowed; blood supply is reduced and one might experience indigestion or the feeling of a ‘knotted’ stomach because digestive processes stop or slow down
<b>Spleen</b>	Contracts and empties red blood cells into the circulation
<b>Kidneys</b>	Reduce urine formation
<b>Ears</b>	Hearing becomes more acute; people under extreme stress often report feeling very sensitive to noise
<b>Eyes</b>	Pupils dilate as an aid to keen vision; vision can become blurred if oxygenated blood is impeded in getting to the brain as blood vessels in the neck constrict
<b>Blood</b>	The action of cortisol produces an increased capacity for blood clotting; the immune system is activated to prevent infection

By combining the psychological and biological aspects of stress, the Interactive Model of Stress incorporates both the response-based and stimulus-based models, showing how the stress is perceived and how the response is modified by individual differences (Sutherland & Cooper, 2000). The Interactive Model of Stress is illustrated in Figure 2.4 (p. 71) and comprises five key characteristics (Sutherland & Cooper, 2000):

1. **Cognitive appraisal** – stress is a subjective response to the experience and the individual's perception of the situation or event.
2. **Experience** – the situation or event is perceived in relation to the familiarity of the circumstances, previous exposure, learning, education or training (actual ability of the individual).
3. **Demand** – is the product of actual and perceived demands, as well as the individual's ability to meet this demand.
4. **Interpersonal influence** – potential sources of stress are not perceived in a vacuum. The presence of other people in the workplace or the community will influence a person's perception of stress; the background of the situation will therefore influence the subjective experience of stress.
5. **A state of stress** – this is the mismatch or imbalance between the perceived 'demand' and a person's ability to meet the demand. The coping process follows and if successful will restore the balance. Unsuccessful coping, on the other hand, results in short/long-term symptoms or manifestations of exposure to stress.



**Figure 2.4: Stress perception - an interactive model of stress** (Sutherland & Cooper, 2000: p. 55)

These characteristics need to be understood in order to identify the sources of stress in the environment, measure mediators or individual differences that shape our stress response, and assess the outcomes or manifestations of exposure to a source of stress (Sutherland & Cooper, 2000).

The Interactive Model of Stress can be applied to the military environment. Dolan and Ender (2008) emphasize that many stressors in military life are comparable to those in other workplace environments. However, additional stressors are found in the military, for example the risk of injury or death, which makes military work unique. The modern military places new demands on personnel, in that the focus has shifted from a threat-based to a capability-based planning strategy. This requires military personnel to be multi-skilled

and able to adapt to the new missions to which they are assigned (Killion, Bury, De Pontbriand, & Belanich, 2009). These are mostly peacekeeping missions, but in the case of the Botswana Defence force also include anti-poaching missions and disaster preparations. The assignments may change without warning, and the soldiers' cognitive skills are therefore challenged. This calls for them to be better prepared for the changing circumstances through training and through making use of the information provided to them. This would ensure that their work was less demanding and stressful (Killion, Bury, De Pontbriand, & Belanich, 2009).

However, military job stress does not exist in isolation. Military staff in non-operational roles are subject to conditions of a kind with which civilian workers are not normally confronted. These include being subject to military law and discipline as well as to civilian law. They also work irregular hours without remuneration for overtime, do not have the right to engage in industrial disputes, and can experience increased work responsibilities and difficulties with supervisors. In operational roles they may face lengthy separations from family and friends. They are liable for frequent postings at short notice which disturb their social, educational and other ties, and may also encounter fear of death, illness, boredom, isolation and powerlessness while engaged in these operations (Louw & Viviers, 2010; Brooks, Byrne, & Hodson, 2000; Pflanz & Ogle, 2006; Bartone, 2006). These stressors will be elaborated later in this chapter.

Soldiers draw on both passive and active coping measures to deal with stressors. Dolan and Endler (2008) report that junior-ranked officers are more prone to adopting passive coping methods, in that they often make use of alcohol, social support and their leadership to cope with military stressors. More senior officers adopt active coping methods which buffer them against the physical, psychological and behavioural symptoms of stress. The active coping method is related to military hardiness, which will be discussed later in the chapter.

In summary, the Interactive Model of Stress acknowledges that it is not necessarily the situation that is inherently stressful, but rather the experience that is potentially stressful, and one should therefore take the source of stress, the mediators or moderators of the stress response and the manifestation of the stress into account in order to develop a stress management method (Sutherland & Cooper, 2000).

## **2.4 GOOD AND BAD STRESS**

Stress is not always bad, as it forms an essential part of a person's existence and continued personal growth and development, creating a powerful tool for motivation. It creates challenges that can be stimulating, keeping a person alert and empowering him or her to achieve goals. Dolan (2007) and Luis Gaviria and Associates (2008) divide stress into eustress (positive stress) and distress (negative stress). Eustress enhances physical or mental functioning,

motivating, exciting and energizing a person (Smith, 2011). It is the kind of stress needed in order to function properly, so that personal or job-related goals can be reached. Signs of eustress are (Van der Merwe, 2004):

- Increased creativity
- Increased productivity at personal and work level
- General feeling of wellness, happiness and peace.
- An immune system functioning at optimal level, guarding the person from sickness, infections and even cancer.

According to Aldwin (2007), many studies have demonstrated that the heightened emotions caused by stress enhance memory. Thus in remembering a traumatic personal event or the traumatic events of others, one will be more likely to learn from the event in order to avoid dangerous or similar situations in the future. Simulations of traumatic events during military training will prepare the soldier to be resilient or avoid the stressful event (Borders & Kennedy, 2006). Emotional arousal in a group setting, such as the military, enhances feelings of community and group solidarity (Aldwin, 2007). Soldiers exposed to stressful events as a group experience a sense of camaraderie and cohesion, which in turn enhances the group morale which is necessary for well-being.

Distress, on the other hand, is associated with high levels of stress which are not resolved through coping or adaptation. As a result, they can affect mind

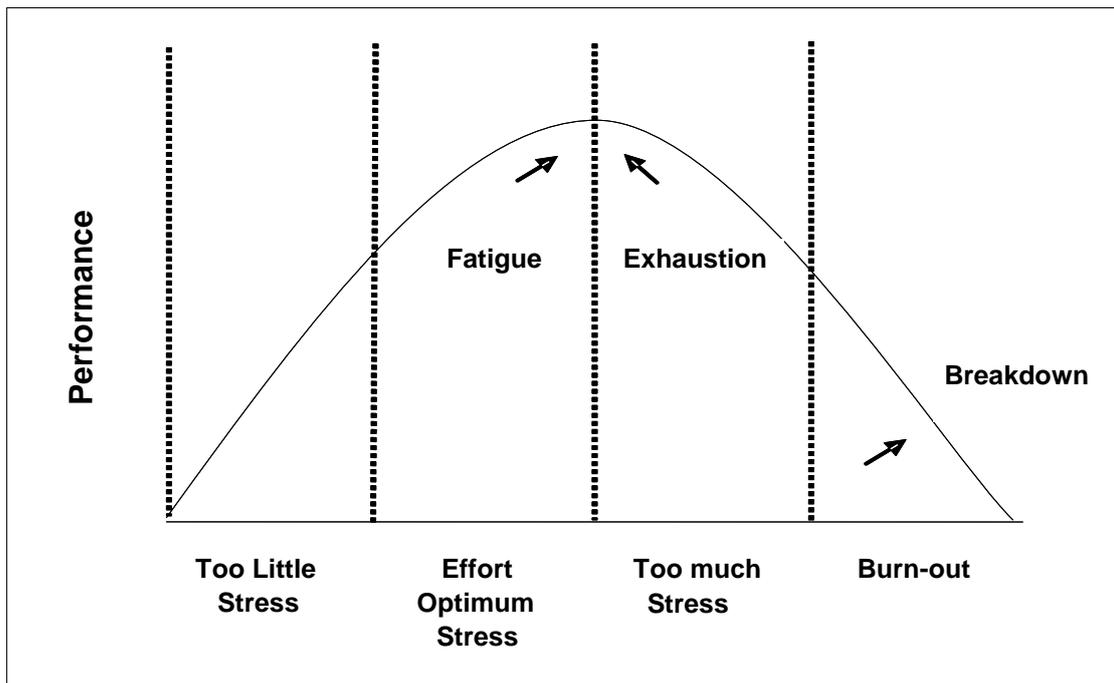
and body, quality of life, performance and health, and if sudden, can oppress the person to the extent of carrying events beyond rational limits (Smith, 2011; Luis Gaviria & Associates, 2008; Dolan, 2007). Signs of negative stress are (Van der Merwe, 2004):

- Lowered productivity and creativity
- Lowered feelings of wellness, happiness or peace
- Accident proneness
- Prevention of social contact
- Lowered immunity againsts sickness and infections
- Decreased body functionality, with an increase of physical sickness
- Process of aging is rushed due to increased metabolism, together with chronic stress beyond the subject's control.

Military training and military life in themselves are uniquely stressful for soldiers (Meyers & Bechtel, 2004). Although they receive training designed to provide strategies for survival and resilience (Borders & Kennedy, 2006), they are still exposed to stress in both their operational and non-operational capacities. Smith (2011) notes that a person, in this case a soldier, will experience stress either as distress or eustress, depending on personal expectations and his or her resources to cope with stress. Meyers and Bechtel (2004) note that the negative consequences of stress have been identified among military trainees. These include negative effects on their physical health and intellectual abilities, proneness to illness, predisposition to

injury, and problems with decision making, leadership effectiveness, and task performance.

It is therefore important to balance positive and negative stress. The stress should be enough to motivate rather than to harm the individual, maximizing efficiency and performance (Siyanoqoba Seminars, 2007; Schlebusch, 2000). Figure 2.5 (p. 77) illustrates the Human Performance Curve in coping with stress or being exposed to stressful situations, in order to distinguish between good and bad stress (Patel, 1991). The curve is dynamic and varied, and its shape will differ from person to person. One's position on the curve will depend on a range of factors, such as coping mechanisms, the amount of stress one can tolerate, constitutional make-up, diet, level of fitness, personality characteristics and thoughts. Most importantly, it will depend on one's perception of the stressors in one's life, one's thought processes and what one believes can be done about it. This curve also shows that both over-stress and under-stress can affect one negatively (Schlebusch, 2000).



**Figure 2.5: Human performance curve** (Patel, 1991: p. 12)

A person functions at his or her best when positive stress or energy are being used, but although some stress is positive, it is not possible for a person to withstand prolonged negative stress. It is best to stay out of the negative phases at both ends of the curve, as illustrated in figure 2.5 (p. 77), and to focus on positive stress. Outcomes of positive stress are listed in Table 2.2 (p. 78).

The stress reaction is a natural and normal reaction, occurring quickly and automatically, in order for a person to perform optimally, which is also necessary for personal development and progress. Good stress management makes use of the eustress energy to minimize the consequences of distress. Humans, however, cope better with stress if they make use of their reasoning

skills and rational deductive thinking powers, anticipating the future on the basis of their exposure to past experiences (Schlebusch, 2000).

**Table 2. 2: Positive stress behaviour** (Schlebusch, 2000, p. 28)

<b>Positive stress can lead to ...</b>	
<ul style="list-style-type: none"> <li>• Good concentration</li> <li>• Cooperative behaviour</li> <li>• Maintaining high standards</li> <li>• Effective problem-solving skills</li> <li>• Good self- and time management</li> <li>• Good communication skills</li> <li>• Clear and confident decision-making skills</li> <li>• Assertiveness</li> <li>• Less aggressiveness and submissiveness</li> <li>• Supportive and harmonious relationships</li> <li>• Good work attendance</li> <li>• Positive, happy and cheerful behaviour</li> <li>• Increased optimism</li> <li>• Concern for others</li> <li>• Better coping skills</li> </ul>	<ul style="list-style-type: none"> <li>• An appropriate sense of humour</li> <li>• Enhanced achievements and high productivity</li> <li>• A strong interest in life</li> <li>• Good, long-term planning</li> <li>• Clear thinking</li> <li>• A high level of motivation</li> <li>• Improved self-esteem</li> <li>• Improved self-confidence</li> <li>• Realistic perceptions and self-expectations</li> <li>• Increased energy</li> <li>• Feeling valued by others</li> <li>• Flowing with change</li> <li>• A balanced and healthy lifestyle</li> <li>• General wellness and healing image</li> <li>• More time for fun and relaxation</li> </ul>

## 2.5 SYMPTOMS OF STRESS

The symptoms of stress, as identified in the Response-based Model of Stress (Figure 2.1, p. 65), can be psychological, physical or behavioural, and may result in low productivity or low job satisfaction in the workplace. Work stress may be a significant occupational health hazard in the military, affecting both the emotional and physical health of troops as well as their mission performance (Pflanz & Ogle, 2006). A study by Hourani, Williams and Kress (2006) found that when high levels of stress were reported by soldiers on active duty, these were associated with mental health problems, with productivity loss, and with the mental health treatment being administered. A person should be able to identify symptoms and patterns of a stress response in order to gauge the depth of his or her problems and develop positive strategies to manage them (Cooper & Straw, 1998). Symptoms of stress are often linked. They can develop over time and eventually make it difficult to distinguish the stress behaviour of a person from his/her normal behaviour. If any of the symptoms identified in Table 2.3 (p. 81), Table 2.4 (p. 84) and Table 2.5 (p. 94) occur over long periods they can produce high levels of stress or continuous stress, and if not resolved may have serious implications for the individual (Van der Merwe, 2004; Cooper & Straw, 1998). For a soldier, it could be debilitating and could permanently incapacitate him or her for military or any other employment (Kearney, 2003).

### **2.5.1. Physical symptoms of stress**

People are exposed to high levels of stress in today's lifestyle, and may suffer from physical symptoms which they find hard to understand or relate to manifestations of stress. Physical symptoms, as listed in Table 2.3 (p. 81), may be experienced in normal life, but can become symptoms of stress when they have no obvious cause, when several of them occur at the same time, or when they are experienced more often than normal. These symptoms manifest when the body is preparing itself for immediate action, as part of the biological consequences of stress, in which the body releases adrenalin into the bloodstream, shuts down the digestive system, thickens the blood, which can result in clotting, and increases the heart rate to pump the blood rapidly through the body. Prolonged exposure to stress makes a person more vulnerable to medical conditions, such as stomach and intestinal problems, skin problems and heart disease (Cooper & Straw, 1998). Certain health conditions affected by psychological factors are called 'psychosomatic' disorders (Schlebusch, 2000). 'Psychosomatic' refers to the influence the mind has over physical processes as a result of stress, in which mental factors, rather than an actual injury or physical limitation, cause the disorder (e.g. acne, allergic reactions, arthritis, coronary heart disease, infectious diseases, and sexual disorders) (Smith, 2011).

**Table 2. 3: Physical symptoms of stress** (*Siyangoba Seminars, 2007; Cooper & Straw, 1998*)

<b>SKELETAL MUSCLES</b>	<b>AUTONOMIC NERVOUS SYSTEM</b>	
<ul style="list-style-type: none"> <li>▪ Tension headaches</li> <li>▪ Frowning</li> <li>▪ Gritting or grinding of teeth</li> <li>▪ Jaw pain</li> <li>▪ Stuttering or stammering</li> <li>▪ Trembling of lips or hands</li> <li>▪ Muscle tenseness, bracing and aches</li> <li>▪ Neck aches</li> <li>▪ Back pain</li> <li>▪ Aggressive body language</li> </ul>	<ul style="list-style-type: none"> <li>▪ Migraine headaches</li> <li>▪ Increased sensitivity to light and sound</li> <li>▪ Light-headedness, faintness or dizziness</li> <li>▪ Ringing in ears</li> <li>▪ Enlarged pupils</li> <li>▪ Blushing</li> <li>▪ Dry mouth</li> <li>▪ Problems swallowing</li> <li>▪ Frequent colds or bouts with the flu</li> <li>▪ Hives</li> <li>▪ Rashes</li> <li>▪ ‘Cold chills’ or ‘goose bumps’</li> <li>▪ Heartburn, stomach cramping, or nausea</li> </ul>	<ul style="list-style-type: none"> <li>▪ Uneven or rapid heartbeat without exercising</li> <li>▪ Difficulty breathing</li> <li>▪ Sudden, suffocating panic, as if you are about to die</li> <li>▪ Heart and chest pain</li> <li>▪ Increased perspiration</li> <li>▪ Night sweats</li> <li>▪ Cold, sweaty hands</li> <li>▪ Painfully cold hands and feet</li> <li>▪ Gaseousness or belching</li> <li>▪ Frequent urination</li> <li>▪ Constipation</li> <li>▪ Nervous diarrhoea</li> <li>▪ Lowered sexual desire</li> <li>▪ Difficulty with sexual orgasm</li> </ul>

Military stress is most often described as Post-traumatic Stress Disorder (PTSD) (explained under section 2.5.2, p. 83). This has been identified as a psychological disorder resulting from stress. However, evidence exists for a strong relationship between combat-related PTSD as a military stress condition and physical health measures or physical symptoms, specifically cardiovascular diseases

(Kubzansky, Koenen, Spiro, Vokonas, & Sparrow, 2007; Hodge, Terhakopian, Castro, Messer & Engel, 2007; Engel, Liu, McCarthy, Miler, & Ursano, 2000). These relationships were observed in Iraq war veterans from the 1991 Gulf War, who experienced an increased rate of physical symptoms in the years following their return from deployment. These symptoms were more prevalent among veterans injured during the war. Hodge and his colleagues (2007) examined the prevalence of PTSD and its association with physical symptoms among largely uninjured Iraq war veterans one year after their return from combat. Their study supported the evidence of a relationship between PTSD and the indicators of physical symptoms among these veterans. They then extended their studies to a group of active duty soldiers, returning from recent combat to Iraq, and found confirmation of the strong association between PTSD and the indicators of physical health, independent of physical injury. A study conducted by Nissen, Marott, Gyntelberg and Guldager (2011) echoed the findings of Hodge *et al.* (2007), when Danish soldiers in Iraq reported multiple physical symptoms after returning from their deployment, with these symptoms related to the increased psychological discomfort and certain mental stressors.

Furthermore, stress can affect existing medical conditions and/or initiate or cause further stress. This can vary from condition to condition and from person to person. The immune system is also affected by stress, since a person's thoughts and emotions affect the immune system (Schlebusch, 2000). The relationship between stress and the immune system can range from diverse conditions such as colds and flu's to certain types of cancer.

The immune system is the body's instrument for protecting itself against various attacks on its normal body tissue. Stress causes the immune system to function less efficiently. Prolonged stress suppresses the cells that enable the immune system to defend the body against viruses, and the body's ability to resist or fight diseases becomes hampered. However, positive thinking, positive emotions, an optimistic attitude and a healthy environment can strengthen the immune system's ability to fight diseases and help with rapid recovery when a person does contract a disease (Schlebusch, 2000).

### **2.5.2. Psychological symptoms of stress**

Military service is hazardous to the mental health of soldiers, and the stress of being involved in the military can promote the onset of mental illness (Perera, Suveendran, & Mariestella, 2004). A study conducted by Riddle, Sanders, Jones and Webb (2006: 31-5) found that 'combat stress presents itself as a spectrum of outcomes ranging from normal battle reactions, acute anxiety and depressive symptoms, to atypical syndromes with numerous determinants falling under the broad categories of biological, situational intra-physic and interpersonal factors.' They confirmed that these symptoms were more prevalent among soldiers from the lower ranks. Psychological symptoms of stress are related to psychological disorders, which are listed in Table 2.4 (p. 84).

**Table 2.4: Psychological symptoms of stress** (*Siyanoqoba Seminars, 2007*)

MENTAL SYMPTOMS	
▪ Anxiety, worry, guilt or nervousness	▪ Forgetfulness
▪ Increased anger and frustration	▪ Disorganization or confusion
▪ Moodiness	▪ Difficulty making decisions
▪ Depression	▪ A sense of being overloaded or overwhelmed by problems
▪ Increased or decreased appetite	▪ More frequent crying
▪ Racing thoughts	▪ Suicidal thoughts
▪ Nightmares	▪ Fear of getting close to people
▪ Problems concentrating	▪ Loneliness
▪ Trouble learning new information	

Anxiety, depression, PTSD, adjustment disorders, substance abuse and personality difficulties are some of the more recognized responses to stress in the military, and the combination of these can be a devastating experience (Jones, Greenberg, Fear, Mcallister, Reid, & Wessely, 2008; Perera, Suveendran, & Mariestella, 2004). Significantly high rates of depression, anxiety and substance use were detected among soldiers in the United States 3-6 months after returning from Iraq and Afghanistan (Nash, 2007). Kubzansky, Koenen, Spiro, Vokonas and Sparrow (2007) distinguished between anxiety, depression and PTSD. They stressed that anxiety and depression were defined by chronic recurring symptoms over an extended period, which could arise in response to a discrete event. Post-traumatic Stress Disorder is defined by the long-term occurrence of symptoms of acute stress exposure such as war. These

mental illnesses are the most common reasons for the loss of new recruits or for soldiers being discharged from military service, and will now be discussed individually.

### **a. Anxiety**

Anxiety is a common response to stress, and in itself may cause further stress (Smith, 2011). The source of anxiety is not always known or recognized, but is a unique mix of subjective and physiological events in everyday life situations, resulting in apprehension, tension, or uneasiness arising from the anticipation of danger. Anxiety is an everyday phenomenon, but becomes a problem when it interferes with effectiveness in living and with emotional comfort. Any perceived threatening situation or persistent unresolved stress can evoke a state of anxiety. The intensity or duration of such a state is in proportion to the degree of the perceived threat and its time span (Smith, 2011; Schlebusch, 2000). Nash (2007) noted that soldiers could develop anxiety when they perceived a situation to be hopeless or when they felt threatened. The danger of personal loss or separation from families and friends can also heighten anxiety. Another aspect leading to anxiety is poor nutrition. During military operations this can cause fatigue and heightened anxiety, and as a result interfere with a person's sleep. Hunger may also be a stressing factor for troops, given their levels of exertion during combat (Figley & Nash, 2007). However, soldiers who have been exposed to terrifying situations respond with psychological arousal and feelings of fear and anxiety when reminded later of those events (Nash & Baker, 2007).

As with stress, there are good and bad levels of anxiety. The aim is thus to overcome excessive or debilitating levels of anxiety which might lead to disorders such as PTSD, and instead promote a normal, healthy level of anxiety (Schlebusch, 2000). Veterans with PTSD could, for instance, try to avoid sights, sounds and memories which might trigger their fear responses, in order to reduce their anxiety and loss of control (Nash & Baker, 2007). Soldiers with physical injuries can be removed from the stressful situation and placed in a safe and protected environment to prevent further traumatization which could heighten anxiety (Koren, Hilel, Idar, Hemel & Klein, 2007).

#### **b. Depression**

Depression is a common stress reaction to combat. However, it is caused not just by war exposure, but also by daily stressors, such as increased work and family responsibilities, family problems or even problems with peers or senior staff (Miller & Rasmussen, 2010). Evidence shows that it is brought on especially by exposure to violence or sexual abuse. High levels of depression were diagnosed among soldiers who had been sexually assaulted during combat (Miller & Rasmussen, 2010; Drescher, Smith, & Foy, 2007). Depression is associated with feeling 'blue', doubtful or pessimistic from time to time, for instance, following the loss of a loved one or after failing to reach a specific goal. Although it is normal to feel sad at one time or another, when it reaches the level of clinical depression, a greater variation of symptoms can be identified which are more intense and serious in nature. Sadness is then considered to have passed into depression and the mood becomes pathological or abnormal (Schlebusch, 2000; Louw &

Van Jaarsveld, 1989). Such depression can become a risk factor for cardiovascular disease (Kubzansky, et.al., 2007).

Depression also corresponds with burnout, which is an individual experience related to the overload that occurs when the demands faced becomes excessive, in particular those specific to the work context (Maslach, Schaufeli, & Leiter, 2001). These demands force the person to exceed his or her normal level of optimal functioning and move into a negative phase of stress, leading to mental and physical fatigue. This often happens in demanding work situations and results in reduced productivity, efficiency, and creativity, and problems with interpersonal communication, health and sexual relations (Schlebusch, 2000). Burnout has mainly been observed in individuals whose professional demands include a high sense of ideals and a degree of interaction with other people, such as in the military. Soldiers are often required to spend considerable time under intense conditions with other people both during their training and in their work (Morgan, Cho, Hazlett, Coric, & Morgan, 2002). Burnout is characterized by symptoms of emotional exhaustion, depersonalization, a reduced sense of personal accomplishment, sense of hopelessness, lack of response to others, and a belief that one does not have a future. All these symptoms could lead to depression (Smith, 2011).

Depression is a secondary symptom of PTSD (Smith, 2011), with soldiers diagnosed with PTSD often showing signs of depression. Furthermore, comorbid/mixed depression increases the risk of suicide (Grenier, Darte, Heber,

& Richardson, 2007). Suicidal behaviour is not always related to psychological disorders, but is rather a symptom of something deeper. The impulse is not about wanting to die *per se*, but rather to escape from the aspect causing the psychological pain or depression (Schlebusch, 2000). Yet in some countries, cultures and religions, suicide is seen as an act of bravery. Iraq, Iran and Palestine, for example, have a history of people deliberately destroying themselves, and sometimes their whole families, as an act of planned war and terror, often on innocent civilian locations (Hamden, 2002). In other countries, however, suicide is not an acceptable course, and is seen rather as related to stress and depression, especially domestic stress as a result of family problems. Crawford, Sharpe, Rutter and Weaver (2009) offer evidence that, although suicides among the military are fewer than in the general public, an estimated 672 suicides were recorded between 1984 and 2006 among British armed forces. The suicide rate among male soldiers aged 16-20 during this period was 50% higher than in the general population. Most of these suicides or self-harming actions were impulsive, and involved firearms preceded by alcohol consumption.

### **c. Post-Traumatic Stress Disorder**

Post-traumatic stress disorder (PTSD) involves psychological stress of a magnitude which would be traumatic for almost anyone. It can occur after exposure to a traumatic event which is perceived to be threatening to the well-being of the person concerned or to another person (Lew, Otis, Tun, Kerns, Clark, & Cifu, 2009). It is more than just the normal experiences of mourning, chronic illness, financial losses or marriage conflict. These would be distressing

for any person, and the symptoms of PTSD follow exposure to an extreme traumatic stressor involving direct personal experience (as an individual or in a group), or an event that is life threatening, involving intense fear, shock and feelings of helplessness (American Psychiatric Association, 2000).

Stress is normally the primary cause in the onset of PTSD but is not the only factor which should be considered. Pre-existing physical and psychological factors in an individual's life, as well as events which follow the trauma, also need to be considered. Factors influencing the onset of post-traumatic reactions are (Ekblad, 2002):

- The nature and intensity of the traumatic event,
- The duration of the event,
- Whether the incident was man-made,
- The degree of resistance to the trauma,
- The degree of mental readiness for specific events,
- The degree or sense of coherence and interpersonal cohesiveness, and the support the child, family or individual had before the event,
- The effect of the trauma on children's symptoms as it is related to the age of the child and the developmental delay effects.

Inadequate psychosocial support systems play a crucial role, along with other factors (Schlebusch, 2000). PTSD further differs from acute stress disorder in that acute stress occurs within the first month after a traumatic experience, while PTSD is symptomatic of the re-experiencing of a traumatic event, increased

arousal and the avoidance of reminders of the event (Hovens & Drozdek, 2002; Hamden, 2002; Schlebusch, 2000). Victims, for example of terrorism, often suffer changes in their core beliefs or basic assumptions, have developmental arrests, symptoms of dissociative discourse and changes in personality. Chronic PTSD links to a spectrum of personality changes, or the adoption of a personality, to damage to the core beliefs and other chronic post-traumatic stress symptoms (e.g. emotional symptoms). In its extreme form, traumatization can lead to psychotic regression, ego-changes, extreme introversion and resignation or conservation-withdrawal (conserving a minimal amount of energy to stay alive, trying to avoid any activity in order to remain invisible and avoid any further danger) (Hovens & Drozdek, 2002). It is further associated with an increased risk of cardiovascular disease (Kubzansky et.al., 2007).

Related to the context of this study, it was established in the literature review that PTSD is one of the commonest psychological stress disorders faced by soldiers, because of their involvement in military activities. The knowledge about trauma stemmed from concern about soldiers who developed PTSD after involvement in military activities or activities outside the normal range of human experiences (McLauchlin, 2006; Gallimore, 2002). Such activities include war, military combat, terrorism, natural disasters, serious accidents, violent personal assaults and, in the case of the BDF, being involved with foreign peacekeeping and anti-poaching missions (McLauchlin, 2006; Bemak & Chi-Ying Chun, 2002; Gallimore, 2002; American Psychiatric Association, 2000). According to the National Centre for PTSD, traumatic experiences for men include violent personal assaults (including

rape), combat exposure, childhood neglect or childhood physical abuse (Gallimore, 2002). As the BDF is a male-orientated institution, these factors should be taken into account when measuring levels of stress among personnel. Unresolved PTSD can destroy a person or soldier's sense of coping and can have serious psychological consequences, with suicide as the most extreme solution to end the suffering.

#### **d. Adjustment disorder**

Adjustment disorder was first described at the time of the Vietnam War, when there was an 'anti-war movement' among American citizens. Returning troops were not always welcomed back home as they had expected. The Iraq and Afghanistan military campaigns were also not regarded as popular universal campaigns among British communities and similar responses to troops were experienced (Alexander & Klein, 2009). Adjustment disorder is a stress-related, short-term, non-psychotic disturbance which occurs under conditions of overwhelming stress. Its symptoms are time-limited and occur within three months after the stressful event. It manifests as an emotional or behavioural reaction to an identifiable psycho-social stressor (Benton & Bienenfeld, 2010; Perera, Suveendran & Mariestella, 2004). The subject does not adjust to his/her new circumstances and shows an unhealthy short-term response to stress, characterized by an inability to function socially or in the work environment, or showing symptoms of overreaction to the stressor in a manner not expected. It is also referred to as a nervous breakdown (Smith, 2011). Adjustment disorders are detected in physical disease, and in social and/or occupational or academic

harm. Factors to consider are the nature of the stress, how it is perceived and the level of vulnerability of the person involved. Adjustment disorder is often associated with anxiety and depression, but may also be general and unspecified. It will however resolve when the stressor is eliminated or when a new level of adjustment is reached (Schlebusch, 2000).

In the study of Perera, Suveendran and Mariestella (2004), stress and adjustment disorder were diagnosed among soldiers who reported stressful experiences. However, these soldiers did not experience any significant impairment in their social or occupational functioning. It was noted that 61.8% of those diagnosed with adjustment disorder were not deployed in war areas at the time of being diagnosed. Environmental factors influencing their levels of stress were not war circumstances but other psycho-social situations, referred to as ordinary or non-combat operational circumstances.

#### **e. Substance-related disorder**

Substance-related disorder is seen as self-destructive behaviour and is the inability to stop the use of a substance. It is often used as a vehicle to numb the pain of trauma (Smith, 2011). A link was found between various forms of substance abuse and PTSD, as well as with burnout (Clayton & Nash, 2007; Maslach, Schaufeli, & Leiter, 2001). The substances involved could be anything from alcohol to drugs or even to nicotine. Substantial substance abuse and perceived high levels of stress were found among active-duty soldiers in America during the 1995 Department of Defence survey of health-related behaviours

among military personnel. Male soldiers reported higher alcohol consumption, while female soldiers were more prone to illicit drug and cigarette use (Bray, Fairbank, & Marsden, 1999). Mehlum (1999) also reported drug and alcohol abuse as self-medication measures for stress among Norwegian United Nation soldiers during peacekeeping missions in South Lebanon. Frequent substance abuse can affect the central nervous system (Schlebusch, 2000). Substance and alcohol abuse in the military are often viewed as behavioural and disciplinary matters which are punishable under military justice. This could serve to further increase the stress levels of soldiers (Grenier et.al., 2007).

### **2.5.3. Behavioural symptoms**

'Mental and behavioural responses to stress are the product of learning and choice, and unlimited in their variety and capacity to change over time' (Nash, 2007: 41). Behavioural symptoms of stress in the military correspond with the physical and psychological symptoms of stress already discussed, and include similar symptoms such as poor nutrition, fatigue, substance abuse, adjustment disorder, anxiety and depression. Some of these are listed in Table 2.5 (p. 94). They may leave a person emotionally upset, worried or tearful, irritated by others, feeling misunderstood, powerless, unable to cope, restless, a failure, unattractive and demotivated.

**Table 2. 5: Behavioural symptoms of stress** (*Siyanqoba Seminars, 2007; Cooper & Straw, 1998*)

<b>BEHAVIOURAL SYMPTOMS</b>	
<ul style="list-style-type: none"> <li>▪ Inattention to dress or grooming</li> <li>▪ More frequent lateness</li> <li>▪ More 'serious' appearance'</li> <li>▪ Unusual behaviour</li> <li>▪ Nervous habits, such as finger or foot tapping</li> <li>▪ Rushing around or pacing the floor</li> <li>▪ Increased frustration and irritability</li> <li>▪ Edginess</li> <li>▪ Overreaction to small things</li> <li>▪ Increased number of minor accidents</li> <li>▪ Perfectionism</li> <li>▪ Reduced work efficiency or productivity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lies or excuses to cover up poor work</li> <li>▪ Fast or mumbled speech</li> <li>▪ Defensiveness or suspiciousness</li> <li>▪ Strained communication with others</li> <li>▪ Social withdrawal</li> <li>▪ Constant tiredness</li> <li>▪ Sleep problems</li> <li>▪ Frequent use of over-the-counter drugs</li> <li>▪ Weight gain or loss without diet</li> <li>▪ Increased smoking</li> <li>▪ Gambling or overspending</li> </ul>

As a result, various abnormal behaviours may occur, such as waking-up at night thinking about work, difficulty in concentrating, loss of creativity or of interest in oneself and other people, loss of appetite, and increased alcohol consumption, smoking or eating. The way a person responds to stress depends on personality, upbringing and life experiences (Cooper & Straw, 1998). To be able to identify these reactions, people need to become more aware of their feelings within a specific situation. Alexander and Klein (2009) note that soldiers who had endured

an extended traumatic event, such as being a prisoner of war, could show personality or behavioural changes such as a hostile and distrustful attitude, social withdrawal, feelings of hopelessness and emptiness, a chronic sense of being on edge, and estrangement.

#### **2.5.4. Workplace symptoms**

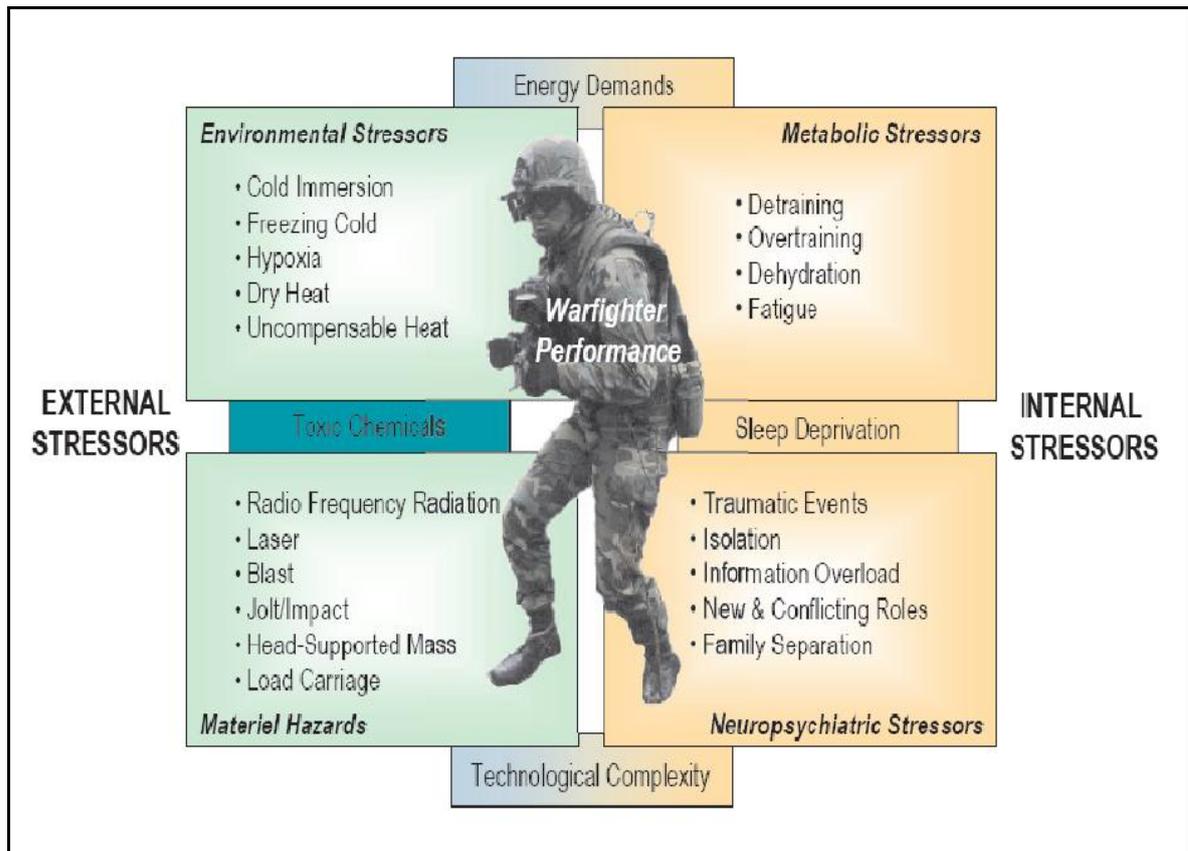
Most people spend a major part of their lives at work, and if they are under stress, symptoms can affect them in the workplace. Stressors in the workplace affect a person not only physically but also emotionally and mentally (Siyanoqoba Seminars, 2007). Workplace stress, also referred to as occupational stress, is perceived as an imbalance between an individual's hopes or perceived professional demands and the reality of workplace conditions, as well as the ability to cope with or carry out these demands (Smith, 2011; Dolan, 2007). Severe stress in the workplace may result in burnout, crippling a person both physically and psychologically. Burnout can be overcome if its stages are recognized and addressed early enough (Siyanoqoba Seminars, 2007). In a military environment, staff are repeatedly exposed to stressful and unpleasant traumatic life events which often produce mental and emotional stress (Philpot, 2006; Uhaň, Kovač, Muhvič-Urek, Kovačević, Frančišković, & Šimunović-Šoškić, 2006; Gallimore, 2002). For a soldier, this can be a career stopper, since it can be associated with cowardice or malingering. When the soldier has dedicated his or her life to the military with high expectations for the future, this could be psychologically crippling (Philpot, 2006).

Workplace disorders involve a broad variety of conditions which can include physical disorders (e.g. illness, cardiovascular disease, and compromised health), psychological disorders (e.g. depression, anxiety and/or PTSD), emotional strain (e.g. fatigue, dissatisfaction and tension), maladaptive behaviours (e.g. aggression and substance abuse) or cognitive impairment (e.g. concentration and memory problems). These conditions may lead to poor job performance, job injury and decreased job satisfaction (Smith, 2011). These aspects should be viewed in relation to the normal quality of work and interactions. Stress will lessen job satisfaction and reduce performance. The changes leading to occupational burnout need to be recognized and acknowledged in order to prevent long-term consequences of stress in the workplace. The consequences can be assessed in terms of the health, performance and productivity of the individual (Cooper & Straw, 1998).

## **2.6 STRESSORS IN THE MILITARY ENVIRONMENT**

The experience of stress is very personal, coming as it does from different directions and affecting each person differently and at different times. Recognizing the cause of such pressures and developing coping strategies can relieve a person of stress (Cooper & Straw, 1998). These pressures are referred to as stressors. Stressors are those factors which cause stress, and the term '*stress*' encompasses both stressors and stress responses (Patel, 1991). Stressors should be recognized as part of everyday life, including the daily stressors arising from past experiences, anticipation or imagination (Schlebusch, 2000). Miller and Rasmussen (2010) state that daily stressors can have a

powerful effect on mental health outcomes. They represent immediate effects (in contrast to war exposure which is often a more distal experience). They are stressful because they are harmful stimuli which are often beyond the individual's control (in the same way that war experiences are beyond control). They are also pervasive in conflict-affected populations, whereas direct war exposure is highly variable in conflict and post-conflict settings. Daily stressors sometimes include experiences which are traumatic in their intensity, such as physical and sexual abuse of children, spousal abuse or criminal acts which are not directly related to armed conflict (Miller & Rasmussen, 2010). Stressors in the military can be powerful and unrelenting, compared to stressors in civilian life (Nash & Baker, 2007). They are also multidimensional, being categorized as both internal or external (Figure 2.6, p. 98) (Killion *et al.*, 2009; Luis Gaviria & Associates, 2008; Van der Merwe, 2004).



**Figure 2.6: Multidimensional aspect of soldier stress** (Killion, Bury, De Pontbriand & Belanich, 2009: p. 11)

Internal stressors originate from within a person. In the military context, they are classified as metabolic stressors and neuropsychiatric stressors (Killion, et. al., 2009). Internal stressors can originate from a person's nutritional state, from unknown behaviour responses, attitudes, or from the individual's thought processes, including negative thoughts, worry, pessimism or frustration, low self-esteem and lack of self-worth, feelings of anger or fear, or poor memory. Other factors include general health and fitness, emotional wellness, and the amount of sleep the person gets (Luis Gaviria & Associates, 2008; Siyanqoba Seminars, 2007; Van der Merwe, 2004; Schlebusch, 2000).

External stressors refer to factors a person perceives as stressful and has difficulty coping with, which can result in negative stress. External stressors in the military are classified as environmental stressors and material hazard stressors (Killion et. al., 2009). These could include any event, situation, condition, psychological environment (work or home), an abusive relationship, person or object, loneliness, aggressiveness, health conditions or psychological problems (e.g. worrying about problems), noise, pollution, trauma (e.g. being burgled or being threatened), injuries, unknown bacterial viruses, poisons, or daily life situations and problems (Luis Gaviria & Associates, 2008; Siyanqoba Seminars, 2007; Van der Merwe, 2004; Schlebusch, 2000). Both internal and external stressors experienced by soldiers are exacerbated by energy demands, sleep deprivation, technological complexity and the toxic chemicals used in modern military forces, and could influence a soldier's performance if not treated (Killion et.al., 2009).

Bartone (2005, 2006) identifies six primary stressor dimensions distinct to modern military forces: isolation, ambiguity, powerlessness, boredom, danger and workload (Table 2.6, p. 100).

**Table 2. 6: Primary stressor dimensions in modern military operations**

(Bartone, 2006: 134)

<b>Stressor</b>	<b>Characteristics</b>
<b>1. Isolation</b>	Remote location Foreign culture and language Distant from family and friends Unreliable communication tools Newly configured units, do not know your coworkers
<b>2. Ambiguity</b>	Unclear mission or changing mission Unclear rules of engagement Unclear command or leadership structure Role confusion (what is my job?) Unclear norms or standards of behaviour (what is acceptable here and what is not?)
<b>3. Powerlessness</b>	Movement restrictions Rules of engagement constraints on response options Policies prevent intervening, providing help Forced separation from local culture, people, events, and places Unresponsive supply chain—trouble getting needed supplies and repair parts Differing standards of pay, movement, behaviour, etc., for different units in area Indeterminate deployment length—do not know when we are going home Do not know or cannot influence what is happening with family back home
<b>4. Boredom (alienation)</b>	Long periods of repetitive work activities without variety Lack of work that can be construed as meaningful or important Overall mission or purpose not understood as worthwhile or important Few options for play and entertainment
<b>5. Danger (threat)</b>	Real risk of serious injury or death, from: Enemy fire, bullets, mortars, mines, explosive devices, etc. Accidents, including “friendly fire” Disease, infection, toxins in the environment Chemical, biological, or nuclear materials used as weapons
<b>6. Workload</b>	High frequency, duration, and pace of deployments Long work hours and/or days during the deployments Long work hours and/or days in periods before and after deployments

Nash (2007) further classifies military stressors into four categories, cognitive, emotional, social and spiritual stressors. The stressor domains identified by Bartone (2005, 2006) were organized as sub-stressors within the four categories of Nash:

**a. Cognitive stressors**

Both the *lack of or too much information* can affect the stress levels of soldiers. Military information is treated with the utmost confidentiality, especially when it concerns strategic or tactical operations. Such information seldom reaches the lower chains of command and is mainly reserved for those who need to know it in order to do their job. Good commanders may inform their troops, but the troops are seldom told of what lies ahead of them. Being deprived of information can lead to rumours, adding to the individual stress levels of soldiers. Those on military missions also have limited communication with the outside world. To an extent, the internet has bridged this gap, allowing soldiers to keep in contact with the outside world and their families back home through the media, except in the most transient and isolated areas, where internet access is limited. The information at the soldiers' disposal, however, may not be well managed, and wrongful information supplied through the media or from their families could be stressful to them (Nash, 2007).

Unclearly defined missions, unclear rules of engagement and multiple missions which are in conflict can be stressful to soldiers because of their

**ambiguity** (uncertainty) (Bartone, 2005). The initial roles of soldiers on peacekeeping missions involve the rebuilding of the infrastructure of the specific country to which they have been assigned. This means training, construction, health promotion and interim civil peace-keeping assistance. In 2003, US peace-keeping operations were derailed and troops were ambushed and attacked at night by the same people they had fed throughout the day. In normal circumstances, troops are prohibited from using force unless confronted with an immediate threat. Being ambushed, however, it was understandable that the US soldiers shot first and asked questions later (Nash, 2007).

It is stressful not only when the role and purpose of the soldier are unclear, but also when the structure of the command is **uncertain** about who they need to listen to or report to (Bartone, 2005). Leaders have a primary responsibility to look after the wellbeing of their soldiers. However, when recruited into the military with certain expectations, soldiers may be led to blame their leaders for their stress (Dolan & Ender, 2008). Positive leader-follower relationships strengthen feelings of emotional support and improve the wellbeing of the soldiers. If they perceive their leaders as being disrespectful or failing to offer sufficient leadership, they will see this as a lack of social support, resulting in poor relationships with the leader and an inability to cope with stressful events (Rego & Cunha, 2008).

**Uncertainty** about the length of a deployment can be stressful, as deployments can at times be both sudden and lengthy. Family separations are a recognized stressor for soldiers (Bartone, 2005). They are unsure when they will be able to return to their families and friends. When involved in dangerous missions, they may be uncertain if they will ever see their families again. A further factor in a deployment is that it often takes place in a remote location with a foreign culture and language. The soldiers will not understand the language spoken by the locals, resulting in poor communication, leaving them feeling frustrated. They are often confined to designated areas and, because of the rules of engagement and other policies, imposed to protect them and for security reasons, are restricted in their movements and their interaction with locals. This prevents them from learning about or understanding the foreign language or culture, making communication difficult and leaving them feeling powerless and isolated (Bartone, 2006; Bartone, 2005;). Living with all these uncertainties increases the cognitive stress of the soldiers (Nash, 2007).

As stated previously, military life is uniquely stressful for soldiers and their families, with the military job stress often compounded by family-related stress (Dolan & Ender, 2008; Meyers & Bechtel, 2004). When there are signs of problems on the home front, soldiers are faced with conflict arising from their divided **loyalty** towards the defence force and their families back home (Nash, 2007). Increased family stress and worries about families can distract both the soldiers and their leaders from their work (Dolan & Ender, 2008).

Death and illness at home create a bigger awareness among soldiers of their vulnerability on the war front, which only increases their stress (Nash, 2007).

Modern military day-to-day responsibilities of soldiers are often repetitive, tedious and boring. This is especially true during peacekeeping missions, which involve long periods of staying in one place. Soldiers stand guard, or conduct maintenance on vehicles and weapons. Work days can be unpredictable, and recreational time can be painfully limited, often excluding stimulating or novel activities. This prevents them from doing significant work or seeing any progress in their work, leading to ***boredom and monotony*** (Nash, 2007; Bartone, 2005). The provision of entertainment and sport activities through morale and welfare services can reduce boredom, but will not bridge the problem if the basic human need, to believe in the importance and significance of life, is not catered for (Bartone, 2005).

Military operations challenge soldiers' belief systems, especially those of young soldiers who have unrealistic beliefs about 'good' and 'evil', and their own mental and personal importance. They often need to modify their belief systems, since their first disruptive exposure can cause a rapid maturation. This mental growth process can be painful and confusing, leading the soldier to believe that the operation was a ***senseless experience*** (Nash, 2007).

## b. Emotional stressors

Soldiers are faced with real physical and emotional threats/dangers and adverse experiences in both the training and the deployment environments (Alexander & Klein, 2009). These can result in personal injury or death, or threats to other troop members with whom the soldier may have developed a bond (Bartone, 2005). It is human to believe that one is secure, invulnerable and in control of oneself and one's environment. The military environment, however, is characterized by insecurities, including uncertainty over the presence of an enemy threat, causing stress and impacting negatively on the soldiers' control over the situation (Delahaij, Gaillard, & Soeters, 2006). Soldiers try to prevent exposure to helpless positions, resorting to offence over defence. When the situation is out of control, it creates a sense of **helplessness**. The soldiers feel endangered, and when the situation is so bad that they cannot fight back, they become susceptible to **fear**. High threat situations induce negative emotions such as fear and frustration. Fear of death, pain and injury all cause great anxiety (Nash 2007; Delahaij, Gaillard, & Soeters, 2006; U.S. Marine Corps, 2000). Nevertheless, military leaders need to motivate troops to engage in combat, in spite of all the grave dangers to their personal safety. A soldiers' greatest fear is failure and the shame that accompanies failure (Nash, 2007).

Witnessing the **horror of human carnage** is a toxic and highly traumatic experience, especially when it includes someone known (Nash, 2007). Bonds which develop in operational environments are often intense, forming a close

sense of cohesion between the troops. These bonds are deemed equivalent to that of a mother and child. When experiencing the **loss of a comrade/s or 'buddy/s' due to death or injury**, soldiers lose their emotional support and can be at risk of losing their self-confidence and feeling vulnerable or incapable (U.S. Marine Corps, 2000). The reality is that soldiers have little opportunity to undergo the normal mourning process or to make sense of it and accept the loss, as they are still subjected to the same danger. They often have to bottle up their emotions until it is safe for them to work through their losses (Nash, 2007). However, this can leave them with a sense of **shame and guilt** that they have survived and that their friends or leaders have not. "Survival guilt" is common among soldiers returning from combat, believing that they could have acted differently and that they have failed themselves or their comrades (U.S. Marine Corps, 2000). They may also feel ashamed and guilty at having killed others in battle or when an unspoken event has occurred among their comrades-in-arms. **Killing** another human being is a significant stressor and very traumatic for troops; on the battlefield, however, they have to overcome their dislike of killing others in order to commit acts of interpersonal violence (Nash, 2007).

### c. Social stressors

As stated previously, the most stressful experience for soldiers is being away from family or friends from whom they gain social and emotional support (Bartone, 2005). Social support enhances the sense of belonging and of self-efficiency and has been shown to be a useful coping strategy (Dolan & Ender,

2008). The level of support, however, can vary from person to person, depending on how well they adapt to being away from their loved ones. Being away from home can leave the soldier feeling lonely and **socially isolated**, especially when it is difficult to communicate with loved ones either due to poor communication methods or when it is difficult for the soldier to communicate well telephonically or in writing. Younger soldiers tend to be more vulnerable than older soldiers with more experience and exposure to being away from home (Nash, 2007; Bartone, 2005). Hourani, Williams and Kress (2006) found a strong relationship between high levels of occupational stress and family stress among young soldiers who were separated from their families.

Although soldiers may feel lonely and isolated, they are still confined with a large number of their comrades and with military leaders from whom they can gain support. This is deemed positive as soldiers develop a sense of group coherence. In some cases, however, the social support given to them through the military can have the opposite effect. Soldiers have to share almost all the available spaces and equipment, leaving an almost **total absence of privacy and personal space**, which can be stressful for those who are not used to such cramped environments (Nash, 2007). Lack of trust or camaraderie in the unit can also leave a sense that fellow soldiers do not care, and that seeking treatment would have an effect on the affected soldier's career in the military (Dolan & Ender, 2008).

It is also important for soldiers, as with any other type of person, to feel valued for the work that they do, even though they may have joined the military on a voluntary basis. In the military, that could only be done through the spokesperson of a nation, the perceptions of other soldiers, military leaders, or through ***the media and public opinion***. Criticism from these sources could inflict enormous emotional wounds on soldiers facing death every day (Nash, 2007). These emotional wounds can culminate in adjustment disorders, as was found among Vietnam veterans and in the Iraq (Meyers & Bechtel, 2004) and Afghanistan military campaigns which were unpopular with British citizens (Alexander & Klein, 2009).

#### **d. Spiritual stressors**

According to Meyers and Bechtel (2004), spirituality is the central, most important component of wellness. Drescher, Smith, and Foy (2007: p. 320) echo this, noting that 'religious beliefs and practices (spirituality) aid many people in developing personal values and beliefs about meaning and purpose in life.' The chaos and senselessness of war, however, can severely challenge ***the belief in a loving God***, especially among those who have survived losses during deployment. War pushes even the bravest and strongest to act in ways they might regret and later feel could have been avoided. It leaves a person with a great challenge ***to forgive or feel forgiven*** for the weaknesses and failings caused by war. The latter also exist among soldiers experiencing a deepened and renewed faith and religious conviction (Nash, 2007). Spirituality has the potential to act as a coping method, healing

the wounds of war (Drescher, Smith, & Foy, 2007).

It is important to recognize when stressors cause stress that could become harmful to a person. Of importance is the complex interaction between 1) the types of stressors, 2) an individual's ever-changing susceptibility, attitudes and beliefs, and 3) the social, political, economic, physical and psychological environments in which the stressors occur. If stressors overlap or too many occur, a person may become more vulnerable, so that negative beliefs and attitudes or an unpleasant organizational climate may influence his or her ability to cope with everyday stress (Patel, 1991).

The change in focus of modern military forces, such as the Botswana Defence Force, with the units being deployed more often, places more demands on troops. Such operations call for increased training exercises, planning sessions and equipment inspections by military staff. These increase the workload of the soldiers and the pace of operations. They also cause more family separations, a recognized stressor for soldiers (Bartone, 2006). Botswana Defence Force members experience family separations not just because of military operations but also because of the base camp distribution throughout Botswana. These base camps are either situated along the borders of Botswana, which does not allow for family members to stay on base, or are situated far from the family members, especially for new recruits who are under training, whose families need to take care of the cattle posts, and who have extended family members in more remote areas of Botswana.

## 2.7 COPING WITH STRESS

Coping is the conscious effort to solve personal and interpersonal problems, and to minimize stress (Smith, 2011). It involves both active and adaptive processes and can be either problem- or emotion-focused (Schlebusch, 2000). Psychologically high levels of stress prevent people from coping with life adequately. Stress affects man biologically (physically and in terms of health) as well as psychologically (Feldman, 1999). Research has shown that a soldier copes better in predicted stressful situations, as heightened emotions enhance memory, and when a traumatic event is simulated, the soldier is more likely to avoid dangers in similar future situations (Aldwin, 2007). This is due to the fact that unpredicted stressful situations have an influence on a person's security. Stress levels also decrease if the person is more informed about the situation, providing time to prepare him- or herself. Stress levels can be lowered if a person has the power to manage the duration of the situation. Soldiers' training is designed to give strategies for survival and resilience. Training includes rehearsals and simulations of armed conflict, hostage-taking incidents, terrorist attacks, and mass casualties (Borders & Kennedy, 2006).

The Botswana Defence Force is faced with exposure to wildlife and rural conditions. The majority of the country is remote and sparsely populated, so that soldiers need to know how to respond when confronted by wild and dangerous animals. They acquire survival skills and the knowledge to administer first-aid, making use of natural resources (Mophuting, 2007). This forms a foundation for healthy and successful coping strategies, resulting in increased resistance to the

effects of potential traumatic stress (Borders & Kennedy, 2006). It is important to bear in mind that individuals react differently to situations, depending on the nature of the event and the personality traits of the person (Smith, 2011). To one person a situation might be very stressful, whilst for another it might offer a refreshing challenge (Patel, 1991). If a person believes enough in his or her own ability to handle a stressful situation, this could influence the intensity of the stress he or she experiences. Emotional support and care from other people can also help to make stress more bearable (Nash, 2007). Generally, a balance exists through interaction of four components – external demands, internal needs and values, personal coping resources, and external resources or support (Patel, 1991).

Coping strategies implies involving self-corrective behaviours as a means to reduce the stressful impact of the events in one's life. Dolan and Endler (2008) note that lower ranked junior-enlisted soldiers reported higher levels of passive coping than non-commissioned officers. Passive coping was related to family-related stress, lower psychological wellbeing, and more frequently reported symptoms of physical illness. Active coping buffers the effects of stress levels related to physical, psychological and behavioural symptoms of stress. In general, people tend to turn either to adaptive or to maladaptive ways to cope with stress. Maladaptive coping is described as using non-coping strategies, such as avoidance and self-punishment, to handle daily stressors (Smith, 2011). Military staff often depend on alcohol, social support, family and leadership to help them cope with stressors in the military environment. Alcohol is deemed

acceptable to relieve stress, but may lead to a substance abuse issue (Dolan & Endler, 2008). Sutherland and Cooper (2000) hold that one should attempt to manage one's stress by avoiding maladaptive ways, that could include the excessive use of alcohol, nicotine or dependence on drugs, neglecting to take adequate exercise, avoiding engaging in fulfilling social or recreational activities, indulging in 'comfort' eating, feeling sorry for oneself, procrastinating and/or giving in to aggressive behaviour.

Stress coping methods in the military were also investigated. Stress inoculation training was developed in 1985 by Donald Melchenbaum, an American psychologist. The aim was to expose troops to combat situations under controlled conditions. This strategy was known to reduce anticipatory anxiety of the unknown and to develop coping strategies and self-confidence among the soldiers (Alexander & Klein, 2009). Research conducted by Bartone (1999) showed that certain personality characteristics could prevent stress illnesses. Hardiness was identified as a 'potential protective variable', or a measure of protection, among Army reserve personnel who were mobilized for the Persian Gulf War. Hardy persons are known to have a high sense of life and work commitment, have greater feelings of control, are more open to change and challenges related to good health and high performance under stressful conditions, and interpret stressful and painful experiences as part of life (Eid, 2006; Bartone, 2005). The primary underlying mechanism in hardiness is resilience. This involves understanding how stressful experiences are interpreted or made sense of in the context of an individual's entire life and how the person

can stay healthy, despite high levels of stress (Bartone, 2006). Hardiness can also be referred to as power of endurance, resoluteness (firmness), self-assurance, toughness, stamina, durability and robustness (forcefulness). It predicts better health and has a direct buffering effect on symptoms of stress, especially under high- or multiple-stress conditions, including job disruption and family separation. Both these factors are relevant to the situation of the BDF soldiers being constantly deployed or separated from their families. It further contributes to increased cohesion in military units after intensive training exercises, including being exposed to the experience of being a prisoner of war (Eid, 2006; Bartone, 2005).

The Critical Incident Stress Debriefing (CISD) model as a treatment modality was considered to be a suitable tool for use in military and emergency services, as a way to reduce distress and prevent the onset of PTSD (Alexander & Klein, 2009). The primary goal of the CISD is to reduce 'the impact of a traumatic event and ultimately to prevent the onset of post-traumatic stress disorder and to identify individuals who may require professional follow-up care' (Smith & Brady, 2006: p. 1163). The CISD process is designed to move the traumatic event from cognitive processing (less traumatic) to emotional processing (more traumatic), and then back to cognitive processing. It is a seven-phase crisis intervention that involves crisis-focused discussions of a traumatic event that include the following phases:

- 1) **Introduction:** The debriefing group is introduced and the purpose of the intervention is explained. The participants are then requested to give their expectations for the intervention. Ethical aspects are addressed and participants are asked to make a commitment to the program and to the rest of the group to ensure a safe environment for disclosure.
- 2) **Fact:** Each participant is expected to describe the relevant event from his or her own perspective, emphasizing only the facts of the incident. Cognitive processing is now taking place.
- 3) **Thought:** Participants are asked to explain their thoughts while the event was occurring, which is the transitional phase transforming the information into the next phase, the reaction phase.
- 4) **Reaction:** Emotional transformation takes place in this phase, as participants describe their emotional reactions to the event.
- 5) **Symptom:** After the disclosure of the participants' emotional reactions to the event, the debriefing team takes the information back to cognitive processing, discussing the possible symptoms they might have experienced as a result of the event that are also associated with stress reactions or symptoms.
- 6) **Teaching:** The debriefing team discuss the symptoms experienced and explain that it is a normal reaction after such a traumatic event. Stress management techniques and other coping methods are subsequently

taught to the participants. Methods to deal with possible symptoms are discussed.

- 7) **Re-entry:** Misperceptions are clarified and the debriefing session is concluded. Participants are given additional material to assist them in coping with any symptoms which might still persist.

A study conducted by Smith and Brady (2006) made use of the Critical Incident Stress Debriefing (CISD) model. Their research involved two U.S. Army Police Officers and eleven Iraqi detainees who had experienced the common tragic event of the death of a detainee. The main aim of their research was to reduce the impact of such a traumatic event and to prevent the onset of PTSD. The CISD was used as an intervention treatment due to the nature of the environment where combat stress-related disorders were among the more frequently treated conditions. Historically, this model has been used exclusively with individuals after exposure to a traumatic event. The researchers explained how they had used the CISD, and had made the unexpected discovery that participants made use of the opportunity to clear misperceptions, enhancing mutual collaboration. However, Alexander and Klein (2009) criticized the use of CISD, stating that it might make participants feel worse through retraumatization.

Another method used was Trauma Risk Management (TRiM), which was introduced by the Royal Marines. This method represents a peer-based way of supporting and assisting individuals at risk of PTSD and requires rigorous

evaluation. This approach was more appealing than the peer support and 'buddy system' as a means of generating camaraderie, and had long been used in military forces in times of crisis (Alexander & Klein, 2009). Further, it is important to realize that coping strategies are only to assist a person to control, or 'cope', with the symptoms of stress. They cannot take the stress away; instead, the source of stress which caused the problem in the first place needs to be identified (Leatz & Stolar, 1993). Coping strategies will also not reduce stress, but rather provide a person with enough energy to deal with the problem in order eventually to reduce stress. The most beneficial methods of coping with stress are to follow a healthier lifestyle, with a well-balanced diet, increase the level of physical fitness, and to get enough sleep, all of which will make a difference to the way a person's body reacts to stress (Leatz & Stolar, 1993). Although it has not been proved that sleep deprivation causes physical illness, it has nevertheless become an important health problem, as it affects mental alertness and performance, reducing the attention span and preventing people from making appropriate rational judgements and decisions. It can also lead to road- or work-related accidents with significant consequences. It is therefore important to get enough sleep, as it contributes to dealing with stress, specially when clear judgement is needed (Leatz & Stolar, 1993).

Other techniques to consider and to experiment with as coping measures include behavioural rehearsal, biofeedback, breathing exercises, physical relaxation, mental relaxation, participating in hobbies and leisure activities, and drawing on the support of family and friends. Most of these coping measures are practiced as

leisure activities as a way to maintain good health and well-being. Leisure is seen as more than simply managing free time, as it gives meaning to peoples' lives. It has the potential to reduce stress, including work-related stress, and functions as a form of emotion-focused coping, encouraging relaxation, compensation, escapism and independence. It also serves a social and supportive role as it offers an avenue for people to develop companionship and friendships which help them cope with or buffer stress (Trenberth & Dewe, 2005). The selection of techniques will further be influenced by the subject's current lifestyle, situational changes and sources of stress, calling for alterations to the coping package to meet new demands (Leatz & Stolar, 1993).

## **2.8 STRESS MANAGEMENT**

Stress management is a tool which will enable a person to cope with stress or, as Kashalikar (2005: p. 11) puts it, *"it is like a boat which can enable you to 'cross the river'"*. Stress management includes the change of any perceptions which see the mind and body as separate entities. Managing stress successfully means reducing the exposure to it, and then attempting to remove stressors. A person should be concerned with the functioning of the mind and body as one, as well as how they affect one another. This would affect his or her total functioning and well-being, improving the ability to cope with stress. The social part of a person's functioning and the need to place emphasis on quality of life should not be ignored in the stress management process. There should also be a greater focus on the person and his/her holistic (physical, psychological and social) well-being, rather than on the disease. The role of stress in psychological or physical

disorders should be accepted as a reality. In a working environment, all sources of stress, personal or work-related, at all levels of the system, should be taken into consideration in order to achieve the best results, as personal stress may affect stress at work and vice versa (Schlebusch, 2000). In the military, close cooperation between the Command, Medical and Welfare staff is needed (Harrison, Sharpley & Greenberg, 2008). This will allow the organization to look at the overall welfare of the worker as it extends to his/her home and social life.

A concept referred to as Forward Psychiatry was introduced during World War I to treat soldiers with psychological disorders. This included several treatment facets still used today to manage stress in the military and is referred to as proximity, immediacy, expectancy and simplicity (PIES). This concept was adapted for the modern military with its ever-changing demands and remains a guiding principle for military health and medical services in managing soldiers with acute PTSD, enabling them to return to being fully operational (Harrison, Sharpley & Greenberg, 2008). Management of stress within a unit is further deemed important. A soldier diagnosed with stress or PTSD should be kept in the unit and coordinated by his/her commander/leader. Leaders are faced with the significant task of looking after the wellbeing of their soldiers, ensuring that their basic psychological needs are met (referring to Maslow's Hierarchy of Needs), assisting in normalizing the stress response and confirming the capacity of the soldiers to cope with the stress and to fulfil their duty. To this end, medical staff should serve in an advisory capacity to the commander/leader (Dolan & Ender, 2008; Harrison, Sharpley & Greenberg, 2008).

Developing a stress management program involves the following aspects:

**1) *Stress management as an on-going process***

It should be acknowledged that stress management is an on-going process throughout life, requiring dedication of time, continuous self-inspection and constant re-evaluation to determine the personal stressors and events which trigger stress, as well as evaluating and identifying the technique that works best to reduce stress (Van der Merwe, 2004).

**2) *Identification of stress and the causing problem***

In order to overcome the problem of stress, it is important to adopt an increased awareness and sensitivity to stress reactions in a personal, as well as an occupational capacity. In the occupational environment, appropriate courses could be included as part of a training program for staff, in order for them to develop an understanding and awareness of stress, the problems related to it, and methods to be used to cope with it (Schlebusch, 2000; Beech, Burns, & Sheffield, 1982). It is the responsibility of the commander/leader to look after the wellbeing of his/her troops and he/she needs to be educated to assist troops with their mental illnesses (Harrison, Sharpley, & Greenberg, 2008). A diary could be kept, taking note of the factors causing the stress and the feelings arising from it. Self-administered stress questionnaires, such as the Holmes and Rahe social re-adjustment rating scale or stress inventory (Holmes & Rahe, 1967) or other available stress inventories, could also be used as a guideline, determining soldiers' levels of stress or the actual

causes thereof (Van der Merwe, 2004).

### **3) Referrals for specialist attention**

On discovering high to severe levels of stress in someone in the workplace, it is important to offer support to that individual by giving access to a source of help. In a workplace situation, it is normal to refer such a person to a recognized professional who is independent of the work environment (Beech, Burns, & Sheffield, 1982)

### **4) Selection procedures (which skills/techniques to use)**

The selection of skills and techniques to cope with stress and the careful appraisal of the individual's commitments are of critical importance. The procedures for selecting the appropriate skills and techniques take many factors into consideration and emphasize existing skills, knowledge or past achievements, all scaled according to the degree of importance of the personal qualities of that individual. The emotional stability and vulnerability of the individual should also be assessed and used as part of the selection criteria (Beech, Burns, & Sheffield, 1982). The selection of techniques should start on a small scale, setting short-term goals and making two positive changes per day, and avoiding making a complete change all at once, which could result in more stress. Such small changes could include replacing an unhealthy snack with a health snack or listening to positive affirmations. Implementing small changes could have effective outcomes in the ability to prevent and cope with stress (Van der Merwe,

2004). Time management and setting of priorities are additional skills and techniques to be included and could be a very effective method of eliminating stress elements in both personal and work environments (Van der Merwe, 2004). In the military setting, it is important to include intensive, realistic and regular military training as a stress coping method. It can be used as a tool to prepare soldiers for combat stress and trauma and, as an outcome, increase resilience and operational effectiveness (Harrison, Sharpley, & Greenberg, 2008).

Organizations could further adopt and implement wellness programs in the workplace to assist employees in coping with stress. These could include health education, physical fitness and nutrition programs, employee health services and benefits, workplace safety, as well as the integration of company and community resources (Randolfi, 2004). Employees involved in such programs could take responsibility for their overall health by gaining more knowledge and insight into their health, thus making informed choices to live a more healthy life. Earlier reference was made to the Military Morale and Welfare Recreation programs that were introduced to military forces as a wellness initiative.

##### **5) *Monitoring functions***

As noted earlier, it is not possible to eliminate all stress in life, with positive stress being essential to optimal functioning. A person should therefore be specific in the choice of what needs to change and the goals to be set.

Goals should be realistic and attainable and should have built-in incentives for reaching them, allowing one to adapt to changes according to personal needs (Van der Merwe, 2004).

In short, in order to manage stress, a stress-sensitive lifestyle should be adopted (Van der Merwe, 2004; Leatz & Stolar, 1993). It is also important to foster an awareness of mental health issues in the military, in order to reduce the stigma of suffering from stress. Harrison, Sharpley and Greenberg (2008) are of the opinion that simple self-help strategies should be identified and introduced among soldiers and supporting services. Unit cohesion and morale should be fostered, as these are important for coping with and managing stress. This requires faith in the leadership and in one's comrades, in the common purpose of the mission, and in an adequate balance of work and rest. The soldier should be ensured of his or her family's safety and that their needs are being met, so that the soldier can focus on his/her operational roles. Welfare services could be introduced to these families. Commanders and health professionals should be aware of the exposure of soldiers to home stressors and how these can impact their mental health. Although neither home nor military stressors can be removed, the soldier can be trained and skilled to respond to challenges, to recover from these challenges and to continue functioning, thus building resilience (Dolan & Ender, 2008; Harrison, Sharpley & Greenberg, 2008; Bartone, 2006; Borders & Kennedy, 2006; Eid, 2006; Hourani, Williams, & Kress, 2006).

## 2.9 CHAPTER CONCLUSION

This chapter aimed at providing a holistic view of employee wellness, stress and stress management in the military. The importance of a good work environment was emphasized. Employees spend most of their time at work, and their wellness is important to their job satisfaction, productivity, health and psychological wellbeing. Morale was identified as a key element of employee wellness and as an important factor in the military. Morale, Welfare and Recreation programs were introduced to soldiers after World Wars I and II. These programs have been shown to boost unit morale and build inter-rank relationships. Similarly, wellness education could be introduced to military leaders and soldiers. Such education could be embedded in leisure education to create awareness of health promotion, protection and prevention. Leisure education offers a strong foundation for wellness education and forms an important part of a therapeutic recreation program.

Stress is not always negative, since some level of stress is needed for normal functioning. Continuous exposure to stressful events can, however, cause physical or psychological damage. Stressors specific to the military environment were identified. It is necessary to eliminate or reduce such stressors to prevent the damage caused by stress. Different causes in the personal and work environment were also discussed and could be used to identify possible stressors in the lives of the military staff in the Botswana Defence Force.

Work stress is an occupational hazard in the military and, if not addressed, could lead to medical and/or psychological problems. High levels of stress are reflected in physical, psychological and behavioural symptoms that form the theoretical framework for the research instrument. Methods and techniques used in the military as coping mechanisms were identified and the stress management process was explained. Leisure as a means to buffer stress and to cope with it was emphasized. Therapeutic recreation methods and models will be discussed in the next chapter. Chapters two and three will be integrated into an intervention model.

## CHAPTER 3

### RECREATION

#### 3.1 INTRODUCTION

Quality of life is emphasized in modern society through health promotion and wellness. Leisure, recreation and play, hereafter referred to as leisure or recreation, together with work, are essential aspects of the human experience of optimal health and well-being (Daly & Kunstler, 2006; Haworth & Lewis, 2005). Recreation has therapeutic value in that it is restorative, beneficial and moves people towards healthy lifestyles. It provides a general protection against stress, with opportunities to engage in meaningful activity, healthy relationships and safe living environments, thus contributing to physical, social, emotional and cognitive health through prevention, coping (adjustment, remediation, diversion) and transcendence (Caldwell, 2005). It is the right of all human beings to engage in recreation that will promote the enhancement of quality of life for all and build stronger communities (Carter & LeConey, 2004).

Recreation is a powerful tool for achieving an optimal experience, as it involves challenges, excitement, rewards, choices, concentration and fun, and is freely chosen and satisfying. Because it is so powerful, it motivates people to change and improves their health (Daly & Kunstler, 2006). However, there are many who suffer from some form of disability, illness or other condition, e.g. poverty, which limits their ability to participate in leisure, recreation or play, despite having the same needs as those without any disability, illness or crippling condition.

Equitable opportunities and access to recreation are important and call for programs designed to include all participants (Miller *et al.*, 2009; Carter & LeConey, 2004). Therapeutic recreation (TR) is more than simply organizing activities primarily for enjoyment, although this is not excluded, as fun and enjoyment increase the chances for successful therapy. Therapeutic recreation was established to assist those who had limited opportunities for leisure, not only to promote the positive benefits of leisure participation but also to prevent anti-social behaviour and activities (Caldwell, 2005). The American Therapeutic Recreation Association (ATRA) (1999) stated that the aim of TR was *'to restore, remediate or rehabilitate in order to improve functioning and independence and to reduce or eliminate the effects of illness or disability'*. Daly and Kunstler (2006) postulated that TR could be used to improve the functioning, health, well-being and quality of life by focusing on the person as a whole, as well as on the changes needed in his or her living environment. This includes play, recreation and leisure as important avenues for promoting ongoing healthy lifestyles, with activities developed throughout the lifespan of the individual to promote quality of life (Janssen, 2004; Carruthers & Hood, 2004). The purpose of TR then becomes to facilitate leisure, recreation and play for those individuals or groups with disabling conditions or illnesses, promoting their health, well-being and overall quality of life (Robertson & Long, 2008). Facilitation of TR for groups with special needs takes place through professional services designed to develop skills and knowledge, foster values and attitudes, and reduce barriers to such groups by increasing their abilities and opportunities (National Therapeutic Recreation Association, 2001).

As a discipline, therapeutic recreation is dynamic and plays a significant role in the development of well-being. Further, it has great potential as both a health and human discipline (Carruthers & Hood, 2004; Riley & Skalko, 1998). This role is often defined as the main goal of TR, focusing on 'psychological strengths' and capacities to assist those with mental illnesses. These psychological strengths and capacities are the same strengths that offer a buffer against stress (Carruthers & Hood, 2004). Zabriskie, Lundberg, and Groff (2005) describe TR as a continuum of services, ranging from treatment interventions to independent recreation and leisure experiences. They include assisting clients in attaining a healthy lifestyle, ultimately improving their quality of life. Therapeutic recreation has developed into a multifaceted approach, moving away from hierarchically organized, discipline-specific services towards those requiring multidisciplinary cooperation between health professionals (Russoniello, Skalko, Beatly, & Alexander, 2002).

This chapter will describe the theoretical background to TR and its use in managing stressful situations. Focus will be placed on the benefits, different models and process of TR, and on participants/clients with mental health conditions such as stress, including in military settings.

### **3.2 BENEFITS OF THERAPEUTIC RECREATION**

The benefits of TR are endless. Daly and Kunstler (2006) summarize TR program categories and the benefits of each of these categories, as shown in Table 3.1 (p. 129).

Schwarzenegger, Chrisman, and Coleman (2005) compiled an elaborate report on the health and social benefits of recreation as part of the California Outdoor Recreation Planning programs. These benefits, although not defined as therapeutic recreation benefits, support those proposed by Daly and Kunstler (2006). The report concluded that the physical health benefits of recreation include reduced obesity (a major health concern linked to inactivity), the reduced risk of many serious diseases (i.e. heart, disease, diabetes, cancer and osteoporosis), enhanced immune systems (physically active people are less prone to illness), and increased life expectancy (there is proof of reduced medical costs for physically active people). Mental health disorders are a public health burden and are one of the major causes of hospitalization and disability. Although not all mental health treatments require some level of activity, it has been shown that recreation has a positive effect on mental health in that it reduces depression, relieves stress, builds self-esteem and improves the quality of life in many ways. The social benefits of recreation refers to the positive impact it has on society, as it strengthens communities by reducing crime, encouraging volunteerism, promoting stewardship and social bonds (uniting families), building cultural diversity and harmony, supporting people with disabilities, supporting and developing all age groups across their life spans, enhancing education and

detering negative behaviour (Schwarzenegger, Chrisman, & Coleman, 2005).

**Table 3.1: Benefits of therapeutic recreation** (Daly & Kunstler, 2006)

CATEGORY	BENEFITS
<b>1. Physical health and health maintenance</b>	<ul style="list-style-type: none"> <li>▪ Improves general physical and perceptual motor functioning</li> <li>▪ Maintains health</li> <li>▪ Reduces risk of secondary physical complications of the disability</li> <li>▪ Reduces cardiovascular and respiratory risk</li> </ul>
<b>2. Cognitive functioning</b>	<ul style="list-style-type: none"> <li>▪ Improves general cognitive functioning</li> <li>▪ Improves short- and long-term memory</li> <li>▪ Decreases confusion and disorientation</li> </ul>
<b>3. Psychosocial health</b>	<ul style="list-style-type: none"> <li>▪ Improves coping skills and self-control</li> <li>▪ Improves self-concept, self-esteem, and adjustment to disability</li> <li>▪ Improves general psychological health</li> <li>▪ Reduces depression, anxiety and stress level</li> <li>▪ Improves social skills, socialization, cooperation and interpersonal interaction</li> <li>▪ Reduces self-abuse and inappropriate behaviour</li> </ul>
<b>4. Growth and personal development</b>	<ul style="list-style-type: none"> <li>▪ Improves communication and language skills</li> <li>▪ Increases age appropriate behaviour</li> <li>▪ Increases acquisition of developmental milestones</li> </ul>
<b>5. Personal and life satisfaction</b>	<ul style="list-style-type: none"> <li>▪ Increases leisure and life satisfaction and perceived quality of life</li> <li>▪ Increases social support, community integration, community satisfaction and community self-efficiency</li> <li>▪ Increases family unity and communication</li> </ul>
<b>6. Societal and health care system</b>	<ul style="list-style-type: none"> <li>▪ Reduces complications secondary to disability</li> <li>▪ Improves system outcomes</li> <li>▪ Improves follow-through with rehabilitation regimes, satisfaction with treatment, and dedication to treatment</li> <li>▪ Increases outpatient involvement and post-discharge follow-through with treatment plans</li> </ul>

In taking note of the different benefits, it is important to recognize that taking part in meaningful or benefit-based leisure activities does not come naturally to everyone, and that many people lack the skills and resources to cope with life's stresses (Caldwell, 2005). Often these individuals tend to opt for sedentary leisure activities, such as watching TV, reading or listening to the radio or music, which do not help them to maintain their health and fitness levels (Carter, 2002). Such people need guidance, education and counselling to help them manage their health problems and/or stresses. This can be done through therapeutic recreation. This offers the benefit of developing and engaging in meaningful activities and is a factor in protecting against poor health. Through leisure guidance, the TR specialist helps people to self-determine their interests and learn how to pursue them in order to reap the benefits of the TR (Caldwell, 2005).

When developing 'benefit-based-programs', it is important to target those benefits which will have a long lasting effect, with the achievement of some level of learning transfer, even after the completion of the programs. This means that the real benefit of the programs lies in retaining and applying the learning outcomes (Haas & Sibthorp, 2004). Before selecting the most appropriate activity, it is important to know what benefits relate to a specific activity or program, as the benefits may vary from one activity or program to another. For example, a fitness and exercise program may enhance health, competency and coping abilities, which in return offer benefits beyond the program's immediate context and time. At the same time, a fitness and exercise program can offer the benefit of increased academic performance.

### 3.3 THERAPEUTIC RECREATION AND MENTAL HEALTH

Diener (as cited in McCornick, 1999) characterized subjective well-being as a global, positive reaction to a person's life. The subjective view of well-being (also referred to as hedonic well-being) is associated with happiness, pleasure and the avoidance of pain. These are related to leisure, as one of the defining quality of leisure is pleasure (Carruthers & Hood, 2004). Haworth and Lewis (2005), in contrast, hold that work, as well as leisure, is essential for well-being. Today's changing working environments, with new technologies and working practices, place greater demands on the workforce, which increases stress. A study by Iwasaki, Mannell, Smale and Butcher (2002) highlighted conditions in which employees were exposed to high levels of stress both in family life and in their work, such as the police and emergency response services. In the military context, soldiers need to be combat-ready at all times, while still remaining "normal" and socially adaptive. This type of exposure to stressful events can result in undesirable psychological and somatic outcomes, such as chronic stress or burnout. According to Trenberth (2005), a growing body of knowledge points to the importance of leisure as a way of coping with stress. The study of Iwasaki *et al.* (2002) found that policemen and those involved in emergency services made use of leisure to regulate their moods, to keep their minds and bodies busy in order to temporarily escape from stress, and to socialize with others, gaining social support which contributed to their mental health. They thus made use of leisure as a way to feel empowered, developing psychological resources for the better management of stress. Leisure activities reduced their levels of stress and stimulated coping outcomes. Coping skills are important in dealing with stress,

since they allow a person to restore the balance in his or her life by decreasing the negative effects and increasing the positive effects. Some individuals turn to negative leisure behaviour, such as drinking, when other coping strategies are not available, in the belief that there is a positive coping effect in alcohol, which instead often has disastrous results (Carruthers & Hood, 2002). The recourse to alcohol in military communities is evident where high levels of stress occur and when soldiers are depressed or even contemplating suicide. Male soldiers consume more alcohol than female soldiers (Crawford, et. al., 2009; Clayton & Nash, 2007; Maslach, Schaufeli, & Leiter, 2001).

Positive stress coping strategies create positive events or experiences; humour for example has a positive effect on stress (Carruthers & Hood, 2004). Caldwell (2005) explored leisure and health, specifically the stress-coping-leisure relationship. She reported that leisure and mental health could be viewed from two perspectives, those of public health and of occupational therapy. From the public health perspective, most research into the stress-coping-leisure relation shows a differential role for leisure, depending on the person's work or life situation. From the occupational therapy perspective, leisure is seen as a meaningful activity which promotes human potential through social inclusiveness and the encouragement of self-expression, which in turn promote mental health. Caldwell (2005) further noted that some forms of sedentary leisure, such as watching television or being alone with one's thoughts, can in some circumstances lead to negative mental health outcomes. Other kinds of passive leisure activities, such as music appreciation and shared humour, can improve

moods and reduce anxiety.

Iwasaki (as quoted by Caldwell, 2005: 11) states that *'leisure can be an important buffer against stress to maintain good health.'* Iwasaki, Mactavish and Mackay (2005) examined the role of leisure in coping with stress and found that leisure-related coping outcomes significantly predicted positive as well as long-term coping outcomes, leading to mental health and psychological well-being beyond the effects of general coping methods. They also studied leisure and coping with stress from two perspectives differing from those of Caldwell (2005): leisure as (a) a mechanism for coping with stress, and (b) as a psychosocial phenomenon in which the underlying functions or meanings of leisure act as a resource or strategy for managing stress. In the first perspective (a), various studies have shown that people engage in different types of leisure (higher levels of physically active leisure), depending on the nature of the stress they encounter. A compensatory framework provided by Trenberth and Dewe (as cited by Iwasaki, Mactavish & Mackay, 2005:82) suggested that 'passive, recuperative leisure counteracts stress, serving as a 'balancing function' ('to relax'), 'choice' ('to be free to do what I like'), or to enhance 'mood-feelings' ('to feel better mentally'). The second perspective (b), leisure stress-coping, focuses on the psychological functions of coping through leisure, such as leisure empowerment or leisure companionship as sub-dimensions of a leisure coping belief, and leisure palliative coping as a sub-dimension of a leisure coping strategy, rather than the leisure activities themselves. Three leisure-based coping strategies were thus identified in the second perspective:

- i) **Leisure palliative coping:** A positive diversion of 'time-out' from a stressful situation and thoughts, offering rejuvenation and renewal, doing a leisure activity for the temporary relief of stress in order to regroup and regain perspective (e.g. jogging).
- ii) **Leisure mood enhancement:** Participation in leisure to get into a better mood (e.g. attending a comedy act).
- iii) **Leisure companionship:** Spending time with friends (e.g. dinner or a social event).

From this perspective, leisure is used either to manage stress or as a means to 'positive transformation', to rebuild and find new directions for self-development (Trenberth & Dewe, 2005). Caldwell (2005) noted other coping mechanisms that were identified in the literature on stress coping and leisure, such as positive reappraisal, problem-focused coping, and the creation of positive events.

Leisure is used both as a measure of coping with stress and as part of the therapy. The study conducted by Iwasaki, Mactavish & Mackay (2005) found that people often intentionally create a leisure space as a way of coping with stress, using it as a stress-coping technique to find balance in life. Prescribed leisure activities and other psychological programs can play a vital role in dealing with traumatic, stressful events (Russoniello, Skalko, Beatly & Alexander, 2002). However, in order to cope with stress, people need to learn about the importance of leisure as a problem-focused and emotion-focused way of coping. Klitzing (2004) supports this view, maintaining that it is essential for people to first believe

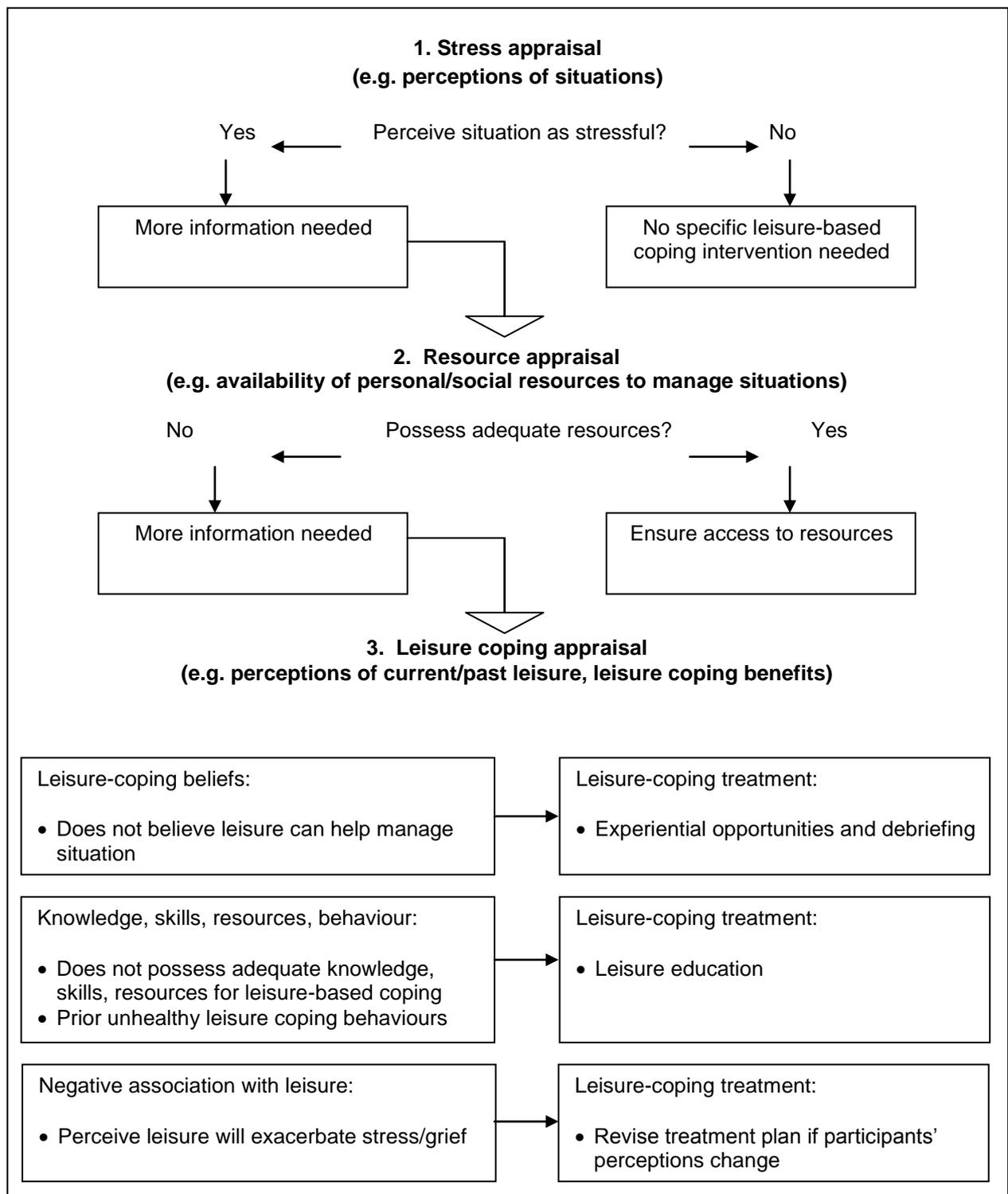
that leisure can help them before they actually use it as a coping mechanism.

The TR specialist is ideally placed to design interventions to enhance positive emotions, where his or her services address the role of leisure as an overall coping resource, building the capacity to experience pleasure in life and creating emotional health, thus ensuring optimal psychological functioning (Carruthers & Hood, 2004; Hutchinson, Bland & Kleiber, 2008). Therapeutic recreation services are often used in mental health centres, with a focus on psychological well-being. The services of TR specialists, however, are not limited to traditional mental health treatment facilities. The global focus on reducing inpatient hospitalization and medical costs by seeking outpatient alternatives influences the nature of TR services. This transition involves a shifting focus for improved health and quality of life, in which the TR specialist must develop a broader perspective in order to care for every kind of person. The specialist can play a significant role by drawing on community resources or private programs, offering community-based support groups, after-school or summer programs, wilderness-based programs or challenge-course programs (Long, 2008; Dominiquez & Roth, 1999; Riley & Skalko, 1998). The scope of such services should, however, include helping participants to (a) learn about the benefits of leisure for coping with stress, (b) develop their leisure-coping repertoire (a range of leisure pursuits perceived to be personally beneficial in times of stress), and (c) build their personal and social leisure-coping resources' (Hutchinson, Bland & Kleiber, 2008:16). To this end, the TR specialist must know how leisure can be used as a resource for coping with stress (Hutchinson, Bland & Kleiber, 2008) in order to:

- (a) Provide a rationale for **including leisure-based coping goals** in the scope of service delivery,
- (b) Design **assessments** that allow for the determination of individuals' leisure-based coping, and
- (c) Design **interventions** which incorporate leisure-based coping as a targeted outcome.

Enough evidence is found in the literature to support the inclusion of leisure as a way of coping with stress, making it natural to include it as a goal in a TR program addressing stress and providing coping skills.

Hutchinson, Bland and Kleiber (2008) noted that Iwasaki and Mannell developed the Leisure Coping Beliefs and Leisure Coping Strategies scales in 2002 to assess leisure-based coping. Figure 3.1 (p. 137) shows a schematic approach to the decision making that should take place when assessing and developing leisure-based coping interventions. Table 3.2 (p. 138) gives a summary of the distinctions which can be used for this purpose.



**Figure 3.1: Assessing participants' needs for leisure-based coping interventions**

(Hutchinson, Bland, & Kleiber, 2008: 18)

**Table 3.2: Linking assessment of baseline leisure-coping to TR service delivery** (Hutchinson, Bland, & Kleiber, 2008:19)

Perceptions about past and current leisure	Leisure-coping beliefs	Leisure-coping strategies
<p><b>If people hold positive perceptions about their leisure:</b></p> <ul style="list-style-type: none"> <li>• Information provision (e.g. available leisure resources within the facility/community) to support participation in a self-directed manner</li> <li>• Information sharing, mutual support</li> <li>• Ensure people have access to adequate supplies/equipment or support resources or opportunities to engage in preferred leisure</li> </ul>	<p><b>If people believe their leisure can help them cope with stress:</b></p> <ul style="list-style-type: none"> <li>• Information provision (e.g. available leisure resources within facility/community) to support participation in a self-directed manner</li> <li>• Information sharing, mutual support</li> <li>• Ensure people have access to adequate supplies/equipment or support resources or opportunities to engage in preferred leisure</li> </ul>	<p><b>If people have in the past or currently engage in leisure that could be a coping resource:</b></p> <ul style="list-style-type: none"> <li>• Ensure people have access to adequate supplies/equipment or support resources or opportunities to support continued involvement</li> <li>• Teach use of adaptive strategies to return to preferred activities</li> <li>• Information sharing, mutual support</li> </ul>
<p><b>If people are concerned about their current leisure:</b></p> <ul style="list-style-type: none"> <li>• Leisure counselling or education to identify and address stress triggers, substitution of alternate activities, ethic of leisure-based self-care</li> <li>• Problem-solving to reduce stress triggers associated with participation</li> <li>• Facilitate experiences of enjoyable leisure activity and debriefing focused on emotional and cognitive response to participation</li> </ul>	<p><b>If people do not believe, or know how, leisure can be a coping resource:</b></p> <ul style="list-style-type: none"> <li>• Leisure education to identify stress-coping benefits of leisure, past/current leisure engagement that could be coping resource(s)</li> <li>• Facilitate experiences of enjoyable leisure activity and debriefing focused on coping-related benefits of participation</li> <li>• Role modelling, mutual support</li> </ul>	<p><b>If people do not currently engage in leisure that could be a coping resource:</b></p> <ul style="list-style-type: none"> <li>• Leisure education: leisure preferences, past leisure, personal need related to leisure-based coping</li> <li>• Leisure sampling, experience different forms of leisure and explore potential coping benefits</li> </ul> <p><b>If people do not believe they have access to personal/social resources</b></p> <ul style="list-style-type: none"> <li>• Facilitate experiences of enjoyable leisure activity and debriefing focused on coping-related benefits of participation</li> <li>• Facilitate development of personal resources (e.g. self-efficacy, optimism) or social support networks</li> </ul>

Most TR models focus on leisure and its contribution to holistic health and well-being. However a shift in focus has been seen, away from simply reducing the problem towards 'positive psychology', building a positive capacity and allowing the client to thrive and build strengths systematically to buffer him or her against stress. Used to prevent both mental and physical illness, it shows the value of TR in this new paradigm of health and human services. Strengths which could be highlighted through the use of 'positive psychology' include courage, foresight, optimism, emotional intelligence, self-regulation, authenticity, capacity for pleasure, and a sense of purpose (Carruthers & Hood, 2004). These strengths are implied in the hardiness frame of reference, defined as a collection of personal characteristics which allow a person to cope with stress; these include commitment, control as it relates to empowerment, and challenge as a positive perspective on change (Witman, 1995). Hardiness was highlighted by Bartone (1999) as an important measure of protection against stress for military staff, as discussed in Chapter 2. TR services could be relevant in developing 'military' hardiness by enhancing the resilience and wellness of military staff (Witman, 1995).

The use of 'positive psychology' is vested in one of four behavioural theories used in TR, namely the **Social Cognitive Theory (SCT)**. The SCT offers a comprehensive explanation of behaviour and guidance on how to secure the desired behavioural changes in participants, as part of the TR services or efforts. This could be related to a variety of behaviours, populations and settings. Most coping skills interventions are based on cognitive-behavioural approaches,

focusing on assisting subjects to identify the connections between their thoughts and actions (Hutchinson, Bland & Kleiber, 2008). Interventions based on this theory as a framework for TR practice are aimed at strengthening self-efficiency, changing outcome expectations, and improving self-regulating capabilities. This is done by teaching coping skills, increasing competence in the sub-functions of self-regulation, and applying these to a variety of situations (Wise, 2002). A core form of leisure-coping intervention is the Leisure Education intervention. This is rooted in the SCT, since leisure-coping goals are specifically related to the development of knowledge, skills and awareness. Leisure Education also enhances a sense of independence, self-control, competence and well-being (Hutchinson, Bland & Kleiber, 2008; Searle, Mahon, Iso-Ahola, Sdrolas & Van Dyck, 1998). Another form of intervention which is proving to be effective is the inclusion of leisure-coping goals in recreation participation programs. It gives many opportunities to support leisure-based coping in which participants can experience a sense of solidarity in structured programs, facilitating meaningful connections (Hutchinson, Bland & Kleiber, 2008).

### **3.4 THERAPEUTIC RECREATION IN MILITARY SETTINGS**

Recreation programs in most military forces are designed to help personnel to stay fit, thereby contributing to their military readiness, to adopt healthy lifestyles with the aim of lowering medical and healthcare costs both for the employer and employee, and to enhance the quality of life of the military community. Pedlar (1997) emphasized that recreation in the military is valued in the rehabilitation and recovery process. It is used as a vehicle to enhance the general sense of

well-being of the soldiers (Hayward, 2009). Although TR forms a vital component of treatment, with recreation as part of a planned intervention for improved physical, social, emotional and cognitive functions, there is very little extant literature on TR programs in military settings, with evidence of only a few programs offered in the United States Army. Potter, Baker, Sanders and Peterson (2009) note that mental health in the military has not been well researched, nor have approaches to treatment been well evaluated to assess their effectiveness. The treatments offered during 'Operation Iraqi Freedom' and 'Operation Enduring Freedom', for example, consisted mainly of mental health counselling and did not include TR as a treatment modality.

In 1996, the Canadian Forces introduced morale-and-welfare programs and today both the Canadian and United States (USA) military forces make use of Morale Welfare and Recreation (MWR) programs in their military communities (Temple & Ogilvie, 2006). These programs give support through community-development activities, events and celebrations, uniting and strengthening the military community with programs promoting special growth, fellowship and networking, strong cooperative relationships, and the strengthening of the military corps. Military recreation services are similar to those offered in civilian communities, but are unique to the special group they serve (Temple & Ogilvie, 2006) because:

- i) Military families relocate frequently and programs and services are based on needs which could differ from year to year;

- ii) Many military communities are located in remote or unstable places, either in their own countries or around the world;
- iii) Military recreation departments only offer services to military personnel and their families; and
- iv) Volunteer management is challenging in the military setting since volunteers play a crucial role in providing recreation in such settings.

A further difference is that recreation programs in the military are aimed at providing wholesome, constructive off-duty recreation and leisure, promoting the mental, physical and social well-being of military staff and their families (Temple & Ogilvie, 2006). Considering the main goal and purpose of therapeutic recreation, such services also strive for the same purpose in military settings, ensuring that recreation programs be beneficial and purposeful for the military community. A new and rising interest is in giving assistance to soldiers who were injured in combat since 2001 in the Iraq and Afghanistan wars. These programs were based on the existing MWR programs, but included such innovations as 'Wars' and the 'Wounded Warriors Sports Program' (MWR, 2010). Young (2009) also reported on a 'Wounded Warrior Support Program and Family Program' in the US Air Force. Such programs allow soldiers to return to the military and to remain on active duty, as well as giving support to their families. They are designed to meet the needs of the soldiers, increase their endurance, strength, and awareness of leisure, while reducing anxiety and the symptoms of depression. They have been shown to reduce the incidence of suicide and the destructive behaviour related to PTSD, such as substance abuse, domestic

violence, social isolation and depression. Activities in these programs include spinning, yoga, computer games (Nintendo Wii games) and aquatics, offered at twelve-week intervals. The 'Wounded Warrior Sports Program' is specifically designed for disabled soldiers and prepares the athletes who are selected for sporting events for the physically disabled in conjunction with the US Paralympic Committee (MWR, 2010).

An organization called Easter Seals Disability Service not only offers a service to military staff but also provides TR services to families living with service veterans suffering from recently-acquired disabilities. These programs have proved to be valuable in facilitating health, functioning and well-being during recovery, in the adjustment to disabilities and in strengthening families. 'Operation Purple', for example, is a camp for the children of deployed parents, offering a nurturing environment for these children in which they can learn coping skills, make new friends and experience life lessons with their peers (Easter Seals Disability Services, 2010). Another valuable and successful program, initiated by the North American Riding for the Handicapped Association (NARHA), was developed for wounded American service personnel and veterans with physical, cognitive and emotional disabilities or illnesses. It is mostly used to assist people to walk again and to regain a sense of normality. Some veterans also want to feel a sense of 'risk' again and are able to accomplish this through horse riding (Bender, McKenzie & Beckman, 2008). Other TR programs for wounded personnel and veterans include art, writing therapy, and emotional intelligence and adaptive aquatics programs.

Training in TR programs is essential in military settings, but most military staff are not necessarily trained to offer such programs. They call for special training programs in TR services for recreation specialists. A training program called 'Inclusive Recreation for Wounded Warriors' was introduced to the US Army in 2009, and was the first of its kind for military recreation managers. Emphasis is placed on inclusive recreation as a medium, with programs adapted and modified so that injured soldiers can take part in recreation or sporting activities, both with other injured and with non-injured soldiers. Not only can non-injured soldiers help injured soldiers to get on with their lives, but they also gain a better understanding of the various physical and/or psychological conditions of war (Young, 2009; McInvaine, 2008).

With regard to the training of staff, it is important that programs are offered within a relative standard of care. The Commission for Accreditation of Parks and Recreation Agencies (CAPRA) developed a guide for 'Army standards for National Accreditation' in America. These accreditation standards were designed to improve participation in sport and leisure in the military and to promote the quality of life of military staff. The specific section of the CAPRA Army Standards which is of interest here is related to program and service management. A brief summary of the standards is given below (Commission for Accreditation of Park and Recreation Agencies, 2008).

1. Programs and services provided should be based on:

- Non-facility based programming
- Constituent needs
- Community opportunities
- More effective use of facilities
- Experiences desirable for the clientele

This could be done by following a professional, systematic and studied approach to determining which programs and services should be offered by the Defence Force. The public entity should not be excluded, but community opportunities should rather be recognized and included.

2. Programs should involve the customers by including them in the planning and conducting of activities (e.g. as volunteers, judges for contests, coaches, scout leaders, etc.), as well as with policy recommendations, including citizen advisory committees through the community.

3. Services and programs should be delivered in a variety of ways, with different approaches to program formats and delivery.

- Programs should provide opportunities for self-directed recreation by giving a list of opportunities available under general supervision.
- Programs should offer opportunities for recreation with directed involvement, including instruction such as skills instruction classes, unit-level sports, computer classes, personal fitness training, etc.

- Services should be given both to individuals and small groups to stimulate and help them operate independently (e.g. with the establishment of special interest groups, for example starting a community theatre organization with the military base providing a meeting place and administrative support until the organization is self-sustaining).
  - Services and programs could be offered for a fee to supplement basic recreational opportunities, particularly where equipment is needed that is expensive (e.g. videos, safety equipment for adventure activities, instruction and theatre production).
4. Specific written objectives should be established for each activity and should be reviewed annually or at the commencement of each new season and be used as an evaluation tool at the end.
  5. Activities must be available to all military staff and their families residing on base camps and for authorized visitors to these camps. This ensures that provision is made for the leisure needs of special populations (retirees, single parents, single soldiers and the physically or mentally handicapped).
  6. Organizational activities should be based on the interests of the customers, at various levels of proficiency, socio-economical levels, racial

and ethnic backgrounds, ages and gender, in accordance with the organization's mission statement.

7. The selection of activity content, specific programs and opportunities should be based on an understanding of individual differences and the culture of the community.
8. The organization should use a variety of program formats to maximize participation, including both individual and group activities.
9. The military should include a plan of education for leisure as part of a continuous and operational process designed to teach general customers about the use of their leisure time, emphasizing the benefits of taking part in recreation.
10. Evaluation of programs should be conducted systematically and regularly to ensure that they are effective and sufficient, and to determine if their objectives are being met.

Although these standards were developed for the American Army and do not include standards of practice for therapeutic recreation in military settings, they contain statements of the general practice of good governance related to a recreational organization which would apply in any military setting. They also contain standards related to TR service delivery goals which could be adopted

and amended for TR purposes, and specifically for the development of an intervention program for the Botswana Defence Force.

### **3.5 THERAPEUTIC RECREATION SERVICE DELIVERY AND PRACTICE**

#### **MODELS**

The main purpose of this study was to develop a stress management intervention model through therapeutic recreation. In order to develop such a model, it was necessary to investigate some TR models that could be applied in a military setting. Such models provide a conceptual basis for directing TR practices and ensure clarity in the application of the professional practice. They necessitate building knowledge through research on therapeutic recreation and TR models to develop theory-based programming (Williams, 2008; Daly & Kunstler, 2006; Baldwin, Hutchinson & Magnuson, 2004; Austin, 1998). A model directs types of intervention programs and services that could be offered and that are most appropriate to the client or participant in order to meet their needs and goals as well as the organization offering the service within a specific framework (Williams, 2008; Daly & Kunstler, 2006).

High quality TR services are organized and respond efficiently to the needs of the participants. The multiple models within TR reflect the strength of the profession, the diversity of the services, and populations served. Selecting the correct model should be based on 1) the philosophy, mission and goals of the service provider, 2) the needs of the clients, 3) the regulation of the accrediting bodies and government oversight agencies, and 4) the professional's own

philosophy (Daly & Kunstler, 2006). Essentially, there are nine TR models, classified into three groups: leisure outcome models, health and wellness outcome models, and functional improvement models. For the purpose of this study, only four of these are discussed as possible models for the stress management intervention model in this research.

### **3.5.1. Leisure Ability Model (LAM)**

The Leisure Ability Model was the first and primary TR model used for many years and has a strong 'leisure' orientation. This implies that the ultimate outcome is related to leisure behaviour, building on the existing body of knowledge of leisure to ensure that services improve independently and satisfy the participants' leisure functioning. With a more medical or 'therapy'- oriented model, the focus is on the improvement of functional behaviours as the desired outcome and is drawn from the medical, psychiatric, psychological and human development body of knowledge (Stumbo & Peterson, 1998). The ultimate outcome of this model is the development of a satisfying and appropriate leisure lifestyle (Ross & Aston-Sheafer, 2009).

The rationale for TR services, according to the Leisure Ability Model, is based on a logical set of assumptions concerned with typical adult leisure behaviour (Stumbo & Peterson, 2009; Stumbo & Peterson, 1998):

- Every human being needs, wants and deserves leisure, as it provides opportunities to try new behaviours, experiences, learn new skills, meet new people, deepen existing relationships, and develop a clearer sense of self.

- Many people experience barriers to full and satisfying leisure experiences.
- Individuals with disabilities, illnesses or crippling conditions may experience even more barriers to taking part in leisure than their non-disabled counterparts and may need additional help from TR specialists to overcome or reduce these barriers.

The LAM is used as a basis for service delivery to reduce the barriers to involvement in leisure and is based on the principle that, in order for the client to develop an appropriate leisure lifestyle, TR is provided along a continuum of three types of services (Figure 3.2, p. 151). These are the provision of treatment (intervention), leisure education, and recreation participation services (Williams, 2008; Daly & Kunstler, 2006; Stumbo & Peterson, 1998). These services are categorized into the following components:

**a) Functional intervention (treatment)**

Functional intervention focuses on the correction of functional deficits or limitations (physical, mental, emotional/affective or social) which prevent a person from joining in leisure activities. This component strives to eliminate dysfunctional deficits and to improve or adapt functional deficits in order to minimize the barriers to leisure participation (Ross & Aston-Sheaffer, 2009; Williams, 2008; Stumbo & Peterson, 1998). Soldiers are faced with a variety of physical, mental, emotional and social challenges in both operational and non-operational situations. These challenges can lead to stress. Soldiers deployed to border posts or assigned to military duty in other countries might

have only limited access to leisure programs, raising a barrier to engagement in recreation.

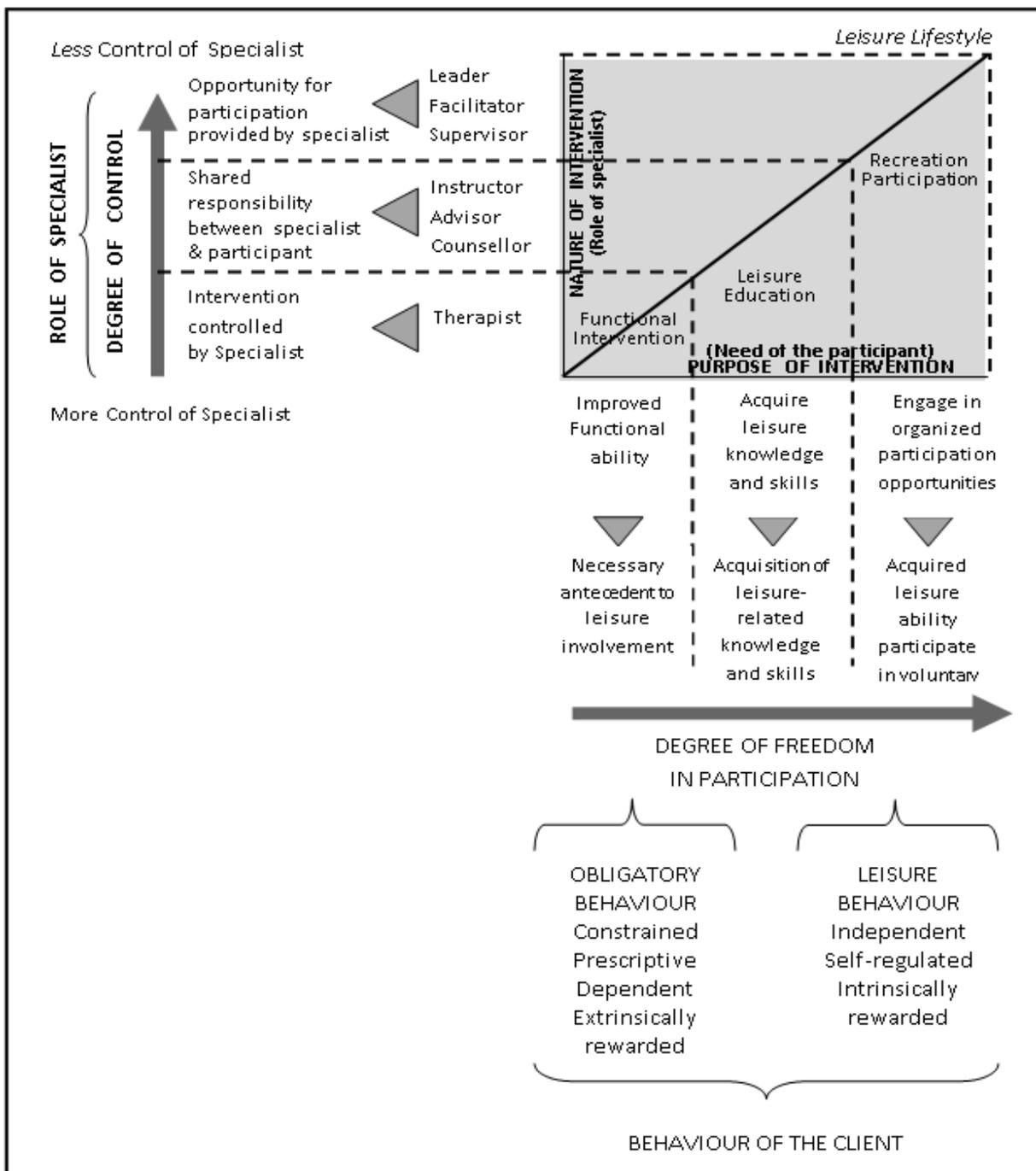


Figure 3.2: Leisure Ability Model (LAM) (Stumbo & Peterson, 2009: 34)

As stated earlier, recreation may also not be constructive if the soldiers are on call the whole time. Those posted to non-operational base camps have other work obligations, with increased job responsibilities, which restrict their leisure time and opportunities for recreation. The therapeutic specialist would need to identify these barriers and, in consultation with the commander and other role players, determine how to overcome them.

In this stage of the LAM, the participant would have very little control over the content of the program and would be dependent on the professional judgement and guidance of the specialist (Ross & Aston-Sheaffer, 2009; Williams, 2008; Stumbo & Peterson, 1998).

#### **b) Leisure education**

Leisure education is necessary to develop leisure-related attitudes and to promote the knowledge and skills in leisure needed to make informed choices. The main goal is to help people understand the importance of leisure and learn how to participate in it successfully. Leisure education is subdivided into four components: leisure awareness, social skills, leisure activity skills, and leisure resources. These components could all be included in a single program, or each could be addressed in a separate program, depending on the subjects' needs and abilities. Participants gain more freedom in this stage, being enabled to make their own choices, with the TR specialist maintaining control through his/her role as instructor, advisor and counsellor (Ross & Aston-Sheaffer, 2009; Williams, 2008; Stumbo & Peterson, 1998). Soldiers in

military environments are not always aware of the benefits of leisure, as indicated in the study conducted by Tshwane University of Technology (2006). Leisure education would thus be favourable in a military environment, not just in creating awareness of the benefits of leisure and the availability of programs but also in building on the social skills the soldiers will need to build relationships with other soldiers and gain social support during military operations.

### **c) Recreation participation**

This is the final stage in the LAM model and focuses on the broader outcomes of decision-making and the personal responsibility for leisure participation. This phase calls for structured activities in which the participant can practice the skills he or she has acquired and experience the enjoyment and self-expression that these activities can contribute to a leisure lifestyle. The increased freedom of choice and motivation is largely intrinsically motivated, so the participant becomes responsible for his/her own experiences and the intended outcomes. The TR specialist now only facilitates the activity, while the subjects take total control of their participation (Ross & Aston-Sheaffer, 2009; Williams, 2008; Stumbo & Peterson, 1998). Structured recreation programs are offered through Morale and Welfare Recreation programs during peacekeeping missions and at military bases. Soldiers have the opportunity to participate in these programs voluntarily. The objective, however, is to develop a better body of knowledge about leisure through leisure education and then to get the soldiers involved in these

programs, thus changing their culture to enhance lifelong leisure participation.

Depending on the needs of participants, they may engage in only one component. In using this model, the subject moves along the continuum of services, gaining more control over decision-making, becoming more independent and eventually joining in a range of activities and adopting a leisure lifestyle (Daly & Kunstler, 2006). While information is provided on the service delivery content and outcomes through the three service areas discussed above, the underlying basis of the LAM stems from the concepts of Stumbo and Peterson (1998):

**a) Learned helplessness vs. mastery of self-determination**

From a psychological perspective, learned helplessness refers to an individual perceiving life events as being beyond control, preventing him or her from trying to effect changes or outcomes. For instance, constantly reminding a person that he/she cannot participate in an activity because of a disability or illness or constantly preventing him/her from doing something (e.g. brushing hair), the person is prompted to believe that he/she is abnormal, inadequate and lacks the basic skills to perform the activity, leading to learned helplessness. Soldiers can also perceive their work circumstances or traumatic war events as being beyond their control. They can believe that this is the norm and that they cannot change their lives in the military. This raises barriers to a freely chosen and self-determined leisure lifestyle, resulting in a lack of internal motivation to escape the conditions, a

lack of cognitive understanding of personal effectiveness, and a heightened sense of emotionality. The TR specialist can reverse these consequences and affect the total leisure behaviour/lifestyle of the individual through decreasing learned helplessness and increasing personal control, intrinsic motivation and personal choice (Stumbo & Peterson, 1998).

**b) Intrinsic motivation, internal locus of control and causal attribution**

Intrinsic motivation, internal locus of control and causal attribution are linked to one another and can help to explain the basis for the provision of TR services.

All individuals are *intrinsically motivated* by experiences/challenges in which they can show competence and self-determination. This involves a continuous process of skill acquisition and mastery, and produces feelings of satisfaction, competence and control. *Internal locus of control* implies that a person takes responsibility for his/her actions or decisions and their intended consequences. This is necessary in order for an individual to feel self-directed or responsible, to be motivated to seek challenges, and to develop a sense of self-competence. When a person believes that he/she can affect a specific outcome, gaining a sense of accomplishment, competence and control, it is referred to as *causal attribution*. The TR specialist should design, implement and evaluate a variety of activities based on these concepts and, through the use of the three service areas, teach skills to improve personal competence and a sense of accomplishment (Stumbo &

Peterson, 1998).

**c) Choice**

Choice implies that a person has sufficient skills, knowledge and attitudes to make informed choices and the skills and desires to make the most appropriate choices. It is the role of TR services to build the necessary skills and to offer options which will encourage participation in future independent leisure behaviour (Stumbo & Peterson, 1998).

**d) Flow**

A person can achieve an 'optimal experience' when there is a match between the challenge presented by the activity and his or her level of skill. To achieve a state of concentration and energy expenditure, the challenge and the skill level must be nearly identical. The implication for the TR services is that the participant's skill level and activity requirements must be adequately assessed for the two to align.

It is important for the TR specialist to know the above aspects in order to design a series of coherent, organized programs which meet a participant's needs and to develop him/her towards an independent and satisfactory leisure lifestyle (Stumbo & Peterson, 1998).

The main purpose of this study was to develop a Stress Management Intervention Model for the Botswana Defence Force. The LAM model offers an ideal framework for such an intervention for soldiers. It was developed for people without disabilities, and programs based on the LAM model have been used in various in-patient and community-based settings, as well as in groups and one-on-one programs. The therapist is not required to play a major therapeutic role, but rather serves as an educator and facilitator (Ross & Aston-Sheaffer, 2009). The focus of the stress management intervention model should not, however, be on the functional abilities of the soldiers, as it is assumed that they are either preparing for combat or involved in combat and are fully functional. The main purpose is to provide them with stress coping skills through leisure education, aiming at lifelong leisure participation. Wellness education could form part of such education, as noted in Chapter 2, to create awareness of health promotion, protection and the measures needed to cope with stress. Facets of the Leisure and Well-being Model, to be discussed later in the chapter, could be included in the intervention, focusing on the positive psychological and leisure behaviour of soldiers. Leisure and wellness education should be repeated continuously to keep the soldiers aware of the benefits it provides. Current recreation programs could be promoted and new programs introduced in which the soldiers can participate. The Health Protection/Health Promotion Model could be incorporated for this purpose, creating a sense of actualization for optimal health through recreation. For the intervention to be effective, participation should be encouraged by military leaders. The main outcome of this model would be for soldiers to develop a leisure lifestyle as a stress coping mechanism for optimal

health and wellness.

### 3.5.2. Health Protection / Health Promotion model (HP-HP)

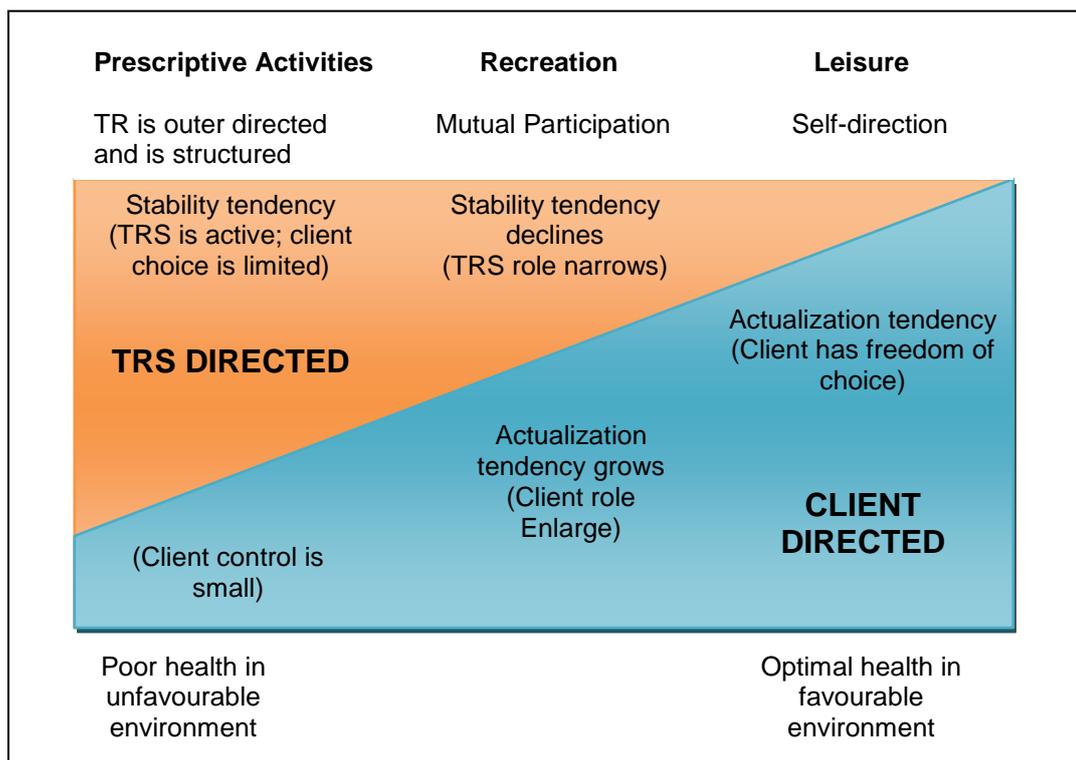
Therapeutic recreation plays a significant role in the healthcare industry as a treatment modality, making use of recreational activities as interventions and for the partial treatment of specific health problems. In the 1980s there was a shift towards health promotion and to reducing the costs of health care. This led to the Health Protection and Health Promotion Model, developed by Austin in 1997 and revisited by Austin in 2009 (Ross & Aston-Sheafer, 2009; Daly & Kunstler, 2006; Austin, 1998). The main goal of this model was to assist people to recover from health threats, to assist with health protection, and to achieve as high a level of health as possible through the use of activity, recreation and leisure (Williams, 2008; Daly & Kunstler, 2006; Austin, 1998).

The HP-HP model emerged from four major concepts/theories related to the humanistic perspective, to high-level wellness, to stabilization and self-actualization tendencies, and to health (Williams, 2008; Austin, 1998). According to Murphy (as cited by Austin, 1998: p. 110), those who believe in the **humanistic perspective** ‘seek to promote the capacity and ability of groups and individuals to make self-determined and responsible choices in light of their needs to grow, to explore new possibilities, and to realize their full potential’. The humanistic perspective provided a foundation for the **high level wellness** perspective. This follows an holistic approach, dealing with health enhancement beyond traditional medicine. It helps individuals achieve as high a level of

wellness as possible, including environmental and psychological wellness. The similarities between this perspective and TR are that both are influenced by a humanistic perspective, striving for health enhancement and self-actualization, with TR not just restricted to illness but rather to holistic growth and development, and with a concern for the full range of illness-wellness continuum. **Stabilization and actualization tendencies** are two motivating forces of this model. Stabilization focuses on the maintenance of the 'steady state' of the individual, helping to keep stress within a manageable range and protecting the person from biophysical or psychological harm. Soldiers need to manage their stress and cope with the stressors of military life in order to avoid developing Post Traumatic Stress Disorder or other health risks. Actualization offers a motivational force, protecting and promoting the health of the individual, suppressing negative states of illness or injury, and moving towards a state of high-level health and well-being. The **health** theory reflects on both the stabilization and actualization tendencies and is seen as a dynamic state in the life cycle of an organism, acquiring a human dimension through goal-directed behaviour, competent self-care and satisfying relationships with others, while making the adjustments needed to maintain structural integrity and harmony with the relevant environment. It further encompasses coping adaptively and growing, coping with life's stresses and living at the highest levels of personal growth and development (Austin, 1998). Soldiers need to be able to take care of themselves, to develop satisfying relationships with other soldiers and military leaders, both for social support and to adapt to the military environment. As stated by Bartone (2005) and Dolan and Ender (2008), social and emotional support enhance the

sense of belonging and self-efficiency and have been shown to be useful coping strategies.

The HP-HP model differs from the LAM in that it focuses on optimal health as an outcome, rather than as a satisfying leisure lifestyle. However, it also shows similarities in having three service components offered along a continuum (prescriptive activity, recreation and leisure). It focuses on the protection and restoration of an individual's health and then on his or her potential to achieve optimal health in a favourable environment, an approach that is more in line with modern-day health care (Williams, 2008; Daly & Kunstler, 2006; Austin, 1998). Participants move along the continuum, aiming to reach higher levels of health and to enhance their feelings of self-efficacy. They feel more confident in their own ability to succeed and more in control of their lives as they progress on the illness-wellness continuum. The TR specialist's role is to guide them along the continuum so they attain increased levels of independence. In cases where the participant is totally reliant on help, the need for stability will be evident and a TR specialist will need to be prescribed in order to assist the subject. As the subject progresses along the continuum, the actualization tendency increases and the participant become more responsible for his/her own recreation experiences (Austin, 1998). The three components depicted in the continuum are applied as follows and can be viewed in Figure 3.3 (p. 161):



**Figure 3.3: Health Protection/Health Promotion model (Austin, 1998)**

**a) Prescriptive activities**

Austin (1998) stated that people encountering illness or disorders often become self-absorbed, lose control over their lives and withdraw from their usual activities. This can lead to a sense of helplessness, resulting in a state of severe depression. Soldiers subjected to the conditions of war in circumstances beyond their control may feel endangered, becoming prey to a sense of helplessness and susceptible to fear and anxiety (Nash 2007; Delahaij, Gaillard & Soeters, 2006; U.S. Marine Corps, 2000). The role of the TR specialist becomes that of assisting the person to gain control over his/her life again by prescribing and directing activities. Once the person has gained more stability and control over his/her life, moving towards health and

actualization, he/she will move into the recreation component of the HP-HP model (Williams, 2008).

### **b) Recreation**

Taking various definitions of recreation into account, it could be said that recreation involves activities that take place during leisure time, is constructive in meeting socially accepted goals, and is further associated with restorative properties, so a person can 're-create' or restore the physical, mental and spiritual self. The HP-HP model employs recreation because of its restorative properties (Austin, 1998). The TR specialist relies on the natural restorative power of recreation to help the participant to gain skills, knowledge and values, and to take control of his/her life and health (Williams, 2008).

### **c) Leisure**

Where the first two components focused on health protection, eliminating the health threats, the last phase concentrates on health promotion, giving participants opportunities to become healthier and to begin reaching their potential by engaging in leisure, and through leisure to become self-determined and self-actualized (Williams, 2008). Leisure plays an important role in assisting people to reach their potential, to reduce symptoms of stress and to optimize their health. As stated by Ross and Aston-Sheaffer (2009), in this phase participants show progress to optimal levels of health and wellness, in that they engage in self-directed leisure pursuits. This becomes possible since the core essence of leisure is that it is freely chosen,

intrinsically motivated, promotes self-determination, mastery and competence, and leads to feelings of self-efficacy, empowerment, excitement and enjoyment, all of which are important for mental and physical health (Austin, 1998).

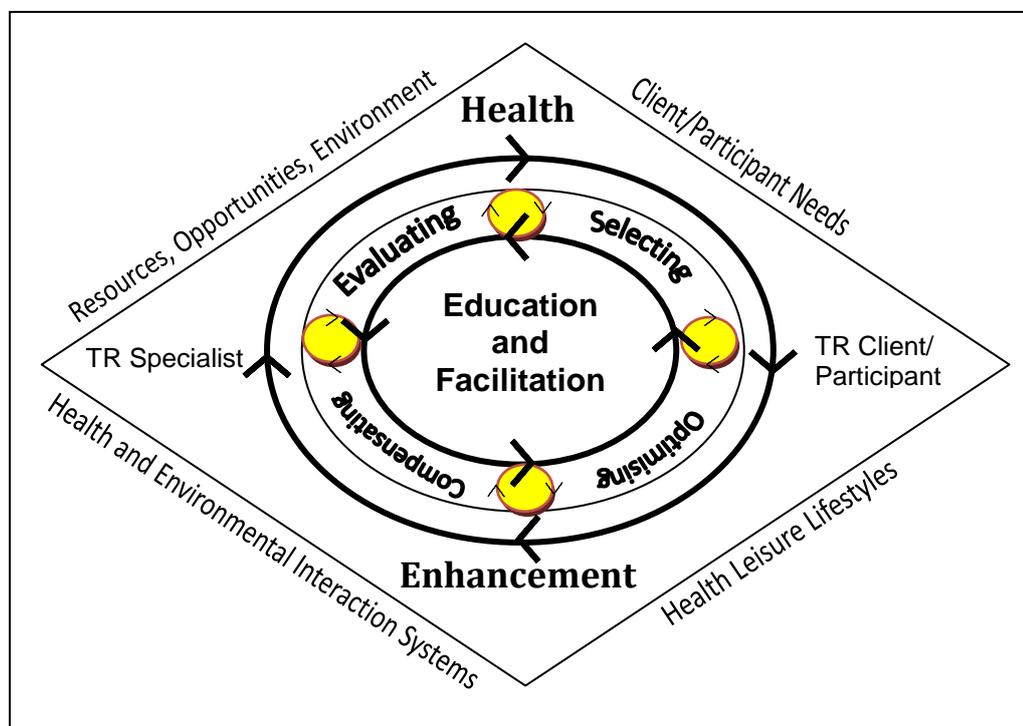
Although the HP-HP model's outcome is optimal health, with recreation and leisure as a means towards this outcome, it is not conducive to use as the sole model for the development of the intended intervention model of this study. It lacks the necessary therapeutic services to assess and educate participants on leisure and wellness. It further stresses two continuums, poor health in an unfavourable environment, and optimal health in a favourable environment. The military environment, either in war or non-operational, cannot be changed and soldiers need to be able to adapt and learn to cope with their stressors in the environment to which they are subjected. In order to be admitted into the military, soldiers should be healthy and need to maintain this state of health throughout their military careers. A failure to cope with their daily stressors could lead to illnesses. However, the assumption should not be made that all soldiers under stress have poor health. The therapeutic recreation specialist should assume that he/she is working with healthy soldiers who need to learn to manage and cope with their daily stressors and to maintain optimal health and wellness throughout their military careers through participation in recreation. Thus the content of this model could be partially incorporated into the intended intervention model.

### 3.5.3. Optimizing Lifelong Health through TR model (OLH-TR)

As stated previously, TR services can contribute to health enhancement. The Optimizing Lifelong Health through Therapeutic Recreation Model (OLH-TR) is grounded in the developmental theory of human aging/adaptation of Baltes and Baltes (as cited by Wilhite *et al.*, 1999), and is further influenced by other TR models. The main purpose of this model is for people to achieve and maintain leisure lifestyles that enhance their health and well-being across their life course (Ross & Aston-Sheaffer, 2009). Fully employed soldiers often follow a lifelong career in the military and, as they are promoted to different ranks, experience changes in their leadership and management roles which can cause different stressors. These employees need to maintain their leisure lifestyles in order to enhance their health and well-being throughout their careers. The theoretical approach to this model suggests that the process of 'selective optimization with compensation' is an ongoing, lifelong process that intensifies later in life and is a non-linear, closed-system model, as shown in Figure 3.4 (p. 165) (Wilhite *et al.*, 1999; Mobily, 1999). The process dictates how individuals become active agents in serving and maintaining their own well-being over time, while maximizing their capacity for growth and creative adaptation (Wilhite *et al.*, 1999). The basic concept of the model focuses on health enhancement strategies, initiated by the participants themselves, and reflects on the self-determined decision making process. The model is based on three principles:

- i) Engage in a healthy leisure lifestyle to reduce the probability of secondary consequences of disability in the future.

- ii) Strengthening of optimal health and well-being achieved by individualized resources and opportunities through educational, motivational and health-enhancing activities.
- iii) Flexible leisure lifestyles enabling individuals to continuously accommodate internal and external changes.



**Figure 3.4: The Optimizing Lifelong Health through Therapeutic Recreation Model** (Wilhite, Keller & Caldwell, 1999)

The role of the TR specialist is to facilitate these changes, while allowing for maximum client choice, control and preservation. It further educates the participants in terms of general awareness, knowledge and understanding of a variety of leisure options that will minimize health risks and promote health. The

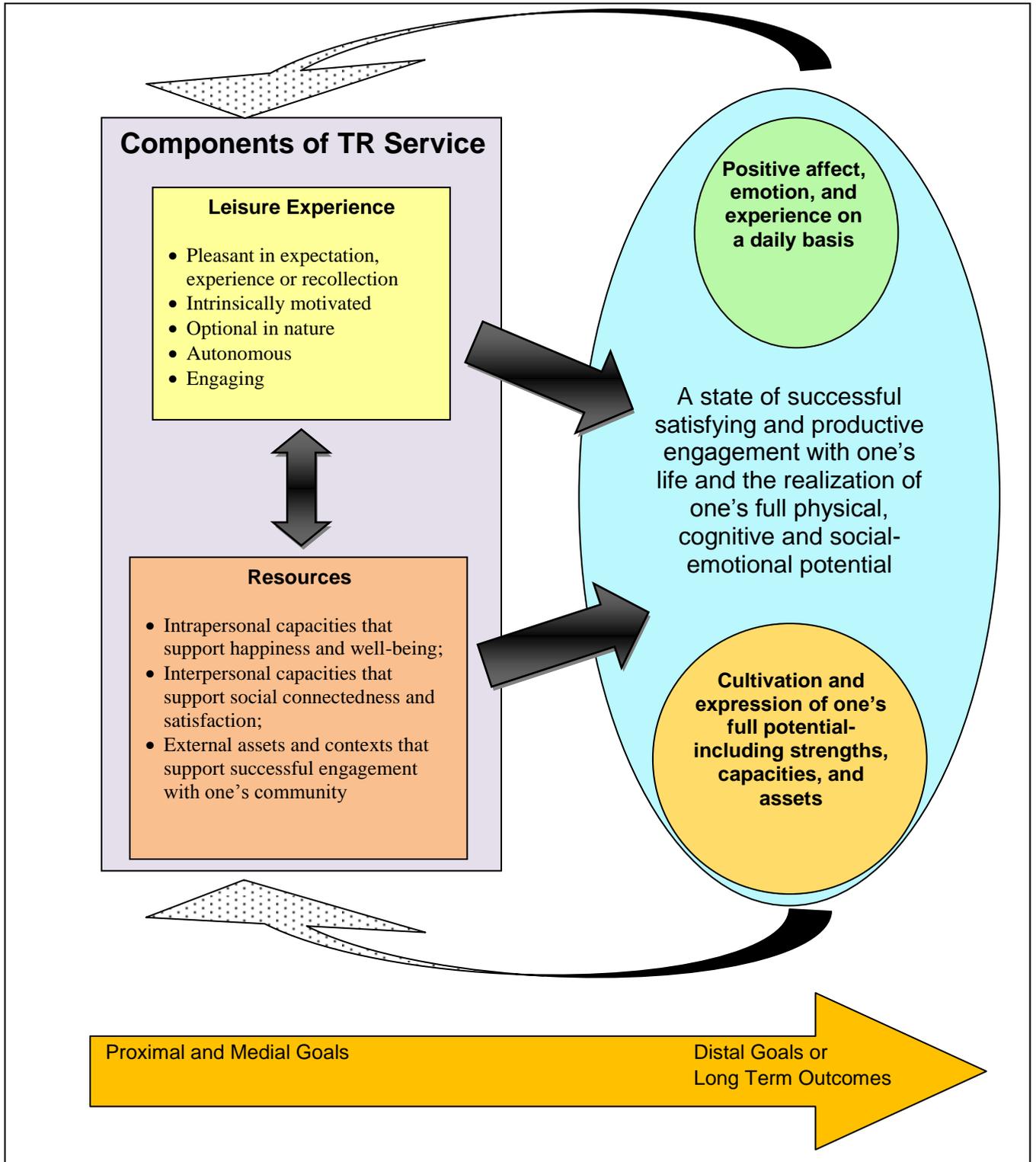
model has four interacting elements (selecting, optimizing, compensating and evaluating), focused on the primary activities of the participant. These activities interact with participants' a) evolving needs, b) resources, opportunities and environments addressing the needs across their lifespan, c) the goal of achieving and maintaining healthy leisure lifestyles, and d) the environments in which the participants and others interact to obtain the desired outcomes. In conjunction with the participant and his/her interacting activities, the TR specialist uses a systematic approach (assessment, program planning, implementation and evaluation) to develop an individualized program plan for each subject. This approach is aimed at achieving and maintaining leisure lifestyles across the participants' lifespans, to enhance their health and well-being by assisting in their-decision making process. It further helps them to learn that the ideal could be independent leisure functioning with the support of others, and that this cooperation with others will enable them to reach their goals, maximizing their ability to reach a level of personal control and achievement across their lifespan (Wilhite *et al.*, 1999). This kind of service could be favourable in a military environment, assisting military staff throughout their employment to adapt to a new rank and responsibilities when promoted. Cooperation with others, as stated earlier, is important for the social and emotional well-being of military staff and could assist individual members to reach their personal goals in life.

In general, the OLH-TR model would be ideal as a foundation for the intended stress management intervention model. It provides for continuous adaptation and change in an individual's health and leisure lifestyle. This is necessary in the

military environment of soldiers being deployed, as well as for military staff who are being promoted in their careers. It is further favourable for the TR specialist playing the role of facilitator and educator. It allows for maximum participant choice, control and preservation, which is preferable in the application of the intended stress management intervention model as its purpose would not be to focus on the improvement of an individual's functionality. These qualities are, however, also embedded in the LAM. The intended intervention model supports the OLH-TR model in creating a general awareness, knowledge and understanding of a variety of leisure options that will minimize health risks and promote health. Although the model focuses on life-long health and leisure lifestyle enhancement, it deals only with the individual and does not take groups into consideration. For this study, it is preferable to look at groups of people and how they promote social and emotional support, as soldiers operate in groups, especially when deployed. The LAM is therefore more useful, since it was developed for those without disabilities and is often used in in-patient and community-based settings, as well as in group and one-on-one programs. The OLH-TR model does not give sufficient information on the concept of health, however, making it difficult to determine if psychological wellness would benefit from the use of this model. The researcher would therefore incorporate relevant concepts from the OLH-TR model in the stress management intervention model.

#### 3.5.4. Leisure and Well-being model

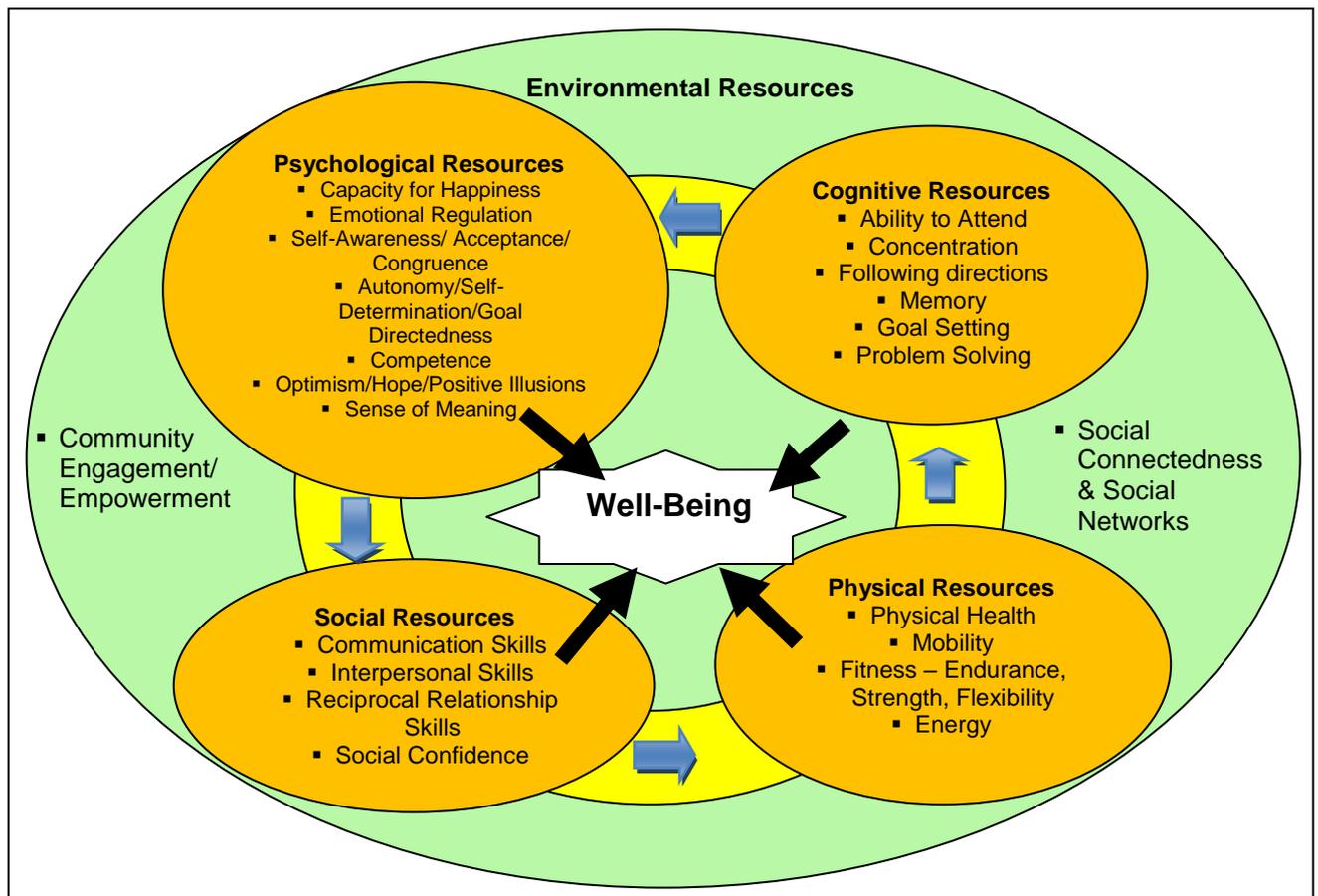
Therapeutic recreation services shifted their focus to placing more emphasis on the understanding and cultivation of the strengths and capabilities of individuals, rather than simply on the reduction of deficits (Carruthers & Hood, 2007). This shift is noticeable in the positive psychology movement, discussed earlier in the chapter. The Leisure and Well-being Model (LWM) is a contemporary service delivery model of TR, supporting the role of TR in adapting to well-being as a desired outcome of TR services. Service delivery models define how TR should be practiced and help practitioners in making decisions about services that are needed. It reinforces the value of TR to participants, their family members, and other health professionals. The LWM is embedded in the literature of psychology, human development, strength-based practice, and the leisure behaviour theory that enhances the sophistication and effectiveness of the professional practice and facilitation of program evaluation. It recognizes that the resolution of problems does not necessarily result in an increase of the personal growth which is central to the dimensions of well-being, but rather facilitates the development of the content and experiences that increase positive emotions and in the development of resources and capabilities in support of well-being. In a military context, the aim would be to develop hardiness in order to build resilience and well-being. The model thus focuses less on the limitations of the participant and more on his or her strengths. Figure 3.5 (p. 169) portrays the causal pathways of dimensions and components of the LWM. In this model it is evident that well-being is the long-term outcome of TR practice, identified by Pollard and Rosenberg (as cited in Carruthers & Hood, 2007: 280) as *'a state of successful,*



**Figure 3.5: Foundation graphic of the Leisure and Well-being Model** (Carruthers & Hood, 2007: 279)

*satisfying and productive engagement with one's life and the realization of one's full physical, cognitive and social-emotional potential*'. Two dimensions through which well-being are developed were selected for TR services in this model. These are, firstly, the increased value of leisure in building resources, creating positive emotions, cultivating an individual's potential (strengths, assets and capabilities), and enabling experience on a daily basis, and, secondly, in providing psycho-educational interventions that facilitate resource improvement or development by enhancing the value of leisure experiences. Leisure, as an important means to well-being, is prominent in both these dimensions and is considered a crucial intermediate outcome (Ross & Aston-Sheaffer, 2009).

These dimensions further serve as dual mechanisms through which a TR specialist could assist a participant to build a life of ongoing personal development and contribution to the world (Carruthers & Hood, 2007; Hood & Carruthers, 2007). The short-medium term outcomes of the LWM are linked to the long-term outcome of well-being. Figure 3.6 (p. 171) indicates the interrelatedness of the different components of well-being, creating a positive spiral of development and well-being as it relates to the outcomes of the model. The first short-medium term outcome, also forming the first component of this model, is the experience of leisure in developing resources. Ross and Aston-Sheaffer (2009) point out that the enhancement of the leisure experience component has five sub-components, used to cultivate and enhance leisure experiences supporting well-being: savouring leisure, authentic leisure, leisure gratifications, mindful leisure and virtuous leisure. There is a focus on the



**Figure 3.6: The Resource Development Framework** (Hood & Carruthers, 2007)

importance of the quality of the leisure experience, which is seen as a pleasant expectation, experience or recollection, intrinsically motivated, optional in nature, autonomous and fully engaging. The second short-medium term outcome/component is the development of resources, capacities and assets, supported by strength-based practices, thinking about the participants' capabilities, resources, goals and lives, rather than the problem, and moving towards well-being (Ross & Aston-Sheaffer, 2009; Carruthers & Hood, 2007). The development of the resources component consists of five sub-components: psychological resources, social resources, cognitive resources, physical resources and environmental resources (Ross & Aston-Sheaffer, 2009). These components overlap and are interconnected, as shown in Figure 3.6 (p.171).

This does not mean that all the resources should be used or that they are the only resources that exist. They are just the proposed resources, based on criteria appropriate for incorporation into TR services (Hood & Carruthers, 2007). Leisure is mostly seen as the key means for the development of these resources (Ross & Aston-Sheafer, 2009). Individuals with high levels of well-being will probably have a greater number and variety of resources which they use in a flexible and novel way, incorporating positive experiences important for TR practice. The model further implies using strength-based philosophy and provides a clear direction of relationships between participants and therapists. Participants are valued as human beings, and as active, equal agents of change in their own lives. Therapists encourage hope, inspire change, validate participants' experiences and support the movement of assets and capabilities towards the desired result (Carruthers & Hood, 2007).

The outcome of the intended stress management intervention model would be for soldiers to have a leisure lifestyle which would help them cope with stress and achieve optimum health and wellness, and which would be supported by the long-term outcome of the LWM. The short-term outcomes of the LWM, however, are not sufficient for the purpose of the intended model. It only focuses on two dimensions: developing leisure resources and providing leisure experiences. It is necessary first to determine the stress levels of soldiers and their leisure behaviour, and then progress to developing resources, designing leisure experiences, and eventually to participating independently in recreation programs to develop a leisure lifestyle. The intended approach would thus be systematic,

moving along a continuum of development towards optimum health and well-being.

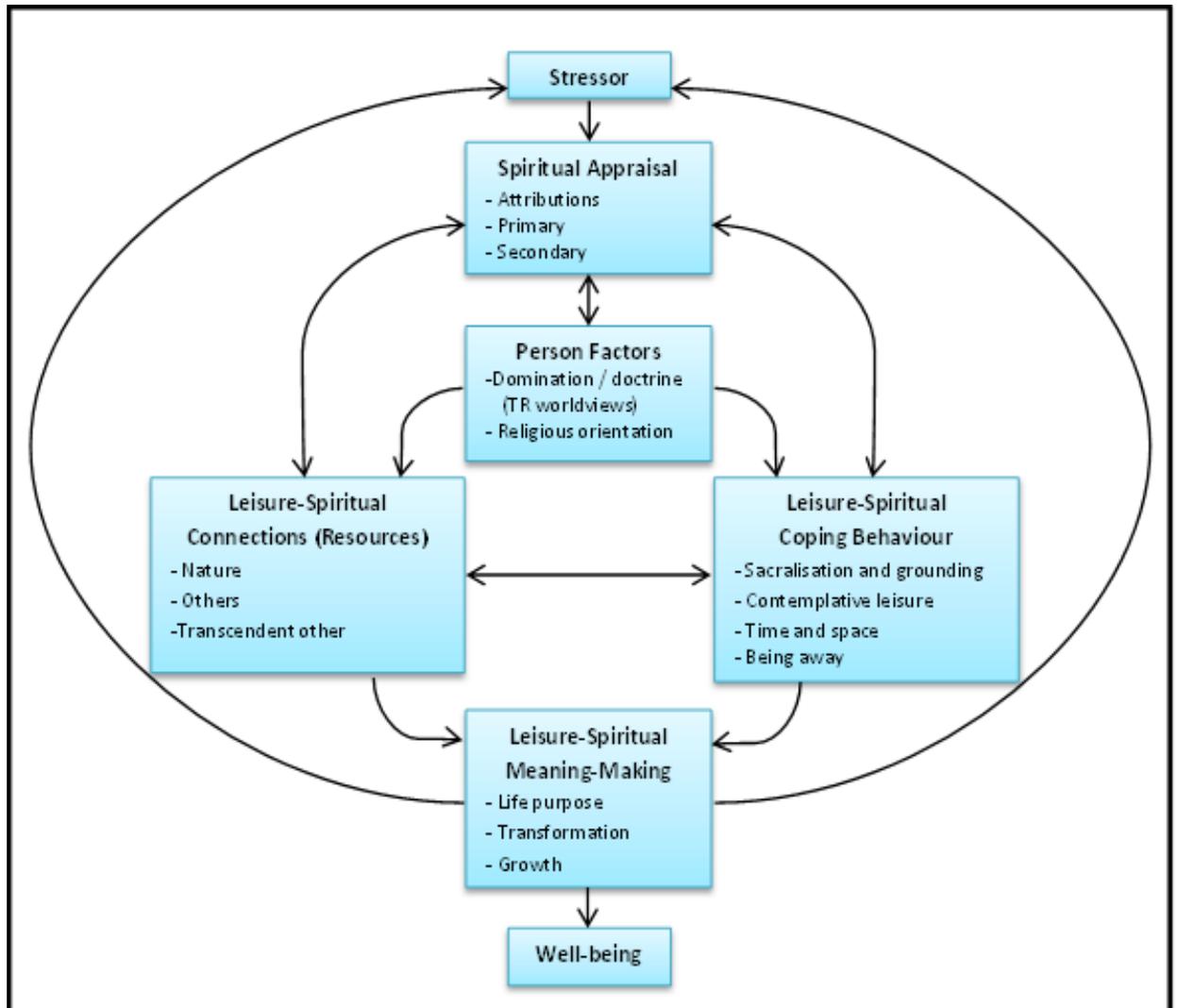
### **3.5.5. Leisure-Spiritual Coping model**

The focus on spirituality as a component of health, well-being and the quality of life is not new. It is one of the dimensions identified with wellness and is believed to play an important role in recovery from mental illnesses. When coupled with leisure, it can assist people to cope with stress, especially when they have been subjected to traumatic events such as war (Ross & Aston-Sheafer, 2009; Drescher *et al.*, 2007). A relationship exists between leisure and spirituality. Spiritual well-being serves as a benefit for leisure participation, especially in natural settings, while leisure motivation, rather than the leisure activity itself, plays an important role in influencing and maintaining spiritual well-being (Heintzman & Mannell, 2003; Heintzman, 2002). According to Drescher *et al.* (2007), spirituality contributes to the development of personal values and beliefs in terms of the meaning and purpose of life. According to Heintzman and Mannell (2003), people use positive religious coping strategies (e.g. prayer, faith in God, or guidance from ministers/priests), or receive spiritual support from other church members or those sharing the same spiritual beliefs. Spirituality is embedded in the military tradition, in which soldiers are provided with various religious services. However, soldiers subjected to traumatic war events sometimes question the goodness of God, while others feel that going to church or the chaplain might make them look helpless, as was evident with Marines of the American Navy returning from Iraq in 2005. However, the spirituality or religion of

soldiers may also deepen or they may develop an appreciation for the religion of others. For this reason, spirituality became part of the 'Warrior Transition' program offered to soldiers returning from Iraq, when they were debriefed by the army's spiritual leaders (Drescher *et al.*, 2007).

The Leisure-Spiritual Coping Model, a fairly new TR model introduced by Heintzman in 2008, was developed around the belief that spirituality could play a vital role in recovery from mental illnesses, with the focus more on spiritual than on mental health. Heintzman (2008) conceptualized spiritual health, firstly as a component of holistic health and secondly as an integrated dimension of health, with optimal wellness dependent on spiritual wellness as it interrelates with the other dimensions of wellness. This model was designed for TR specialists and leisure service providers to use when working with people who experienced stress, to help them to cope and deal with life challenges (Ross & Aston-Sheaffer, 2009; Heintzman, 2008). It is a process-orientated model, based on the transactional model of stress and coping developed by Folkman in 1997 and the spiritual framework of coping developed by Gall in 2005 (Ross & Aston-Sheaffer, 2009). Folkman's model was used to develop theoretical evidence on spirituality and coping, incorporating the basic principles and structural elements of the model. Gall's model was used to incorporate elements of the stress coping process in various life domains. Most of the components of the Leisure-Spiritual Coping Model (Figure 3.7, p. 175) stem from Gall's spiritual framework of coping and include the processes of a) spiritual appraisals, b) person factors, c) leisure-spiritual coping behaviours, d) leisure-spiritual connections/resources, and e)

leisure-spiritual meaning (e.g. life purpose).



**Figure 3.7: Leisure-Spiritual Coping Model** (Heintzman, 2008: 59)

When a participant experiences stress, the first component of the treatment is to appraise the situation in the context of spiritual causes (***spiritual appraisal***). The primary assessment includes a spiritual evaluation of harm or loss by finding out the religion of the person and how the event affected that person’s relationship with his/her God. The secondary assessment determines if the spiritual coping

strategies will be useful in reaction to that stressor. These appraisals determine the **leisure-spiritual coping behaviours** (i.e. organizational religious practices, private religious or spiritual practices and non-traditional spiritual practices) that the person uses to cope with stress (Heintzman, 2008; Drescher *et al.*, 2007). The second component focuses on **person factors**, providing a contextual framework to guide a person in his/her interpretation, understanding and response to a stressful event (Drescher *et al.*, 2007). Such factors include a person's religious denomination and doctrine. Heintzman (2008: 60) states that 'personal beliefs are integrated with beliefs of the religious group to create a source of social support and social norms that influence a person's behaviour', in effect influencing how a person copes with stress. Religious doctrine is also believed to be one of the six domains of quality of life, and in some cultures will influence people's leisure activities (Drescher *et al.*, 2007).

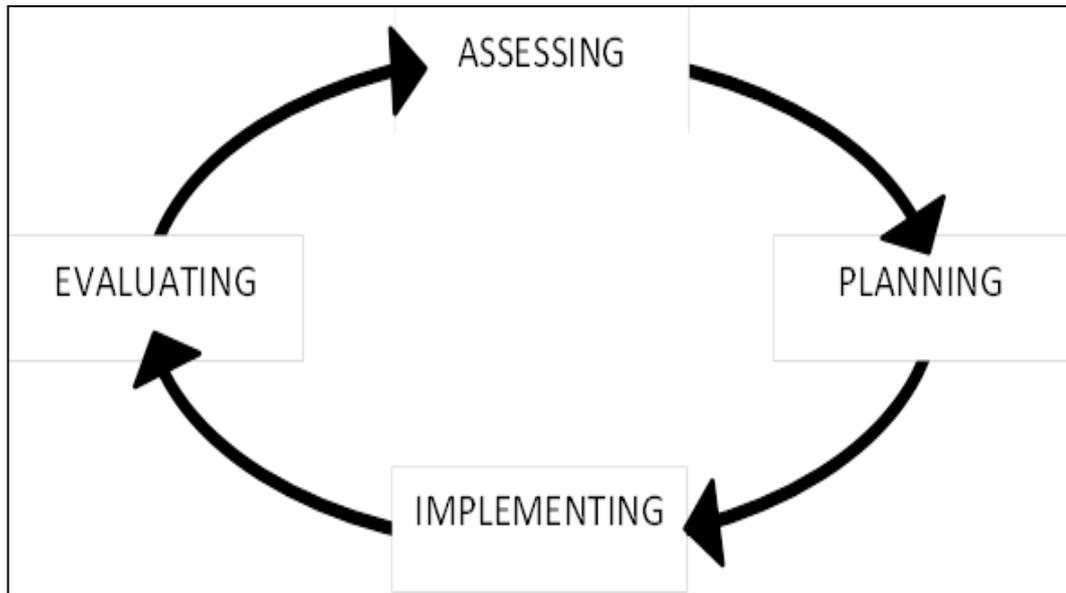
Leisure experiences are incorporated in the next three components – leisure-spiritual coping behaviour, leisure-spiritual connections, and leisure-spiritual meaning-making – where they affect wellness. Leisure could be used to develop leisure-spiritual coping behaviours as listed above, and could further include sacralization (i.e. meditation) and grounding (tai chi), contemplative leisure (being receptive), leisure as time and space for renewal (i.e. holidays or religious days) and being away (i.e. breaking away from the everyday environment). Leisure-spiritual connections are used as mediating factors for stress and could include making a connection with nature, with other people, or with a transcendent other (i.e. God.). Leisure-spiritual meaning-making uses leisure to help a person see

meaning in a stressful event and to express it spiritually. These three components function as mediating factors in the process of coping with stress (Drescher *et al.*, 2007).

The Leisure-Spiritual Coping Model has a strong theoretical foundation that shows the integration of stress, coping, spirituality, leisure, health and wellness. Although Heintzman (2008) refers to the interaction taking place between the various dimensions of wellness, he does not consider the effect of every domain on the health and well-being of a person or focus solely on spirituality. For the purpose of this study, it was deemed important to take into consideration all the dimensions of wellness for optimal health and well-being that contribute not just to coping with stress but ultimately to the overall wellness of a person. Leisure can play a significant role in each of the wellness dimensions. The purpose of the intended Therapeutic Recreation Stress Management Intervention Model would be to educate participants on leisure and wellbeing, and for them to be well informed on these concepts, their benefits and how they affect and interact with one another. The outcome would be for participants to make informed decisions on taking part in sport and recreation activities, in order to cope with their stress, improve their optimal health and well-being, and develop a lifelong leisure lifestyle.

### 3.6 THE THERAPEUTIC RECREATION PROCESS

The Therapeutic Recreation process is a four-step cyclical process designed to assist the TR specialist in developing a purposeful intervention (Figure 3.8, p. 179). The four steps are: **Assessment, Planning, Implementing** and **Evaluating (APIE)**. These could be applied in any setting where recreation is used as a means of therapy to assist in achieving certain goals (Daly & Kunstler, 2006). The TR process is used to design programs and services in line with the objectives established for the participant (Carter & LeConey, 2004). It establishes the individual's strengths, interests, goals and needs, in order to systematically develop and document an individualized support plan appropriate to the ability of the person (Miller *et al.*, 2009). Documentation is required for when any future treatment is needed. The TR process in an inclusive community-based recreation program will differ from the process in a physical rehabilitation or mental health setting. It is important that the TR professional have an understanding of the process and how to apply it in different settings or groups of participants (Long, 2008).



**Figure 3.8: Cyclical nature of the therapeutic recreation process**

*(Austin, 1991:141)*

### **3.6.1. Participant assessment**

Assessment is the process used to gather information about a subject entering the TR program and will vary depending on the purpose of the program. Taking the aim of this study into consideration, it would be necessary to assess the soldier's stress levels, coping methods, leisure interests and participation preferences.

Functional screening would not be necessary, since the focus is not on disabled military staff. Assessment is used to assign individuals to an inclusive program (Long, 2008). This would include programs for soldiers with disabilities and/or their families when they reside in base camps. For this purpose, one needs to: assess and identify their strengths; personal preferences and interests; abilities;

social, emotional and cognitive functioning; needs and limitations; problems with leisure; patterns of participation in leisure; availability of leisure partners; planning and decision making skills; knowledge of leisure; the ability to use leisure resources; and information of the participant as well as their families and other role players. These data should contain the individual's specific level of experience of the recreation activity, daily living skills, routines, communication skills and support needs. The data would be used to guide the participant as well as the programmer in identifying specific goals and appropriate programs to meet the recreational, physical, psychological and social needs, as well as the individualized goals set for the program (Miller *et al.*, 2009; Daly & Kunstler, 2006). In designing a stress management intervention program in a military setting, the specialist needs to take into consideration that programs will be developed for groups of soldiers with different levels of stress. It would thus be necessary to determine group interests, needs and goals, apart from those of the individual soldiers. The purpose of TR assessment is further classified into four areas (Long, 2008):

- To gather personal information to establish functionality and to monitor and summarize the participant's progress
- To determine overall program effectiveness
- To communicate with other professionals outside the TR field
- To meet the requirements for assessment by administrators and external agencies, such as medical centres or medical aid services, professional healthcare bodies, rehabilitation facilities, accreditation bodies and financial reimbursement agencies.

A quality plan can only be devised on the basis of information gathered, and the more information there is available, the better the person or group can be assisted. Several data-gathering strategies can be used. Such strategies could include personal interviews or telephonic conversations with participants and their family members, questionnaires completed by participants (and parents when a child is involved), observations, standardized tests, input from other disciplines, communication with family, friends and work colleagues, or even a combination of all the strategies that are in line with the recreation assessment process (Miller *et al.*, 2009; Daly & Kunstler, 2006). Long (2008) proposed four sources of data, existing documents (e.g. assessment reports), standardized assessments and interest interventions, interviews and observations.

#### **3.6.1.1. Existing documents**

The ***assessment report***, for example, is a useful document containing substantial information on presenting problems, related history, precautions or standing orders from a medical practitioner, results from various specific assessment procedures and a summary, including overall goals and objectives set. It suggests appropriate lines of questioning for interviews and eliminates the risk of gathering unnecessary information. This report normally comes from a psychiatrist, psychologist, social worker, doctor or other approved professional who is responsible for identifying and developing a plan to address the participant's needs.

In situations where the TR specialist is the leading service provider, assessment reports from another professional may not be available, and other measurements, such as registration forms, may be needed to generate information and identify additional assessments that are needed (i.e. medical screening, physical ability assessment). Reports from previous or on-going programs, incident reports and other forms of documentation (e.g. medical clearance for certain medical conditions) may also be useful for identifying and assessing the subject's needs. It is of utmost importance that the information from these historical documents be treated with confidentiality and should not be disclosed to parties outside the immediate treatment team or service providers without the consent of the participant or his/her guardian (Long, 2008).

#### **3.6.1.2. Standardised assessments and interest inventories**

Many standardized instruments have been developed for use in TR settings. It is not possible, however, to refer to all of them. The most commonly used instruments in TR settings are (Long, 2008):

1) *The Leisure Diagnostics Battery*

This was developed by Witt and Ellis in 1989 to measure the perceived freedom of leisure and leisure barriers using the survey method and a five social score for perceived freedom (perceived competence, perceived control, needs, depth of involvement, playfulness) and three scores for leisure functioning (barriers, leisure preferences, knowledge of leisure opportunities).

2) *The Leisure Competence Measure (LCM)*

The LCM was developed by Kloseck and Crilly in 1997 and measures current levels of functioning in eight leisure domains which are rated on a seven-point system, based on the observations of the TR specialist, to represent a continuum of independence of each domain. These domains are:

- Leisure awareness
- Leisure attitudes
- Leisure skills
- Community integration skills
- Community participation
- Cultural and social behaviour
- Interpersonal skills
- Social contact

The LCM is modelled after the functional independence measure (FIM) used in various health care settings and is useful because of its consistency with agency-wide assessment procedures (Long, 2008).

3) *The Comprehensive Evaluation for Therapeutic Recreation (CERT)*

CERT exists in two versions, CERT psych/R and CERT-physical disability (Long, 2008). CERT psych/R is used to measure a person's ability to integrate successfully in society through social interaction. Social interaction skills are assessed across 25 items, scored on a scale of 0-4, based on the

observations of the TR specialist. CERT-physical disability measures functional abilities related to leisure skills and consists of 50 items distributed in the following functional domains:

- Gross muscular function (9 items)
- Fine movement (4 items)
- Locomotion (4 items)
- Motor skills (5 items)
- Sensory (6 items)
- Cognition (11 items)
- Communication (5 items)
- Behaviour (6 items)

Other general assessment systems are used in certain health care settings. Therapeutic recreation specialists use these systems because TR professionals form part of the treatment teams in these settings. The TR specialist only completes part of the assessments, although the results could still influence the services provided by the TR specialist. These assessments could also be combined with other TR assessments to gather more comprehensive information. This would then serve as a major resource for the establishment of TR goals and objectives. These general assessments are (Long, 2008):

1) *In-patient rehabilitation facility-patient assessment inventory (IFG-PAI)*

The IFG-PIA is used in in-patient rehabilitation to assess functioning in domains such as self-care, locomotion, communication and social cognition.

This inventory rates the patient's level of functioning with the FIM system and a decision-making tree is used to determine the score for each related functional area (Long, 2008).

## 2) Resident assessment inventory-minimum data set (RAI-MDS)

The RAI-MDS is a computer-based assessment used in long-term care facilities where a team of professionals works to complete the assessment based on observation of the patient's functional ability. The TR services will then focus on the subject's patterns of activity pursuit, related to issues such as time awake, average time involved in activities, and preferred activities. After the different parties have captured the data on the computer, the computer generates guidelines for appropriate treatments and determines the cost of the proposed care (Long, 2008).

### **3.6.1.3. Interviews**

Interviewing forms a critical part of the TR assessment process and should focus on leisure functioning (interests, behaviours, desires, barriers, resources), as well as on physical, social, emotional, cognitive and spiritual considerations related to the area of function. The TR specialist identifies those areas which need further questioning and determines the meaningfulness of the responses. Care should be taken not simply to ask a set of questions, as this will result in a shallow interview and vague or random recommendations which will not necessarily address the participants' needs. Thorough preparation should be done prior to the interview. This will assist the TR specialist in:

- Reviewing the correct documents for the interview,
- Making necessary arrangements for an interview or assessment venue,
- Providing points of departure of the interview,
- Identifying behaviours that should be observed during the interview,
- Identifying questions to raise pertaining to the problem,
- Listing questions related to leisure and recreation to be asked and when to ask these questions, and
- Deciding how to close the interview.

During the interview, the TR specialist should take note of the subject's body language and behaviour, level of orientation, and the validity of the information given. Before closing the interview, the interviewer should inform the participant of the next step that will be taken and what it will entail.

#### **3.6.1.4. Observation**

Observation is useful as a tool, not only during interviews but in a variety of other ways. The benefit of observation, either during interviews or on its own, is firstly that actual behaviour is documented. This might well be missed in an interview, where there may be a difference between what people say and what they do. Secondly, it does not depend on the subject's communication skills. Using observation, however, does not allow for internal assessment of such aspects as motivation, depression or intelligence, as one can only report on and document behavioural patterns. When using this method, therefore, the quality and intended purpose of the procedure should be considered. This will ensure that

the information gathered is reliable, offers valid assumptions about the participant, and is relevant to the presenting problem and potential TR program service areas. This would ensure that the assessment information is legitimate and that the relevant goals and objectives will be developed (Long, 2008).

### 3.6.2. Program planning

Planning in TR takes place at multiple levels. Of these, the first and broadest is ***comprehensive program planning***. This refers to the overall development of the TR department, program or organization, as well as the development of its mission statement, the goals that it sets, and the specific programs it implements as part of the process (Long, 2008). The second level of planning entails ***specific program planning***, which involves detailed planning of the specific chosen program. The different participants and their needs should be taken into consideration, meaning that one department or organization may have several specific programs. The third level entails the development of the participant/client's treatment program plan, the ***individual program plan*** (Daly & Kunstler, 2006; Long, 2008). Once an assessment is completed, the information is recorded in a specific TR assessment report that is used to develop an inclusive plan or individualized program plan (IPP). The IPP should include a summary of the assessment, the strengths, limitations, goals and objectives of the participant, the role and responsibilities of the recreation specialist, and an evaluation plan (Miller *et al.*, 2009; Long, 2008).

### 3.6.2.1. Goal development

Goals and objectives provide the direction for the treatment that needs to be implemented, and can be identified either by the TR specialist or by one or more disciplines in conjunction with the participant (Daly & Kunstler, 2006). Goals are the general accomplishments that a person should achieve through the TR process and should be directly related to the assessment results. Objectives are the measurable criteria used to determine whether the goals have been met and normally consist of three parts (Long, 2008):

- (1) **Condition**, or the circumstances under which an objective is to be achieved (e.g. focus group discussions on stress management),
- (2) **Behaviour**, which specifies the behaviour that should be measured, as represented by an action (e.g. coping strategies), and
- (3) **Criterion**, which specifies the measurable indicator of the goal to be achieved (e.g. meeting 8 of the 10 criteria).

After individual goals and objectives have been set, various program goals and programming options should be taken into consideration. These could entail leisure education, social skills groups, self-esteem, problem solving, strength training, or adapted aquatics. They are offered with a specific set of outcomes in which the subject can participate, in addition to the specific therapeutic activities proposed. This ensures that the participant is placed in the right program, one which would be beneficial and consistent with his/her goals (Long, 2008).

### **3.6.2.2. Activity selection and planning**

The most important aspect of the planning process is the selection and scheduling of the purposeful intervention activities, in alignment with the goals and objectives set, focusing on outcome-driven planning. To achieve the best results, the activities should be analysed and selected in consultation with the subject, thus ensuring that they have therapeutic value. These activities should also lead to predictable outcomes or observed changes among participants (Long, 2008; Daly & Kunstler, 2006). The TR specialist should also bear in mind that one activity may address more than one goal, while it is also possible that many activities may only address one goal. A group activity, such as mosaic classes, stimulates creativity, develops skill, feelings of accomplishment and self-worth, improves concentration and attention span, social interaction, and relaxation, as well as helping the subjects to forget about stressful events. It also offers an opportunity to gather information about a specific problem in a relaxing atmosphere, and can assist with the treatment, for example where the therapist may want to gain the confidence of a client subjected to severe trauma which has been blocked out of his/her memory as a coping mechanism. It is also important that the subject is interested in the recreational activity and willing to participate. The roles and responsibilities of the specialist include scheduling the duration, frequency and intensity of the treatment, and coordinating and collaborating with other disciplines. They also include on-going and consistent support and training, disability awareness and etiquette, adaption and inclusion information, and the communication skills that are needed in order to work with the participant as well as his or her family. This is especially important when someone has been

disabled in combat, for example having a body part amputated, and needs assistance with living in the normal community. The family will also need help in learning how to live with such a person through the inclusion experience (Miller *et al.*, 2009; Daly & Kunstler, 2006).

To plan for activities, the TR specialist should conduct a task and an activity analysis. Task analysis is used to break a specific skill down into its component parts. It can then be used as an assessment tool to determine the abilities or skills of the participant and to make appropriate adjustments in the task or activity. Such an assessment is used to identify the skills needed to participate, with a comprehensive analysis of the various areas that normally correspond with the functional domains (physical, social, cognitive and emotional). The activity analysis can contribute to the task analysis, exploring the skills needed for each step. These two approaches allow for modification by adjusting the activity or the environment to meet the specific abilities of the participant (Long, 2008).

After selecting activities, analysing them and making the necessary modifications, the TR specialist needs to create an activity plan or session plan describing exactly what needs to happen during a particular TR program. It would address issues such as:

- Equipment needed,
- Safety precautions,
- Targeted program and client goals,

- Rules and procedures,
- Potential modifications, and
- Activity timeline, including a rough estimate of how long each aspect of the activity would take.

These plans are kept on record and used for future sessions and for review in context with the current group or the individual subject (Long, 2008).

The TR specialist is also responsible for a discharge plan of the participants, especially in a treatment or rehabilitation setting. This plan should include instructions, guidelines and resources to ensure the client's continued participation in positive, health-promoting recreational activities in his or her normal living or working environment (Daly & Kunstler, 2006).

### **3.6.3. Program implementation**

The planned program must now be put into action. If it is offered in a specific facility, the TR specialist should take into account the overall schedule of the facility, the available space and resources, the equipment and supplies needed, the needs of the client, and the staffing requirements, for instance whether a physical instructor or specialist is needed. The TR specialist should also be able to adjust the plan if necessary to maximize the benefit of the program for the subject (Daly & Kunstler, 2006). Technical and facilitation skills are needed to implement the program. Technical skills are referred to as 'hard' skills. These include the physical tasks associated with the responsibilities of the job, such as

completing paperwork, using and maintaining equipment, planning sessions and demonstrating activities. Facilitation skills are more related to the soft skills needed for purposeful interpersonal interactions with the subject, and are maximized if the technical skills are mastered and performed competently. This calls for adequate preparation and practice by the TR specialist (Long, 2008). Program implementation strategies for a successful program include adaptation as the key strategy, staffing, peer companions and peer interactions. Adaptation involves activities, materials and/or equipment. Specific types of adaptation include alterations to equipment or rules, breaking down skills to the level required to complete the activity, addressing physical access barriers, modifying activities leading up to the targeted activity, and replacing competitive with cooperative activities to foster social inclusion. Staff (recreation specialists or volunteers involved in the program) can modify their facilitation styles by breaking down the activities into smaller activities or steps, demonstrating these, giving physical assistance and enabling participation in unique ways. If needed, additional staff members can be employed to assist with participants with extensive needs or to support them in the broader program. Peer companion programs have also been used, matching non-disabled participants with disabled subjects. This matching has been shown to improve social acceptance, enhancing the perceived abilities of disabled participants, and increasing engagement in activities (Miller *et al.*, 2009).

Program implementation happens in three stages and should be addressed during the planning stage. The first stage is **briefing**. The specialist needs to

inform participants as to what is going to happen, describing the behavioural expectations and establishing goals related to the activities of that session. Two types of goals apply: spiral goals that are specific to a particular subject, and activity goals that are shared by a group. Goal setting could be done ahead of time or just before the session starts, and should also stimulate the participant's interest in the activity. It should not be overwhelming for the subject, but rather motivate and arouse interest (Long, 2008). The second stage involves **leading**. The TR specialist should consistently aim to encourage subjects, either to take part or to continue participating in an activity, to exercise choice in their activities, or to continue with a challenging risk that is related to the goals. A balance should be maintained between too much and too little assistance, so that the participants can make some discoveries for themselves. The TR specialist should also take note of critical events during this session, in order to process the experience of the participant during the session (Long, 2008). The third and last stage is **debriefing**. This involves processing the experience, reviewing the events that happened during the session, noting the experiences and emotions of the participants, reviewing their progress towards the activity goals that were set and the relevance of this progress to the overall goals and outcomes of the program. The *Outward Bound* approach is the most widely used to process such experiences, asking the questions: 'What? So what? and Now what?' By asking 'What?', concrete evidence is gathered about events that happened during the session. Asking 'So what?' allows the activity goals and the emotional reactions to the events to be reviewed, and the effect of the latter on the individual or the group to be determined. The last question, 'Now what?', relates the outcome of

the session to an actual problem outside the session, for example the subject's involvement in dealing with family members at home. It further focuses on the next session and how the TR process will continue. Jacobs and Ruddy developed a more directed processing strategy in 2004 involving five stages of questioning, following the natural processes of the human mind (Long, 2008):

- 'Did you notice...?' referring to a specific observation made during the leading stage.
- 'Why did it happen?'
- 'Does that happen in life?'
- 'Why does it happen?'
- 'How can you use that?' or 'What would you do if...?' where the participant can project the skills learned and offer positive reinforcement for success.

This offers a more open-ended approach than Outward Bound, but is still more specific in nature. What is important in both the approaches is the sequence of the discussion from the immediate experience of the activity to the overall therapeutic goals of the participant (Long, 2008). The TR specialist should take a facilitating role during the discussions, ensuring that these stay focused and relevant, as well as assisting in making the necessary connections between the session and the goals. The specialist should steer away from lecturing the participants and allow them to do most of the talking, so they can identify what they have learned and decide how to apply it in their lives.

#### **3.6.4. Program evaluation**

The final step in the TR process is to evaluate the program. Evaluation can take place in a formative and/or summative way. Formative assessments are used to ensure that immediate changes are made during the implementation stage. These may be necessary due to changes in the participant's condition, use of medication, lack of support from family, information that was not revealed in the assessment, lack of skills, or even inappropriate leadership approaches or inconsistency of the TR specialist and/or the team which could result in the participant's progress being delayed. After each program session, documentation should be completed or a report drawn up to evaluate the progress of the individual in accomplishing his/her goals, plus any significant incidents which occurred and the levels of success of the attempted inclusion strategies. This information is useful in highlighting any adjustments which need to be made to the program as part of the process of evaluation. To ensure systematic and sustainable programs, it is also of utmost importance to effectively administer the program (e.g. training protocols, funding mechanisms, marketing, policies and procedures in support of the program) in order to reach the desired outcomes (Miller *et al.*, 2009). Summative assessment takes place after the program is complete, to ensure that the goals that were set for the participant were met. This can be done by repeating the assessment made at the beginning and making use of quantitative measurements to check if there is a significant difference or improvement in the subject. This could further result in more recreational benefits, where the participant might indicate that he/she would like to join a club to continue the recreational activity or request family involvement, thus gaining

the benefits of social recreation and/or family recreation. The progress of the client should be documented, and the unplanned benefits should be included to give a fuller picture of the participant's achievements (Daly & Kunstler, 2006).

Specific aspects to consider in conducting an evaluation are client evaluation, program evaluation, the evaluation tools and evaluation systems (Long, 2008). In conducting **client evaluation**, the evaluation should be built around the pre-established therapeutic goals and objectives, and data should be collected using formative evaluation methods (Long, 2008). **Program evaluation** can be done using summative assessments, where the program is evaluated as a whole, making use of information from different resources, such as financial reports, feedback reports, progression reports of different participants on the same program, etc. Before deciding on the **evaluation tool**, the areas to be reviewed should be identified, such as attendance, participation, participant satisfaction, targeted outcomes. The methods used to measure the different areas may differ and could include interviews, observation, standardized assessments, interest inventories, mail surveys and extant documents. **Evaluation systems** provide a structured mechanism for evaluation. Two useful approaches are *Goal Attainment Scaling* (GAS) and the *SMART Goals* system. The GAS system should not be confused with the General Adaptation Syndrome Theory (GAS), as discussed in Chapter 2. The GAS system is a general method used to evaluate the outcome of a mental health treatment by taking a measurable objective and establishing various levels of achievement on which the participant is then scored. It offers a consistent mechanism for evaluating the effectiveness of the

program, including the achievement of both individual and program goals, and can also be used to compare different participants, even if their goals are different. The SMART Goal system refers to goals that are specific, measurable, attainable, results-orientated and time-bound, making use of tree diagrams to operationalize SMART goals. These diagrams are built from a single **goal** by establishing **indicators** for the goal, stating how it will be **measured** and with specific **targets** for each measurement. It is less complex than the GAS system but just as useful (Long, 2008).

The TR process is the most important process in therapeutic recreation, as the TR specialist can start working with a participant at any time along the continuum of any of the TR models discussed, provided he or she can show the required knowledge of and competency in the TR process (Daly & Kunstler, 2006). This application of the process will also depend on the type of setting the TR specialist is working in and at what stage of the continuum the participant has been referred to the TR specialist. Different kinds of involvement with a participant call for different applications of the TR process, so an individual assessment needs to take place at the beginning of each service (Daly & Kunstler, 2006).

### **3.7 THERAPEUTIC RECREATION MODALITIES**

In order to fulfil the aim of TR, specialists use a range of modalities. Modalities are those recreational or other activities that are used as therapy to assist the participants to meet their therapeutic goals (Williams, 2008). Due to the diversity of the profession, the TR specialist must be proficient in many different

interventions. These include traditional as well as non-traditional recreational activities. Traditional activities include arts, sport, fitness and exercise, games, crafts, needlecraft, social activities, outdoor and adventure recreation, fishing, aquatics and community outings. Non-traditional activities include leisure education, horticulture, volunteerism, adult education, virtual reality therapy and animal-assisted (pet) therapy. Other non-traditional therapeutic interventions, such as cognitive stimulation, sensory awareness, assertiveness training, pain management, stress management, anger management, community reintegration, problem solving, activities of daily living, self-esteem and leisure counselling could also be included as part of the TR process.

Choosing the activities or intervention depends on the needs, interests and capabilities of the participant or population and the purpose or goals of the program or organization (Williams, 2008; Daly & Kunstler, 2006; Freeman, 2006). Due to the diversity of the industry, some commonly used TR modalities might be more useful for particular populations or settings. TR and mental health will therefore be a separate point of discussion, highlighting specific modalities or treatment interventions used for those exposed to high levels of stress or even PTSD.

### **3.8 CHAPTER CONCLUSION**

This chapter concludes the theoretical base for the study and is aimed at establishing a background to Therapeutic Recreation as the theoretical foundation of this study. Its restorative benefits in terms of leisure, health and physical and mental well-being were emphasized. In order to gain a better understanding of the delivery of TR services, the different models of TR practice were discussed. The application of these models will differ depending on the needs of the participants and the environment or institution in which they are applied. The four key components which form the basis of all the reviewed models are also collectively referred to as the TR Process. These components are assessment, programming, implementation and evaluation. The therapeutic applications of the components were discussed in depth and will form the basis for of the intended intervention that will be developed for the Botswana Defence Force.

Although stress and stress management were given attention in Chapter 2, it was necessary to relate them to TR and how TR services could be applied to reduce stress and other related mental and physical illnesses resulting from stress or PTSD, all of which are often evident in military settings. Therapeutic Recreation in military settings was explored to assess the current status of programs addressing these issues. Literature on TR in military settings is not extensive and is mainly based on information from programs in the US Army and its MWR programs. Research is needed in the area of TR in military settings and specifically in the African context, which has not hitherto been addressed.

The next chapter will deal with the statistical analysis and findings of the study, addressing sport and recreation participation and giving a stress evaluation of BDF staff members which will be used for the development of a Therapeutic Recreation Stress Management Intervention Model for the BDF.

## CHAPTER 4

### RESEARCH FINDINGS AND DISCUSSION

#### 4.1 INTRODUCTION

In the preceding chapters, it was argued that military staff are often exposed to stressful situations and have higher stress levels due to the nature of their work, even in non-operational conditions. The literature review in Chapter One suggested that sport and recreation could be useful tools for reducing stress. The problem identified for this study was that staff members of the Botswana Defence Force (BDF) are exposed to situations in a military context, as well as in their personal lives, that cause stress. It was postulated that BDF members have little knowledge or resources to utilize appropriate recreation-related coping strategies. This study primarily aimed to explore the use of sport and recreation activities in military settings as means to reduce and manage stress. To achieve this goal, it was necessary first to determine the current sport and recreation participation of BDF staff members and then to assess their existing stress levels, their overall psychological well-being, and dysfunctional behaviours resulting from stress. On the basis of these findings, a Therapeutic Recreation Stress Management Intervention Model (TRSMIM) will be proposed designed to reduce stress and promote the psychological well-being of BDF members.

The following hypotheses were formulated to address the objectives of the study:

H<sub>0</sub>(1): Botswana Defence Force members do not participate in physical activities for recreational purposes, either to reduce stress or to cope with stress.

H<sub>0</sub>(2): Botswana Defence Force members do not experience stress and there is therefore no relationship between their actual and perceived stress scores, nor does a relationship exist between stress and demographics, life factors contributing to stress and coping with stress (i.e. life satisfaction, social support, traumatic life experiences), sport and recreation participation, work environment, or symptoms of physical, psychological or behavioural reactions to stress.

A survey was carried out using a questionnaire, as discussed in Chapter 1. Descriptive statistics were used to summarize the collected data, providing a basic description of the data through frequency distributions, measures of central tendency, variances and relationships. Inferential statistics were used to draw conclusions from the data collected, giving insight into the research question and hypotheses by testing significance between the various factors (Matthews & Kostelis, 2011; Quartaroli, 2009). The statistical tests used to compare groups and to test for differences were cross-tabulation, the Chi-square ( $\chi^2$ ) test, *t*-tests, and ANOVA. Cross-tabulation was carried out in this study to test individual and team sport and recreation activities, as these were associated with the level of participation and reasons for participation, stress scores and the number of deployments. The latter were used to generate further statistical analysis using the chi-square ( $\chi^2$ ) test. Chi-square tests are used to test non-parametric nominal data to determine significant differences between people classified in the

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categories of the variable. Chi-square ( $\chi^2$ ) tests were performed to test for differences between sport and recreation activities and reasons for participation, stress scores and deployment, perceived stress and satisfaction with level of physical activity, as well as stress and life satisfaction.

The *t-test* assesses the statistical significance of the difference between two independent sample means (Hair *et al.*, 1998). The independent sample *t-test* is used to compare scores of two different independent groups or variables. For the purpose of this study it was used to compare the scores for perceived stress and stress, stress coping and traumatic life experiences, as well as stress coping and social support.

The ANOVA is a parametric test used to compare the differences and similarities between more than two groups. These groups must be independent from one another and must be normally distributed. ANOVA looks at the variances between the groups and indicates any significant differences between them. ANOVA was used in this study to test differences between stress and demographic data, satisfaction with physical activity, frequency of participation in physical activities, life satisfaction and traumatic life experiences. It was also used to test for differences between stress coping and demographic data. Post-hoc analysis was used to detect patterns in the data in cases where the ANOVA had tested significance between dependent and independent variables. Fisher's Least Significant Difference (LSD) test was used for multiple pairwise comparisons among a set of *t*-population means. This test was relevant to

independent variables related to demographic data such as military rank and military type where more than two multiple pairwise comparisons had to be made.

Pearson's Product-Moment Correlation coefficient was used to assess the relationship or association between actual stress and the symptoms of physical, psychological and behavioural reaction to stress. This procedure is generally applied to those situations in which the relationship between two variables is mostly linear or where the variables are measured on a continuous scale (Howell, 1992). All the variables assessed with this test, (actual stress, symptoms of physical, psychological and behavioural, and stress coping) were mostly linear or measured on a continuous scale making the test relevant to this study.

Alpha was set at  $\alpha=0.05$  to test statistically significant associations and differences between groups in this study. A p-value equal to or less than 0.05, indicates a statistically significant difference between two groups, on the 5% level of significance. In this chapter, the results will be presented according to the layout of the questionnaire, with the discussions following successively.

## **4.2 DEMOGRAPHIC PROFILE OF RESPONDENTS**

The demographic profile of the respondents depicts their general profile, while the military demographic profile offers an insight into the BDF staff and their responsibilities. Each section will be discussed in turn.

#### 4.2.1. Demographics

A total sample size of 857 respondents took part in the study. Three hundred and thirty seven (39.3%) responses were from Gaborone, 222 (25.9%) from the Thebe Patshwe Airforce base, 185 (21.6%) from Selebi Pikwe, and 113 (13.2%) from Francis Town. The results were consistent with literature indicating that the population of Botswana is concentrated in the eastern part of the country, which includes the capital city, Gaborone, and the headquarters of the Botswana Defence Force (BDF) (Mokgwathi, 1999). The demographic data indicated that respondents comprised only men, with 807 (94.2%) of the subjects aged 18-44 years (Table 4.1, p. 207). Section 4.2.2 (p. 208) of this chapter, 'Military demographics', shows that respondents were mainly from the lower and middle ranks, and it is postulated that higher ranked officers could be older than 44 years. The majority of the respondents were unmarried (Table 4.2, p. 207). Eight hundred and fourteen 814 (97.8%) were permanent staff members, while 18 (2.2%) were reserves to the BDF. The findings on gender supported the fact that gender inequality is still a social issue in the workplace in Botswana and that the workforce, especially in decision-making structures, is still male dominated (Osei-Hwedie, Ntseane, & Jacques, 2006). Botswana Defence Force however, started to recruit female cadets in 2008 (Republic of Botswana, 2008), after the survey was conducted. Gender equity is thus being addressed within the BDF; however, the results from this study on sport and recreation participation and stress in the BDF were gender specific and related only to male military staff.

Only 828 respondents indicated their educational level. Of these, 30 (3.6%) said that they had at least attended school up to primary school level, while 538 (65%) had reached secondary school level. Two hundred and sixty (31.4%) indicated that they had obtained a qualification after school (Table 4.3, p. 207). A multitude of different qualifications were listed, including a range of technical, scientific, managerial and administrative certificates, diplomas and degrees. The BDF is known to be selective in their recruitment process and findings corroborate with literature confirming that soldiers are recruited into the BDF with some level of education (Republic of Botswana, 2008). Findings further contribute to the study of Henk (2004), indicating that the BDF features high standards of discipline, with an emphasis on education and progression in the careers of staff members assuming that some of the post-school qualifications were obtained whilst working for the BDF. It is therefore assumed that the BDF recruits literate soldiers with the intention of further developing such soldiers in specific careers. The establishment of the Defence Command and Staff College in partnership with the University of Botswana in 2008 to train and develop officers correlates with assumptions made on the career development of soldiers.

**Table 4. 1: Age of respondents (N=857)**

Age groups	Frequency	Percentage
18-25	273	32.1
26-34	327	38.5
35-44	207	24.4
45 +	43	5.0
<b>Total</b>	<b>850</b>	<b>100</b>

There were 7 missing responses (0.8%)

**Table 4. 2: Marital status**

Marital Status	Frequency	Percentage
<i>Unmarried</i>	635	74.4
<i>Married</i>	197	23.1
<i>Cohabiting/Separated/</i>	21	2.5
<i>Divorced/Widowed</i>		
<b>Total</b>	<b>853</b>	<b>100</b>

There were 4 missing responses (0.5%)

**Table 4. 3: Educational level**

Educational level	Frequency	Percentage
<i>Primary school</i>	30	3.6
<i>Secondary school</i>	538	65.0
<i>Tertiary qualification</i>	260	31.4
<b>Total</b>	<b>828</b>	<b>100</b>

There were 29 missing responses (3.4%)

Spirituality is one of the dimensions contributing to individual well-being (Meyers & Bechtel, 2004). Religious beliefs and practices are also regarded as spiritual. In a military context, they are used either in the field of war to reinforce one's beliefs or to cope with stress (Drescher, Smith & Foy, 2007). Respondents were therefore requested to indicate their perceived levels of spirituality and religion. Of the 753 (87.9%) responses, 400 (22.4%) indicated that they were both spiritual and religious, 192 (22.4%) that they were religious, 53 (6.2%) that they were spiritual, 108 (12.6%) said they were neither spiritual nor religious, while 104 (12.1%) gave no responses. The data suggested that most military staff members were involved in spiritual and religious practices.

#### **4.2.2. Military demographics**

Military rank indicates the level of leadership and responsibility of an individual in the military. The subjects in this study were primarily from the lower ranks, with 271 (31.6%) being soldiers of entry-level rank and 391 (45.6%) ranked as corporals (second level rank). The remainder, 165 (19.4%), recorded their ranks as either Staff Sergeants, 1st /2nd Sergeant Majors, Sergeant Majors, Warrant Officers, 1st/ 2nd Lieutenants, Captains or Majors, all of whom are still regarded as the more junior or middle ranks in the military. Junior officers often look up to their military leaders for moral and social support to help them cope with military stressors (Dolan & Endler, 2008). This in turn puts a lot of pressure on the military leaders, causing stress in the leaders themselves. The findings of this study were, however, biased towards the lower and middle ranked officers. This entailed a shortcoming in the study, in that stress could not be related to higher

ranked officers but only to the lower and middle ranked officers. Of the remaining responses, eight (0.9%) were from non-commissioned staff members and 22 (2.9%) from subjects who did not reveal their ranks. The failure to respond could possibly be a result of cultural influences, the confidential nature of the question, or the stress related to this type of enquiry.

Figure 4.1 (p. 211) shows the military force types of the respondents. The findings indicated that responses were mainly from the Air Force (n=214; 25%), the engineering regiment (n=198; 23.1%), and the infantry battalion (n=120; 14%). Twenty-two respondents did not indicate their military force type. It was assumed that the Air Force, engineering regiment and the infantry battalion were the biggest regiments in the BDF.

In response to the question on experience of deployments over a two-year period, only 823 (96.0%) responses were recorded. One hundred and thirty five (n=135; 15.8%) indicated that they had been deployed at least once, 341 (39.8%) said they had been deployed more than once, while 347 (40.5%) had never been deployed before. The findings corresponded with the literature (Dutch Aviation Society, 2006; Maclean, 1999), indicating that the BDF deploy soldiers to the Botswana border posts and other areas where their services are required. It was assumed that the respondents were not newly recruited soldiers and that the majority had been involved in some sort of military operation. Stress responses could thus be related to military operations.

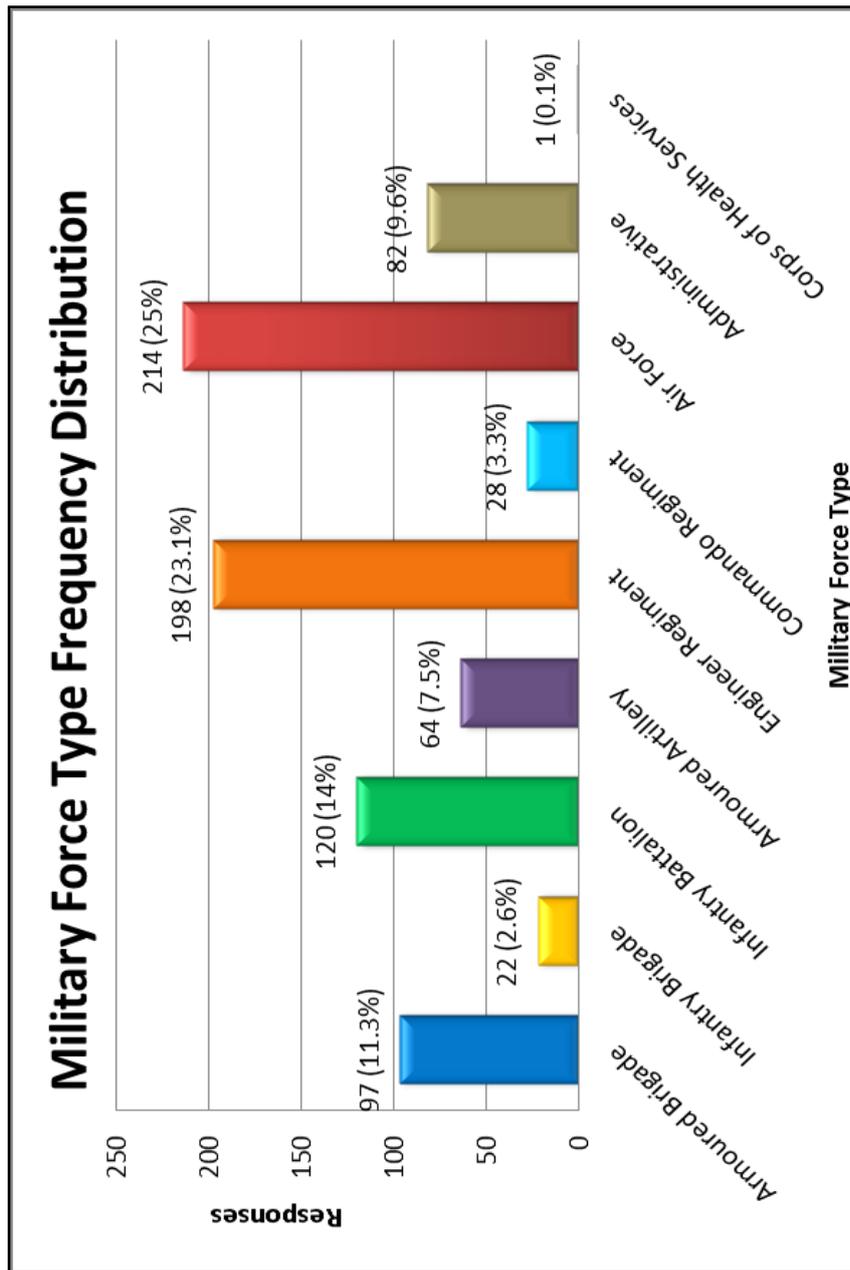


Figure 4. 1: Demographic depiction of Botswana Military force type responses

Section (4.2) concludes results related to the demographic profile of respondents and the Botswana Defence Force. The demographic responses as they relate to stress responses will be addressed in section 4.4 (p. 224) of this chapter.

### **4.3 SPORT AND RECREATION PARTICIPATION BEHAVIOUR**

Sport and recreation in the military are instrumental to defence and are more often biased towards military training in order to improve the physical fitness of staff members (Mason, 2011; Chien-Yu, Ping-Chao, & Hui-Fang, 2008; Phillips, 2006; Rice, 1998; Riordan, 1986). The first objective of this study was to determine the sport and recreation participation behaviour of Botswana Defence Force members. It was important to discover what staff members' physical activity interests were and to establish a sport and recreation participant profile and assess its potential as stress intervention. It was hypothesized [ $H_0(1)$ ] that BDF members did not participate in physical activities for recreational purposes, either to reduce or to cope with stress. The results discussed in the paragraphs below will test this particular hypothesis.

#### **4.3.1 Sport and recreation involvement**

The respondents were asked to indicate their involvement in sport and recreation activity to determine their interests and reasons for participation. Forty-one activities were listed, of which 25 were individual and 16 team sport and recreation activities. These were selected on the basis of the findings of a study conducted by the Tshwane University of Technology (TUT) (2006). The literature indicated that the BDF participate in 16 different sport types at inter-unit competitions and local leagues, and 25 sport types in which military personnel take part during the Military World Games (Mophuting, 2007), including the activities selected in this study. Respondents were allowed to select more than one activity in which they participated from the lists of both individual and team

activities.

The results of individual sport and recreation participation are shown in Table 4.4 (p. 213). The five most popular ranked individual activities were running (n=290; 33.8%), shooting (n=260; 30.3%), obstacle training (n=185; 21.6%), gym (n=171; 20.0%), and endurance racing (n=162; 18.9%). The five least ranked individual activities were boxing (n=28; 3.3%), gymnastics (n=20; 2.3%), badminton (n=15, 1.8%), tennis (n=17, 2%), and wrestling (n=3; 0.4%).

The most popular team sport and recreation activities are presented in Table 4.5 (p. 213) and ranked in order of popularity, with soccer being the most popular (n=408; 47.6%), followed by volleyball (n=213; 24.9%), rugby (n=134; 15.6%), indoor soccer (n=101; 11.8%), and traditional dancing (n=82; 9.6%). The five lowest ranked activities were baseball (n=37; 4.3%), basketball (n=30; 3.5%), netball (n=9; 0.8%), battle games (n=8; 0.9%), and cricket (n=2; 0.2%).

**Table 4. 4: Individual sport and recreation participation**

Activity	n	%	Ranking	Activity	n	%	Ranking
Running	290	33.8	1	Chess	65	7.6	12
Shooting	260	30.3	2	Cycling	48	5.6	13
Obstacle training	185	21.6	3	Darts	38	4.4	14
Gym	171	20.0	4	Table tennis	34	4.0	15
Endurance racing	162	18.9	5	Karate	30	3.5	16
Body-building	144	16.8	6	Computer chess	29	3.4	17
Athletics	139	16.2	7	Boxing	28	3.3	18
Music	101	11.8	8	Gymnastics	20	2.3	19
Religion	96	11.2	9	Badminton	15	1.8	20
Aerobics	90	10.5	10	Tennis	17	2.0	20
Swimming	90	10.5	10	Wrestling	3	0.4	21
Playing pool	74	8.6	11				

**Table 4. 5: Team sport and recreation activities**

Activity	n	%	Ranking	Activity	n	%	Ranking
Soccer/football	408	47.6	1	Recreational games	54	6.3	8
Volleyball	213	24.9	2	Hockey	40	4.7	9
Rugby	134	15.6	3	Baseball	37	4.3	10
Indoor soccer	101	11.8	4	Basketball	30	3.5	11
Traditional dancing	82	9.6	5	Netball	9	0.8	12
Tug-of-war	72	8.4	6	Battle games	8	0.9	13
Softball	56	6.5	7	Cricket	2	0.2	14

Nineteen (n=19; 2.1%) of the respondents listed other individual and team activities not in the list. These activities included ballroom dancing, drama, fishing, hunting, gambling, hill climbing, horse riding, endurance walks, card games, reading, watching movies, traditional games (i.e. Sepantsula and Dikhwaere), singing, snooker, taebo boxing, drag racing, bridge and choir singing.

The results obtained in this section of the questionnaire suggested that, although the respondents enjoyed individual sport and recreation activities, the majority preferred team sports and recreation. These findings corresponded with those of TUT (2006), indicating that team sport and recreation activities were more popular than individual sport and recreation. However, an increased interest in individual sport and recreation has been observed since the study conducted by TUT (2006). Potential for sport and recreation as interventions to reduce stress is therefore established.

#### **4.3.2 Frequency of participation in sport and recreation activities**

The majority of respondents, 533 (62.2%), took part in the selected activities throughout the year, but with breaks, 172 (20.1%) seasonally, 80 (9.3%) continuously throughout the year, and 23 (2.8%) never, with 48 (5.6%) missing responses. It was assumed that breaks in participation occurred when staff members were deployed or when the activity was seasonal in nature. When asked how frequently they participated during a week, 348 (40.6%) indicated that they did so at least 2-3 times per week, 272 (31.7%)

said more than three times per week, and 179 (20.9%) once per week, while 58 (6.8%) failed to respond. The results confirmed that sport and recreation programs formed a major part of BDF staff members' lives, despite potential barriers preventing them from participating. Staff members engaged in these activities on a daily basis, indicating that they had regular access to the activities and the programs offered at their base camps (Mull, Bayles, Ross & Jamieson, 1997).

#### **4.3.3 Level of participation in sport and recreation activities**

The respondents indicated various levels of participation in general statements, not specifically related to the activities listed in Table 4.4 (p. 213) and Table 4.5 (p. 213). It was deduced that sport and recreation activities offered to BDF staff members were more competitive in nature, reflected in their inter-unit competitions and involvement in the Military World Games (Moputhing, 2007). Contrary to this deduction, the results showed participation mainly at a recreational level (n=476; 55.6%), with 269 (31.4%) at club level, 63 (7.4%) at regional level, and 48 (5.6%) at national level with one response missing. The results suggested that BDF members took part in sport and recreation for recreational purposes and therefore partially rejected the first hypothesis [ $H_0(1)$ ]. Further analysis, making use of cross tabulations, was used to compare the various individual and team sport and recreation activities with the level of participation.

Responses to the various individual and team activities were compared to the responses to participation at recreational level, club level, regional level and national level, making use of cross tabulations (Table 4.6, p. 217) to determine whether a pattern existed between the different levels of participation. From Table 4.6 (p. 217), it was observed that BDF members, in general, took part in individual activities at the recreational level, with a noticeable decline in participation at club, regional and national level. The five most popular activities at recreational level, although not showing high rates of participation, were running (n=185; 21.6%), shooting (n=146; 17.0%), obstacle training (n=104; 12.1%), endurance racing (n=97; 11.3%), and gymnastics (n=95; 11.1%). The five least popular activities at recreational level were boxing (n=11; 1.3%), badminton (n=9; 1.1%), karate/martial arts (n=8; 0.9%), tennis (n=8; 0.9%), and wrestling (n=3, 0.4%), though this could be as a result of the low participation rate in these activities in general.

**Table 4. 6: Cross-tabulation between individual activities and level of participation**

Individual Activity	Recreational Level			Club Level			Regional Level			National Level		
	n	%	Rank	n	%	Rank	n	%	Rank	n	%	Rank
Aerobics	54	6.3	10	39	4.6	8	9	1.1	5	6	0.7	6
Athletics	72	8.4	7	59	6.9	5	17	2.0	3	11	1.3	3
Badminton	9	1.1	20	5	0.6	19	0	0.0	12	2	0.2	9
Body Building	93	10.9	6	43	5.0	7	5	0.6	8	7	0.8	5
Boxing	11	1.3	19	13	1.5	16	2	0.2	11	2	0.2	9
Chess	42	4.9	12	20	2.3	14	6	0.7	7	3	0.4	8
Computer Chess	15	1.8	17	11	1.3	17	2	0.2	11	2	0.2	9
Cycling	21	2.5	15	21	2.5	13	4	0.5	9	7	0.8	5
Darts	23	2.7	14	13	1.5	16	3	0.4	10	3	0.4	8
Endurance Racing	97	11.3	4	60	7.0	4	15	1.6	4	6	0.7	6
Gym	95	11.1	5	58	6.8	6	14	1.6	4	11	1.3	3
Gymnastics	13	1.5	18	8	0.9	18	2	0.2	11	3	0.4	8
Karate / Martial Arts	8	0.9	21	17	2.0	15	0	0.0	12	4	0.5	7
Music	61	7.1	9	24	2.8	12	8	0.9	6	6	0.7	6
Obstacle Training	104	12.1	3	68	7.9	3	15	1.6	4	10	1.2	4
Pool	39	4.6	13	32	3.7	10	4	0.5	9	3	0.4	8
Religion	62	7.2	8	26	3.0	11	9	1.1	5	6	0.7	6
Running	185	21.6	1	81	9.5	2	18	2.1	2	12	1.4	2
Shooting	146	17.0	2	84	9.8	1	23	2.6	1	15	1.8	1
Swimming	48	5.6	11	35	4.0	9	9	1.1	5	7	0.8	5
Table Tennis	17	1.8	16	13	1.5	16	5	0.6	8	1	0.1	10
Tennis	8	0.9	21	8	0.9	18	4	0.5	9	1	0.1	10
Wrestling	3	0.4	22	0	0.0	20	0	0.0	12	0	0.0	11

The responses to the various team sport and recreation activities were further compared to the responses to participation at the recreational level, club level, regional level and national level. Cross tabulation (Table 4.7, p. 219) was carried out to determine whether a pattern existed between different levels of participation. In Table 4.7 (p. 219), it was observed that in general BDF members engaged in team sport and recreation activities at recreational level, with a noticeable decline at club level, regional level and national level. The results reflected the same trend as participation in individual sport and recreation activities. The five most popular team sport and recreation activities at recreational level, although not showing high rates of participation, were soccer (n=253; 29.5%), volleyball (n=136; 15.9%), indoor soccer (n=70; 8.2%), rugby (n=61; 7.1%), and recreational games (n=44; 5.1%). The five least used activities for recreational purposes were baseball (n=17; 2.0%), basketball (n=15; 1.8%), netball (n=7; 0.8%), battle games (n=3; 0.4%), and cricket (n=2; 0.2%), which again could be as a result of the low participation rate in these activities.

The results thus indicated a trend between the different levels of participation in individual and group activities, and in both cases the activities were participated in at recreational level. It was thus deduced that sport and recreation activities in the BDF were not exclusive to members engaging at a competitive level. Sport and recreation were offered to the larger military community, promoting a mass participation culture that was in line with the Military Welfare and Recreation programme (US Army MWR, 2003).

**Table 4.7: Cross-tabulation between group activities and level of participation**

Group Activity	Recreational Level			Club Level			Regional Level			National Level		
	n	%	Rank	n	%	Rank	n	%	Rank	n	%	Rank
Baseball	17	2.0	10	17	2.0	8	3	0.4	9	7	0.8	3
Basketball	15	1.8	11	16	1.9	9	3	0.4	9	2	0.2	6
Battle Games	3	0.4	13	1	0.1	12	2	0.2	10	1	0.1	7
Cricket	2	0.2	14	0	0.0	13	0	0.0	12	0	0.0	8
Hockey	27	3.2	9	14	1.6	10	2	0.2	10	1	0.1	7
Indoor Soccer	70	8.2	3	33	3.8	5	6	0.7	7	4	0.4	5
Netball	7	0.8	12	0	0.0	13	1	0.1	11	0	0.0	8
Recreational Games	44	5.1	5	9	1.1	11	4	0.5	8	2	0.2	6
Rugby	61	7.1	4	60	7.0	2	21	2.5	2	17	2.0	1
Soccer	253	29.5	1	157	18.3	1	25	2.9	1	9	1.1	2
Softball	28	3.3	8	25	2.9	7	7	0.8	6	6	0.7	4
Traditional Dancing	40	4.7	7	34	4.0	4	11	1.3	4	6	0.7	4
Tug-of-war	42	4.9	6	27	3.1	6	9	1.1	5	2	0.2	6
Volleyball	136	15.9	2	59	6.9	3	18	2.1	3	6	0.7	4

This provided BDF members with the opportunity to rejuvenate mentally and physically, especially in order to stay prepared for combat. It confirms the conclusion that recreation programs in military settings aim at providing varied programs of wholesome, constructive off-duty recreation and leisure opportunities that promote the mental, physical and social well-being of military staff and their families (Temple & Ogilvie, 2006).

#### **4.3.4 Personal satisfaction with level of physical activeness**

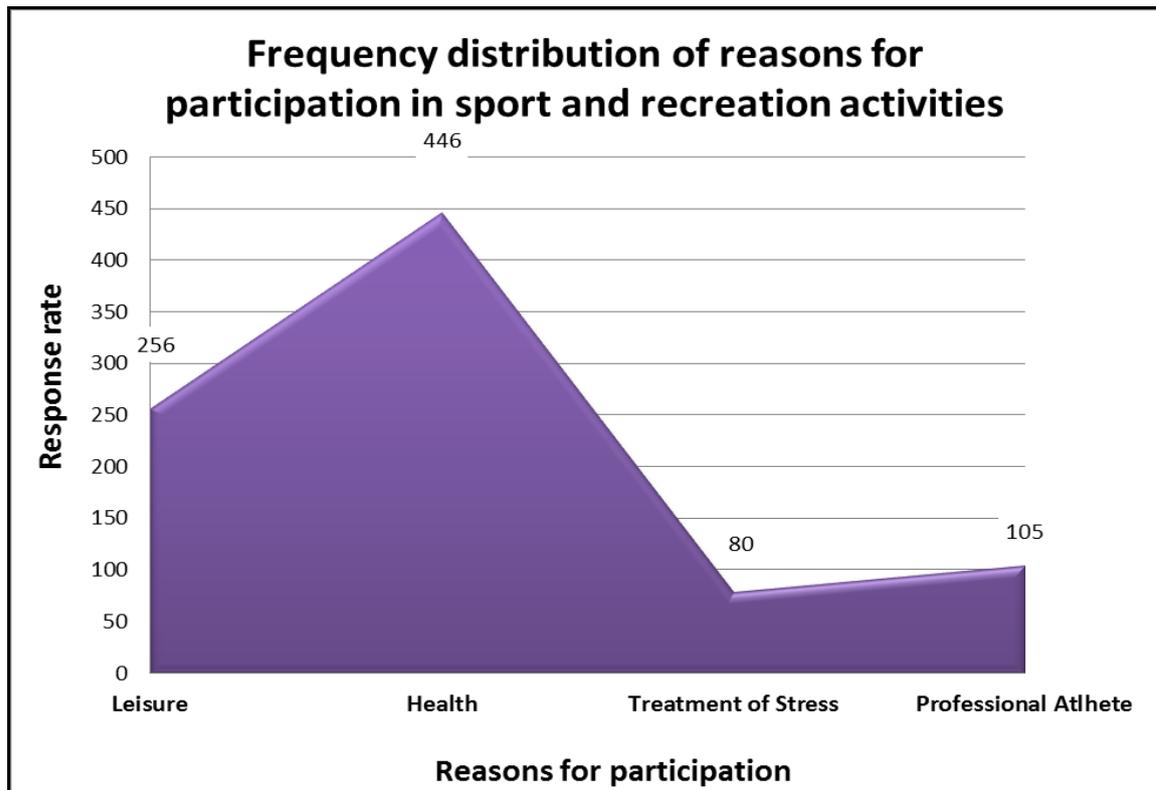
Previous findings established BDF members' interests in sport and recreation activities and reflected on their frequency of participation in these activities, addressing the first objective of this study. It was however, necessary to inquire whether the members were satisfied with their sport and recreation participation, in so far as it could contribute to their mental and physical well-being, was embedded in their entire lifestyle, and led to general satisfaction (Miller & Foster, 2010). Exploring their satisfaction with the level of physical activity offered would thus partially address the second objective of this study by measuring psychological well-being. The respondents were therefore asked to rate their general satisfaction with the level of participation in sport and recreation activities. Five hundred and eighty-eight (71.7%) recorded that they were 'satisfied to extremely satisfied', 160 (18.7%) indicated that they had 'mixed feelings', while only 82 (10.0%) said that they were 'dissatisfied to extremely dissatisfied'. Twenty-seven (n=27; 3.2%) respondents did not indicate their level of satisfaction with their participation in physical activities.

The results suggested that BDF staff members were satisfied with their level

of physical activity and as a result appeared to be physically and psychologically well, supporting the studies of Miller and Foster (2010).

#### **4.3.5 Reasons for participation**

The researcher explored the reasons for engaging in sport and recreation activities. It was found that Botswana Defence Force members mainly took part in activities either for their own personal health and wellbeing (n=448, 52.3%) or for leisure and relaxation (n=256, 29.9%) (Figure 4.2, p. 222). Fewer members participated in sport and recreation to relieve stress (n=80; 9.3%) or to become professional athletes (n=105; 12.3%). The results confirmed the findings in section 4.4.3 (p. 228) of this chapter, that BDF staff members engaged in sport and recreation activities for recreational purposes, partially rejecting  $H_0$  (1), with the personal benefit of living a healthy lifestyle. The second part however, of the first hypothesis [ $H_0$  (1)] was confirmed, as it was found that members did not participate in sport or recreation activities in order to treat or relieve stress. These findings are supported by studies of Daly and Kunstler (2006), Caldwell (2005), and Haworth and Lewis (2005), emphasizing the importance of participation in physical activities for optimal health and well-being and in effect shows that military staff at the BDF attempted to live healthy lifestyles which, as a result, may serve to protect them against stress.



**Figure 4. 2: Reasons for participation in sport and recreation activities**

#### **4.3.6 Sport and recreation services and facilities**

Botswana Defence Force members were found to be satisfied with the services provided under the sport and recreation activities listed in Tables 4.4 (p. 213) and 4.5 (p. 213). They were asked to grade the services on a scale from 1 to 4 (1=excellent, 2=good, 3=poor and 4=bad). Seventy-nine (n=79; 9.2%) said that the services provided were 'excellent', 617 (72.0%) described them as 'good', 112 (13.1%) said they were 'poor', while 24 (2.8%) rated them as 'bad'. Six hundred and seventy-two (78.4%) respondents were of the opinion that most of the sport and recreation activities required some level of instruction, with only 156 (18.2%) claiming that no level of instruction was

needed, and 29 (3.4%) failing to respond to this question.

Only 768 respondents graded the level of instruction provided on a scale from 1 to 4 (1=excellent, 2=good, 3=poor and 4=bad). In general, the responses were favourable about the level of instruction provided. One hundred and thirty-one of the respondents (n=131, 15.3%) rated the instruction as 'excellent', 501 (58.5%) described it as 'good', 119 (13.9%) as 'poor', and 17 (2.0%) as 'bad,' with 89 (10.4%) failing to respond.

Six hundred and thirty-three (n=633; 73.9%) indicated that they took part in activities primarily at their base camps, with only 124 (14.5%) making use of local clubs and 125 (14.6%) using the local sport fields. Respondents were also requested to grade base camp facilities on a scale from 1 to 4 (1=excellent, 2=good, 3=poor and 4=bad). The facilities were graded positively, with 76 (8.9%) saying they were 'excellent', 507 (59.2%) saying they were 'good', 214 (25.0%) describing them as 'poor', and 31 (3.6%) as 'bad', with 29 (3.4%) not responding.

The results thus indicated that the services provided and the instruction related to sport and recreation activities at base camps were satisfactory and of an acceptable standard. The results further showed that activities were mostly participated in at the different base camps and that the facilities were in good condition, contradicting the study of TUT (2006). It must be deduced that the facilities were upgraded since the TUT (2006) study, and that training

was given to instructors and coaches to provide a satisfactory service to the military community.

Sport and recreation facilities at base camps are part of the workplace environment in military settings. Workplace safety (Randolfi, 2004) contributes to stress reduction. Well managed and maintained facilities and services ensure that military staff feel safe in engaging in activities. It is postulated that BDF strives to provide a hazard- and stress-free environment for staff members in which to enjoy physical activities.

This section (4.3) concludes results related to sport and recreation participation behaviour of BDF members. The responses to sport and recreation participation as they relate to stress responses will be addressed in section 4.4 of this chapter.

#### **4.4 STRESS**

Rego and Cunha (2008) state that military organizations can be a source of meaning and growth for people, building a sense of purpose, self-determination, impact, competence, belonging, meaning and enjoyment, rather than leading to psychological suffering or feelings of alienation. Nevertheless, military work is regarded as society's most stressful occupation (Louw & Viviers, 2010). Stress in the military is multi-dimensional, affecting a soldier mentally, emotionally, socially and spiritually (Nash, 2007; Bartone, 2006; Bartone, 2005), and can cause occupational ill-health if not managed

efficiently (Sieberhagen, Rothmann, & Pienaar, 2009). In this respect, the Botswana Defence Force is no different from other military forces. It was important therefore to determine whether BDF staff members were stressed or not, and to determine how stress affected their psychological well-being and behaviour. In this section the researcher addressed the second objective of the study: to determine Botswana Defence Force staff members' perceived and actual stress levels and overall psychological well-being, as well as dysfunctional behaviours (e.g. alcohol abuse, drug or other mood-altering drugs, aggressiveness, sleeplessness) as a result of their perceived and/ or actual stress. This section will further test the second hypothesis ( $H_02$ ), as stated in the introduction, making use of inferential statistics.

#### **4.4.1. Traumatic life experiences**

The Botswana Defence Force members were asked to indicate whether they had experienced any traumas in life. Only 217 (26.8%) of respondents said that they had experienced traumas. They were asked to list the traumas they had suffered and to classify them as either military or civilian. One hundred and sixty-seven ( $n=167$ ) traumas were listed. It was anticipated that BDF staff members would only have been exposed to traumatic life experiences relating to the military, however, 125 of the traumas listed related to civilian events, compared to only 42 from military situations.

The civilian traumas listed were of a more severe nature than military experiences, including death or illness of family members, personal health problems, financial responsibilities and marital problems, to witnessing road deaths, being the victim of crime, witnessing a murder, or being the victim of sexual assault during childhood. In the military, civilian traumas are referred to as external stressors, and the findings echoed the literature in referring to social problems in Botswana as leading to extended families, financial and emotional stress, problems with interpersonal relationships, abusive relationships, death in the family, and illness at home (Miller & Rasmussen, 2010; Killion et. al., 2009; Luis Gaviria & Associates, 2008; Nash, 2007; Siyanqoba Seminars, 2007; Osei-Hwedie, Ntseane, & Jacques, 2006; Van der Merwe, 2004; Heinecken, 2003; Schlebusch, 2000).

From the responses of BDF members, it became clear that soldiers were often recruited into the military already with personal stressors which could lead to their loyalty being divided between the BDF and their families back home (Nash, 2007). This could distract both the soldiers and their leaders from performing their work optimally (Killion et.al., 2009; Dolan & Ender, 2008).

The military traumas listed were classified into three groups: military training, operational military activities and working conditions. Traumas related to operational military activities were more prevalent amongst BDF members than traumas related to military training and working conditions. Possible

traumatic experiences during military training sessions included friends being killed, being severely injured, and inhumane treatment by supervisors. Operational military activities causing trauma included border post control and war experiences, anti-poaching activities, being chased or assaulted by illegal immigrants, becoming stuck in a river during a military mission, military engagements in Somalia and Mozambique, car accidents while on duty, close encounters with wild animals while standing guard at border posts, and extended operations away from home. The experience of anti-poaching operations, including the killing of poachers (human carnage), were traumatic for the respondents. Unfair treatment by supervisors and verbal assaults by seniors during both operational and non-operational work were also perceived as traumatic. These results corresponded with the traumatic and stressful military experiences classified by Nash (2007) and Bartone (2006, 2005) in Chapter 2, confirming that the BDF was no different from other military forces.

#### **4.4.2. Social support**

In relation of traumatic events discussed in section 4.4.1 (p.225), respondents were asked to indicate whether they felt supported by their families and/or friends during such traumatic experiences. Ekblad (2002) and Hovens and Drozdek (2002) noted that social support from family and friends played an important role in dealing with trauma/s. Dolan and Endler (2008) further noted that junior ranked officers specifically made use of social support to help them in coping with military stress. However, of the 444 BDF members who responded to the question, 284 (63.9%) said that they had not received any

social support from family or friends, while only 160 (36%) of the respondents had been given social support by family and friends.

From the responses it became clear that, in general, many BDF members did not receive any social support from their family or friends. This in itself could be traumatic and stressful to soldiers who did not feel supported, especially if the traumas were of a more personal nature and directly involved their families. Social support as it specifically relates to the stress responses of BDF members will be addressed later in this chapter.

#### **4.4.3. Life satisfaction**

Life satisfaction is embedded in the multi-dimensional state of wellness, including psychological well-being, often perceived as happiness and satisfaction, and the morale of employees, leading to job satisfaction and reduced stress (Miller & Foster, 2012; Bagne-Walsh, 2008; Rego & Cunha, 2008; Evans, 2003). Botswana Defence Force members were asked to indicate their general satisfaction with life. Most were quite satisfied with life, with 373 (45.5%) indicating that they were 'satisfied to extremely satisfied', 337 (41.1%) saying that they had 'mixed feelings', and 110 (13.4%) claiming that they were 'dissatisfied to extremely dissatisfied'. Thirty-seven (4.3%) failed to give a response. In general, it could be deduced from BDF members' responses that they were psychologically well, had a high morale, and were thus satisfied with their jobs and able to cope with stress. Further analysis specifically to compare the effect on life satisfaction with stress responses will

be discussed later in the chapter.

#### **4.4.4. Stress responses**

Patel (1991) and Schlebusch (2000) were of opinion that the assessment of stress is based both on how a person experiences stress and how he or she perceives the stress, and that the specific situation causing the stress should be investigated. Stress levels of BDF members were explored by asking respondents to indicate if they perceived they were stressed or not (referred to as perceived stress). The Holms and Rahe Stress Inventory (1967), as discussed later in the chapter, was used to measure their actual level of stress by means of cumulative scores (referred to as actual stress scores). Three hundred and ninety-nine (51.4%) respondents perceived that they had experienced stress and 378 (48.6%) that they had not experienced stress, confirming the statement of Patel (1991) and Schlebusch (2000).

Perceived stress responses were categorized into personal stressors and occupational stressors by the researcher. Personal stressors varied from financial management problems to physical and psychological problems. In some cases, physical conditions, such as sexual problems, were related to health conditions. Mental health or psychological problems included: the inability to achieve personal goals or the expectations set by family members; poor communication and social skills; loss of family members or loved ones; extended family responsibilities; marital problems; personal concerns; lack of educational development; alcohol abuse; lack of interest in life; low self-

esteem; loneliness; emotional outbursts leading to physical abuse; lack of resources; and being a victim of crime.

Occupational stressors in the military context included extended duties or long working hours without breaks; poor working conditions; doing duty at difficult border control posts; lack of sleep due to extended duties; poor accommodation; poor nutrition; poor transport; excessive training and exercise, lack of training and exercise; supervision of soldiers by higher ranking staff members; intolerant supervisors, using undermining, abusive or vulgar language; poor management; lack of psychological support in the workplace; missing loved ones; concern over houses or cattle posts being unattended; deployments or transfers; not being rewarded or promoted, and low salaries contributing to financial stress and the inability to take care of families.

The respondents were also asked to complete the stress inventory of Holms and Rahe (1967). This consisted of a list of positive and negative life-changing events. They were asked to indicate if such events had occurred during a period of two years prior to the completion of the survey. These life-changing events are also referred to as Life Change Units (Holms & Rahe, 1967), with standardized weighted scores allocated to each life-changing event, as explained in Chapter One. Cumulative scores (actual stress scores) were categorized into low, moderate or high levels of stress. Total scores between 0-149 indicated those BDF members who were less likely to suffer

the effects of cumulative stress (low level of stress); total scores between 150 – 299 indicated members who might suffer from chronic stress (moderate level of stress), and scores over 300 indicated those who might experience some detrimental effects of cumulative stress (high level of stress). Seven hundred and eighty-four (91.5%) respondents completed this section (Holms and Rahe Stress inventory) of the questionnaire. A substantial number of the respondents, 508 (64.8%), scored 300 and more, indicating high levels of stress or chronic stress; 196 (25.0%) scored between 151-300, putting them at risk of chronic stress, depending on their perceptions of separate events and their coping mechanisms, while only 80 (10.2%) scored below 150, suggesting a relatively low level of risk of chronic stress. From the actual stress scores obtained from the stress inventory of Holms and Rahe (1967), it can be deduced that the majority of the BDF members suffered from high levels of stress.

In screening the responses to each of the specific life-changing experiences, those experiences listed in the Holms and Rahe Stress Inventory with a response rate of  $\geq 50\%$  were listed in order of priority, and is presented in Table 4.8 (p. 233). The five highest ranked life-changing experiences were change in financial state (n=582; 67.9%), death of close family member (n=547; 63.8%), change to a different line of responsibilities (n=526; 61.4%), change in living conditions (n=520; 60.7%), and outstanding personal achievement (n=508; 59.3%). The stressors were not all negative in nature; for example, change in line of responsibility, although added responsibilities

could be stressful in terms of performance.

According to Table 4.8 (p. 233) the category of the five least stressful life-changing experiences referred to acts of terrorism (n=81; 9.5%), war circumstances (n=80; 9.3), jail term (n=53; 6.2), marital separation (n=45; 5.3%) and divorce (n=35; 4.1%). War circumstances and acts of terrorism were thought to be important in the military environment and a higher response rate was expected. The reason for this is that the literature (Nash, 2007; Bartone, 2006; Bartone, 2005) mainly reflects on military stressors as either operational or non-operational as they relate to the military environment, with external stressors (personal stressors) treated as secondary to military stressors and not gaining much attention. The results could further be related to the demographic profile of the respondents as only a few respondents indicated their marital status as cohabiting, separated, divorced or widowed (Table 4.2, p. 207) resulting in low response rates to marital separation and divorce as stressful life events. Military demographics further indicated that 347 (40.5%) BDF members have never before been deployed and thus could not have experienced war or acts of terrorism.

**Table 4. 8: Response rate to life-changing events  $\geq 50\%$**

<b>Life-changing events</b>	<b>n</b>	<b>%</b>
1. Change in financial state	582	67.9
2. Death of close family member	547	63.8
3. Change to different line of responsibilities	526	61.4
4. Change in living conditions	520	60.7
5. Outstanding personal achievement	508	59.3
6. Personal injury or illness	495	57.8
7. Change in working hours or conditions	474	55.3
8. Death of a close friend	464	54.1
9. Revision of personal habits	453	52.9
10. Change in sleeping habits	440	51.3

The results from this section on 'stress responses' confirm that BDF members do experience stress, thus contradicting  $H_0$  (2), which states that BDF members do not experience stress. Stressors experienced by BDF members relate to social, financial and emotional conditions. These stressors are experienced by the majority of the population in Botswana, who are still in need of financial assistance and in many cases depend on social welfare. This need for social welfare was established as a result of extended families caused by the death of family members, whether from natural causes, chronic illnesses such as HIV/Aids, or motor car accidents (Osei-Hwedie, Ntseane, & Jacques, 2006; Heinecken, 2003). Military staff are often burdened with additional responsibilities and obligations beyond military work that are already stressful. These challenges, both personal and military, cannot be removed, reinforcing the need for skills training. BDF members need to be

prepared to respond to and recover from these challenges, and continue functioning to build resilience and military hardiness (Dolan & Ender, 2008; Harrison, Sharpley & Greenberg, 2008; Bartone, 2006; Borders & Kennedy, 2006; Eid, 2006; Hourani, Williams, & Kress, 2006).

Further analysis is needed to determine whether any relationship exists between the stress responses of BDF members and other variables, as the findings confirmed that BDF members did experience stress. In subsequent paragraphs the difference between BDF members' perceived stress responses and their actual stress responses will be analysed. Stress would then be measured by looking at relationship between demographic responses, responses to life factors which contribute to stress and coping with such stress (i.e. life satisfaction, social support, traumatic life experiences), sport and recreation participation responses, work environment responses, and responses to symptoms of physical, psychological or behavioural reactions to stress.

#### **4.4.5. Significance between perceived stress and actual stress scores**

In the previous section, the findings confirmed the statement of Patel (1991) and Schlebusch (2000) that stress is based on how a person both perceives stress and experiences stress. The relationship between perceived stress and actual stress scores, reported under the section on stress responses (section 4.4.4, p. 229), was tested using cross-tabulations (Table 4.9, p. 235) and the independent t-test to test significance of the difference between perceived

stress and actual stress. A total of 709 responses were observed in the cross-tabulation (Table 4.9, p. 235). Three hundred and fifty-eight (50.5%) BDF members perceived that they had experienced stress, the majority (n=280; 39.5%) showing that they had high levels of stress. An interesting observation emerged from the cross-tabulation, as it was expected that respondents who perceived that they had no stress might have low levels of stress. No association however, was found between low stress scores and perceived stress, especially between low stress scores and BDF members who perceived that they were not stressed. The data further revealed that 201 (28.3%) of the 310 (43.7%) respondents who perceived that they were not stressed, actually had high levels of stress. This indicated that stress could not be measured simply on the basis of perceptions and experiences, and that military staff should be thoroughly assessed to determine their stress levels and the causes of their stress.

**Table 4. 9: Cross-tabulation between perceived stress and actual stress**

Actual stress	Perceived stress						Total	
	Yes		No		Missing responses			
	n	%	n	%	n	%	n	%
Low stress	0	0	0	0	0	0	0	0
Moderate stress	78	11.0	109	15.4	12	1.7	199	28.1
High stress	280	39.5	201	28.3	29	4.1	510	71.9
<b>Total</b>	<b>358</b>	<b>50.5</b>	<b>310</b>	<b>43.7</b>	<b>41</b>	<b>5.8</b>	<b>709</b>	<b>100</b>

An independent-samples t-test was conducted to compare the significant difference ( $p \leq 0.05$ ) between actual stress scores and the perceptions of the respondents. A highly significant difference ( $t=5.270$ ;  $p=0.000$ ) was found between actual stress scores and perceived stress. The results suggested that there was a difference between how stresses were perceived and the actual stress experienced by BDF members, contradicting  $H_0$  (2) which holds that there is no relationship between actual stress and perceived stress. These results confirmed the observation emerging from the cross-tabulation that stress cannot be measured only on the basis of perceptions and experiences, and that the context and history of the situation will influence the stress experience (Sutherland & Cooper, 2000). The results further supported Bartone's findings (2005), implying that it was necessary to understand stress, the stressors experienced by soldiers and the context causing the stress in order to address concerns relating to BDF members' health, well-being and job effectiveness.

#### **4.4.6. Relationship between stress and the demographic profile of respondents**

The relationship between stress responses and the demographic profile of respondents was tested. The findings reflected both the respondents' demographics and the military demographics.

#### **4.4.6.1 Demographic profile of respondents**

The data of the demographic profiles of the respondents as they related to stress were tested in terms of age, marital status, education, spirituality and religion. Each data set will now be discussed individually.

##### **4.4.6.1.1 Actual stress responses and age groups**

Bartone (2005) and Nash (2007) found younger soldiers to be more vulnerable to stress in the military, as compared to more experienced soldiers, and it was therefore postulated that younger BDF staff members would be more stressed. ANOVA measures differences or similarities between two independent variables, indicating whether a variance exists among groups and testing for significance ( $p \leq 0.05$ ) (O'Neil, 2009; Pallant, 2005). ANOVA was therefore deemed appropriate to test for differences between actual stress scores and ages. ANOVA results indicated no significant difference was found between actual stress scores of the respondents and their different age groups ( $F=1.169$ ;  $p=0.320$ ) with  $p \leq 0.05$ . It was accepted that young soldiers in the BDF experienced stress no differently from more experienced soldiers, in contrast to the studies of Bartone (2005) and Nash (2007). The reason for this could be related to the type of stressors experienced by BDF members, in that the stressors were similar for all the members, irrespective of age.

#### **4.4.6.1.2 Actual stress responses and marital status**

Els (as cited by Sieberhagen, Rothmann & Pienaar, 2009:19) is of the opinion that good relationships with friends and family members contribute to good health. Conversely, Rahe, Mahan and Arthur (1970) identified the death of a spouse, divorce and marital separation as the three most stressful events in an individual's life, ranking them highest on the Holms and Rahe stress inventory scale used in this study. It was postulated that married BDF members who have good relationships with their spouses, and those who were single, would experience less stress than those who were divorced, separated or widowed. An ANOVA test was deemed appropriate to measure whether a difference existed between actual stress and marital status, testing for significance ( $p \leq 0.05$ ). A significant difference was found between actual stress scores of the respondents and their marital status ( $F=6.989$ ;  $p=0.001$ ) with  $p \leq 0.05$ . The results indicated a difference between actual stress and marital status, but ANOVA did not indicate where the difference was between these variables, necessitating further analysis making use of the independent-samples t-test for an exact comparison and significance between these variables.

Results of the independent-samples t-test indicated a highly significant difference between the scores of those who were single, versus those who were separated, divorced or widowed ( $t=-3.639$ ;  $p=0.000$ ), and those who were married or in a committed relationship, versus those who were

separated, divorced or widowed ( $t=-2.642$ ;  $p=0.009$ ) with  $p\leq 0.05$ . No significant differences were detected between the scores of those who were single and those who were married ( $t=-1.537$ ;  $p=0.125$ ), with  $p\leq 0.05$ . However, a difference was observed between the stress responses of those who were married or single and those who were separated, divorced or widowed. These results supported the findings of Rahe, Mahan and Arthur (1970) and confirmed that BDF members who were happily married and those who were single experienced less stress than those who were separated, divorced or widowed. This observation builds a strong case for using the Holms and Rahe Stress Inventory (1967) to measure stress as results confirm that marital separation is one of the most stressful life experiences as rated in the stress inventory.

#### **4.4.6.1.3 Actual stress responses and level of education**

Sutherland and Cooper (2000) specified stress experiences as the perception of the individual in relation to the familiarity of the circumstances, previous exposure, learning, level of education or training, reflecting the actual cognitive ability of the individual to interpret, treat or cope with stress. Education is also recognized as a factor to be considered in the stress experience of an individual and how stress is perceived (Sutherland & Cooper, 2000). The findings in section 4.2.1 (p. 205) indicated that BDF members were literate, confirming that education played an important role, not just in the selection of BDF members but also in the development staff

members (Republic of Botswana, 2008; Henk, 2004). It was therefore postulated that no difference would exist in the stress responses of BDF members and their different education levels, as it was assumed that they would have the cognitive ability to manage their stress. An ANOVA was used to test whether a difference existed between the actual stress scores and the different education levels. Findings indicated no significant difference in the actual stress scores of the respondents and their different levels of education ( $F=0.389$ ;  $p=0.678$ ) with  $p \leq 0.05$ . The results confirmed that no relationship existed between education and stress in contradiction to literature (Sutherland & Cooper, 2000) suggesting that education would affect the stress experience. Education however, is an important development tool and is used in therapeutic recreation services to assist people with illnesses, mental or physical disabilities, or other problems, to enhance their health, functional abilities, independence and well-being (McGhee, Groff & Russoniello, 2005), and should therefore be a focus area of the Therapeutic Recreation Stress Management Intervention Model.

#### **4.4.6.1.4 Actual stress responses and spirituality and religion**

Findings in section 4.2.1 (p. 205) indicated that BDF members were involved in spiritual and religious practices. According to Meyers and Bechtel (2004) and Drescher, Smith, and Foy (2007), spiritual practices, including religion, are the central, most important component of wellness and aid people in developing personal values and beliefs about meaning and purpose in life. Religious and spiritual practices have also been used in times of combat by

some cultural groups to override anxiety about death, as witnessed in suicide bombers (Fields, Elbedour & Hein, 2002). They have thus been used as a method of making people believe that they are acting to serve a bigger purpose.

Spirituality and religion were regrouped as two separate variables, assuming that BDF members might use these value and belief systems in military operational and non-operational duties, both of which could impact their levels of stress. These variables were tested to see if any difference existed between actual stress responses of BDF members and spirituality and religion respectively. An ANOVA was used in both cases to test for differences. No significant differences was observed between the actual stress scores of the respondents for stress and for spirituality ( $F=2.585$ ;  $p=0.108$ ) or actual stress scores and religion ( $F=1.021$ ;  $p=0.313$ ), with  $p \leq 0.05$ . It was accepted that there was no difference between the stress responses of BDF members and those for spirituality or religion, indicating that BDF members' stress levels were not affected or enhanced by their spiritual practices or religious beliefs during military duties, whether operational or non-operational.

#### **4.4.6.2 Military demographic profile and stress**

The data on the military profiles of the respondents as they related to stress were tested in terms of the different base camps, military force types, military rank and number of deployments. Each data set will now be discussed individually.

#### **4.4.6.2.1. Actual stress responses at the different base camps**

No literature was found on studies investigating stress as it related to different base camps of military forces in a specific country. It was however, deemed necessary to test whether any differences existed between the stress responses of BDF members from the different base camps. The BDF base camps focus on different commands, vary in size and are spread across various areas in Botswana (Republic of Botswana, 2008; Henk, 2004). An ANOVA was conducted to compare respondents' actual stress scores to the different base camps. No significant difference ( $F=0.982$ ;  $p=0.401$ ) was observed between actual stress scores of the respondents and the different base camps, with  $p \leq 0.05$ . The results indicated that there were no differences in BDF members' stress levels, irrespective of where they were based. Botswana Defence Force members thus experienced similar stressors at the different base camps.

#### **4.4.6.2.2. Actual stress responses and military force type**

No studies have been found indicating a difference in how soldiers from different military types experience stress. However, the BDF has nine different military force types, operating under three main military commands, the Ground Forces, Defence Logistics, and the Air Arm (Republic of Botswana, 2008; Dutch Aviation Society, 2006; Henk, 2004). Each of these military force types has different responsibilities and it was therefore deemed important to determine whether there was a difference between the actual stress responses of BDF members and their military force type. An ANOVA was

used to test if a difference existed between the actual stress scores and the military force types. No significant differences were found between actual stress scores and BDF members' different military force types ( $F=1.234$ ;  $p=0.276$ ) with  $p \leq 0.05$ . The results indicated that, although military responsibilities differed, subject to military force type, responsibilities did not affect how BDF members experienced stress. A soldier from one unit (force type) would thus have similar stress experiences to a soldier from another unit, irrespective of their military responsibilities.

#### **4.4.6.2.3. Actual stress responses and military rank**

Military leaders have a primary responsibility to look after the well-being of their soldiers and to motivate troops to engage in combat, in spite of all the grave dangers to their personal safety and the accompanying stress. A leader's greatest fear is of failing his or her troops and of the shame attending on such a failure (Nash, 2007). It was assumed that the higher the rank of military staff, the more stress they would experience, given their increased responsibilities. Actual stress responses of the BDF members were compared to their military rank to see if any difference existed. An ANOVA was employed to compare respondents' actual stress scores with responses to their military rank. A significant difference ( $F=2.102$ ;  $p=0.027$ ) was found between BDF members' actual stress scores and their military ranks, with  $p \leq 0.05$ . ANOVA did not indicate where differences existed between these variables, necessitating further analysis using the Least Significant Difference

(LSD) test to do a multiple comparison testing the pairwise differences of actual stress levels with different military ranks, with  $\alpha \leq 0.05$ .

Drawing on the results of the Least Significant Difference test, it was observed that a 1<sup>st</sup>/2<sup>nd</sup> lieutenant's' stress scores were significantly different from the stress scores of soldiers ( $p=0.005$ ), corporals ( $p=0.003$ ), staff sergeants ( $p=0.004$ ) and sergeant majors ( $p=0.025$ ), with  $p \leq 0.05$ . A significant difference also exists between warrant officers and staff sergeants ( $p\text{-value}=0.038$ ) and 1<sup>st</sup>/2<sup>nd</sup> sergeant majors ( $p=0.012$ ), with  $p \leq 0.05$ . First and second lieutenants and warrant officers experienced stress differently in comparison to other military ranks. These officers held middle ranks and suggested that with leadership, responsibilities changed, causing an increase in stress experiences among BDF members, corroborating the findings of Nash (2007).

#### **4.4.6.2.4. Actual stress responses and deployment**

Deployment is recognized as a workload stressor in the military, irrespective of the number of deployments, leaving a soldier feeling powerless, afflicted by long working hours and uncertainty as to the duration and location of the deployments (Bartone, 2006). Alexander and Klein (2009) claim that soldiers are faced with real physical and emotional threats/dangers and adverse experiences during deployments, which contribute to emotional stress. It was postulated in this study that there was no relationship between the stress responses of the Botswana Defence Force Members and the number of

deployments. An ANOVA was employed to compare respondents' actual stress scores with the number of deployments. A significant difference ( $F=4.813$ ;  $p=0.008$ ) emerged between the stress scores and the number of deployments experienced by BDF members, with  $p\leq 0.05$ . ANOVA did not identify where differences existed between these variables, so the independent-samples t-test was used to conduct further analysis.

The independent-samples t-test compared the relationship between the actual stress scores and the number of times respondents were deployed. A highly significant difference ( $t=-3.010$ ;  $p=0.003$ ) became evident between the actual scores of those who had never been deployed and those who had been deployed more than once, with  $p\leq 0.05$ . No significant differences however, were found between the actual stress scores of those who had never been deployed and those who had been deployed once ( $t=-0.490$ ;  $p=0.624$ ) or those who had experienced one deployment compared to those who had experienced more than one deployment ( $t=-1.752$ ;  $p=0.080$ ), with  $p\leq 0.05$ .

Actual stress scores were regrouped into categories of low stress, moderate stress and high stress, as indicated in section 4.4.4 (p. 229) of this chapter. Cross tabulations (Table 4.10, p. 246) and the Chi-square ( $\chi^2$ ) test were used to test if a relationship existed between the three stress categories and the number of deployments. The results showed that the majority of the respondents ( $n=494$ ; 60%) fell into the high stress score category. Botswana

Defence Force members however, who experienced more than one deployment had the highest stress responses (n=224; 27.2%), in comparison with the two other categories.

**Table 4. 10: Cross-tabulation between group stress scores and number of deployments**

Group stress scores	Deployments							
	None		One		More than one		Total	
	n	%	n	%	n	%	n	%
<b>Low stress</b>	62	7.5	21	2.6	55	6.7	138	16.8
<b>Moderate stress</b>	87	10.6	42	5.1	62	7.5	191	23.2
<b>High stress</b>	198	24.1	72	10.0	224	27.2	494	60.0
<b>Total</b>	347	42.2	135	16.4	341	41.4	823	100

There were 34 (4.0%) missing responses

In addition the Chi-square ( $\chi^2$ ) test was used to determine if there was a relationship between the categories of stress and the number of deployments. The results confirmed the existence of a relationship between those respondents who were highly stressed and the number of deployments ( $\chi^2=11.654$ ;  $p=0.020$ ), with  $p \leq 0.05$ . The results confirm that the BDF is no different from other military organizations, with deployment being an occupational stressor and a stressful experience for military staff. In contrast with Bartone (2006), however, who found that all the deployments were stressful, irrespective of the number of deployments, it was found that stress

increased with the increase in the number of deployments undergone by BDF members. More research is suggested to explore the reasons for soldiers experience stress differently during their first deployment compared to when they have been deployed more than once.

#### **4.4.7. Stress and satisfaction with level of physical activity**

Bhoodram (2001) found that healthy lifestyle changes could lead to a reduction in stress levels and contribute to the physical health of an individual. Botswana Defence Force members had the opportunity to participate in sport and recreation activities as confirmed by the results in section 4.3 (p. 211) indicating access and opportunity to programs and facilities. The results further confirmed that BDF members were satisfied with their level of participation. One of the benefits of therapeutic recreation is the personal and life satisfaction embedded in leisure participation, which can offer protection against stress (Daly & Kunstler, 2006; Caldwell, 2005). Satisfaction with physical activity suggests that soldiers are intrinsically motivated by their experiences, showing competence and self-determination (Stumbo & Peterson, 1998). Satisfaction with physical activity could therefore be used in the process of evaluating a therapeutic recreation intervention (Long, 2008). The rationale behind the statement of Long (2008) rests on the importance of choosing activities related to the needs of participants and especially to their interests in activities in which they can show competence. It is argued that it could contribute to achieving the goal of interventions resulting in healthy lifestyle changes and the reduction of stress (Williams, 2008, Daly & Kustler, 247

2006; Freeman 2006; Bhoodram, 2001). It was thus important to determine if a relationship existed between the actual stress responses of BDF members and satisfaction with their level of physical activity. The results could be used firstly to determine if satisfaction with the level of physical activity would affect a persons' stress experience and secondly to determine if it could form part of the evaluation process of the Therapeutic Recreation Stress Management Intervention Model. Satisfaction with the level of physical activity was tested in terms of perceived stress and the actual stress scores, which will be discussed below.

#### **4.4.7.1. Perceived stress and satisfaction with level of physical activity**

Responses to perceived stress were compared to responses to satisfaction with physical activity, in order to determine if a relationship existed between these variables. Satisfaction with physical activity was regrouped from the original scale (extremely dissatisfied, very dissatisfied, mixed, satisfied, very satisfied and extremely satisfied) into categories of 'dissatisfied', 'mixed' and 'satisfied'. The relationship between these variables was tested by making use of cross tabulations and the Chi-square ( $\chi^2$ ) test. It was observed that participants who perceived that they were stressed were satisfied with their level of physical activity while those who perceived that they were not stressed were also satisfied with their level of activity. Of those respondents who perceived they were stressed, 63 (8.3%) were dissatisfied with their level of physical activity, 97 (12.7%) had mixed feelings about their satisfaction with their level of physical activity, and 230 (30.0%) were satisfied with their level

of physical activity. Those who indicated they were not stressed were more satisfied with their level of physical activity (n=307; 40.0%), with fewer indicating they had mixed feelings (n=49; 6.4%) with only 15 (2.0%) indicating that they were dissatisfied with their level of physical activity.

Significance was tested between perceived stress and satisfaction with the level of physical activity using Chi-square ( $\chi^2$ ) test. The results confirmed that there was a highly significant relationship between perceived stress and satisfaction with physical activity ( $\chi^2=55.921$ ;  $p=0.000$ ), with  $p\leq 0.05$ . Results indicated that those respondents who perceived they were not stressed were more satisfied with their level of physical activity than those who perceived that they were stressed. The findings confirmed that BDF members were intrinsically motivated and are living a healthy lifestyle which could contribute to them not perceiving stress and could even protect them against experiencing stress (Williams, 2008, Daly & Kustler, 2006; Freeman 2006; Bhoddram, 2001; Stumbo & Peterson, 1998). Satisfaction with physical activity could be a useful further area to include in the evaluation of a therapeutic recreation intervention pursuing the goal of reducing perceived levels of stress (Long, 2008).

#### **4.4.7.2. Actual stress scores and satisfaction with level of physical activity**

An ANOVA was used to test the difference between respondents' actual stress scores and their satisfaction with the level of physical activity. A significant difference was found in the stress scores of respondents and their

satisfaction with the level of physical activity ( $F=7.060$ ;  $p=0.001$ ), with  $p\leq 0.05$ . ANOVA did not identify differences between these variables, so an independent-samples t-test was used to conduct further analysis.

The independent-samples t-test was conducted to compare the relationship between the actual stress scores and the satisfaction of level of physical activity scores of respondents. There was a highly significant difference between scores of those respondents who were dissatisfied and those who were satisfied with their level of physical activity ( $t=2.824$ ;  $p=0.005$ ), as well as those who had mixed feelings and those who were satisfied with their level of physical activity ( $t=3.033$ ;  $p=0.003$ ), with  $p\leq 0.05$  in both cases. The results suggested that a difference existed between the stress levels of BDF members who were satisfied with their level of physical activity and those who were either dissatisfied or had mixed feelings about their level of physical activity. There were no significant differences between the scores of those who were dissatisfied and those who had mixed feelings about their level of physical activity ( $t=0.359$ ;  $p=0.720$ ) with  $p\leq 0.05$ . This indicated that there was no relationship between the stress scores of those participants who were dissatisfied or had mixed feelings about their level of physical activity.

Based on the actual stress scores of respondents, the results imply that the less stress soldiers experienced, the more satisfied they were with their level of physical activity. Findings in this regard related to Bhoodram's (2001)

findings indicated that healthy lifestyle changes might lead to a decrease in stress levels. It further supported the literature showing that BDF members with lower stress levels were intrinsically motivated to participate in sport and recreation activities, and were satisfied with their physical lifestyle, leading to improved health, wellness and a reduction in stress (Williams, 2008, Daly & Kustler, 2006; Freeman 2006; Bhoodram, 2001; Stumbo & Peterson, 1998). As was stated in 4.4.7.1 (p. 248) regarding perceived levels of stress, satisfaction with physical activity would be a useful further area to include in the evaluation of a therapeutic recreation intervention pursuing the goal of reducing actual levels of stress (Long, 2008).

#### **4.4.8. Actual stress and frequency of participation in physical activities**

Frequent participation in sport and recreation activities as part of a recreation intervention is seminal to the success of interventions, fostering a lifelong, satisfying leisure lifestyle and contributing to stress reduction (Miller *et al.*, 2009; Daly & Kunstler, 2006). The actual stress scores of BDF members were therefore related to the frequency of participation in sport and recreation activities. An ANOVA was used to compare actual stress scores with responses to frequency of participation in sport and recreation activities on an annual and weekly basis. No significant difference between the actual stress scores of the respondents and frequency of participation annually ( $F=0.785$ ;  $p=0.502$ ) or frequency of participation weekly ( $F=0.332$ ;  $p=0.718$ ), with  $p \leq 0.05$ , was found. It was therefore deduced that frequency of participation in physical activities does not influence the actual stress score.

As no differences were detected between stress and frequency of participation in sport and recreation activities, frequency participation does not seem to be important to BDF staff members. This could become problematic in the treatment of stress, as frequency and intensity of inclusion of activities are crucial to planning therapeutic recreation interventions (Miller *et al.*, 2009; Daly & Kunstler, 2006). Frequent participation in sport and recreation activities should therefore be emphasized and incorporated when implementing the Therapeutic Recreation Stress Management Intervention Model for military staff of the Botswana Defence Force.

#### **4.4.9. Actual stress and traumatic life experiences**

Greenberg, Langston and Scott (2006) state that military duties are associated with an increase in the potential for traumatic experiences which could cause stress. Miller and Rasmussen (2010) support Greenberg's *et. al* (2006) statement, confirming trauma as the direct result of exposure to military events such as violence and the destruction of war. Miller and Rasmussen (2010) further claim that daily stressors often include traumatic experiences which are not directly related to armed conflict or military operations. These traumatic life events could cause psychological injury, leading to mental and emotional stress (Gallimore, 2002; Philpot, 2006; Uhaň, Kovač, Muhvič-Urek, Kovačević, Frančičković & Šimunović-Šoškić, 2006). Failure to manage such stressors could impact negatively on employee wellness and job satisfaction (Renwick, 2009). Botswana Defence Force members indicated that they had experienced traumatic life events (section

4.4.1, p. 225) and listed events in their personal lives as well as in the military environment. It was postulated however, that BDF members's actual stress levels were not related to the traumatic life events they experienced. Traumatic life events as they relate to actual stress scores and perceived stress scores will be discussed separately.

#### **4.4.9.1. Actual stress and traumatic life events**

Actual stress scores were divided into two groups: those who experienced stress (scores  $\geq 150$ ; moderate and high stress levels) and those who did not experience stress (scores  $\leq 150$ ). The relationship between regrouped actual stress scores and traumatic life experiences was tested using a cross-tabulation (Table 4.11, p. 254). Only 217 (25.3%) of the respondents admitted that they had experienced some life traumas; of these, 194 (22.6%) experienced stress while 23 (2.7%) did not experience stress.

Further analysis was conducted using the independent-samples t-test to compare the relationship between actual stress and traumatic life experiences. A highly significant difference ( $t=4.843$ ;  $p=0.000$ ) was found between the actual stress scores and traumatic life experiences, with  $p \leq 0.05$ . The results confirmed that traumatic life experiences were related to those respondents who experienced stress, thus supporting the studies of Greenberg, Langston and Scott (2006) and Miller and Rasmussen (2010).

**Table 4. 11: Cross-tabulation between regrouped actual stress scores and traumatic life experiences**

Actual Stress	Traumatic life experiences							
	Yes		No		Missing responses		Total	
	n	%	n	%	n	%	n	%
Yes	194	22.6	486	56.7	29	3.4	709	82.7
No	23	2.7	108	12.6	17	2.0	148	17.3
<b>Total</b>	217	25.3	594	69.3	46	5.4	857	100.0

#### 4.4.9.2. Perceived stress and traumatic life experiences

Responses to perceived stress were compared to responses to traumatic life experiences using cross tabulations and the Chi-square ( $\chi^2$ ) test. Respondents who perceived that they were stressed also had the highest response rate for traumatic life experiences (n=143; 19.2%), in contrast to those who did not perceive stress (n=51; 6.8%).

Significance ( $\alpha \leq 0.05$ ) was tested between perceived stress and traumatic life experiences using the Chi-squared ( $\chi^2$ ) test. The results confirmed a relationship between perceived stress and traumatic life experiences ( $\chi^2=54.745$ ;  $p=0.000$ ), with  $p \leq 0.05$ . It was therefore accepted that a relationship existed between perceived stress and traumatic life experiences. The results confirmed that BDF members who experienced trauma also experienced stress, supporting the findings of Greenberg, Langston and Scott (2006) as well as Miller and Rasmussen (2010).

Findings in sections 4.4.9.1 (p. 253) and 4.4.9.2 (p.254) confirmed that a relationship exists between perceived stress and actual stress scores of BDF members and experienced traumatic life events. It was therefore deduced that BDF member's stress, irrespective of perceived stress or actual stress levels, were influenced by the experienced traumatic life events confirming the findings of Greenberg et.al (2006) as well as Miller and Rasmussen (2010)

#### **4.4.10. Actual stress and social support**

The social support provided by family members and friends is regarded as an important factor influencing the stress levels of an individual after experiencing a traumatic event (Ekblad, 2002; Hovens & Drozdek, 2002). Social support enhances a sense of belonging and self-efficiency, helping the individual to cope with stress (Dolan & Ender, 2008). Hourani, Williams and Kress (2006) found a strong relationship between high levels of occupational stress and personal stress among young soldiers who were separated from their families, often leaving them feeling lonely and socially isolated. Younger soldiers tended to be more vulnerable than older soldiers who had more experience of being away from home (Bartone, 2005; Nash, 2007). Iwasaki et.al (2002) also suggested that people who worked in high-risk occupations, such as the police, emergency services and the military, often made use of leisure to escape temporarily from stress and to socialize with others, gaining support which enhanced their mental health. It was postulated that stress levels of BDF members might not be related to the social support they received from their family members and friends. An independent-samples t-

test was therefore conducted to compare the relationship between the actual stress scores and the social support BDF members had from their family members and friends.

Results suggested that there was no relationship between the actual stress scores and social support provided by family members or friends ( $t=0.791$ ;  $p=0.429$ ), with  $p \leq 0.05$ . This contradicts findings of Hourani, Williams and Kress (2006), who found a strong relationship between occupational stress and family stress among young soldiers who were separated from their families. Botswana Defence Force members were unable to depend on the social support of family members during stressful events, since they were based too far from their families, who often lived in small settlements, such as in the Kalahari Desert (Mokgwathi, 1999). Instead, they had to depend on the social support from military peers and supervisors in their base of deployment.

#### **4.4.11. Stress and life satisfaction**

Miller and Foster (2010) found that there was a relationship between mental health and life satisfaction. Stress affects a person's mental health, which in turn affects his or her satisfaction with life. It was postulated that soldiers who were stressed would have lower levels of satisfaction with life than those who were not stressed. The responses to perceived stress were therefore compared to the responses to life satisfaction. Life satisfaction was regrouped from the original scale (extremely dissatisfied, very dissatisfied, mixed, satisfied, very satisfied and extremely satisfied) into categories 'dissatisfied',

`mixed' and `satisfied'. The relationship between these variables was tested using cross tabulations and the Chi-square ( $\chi^2$ ) test.

From findings presented in Table 4.12 (p. 257) it was observed that BDF members who perceived they were not stressed (n=213; 28.3%) were more satisfied with life than those who perceived that they were stressed (n=128; 17.0%). Significance ( $\alpha \leq 0.05$ ) between perceived stress and life satisfaction was tested using the Chi-square ( $\chi^2$ ) test. The results further confirmed that a relationship existed between life satisfaction and stress ( $\chi^2=54.998$ ;  $p=0.000$ ), with  $p \leq 0.05$ , indicating that BDF members who were satisfied with their life had lower stress levels. These findings corroborate findings of Miller and Foster (2010), indicating that satisfaction with life promoted mental health which included reduced stress.

**Table 4. 12: Cross-tabulation between perceived stress and life satisfaction**

Perceived stress	Life satisfaction							
	Satisfied		Mixed		Dissatisfied		Total	
	n	%	n	%	n	%	n	%
Yes	128	17.0	184	24.5	74	9.8	386	51.3
No	213	28.3	128	17.0	25	3.3	366	48.7
Total	341	45.3	312	41.5	99	13.1	752	100

There were 105 (12.3%) missing responses

#### **4.4.12. Symptoms of physical, psychological and behavioural reactions to stress**

It became evident from the literature that stress causes symptoms of physical, psychological and behavioural stress reactions and that these symptoms are interrelated. If these symptoms are not addressed, they can lead to poor health and performance that could be detrimental to a soldier preparing for military missions (Pflanz & Ogle, 2006; Hourani, Williams & Kress, 2006; Schlebusch, 2000; Sutherland & Cooper, 2000; Cooper & Straw, 1998; Patel, 1991). The researcher deemed it necessary to determine which of these symptoms occurred most frequently among members of BDF in order both to address the symptoms and to develop a healthier, stress-free lifestyle. Each of these symptoms will be addressed separately in subsequent paragraphs.

##### **4.4.12.1. Symptoms of physical reaction to stress**

The General Adaptation Syndrome Theory (GAS) states that stress produces a definite series of reactions in the body (Dolan, 2007, Smith, 2011; Cox, 1978). Fieldman (1999) and Sutherland and Cooper (2000) believed that continuous exposure to stress and the constant release of stress-related hormones reduce the body's overall level of biological functioning, making the person more vulnerable to medical conditions. Studies conducted by Nissen, Marott, Gyntelberg and Guldager (2011) and by Hodge *et al.* (2007), reported multiple physical symptoms related to increased psychological discomfort coupled with certain mental stressors among soldiers after returning from their deployment. The response rates and the frequency of the responses to each

of the physical symptoms listed in the questionnaire are shown in Table 4.13 (p. 260). Although BDF members responded to each statement on a scale from one to five (1=never; 2=seldom; 3=sometimes; 4=often; 5=almost always), data were regrouped into 'yes' (3=sometimes, 4=often and 5=almost always) and 'no' (1=never and 2=seldom) responses for analytical purposes.

The number of responses to each of the symptoms varied, as not all the subjects responded to each statement. The five highest ranked symptoms of physical reaction to stress were unusual tiredness (n=644; 75.1%); unexplained headaches or pain (n=484; 56.5%); feeling physically unwell (n=478; 55.8%); difficulty in relaxing (n=447; 52.2%) and disturbing dreams or nightmares (n=50.9%). Symptoms least experienced included high blood pressure (n=678; 79.1%); feeling tight-chested (n=583; 68.0%); breathlessness (n=573; 66.9%); excessive perspiration (n=552; 64.4%) and unexplained nausea (n=549; 64.1%). The results indicated that these symptoms did not occur on a regular basis and that BDF members did not fall into a high-risk occupational group for physical reactions to stress. Findings of further analysis conducted, using the Pearson's Product-Moment Correlation coefficient to determine whether a relationship exists between BDF members' actual stress and their physical reactions to stress will be discussed in section 4.4.13 (p.265).

**Table 4. 13: Frequency rates of symptoms of physical reaction to stress**

Physical reactions	N	No			Yes		
		n	%	Rank	n	%	Rank
Unusual tiredness	825	211	24.6	22	644	75.1	1
Apathy/lack of enthusiasm	719	385	44.9	17	334	39.0	11
Breathlessness for no reason	738	573	66.9	3	165	19.3	21
Feelings that your appearance has altered for the worse	769	474	55.3	12	295	34.4	15
Difficulty in relaxing	802	355	41.4	19	447	52.2	4
Disturbing dreams/nightmares	812	376	43.9	18	436	50.9	5
High blood pressure	800	678	79.1	1	122	14.2	22
Sexual problems	806	504	58.8	7	302	35.2	14
Unexplained headaches/pain	809	325	37.9	20	484	56.5	2
Feeling faint, having dizzy spells or feeling unusually weak for no reason	820	475	55.4	11	345	40.3	9
Muscle tension	811	387	45.2	16	424	49.5	6
Feeling physically unwell	798	320	37.3	21	478	55.8	3
Unexplained nausea	759	549	64.1	5	210	24.5	17
Frequent indigestion	764	480	56.0	10	284	33.1	16
Running tummy/diarrhoea	804	498	58.1	9	306	35.7	12
Constipation	803	454	53.0	13	349	40.7	8
Erratic bowel function	742	549	64.1	6	193	22.5	20
Excessive perspiration for no reason	754	552	64.4	4	202	23.6	18
Feeling tight-chested for no reason	781	583	68.0	2	198	23.1	19
Constant colds or other viral infections	776	435	50.8	15	341	39.8	10
Increased weight/appetite due to anxiety or concern	803	499	58.2	8	304	35.5	13
Decrease in weight/appetite due to anxiety or concern	803	439	51.2	14	364	42.5	7

#### **4.4.12.2. Symptoms of psychological reactions to stress**

Military service could be hazardous to the mental health of soldiers, and the stress of being involved in the military can promote the onset of mental illnesses (Perera, Suveendran, & Mariestella, 2004). Riddle, Sanders, Jones and Webb (2006) found that psychological symptoms were more prevalent among soldiers from lower ranks. Response rates and the frequency of the responses to each of the psychological symptoms listed in the questionnaire are shown in Table 4.14 (p. 262). The number of responses to each of the symptoms varied, as not all the subjects responded to each statement. The most frequently experienced symptoms of psychological reaction to stress were being afraid of disease (n=538; 62.8%); feeling neglected or let down (n=505, 58.9%); feeling they were not understood (n=483; 56.4%); feelings of depression (n=483; 56.1%) and feelings of concern for themselves (n=460; 53.7%). The symptoms least experienced or not experienced at all were feelings of dislike for themselves (n=617; 72.0%), feeling that others did not want to work with them (n=557; 65.0%), lack of self-confidence (n=547; 63.8%), awkward feelings when close to others (n=504; 58.8%), and persistent guilt (n=500; 58.3%). The results indicated that these symptoms did not occur on a regular basis and that Botswana Defence Force members did not fall into a high-risk occupational group for psychological reactions to stress. Findings of further analysis conducted, using the Pearson's Product-Moment Correlation coefficient to determine whether a relationship exists between actual stress responses of BDF members in relation to psychological stress reactions, will be discussed in section 4.4.13 (p.265).

**Table 4. 14: Frequency rates of symptoms of psychological reactions to stress**

Psychological Reactions	N	No			Yes		
		n	%	Rank	n	%	Rank
Feelings of helplessness	809	362	42.2	19	447	52.2	7
Feelings of depression	805	324	37.8	23	481	56.1	4
Feeling that no one understands you	791	308	35.9	24	483	56.4	3
Feelings of general anxiety	766	359	41.9	20	407	47.5	9
Phobias (irrational fears)	729	471	55.0	8	258	30.1	24
Awkward feelings when close to others	789	504	58.8	4	285	33.3	20
Feeling that you have failed in your role as parent, spouse, child, or military staff member	799	422	49.2	12	377	44.0	14
Panicky feelings	795	417	48.7	13	378	44.1	13
Being upset by disease in others	792	405	47.3	17	387	45.2	12
Feeling of disliking yourself	788	617	72.0	1	171	20.0	26
Being afraid of disease	791	253	29.5	26	538	62.8	1
An increase in complaints about what happens to you	796	348	40.6	21	448	52.3	6
Low self-esteem/low opinion of yourself	794	498	58.1	6	296	34.5	19
Feeling of being gossiped about	790	444	51.8	11	346	40.4	17
Being over self-critical	744	483	56.4	7	261	30.5	23
Feeling that no one wants to work with you	811	557	65.0	2	254	29.6	25
Feeling tense and keyed-up	775	465	54.3	9	310	36.2	18
Persistent guilt	779	500	58.3	5	279	32.6	21
Feeling you can't cope	805	406	47.4	16	399	46.6	10
Feeling that other people dislike you	807	460	53.7	10	347	40.5	16
Feelings of confusion	802	373	43.5	18	429	50.1	8
Feelings of concern mainly for yourself	800	340	39.7	22	460	53.7	5
Feeling that you are frequently criticized	790	415	48.4	14	375	43.8	15
Feeling that you have been neglected or let down	806	301	35.1	25	505	58.9	2
Feelings of loneliness and no one to talk to	806	412	48.1	15	394	46.0	11
Lack of self-confidence	813	547	63.8	3	266	31.0	22

#### **4.4.12.3. Symptoms of behavioural reaction to stress**

Nash (2007) pointed out that behavioural reactions to stress are the product of learning and choice, and that stress in the military corresponds with physical and psychological symptoms of stress already discussed. Response rates and the frequency of the responses to each of the behavioural symptoms listed in the questionnaire are presented in Table 4.15 (p. 264). Symptoms most frequently experienced were worrying (n=572; 66.7%); loss of appetite (n=497; 58.0%); making unnecessary mistakes (n=479; 55.3%); sleep disturbances (n=468; 54.6%) and feeling disgruntled, moody and/or irritable (n=449; 52.4%). Symptoms least experienced or not experienced at all were the need to cry for no reason (n=622; 65.7%); nail biting (n=594; 65.2%); greater use of alcohol, caffeine, nicotine or medication in order to cope (n=580; 60.2%); accident proneness (n=561; 54.1%) and poor work quality (n=560; 54.0%). The results indicated that these symptoms did not occur on a regular basis and that Botswana Defence Force members did not fall into a high risk occupational group for behavioural reactions to stress. Findings of further analysis conducted, using the Pearson's Product-Moment Correlation coefficient to determine whether a relationship exists between BDF members' actual stress and their behavioural reactions to stress, will be discussed in section 4.4.13 (p.265).

**Table 4. 15: Frequency rates of symptoms of behavioural reaction to stress**

Behavioural reactions	N	No			Yes		
		n	%	Rank	n	%	Rank
Memory loss/forgetfulness	807	479	44.3	12	328	38.3	23
Poor long-term planning	806	380	29.9	34	426	49.7	8
Poor concentration	810	385	27.2	32	425	49.6	9
Inconsistency	771	439	33.3	22	332	38.7	22
Inability to meet deadlines	793	433	32.9	24	360	42.0	15
Poor management	782	404	31.2	29	378	44.1	13
Procrastination or delaying/putting off tasks	789	454	38.2	19	335	39.1	21
The need to constantly take work home	779	451	38.3	20	328	38.3	24
Poor problem solving skills	796	430	35.7	25	366	42.7	14
Accident-proneness	768	561	54.1	4	207	24.2	40
Low interest in work	795	472	45.0	14	323	37.7	28
A drop in personal standards	783	456	36.2	18	327	38.2	25
Increased aggressiveness	791	371	26.3	35	420	49.0	10
Difficulty in making up your mind	797	400	31.4	30	397	46.3	12
Difficulty in showing/expressing your true feelings	801	364	30.8	36	437	51.0	6
Worrying	800	228	13.8	42	572	66.7	1
Social withdrawal	768	420	31.7	27	348	40.6	18
Making unnecessary mistakes	795	321	21.8	40	474	55.3	3
The need to regularly work late	783	535	51.2	6	248	28.9	36
Poor work quality	795	560	54.0	5	235	27.4	38
Difficulty in completing one task before rushing on to the next	799	500	45.5	9	299	34.9	32
The need to cancel leave	788	496	47.8	11	292	34.1	33
Nail biting	775	594	65.2	2	181	21.1	41
An excessive appetite	793	384	32.1	33	409	47.7	11
Engaging in frequent criticism of others	785	499	45.9	10	286	33.4	34
Frantic bursts of energy	755	416	32.0	28	339	39.6	19
Little sense of humour	778	461	39.4	17	317	37.0	30
Disinterest in other people	795	474	44.0	13	321	37.5	29
Suppressed or unexpressed anger	789	361	29.1	37	428	49.9	7
Fearfulness	781	428	33.1	26	353	41.2	17
Poor decision making	797	472	37.0	15	325	37.9	27
Uncooperative relationships	780	469	39.9	16	311	36.3	31
Feeling disgruntled/moody/irritable	783	334	25.6	38	449	52.4	5
Emotional outbursts	756	396	31.2	31	360	42.0	16
Greater use of alcohol, caffeine, nicotine, or medicines in order to cope	794	580	60.2	3	214	25.0	39
Fidgeting/restlessness	774	436	37.3	23	338	39.4	20
Unpredictability	772	445	35.1	21	327	38.2	26
A loss of appetite	800	303	23.3	41	497	58.0	2
The need to cry for no reason	792	622	65.7	1	170	19.8	42
Tics/nervous habits	771	525	49.5	7	246	28.7	37
Sleep disturbances	790	322	27.1	39	468	54.6	4
Swearing or use of bad language	796	522	48.5	8	274	32.0	35

Objective two of this study aimed to determine the dysfunctional behaviours of BDF members as a result of stress. A sub-group referred to as dysfunctional behaviours was therefore created from the behavioural reactions to stress listed in Table 4.15 (p. 265), and contained the following variables: increased aggressiveness (n=420; 49%); social withdrawal (n=348; 40.6%); poor work quality (n=235; 27.4%); nail biting (n=181; 21.1%); emotional outbursts (n=360; 42%); greater use of alcohol caffeine, nicotine and medication (n=214; 25%); sleep disturbances (n=468; 54.6%); and swearing or use of bad language (n=274; 32%). This sub-group, dysfunctional behaviours, will be used to conduct further analysis using the Pearson's Product-Moment Correlation coefficient (to be discussed in section 4.4.13, p. 265) to determine whether a relationship exists between BDF members' actual stress and their dysfunctional behaviours.

#### **4.4.13. Relationship between stress scores and symptoms of physical, psychological and behavioural reactions to stress**

As stated in 4.4.12 (p. 258), stress causes symptoms of physical, psychological and behavioural stress reactions and these symptoms are interrelated causing poor health and performance when not addressed (Pflanz & Ogle, 2006; Hourani, Williams & Kress, 2006; Schlebusch, 2000; Sutherland & Cooper, 2000; Cooper & Straw, 1998; Patel, 1991). It was hypothesized in  $H_0$  (2) that no relationship exists between stress and symptoms of physical, psychological and behavioural reaction to stress. It was

further postulated that symptoms of physical, psychological and behavioural reactions to stress will not be related. The Pearson's Product-Moment Correlation coefficient was computed to assess the relationship between stress and the symptoms of physical, psychological and behavioural reaction to stress (Table 4.16, p. 267). The significance of the relationship was judged by the linear relationship or numerical value of the correlation ( $r$ ), with  $r=\pm 0.50$ , considered to be strong;  $r=\pm 0.30$ , considered to be moderate; and  $r=\pm 0.10$ , considered to be weak (Weinberg & Abramowitz, 2002). These correlations will be explored in subsequent paragraphs.

#### **4.4.13.1. Correlation between stress scores and symptoms of physical reaction to stress**

The Pearson's correlation coefficient was computed to assess the relationship between stress and the symptoms of physical reaction to stress (Table 4.16, p. 267). A moderate positive correlation between the variables ( $r=0.447$ ;  $p=0.000$ ) was found. It was postulated that stress scores were related to symptoms of physical reactions to stress. An increase in stress would thus result in an increase in the symptoms of physical reaction to stress. Botswana Defence Force members would thus experience more symptoms of physical reaction to stress if their stress levels increase as a result of poor management or failure to prevent increased levels of stress corroborating findings of Pflanz and Ogle (2006), Hourani, Williams and Kress (2006), Schlebusch (2000), Sutherland and Cooper (2000), Cooper and Straw (1998) and Patel (1991).

**Table 4. 16: Correlation between stress scores and symptoms of physical, psychological and behavioural reaction to stress**

	<b>Stress Score</b>	<b>Symptoms of Physical Reaction to stress</b>	<b>Symptoms of Psychological reaction to stress</b>	<b>Symptoms of Behavioural reaction to stress</b>	<b>Dysfunctional Behaviour Score</b>
	Pearson Correlation	.447**	.487**	.553**	.541**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	857	857	857	857
<b>Symptoms of Physical Reaction to stress</b>	Pearson Correlation	1	.685**	.633**	.587**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	857	857	857	857
<b>Symptoms of Psychological reaction to stress</b>	Pearson Correlation	.487**	1	.785**	.715**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	857	857	857	857
<b>Symptoms of Behavioural reaction to stress</b>	Pearson Correlation	.553**	.785**	1	.923**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	857	857	857	857
<b>Dysfunctional Behaviour Score</b>	Pearson Correlation	.541**	.715**	.923**	1
	Sig. (2-tailed)	.000	.000	.000	.000
	N	857	857	857	857

\*\* Correlation is significant at the 0.01 level (2-tailed)

#### **4.4.13.2. Correlation between stress scores and symptoms of psychological reaction to stress**

The Pearson's correlation coefficient was computed to assess the relationship between stress and the symptoms of psychological reaction to stress (Table 4.16, p. 267). A moderate positive correlation between the variables ( $r=0.487$ ;  $p=0.000$ ) was found. It was therefore postulated that stress scores were related to symptoms of psychological reactions to stress. An increase in stress would thus result in an increase in symptoms of psychological reaction to stress. Botswana Defence Force members would thus experience more symptoms of psychological reaction to stress if their stress levels increase as a result of poor management or failure to prevent increased levels of stress corroborating findings of Pflanz and Ogle (2006), Hourani, Williams and Kress (2006), Schlebusch (2000), Sutherland and Cooper (2000), Cooper and Straw (1998) and Patel (1991).

#### **4.4.13.3. Correlation between stress scores and symptoms of behavioural reaction to stress**

The Pearson's correlation coefficient was computed to assess the relationship between stress and the symptoms of behavioural reaction to stress (Table 4.16, p. 267). A strong positive correlation between the variables ( $r=0.553$ ;  $p=0.000$ ) was found. It was therefore postulated that stress scores were related to symptoms of behavioural reactions to stress. An increase in stress would thus result in an increase in the symptoms of physical reaction to

stress. Botswana Defence Force members would thus experience more symptoms of behavioural reaction to stress if their stress levels increase as a result of poor management or failure to prevent increased levels of stress corroborating findings of Pflanz and Ogle (2006), Hourani, Williams and Kress (2006), Schlebusch (2000), Sutherland and Cooper (2000), Cooper and Straw (1998) and Patel (1991).

#### **4.4.13.4. Correlation between stress scores and dysfunctional behaviour**

The Pearson's correlation coefficient was computed to assess the relationship between stress and dysfunctional behaviour scores (Table 4.16, p. 267). A strong positive correlation between the variables ( $r=0.541$ ;  $p=0.000$ ) was found. It was therefore postulated that stress scores were related to dysfunctional scores. An increase in stress would thus result in an increase in dysfunctional behaviour. Botswana Defence Force members would thus experience more dysfunctional behaviours if their stress levels increase as a result of poor management or failure to prevent increased levels of stress. Dysfunctional behaviours forms part of the symptoms of behavioural reactions to stress and therefore these findings corroborate with findings of Pflanz and Ogle (2006), Hourani, Williams and Kress (2006), Schlebusch (2000), Sutherland and Cooper (2000), Cooper and Straw (1998) and Patel (1991).

#### **4.4.13.5. Correlation between symptoms of physical reaction to stress and symptoms of psychological reaction to stress**

The Pearson's correlation coefficient was computed to assess the relationship between symptoms of physical reaction to stress and the symptoms of psychological reaction to stress (Table 4.16, p. 267). A strong positive correlation between the variables ( $r=0.685$ ;  $p=0.000$ ) was found. It was postulated that symptoms of physical reaction to stress were related to symptoms of psychological reactions to stress. An increase in symptoms of physical reaction to stress would thus result in an increase in the symptoms of psychological reaction to stress. Pflanz and Ogle (2006), Hourani, Williams and Kress (2006), Schlebusch (2000), Sutherland and Cooper (2000), Cooper and Straw (1998) and Patel (1991) indicated that symptoms of physical, psychological and behavioural reactions to stress are interrelated and therefore findings of this study corroborate with literature indicating that BDF members will experience more physical or psychological reactions to stress should an increase in one of these symptoms occur if not treated appropriately.

#### **4.4.13.6. Correlation between symptoms of physical reaction to stress and symptoms of behavioural reaction to stress**

The Pearson's correlation coefficient was computed to assess the relationship between symptoms of physical reaction to stress and the symptoms of behavioural reaction to stress (Table 4.16, p. 267). A strong positive correlation between the variables ( $r=0.633$ ;  $p=0.000$ ) was found. It was

postulated that symptoms of physical reaction to stress were related to symptoms of behavioural reactions to stress. An increase in the symptoms of physical reaction to stress would thus result in an increase in the symptoms of behavioural reaction to stress. Pflanz and Ogle (2006), Hourani, Williams and Kress (2006), Schlebusch (2000), Sutherland and Cooper (2000), Cooper and Straw (1998) and Patel (1991) indicated that symptoms of physical, psychological and behavioural reactions to stress are interrelated and therefore findings of this study corroborate with literature indicating that BDF members will experience more physical or behavioural reactions to stress should an increase in one of these symptoms occur if not treated appropriately.

#### **4.4.13.7. Correlation between symptoms of psychological reaction to stress and symptoms of behavioural reaction to stress**

The Pearson's correlation coefficient was computed to assess the relationship between symptoms of psychological reaction to stress and the symptoms of behavioural reaction to stress (Table 4.16, p. 268). A strong positive correlation between the variables ( $r=0.785$ ;  $p=0.000$ ) was found. It was postulated that the symptoms of psychological reaction to stress were related to the symptoms of behavioural reactions to stress. An increase in the symptoms of psychological reaction to stress would thus result in an increase in the symptoms of behavioural reaction to stress. Pflanz and Ogle (2006), Hourani, Williams and Kress (2006), Schlebusch (2000), Sutherland and Cooper (2000), Cooper and Straw (1998) and Patel (1991) indicated that

symptoms of physical, psychological and behavioural reactions to stress are interrelated and therefore findings of this study corroborate with literature indicating that BDF members will experience more psychological or behavioural reactions to stress should an increase in one of these symptoms occur if not treated appropriately.

#### **4.4.13.8. Correlation between symptoms of physical, psychological and behavioural reaction to stress and dysfunctional behaviour**

The Pearson's correlation coefficient was computed to assess the relationship between symptoms of physical reaction to stress and dysfunctional behaviour (Table 4.16, p. 267). A strong positive correlation was found between dysfunctional behaviour and physical reaction to stress ( $r=0.587$ ;  $p=0.000$ ), psychological reaction to stress ( $r=0.715$ ;  $p=0.000$ ), and behavioural reaction to stress ( $r=0.923$ ;  $p=0.000$ ). It was postulated that symptoms of physical, psychological and behavioural reaction to stress were related to dysfunctional behaviour. An increase in one of these symptoms would thus result in an increase in dysfunctional behaviour. Dysfunctional behaviour is a sub-section of behavioural reaction to stress. Findings therefore corroborate with findings of Pflanz and Ogle (2006), Hourani, Williams and Kress (2006), Schlebusch (2000), Sutherland and Cooper (2000), Cooper and Straw (1998) and Patel (1991) indicated that symptoms of physical, psychological and behavioural reactions to stress are interrelated. This implies that BDF members will experience more dysfunctional behaviours if an increase in symptoms of

either physical, psychological or behavioural reaction to stress occur if not treated appropriately.

The results in sections 4.4.13.1 to 4.4.13.8 support the extant literature, indicating that the more stressed the soldiers are, the more symptoms of physical, psychological and behavioural reactions to stress will appear (Pflanz & Ogle, 2006; Hourani, Williams & Kress, 2006; Schlebusch, 2000; Sutherland & Cooper, 2000; Cooper & Straw, 1998; Patel, 1991). Due to symptoms being interrelated, it also implies that an increase in one domain (i.e. psychological symptoms) will lead to an increase in another domain (i.e. physical symptoms to stress). The  $H_0$  (2), stating that no relationship exists between stress and symptoms of physical, psychological and behavioural reactions to stress, was therefore rejected.

#### **4.4.14. Stress coping and management methods**

According to Janssen (2004), soldiers are entitled the same quality of life as the society they protect, through participation in leisure or recreation activities, as confirmed by the results of this study. Recreation activities are used to promote a healthy lifestyle, but could also be used as therapy or as a medium to reduce stress in a working environment (Nel, 2006; Botha, 2005; Bhoodram, 2001; Kantor, 1994). The researcher explored the different stress coping methods used by BDF members, providing them with a list of options from which to choose. Response rates and frequency of responses to each of the coping methods were regrouped for analysis purposes. The original scale

(1=never; 2=seldom; 3=sometimes; 4=often; 5=almost always), were regrouped into 'yes' (3=sometimes, 4=often and 5=almost always) and 'no' (1=never and 2=seldom), as presented in Table 4.17 (p. 275). The number of responses to each coping method varied, as not all the subjects responded to each statement. Coping methods most frequently listed included talking to friends and family (n=670; 78.2%); regular exercise (n=662; 77.2%); sharing feelings with others (n=637; 74.3%); getting 6-8 hours of sleep every night (n=611; 71.3%) and eating a balanced diet (n=607; 70.8%). Coping methods least used included taking tranquillizers, sleeping pills or other mood altering drugs (n=630; 73.5%); joining groups or programs demonstrating a concern for their problem (n=488; 56.9%); biofeedback or meditation (n=476; 55.5%); ignoring the problem (n=404; 47.1%) and getting professional help (n=364; 42.5%). The results indicated that Botswana Defence Force members made use of coping measures to manage their stress, one of which was participation in regular exercise.

**Table 4. 17: Methods used by military staff to cope with stress**

Coping methods	N	No			Yes		
		n	%	Rank	n	%	Rank
Biofeedback or meditation	729	476	55.5	3	253	29.5	19
Finding out more about the problem	752	227	26.5	12	525	61.3	9
Getting professional help	762	364	42.5	5	398	46.4	16
Engaging in relaxation activities	757	199	23.2	15	558	65.1	6
Taking one day at a time	734	304	35.5	7	430	50.2	14
Ignoring the problem	767	404	47.1	4	363	42.4	17
Trying to look at the situation differently	753	225	26.3	13	528	61.6	8
Staying away from the source of stress	753	264	30.8	8	489	57.1	13
Using tranquillizers, sleeping pills or other mood altering drugs such as alcohol	771	630	73.5	1	141	16.5	20
Joining groups or programs that demonstrate a concern for your problem	765	488	56.9	2	277	32.3	18
Managing your time effectively	753	217	25.3	14	536	62.5	7
Using assertive methods to protect your right to say 'no' to others	750	320	37.3	6	430	50.2	15
Regularly sharing your feelings with others	771	134	15.6	18	637	74.3	3
Doing meaningful volunteer work	763	247	28.8	10	516	60.2	10
Eating a balanced diet with fresh fruits and vegetables	770	163	19.0	16	607	70.8	5
Engaging in regular exercise	767	105	12.3	19	662	77.2	2
Spending most of your leisure time in a place with a complete change of scenery	760	259	30.2	9	501	58.5	12
Talking to your superiors	763	247	28.8	11	516	60.2	11
Talking to your friends or family members	775	105	12.3	20	670	78.2	1
Getting 6-8 hours' sleep every night	774	163	19.0	17	611	71.3	4

Respondents were also asked to list any other method used as means of coping with stress. These responses were coded and specific themes were identified. These themes related to the wellness dimensions identified by Miller and Foster (2010) in Chapter Two: physical activity (active and passive recreation activities); emotional/psychological; social (social behaviour and dysfunctional behaviour); intellectual; spiritual; occupational; cultural; economic and an additional dimension, nutrition. Response rates to each of these themes were calculated (Figure 4.3, p. 277), with two dominant themes emerging as those most used as coping methods: *physical activity* [active recreation activities (n=75) and passive recreation activities (n=174)] and *emotional/psychological* (n=77). The active recreation pursuits listed included physical exercises and participation in specific dancing or sporting activities. Passive recreation activities included watching television; watching movies; listening to music; reading and playing chess. Emotional/psychological aspects included talking to friends or family members, getting professional help, discussion groups, and spending time alone.

The results confirmed that BDF members used sport and recreation activities to cope with stress. Sedentary recreation activities, such as watching television or movies, listening to music and sleeping were more frequently used than active recreation activities. Although BDF staff members did not make use of recreation activities as deliberate actions to reduce their stress (stress treatment), they did use them in a positive manner to cope with (manage or control) stress.

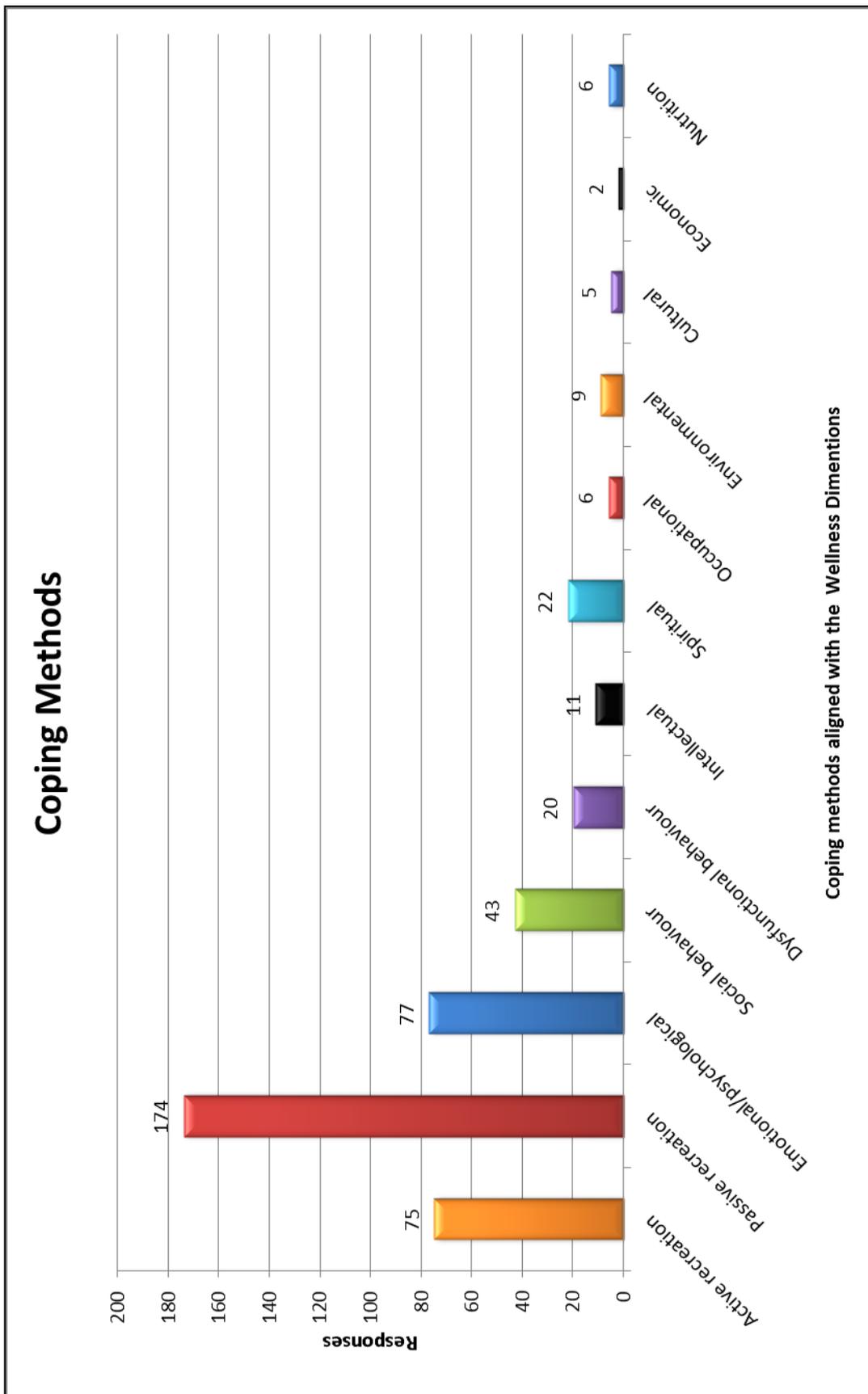


Figure 4. 3: Additional coping methods used to deal with stress

This finding should be integrated into the development of the proposed Therapeutic Recreation Stress Management Intervention Model. The results further confirmed that BDF staff did not use dysfunctional behaviours to cope with stress. The use of tranquilizers, sleeping pills or other mood-altering drugs was ranked as the least used measure to cope with stress. This contradicts findings of Dolan and Endler (2008) as well as those of Mehlum (1999), who reported the use of drugs and alcohol as measures to cope with stress in military settings and more specifically among male soldiers. From the results, it could be deduced that BDF members made use of positive measures to cope with stress and that they did not have a culture of drinking as a stress coping measure.

#### **4.4.15. Relationship between stress coping and demographic results**

The relationship between stress coping and the demographic profile of the respondents was tested to determine if a relationship exists between staff members' profiles and military profiles and stress coping. The findings reflecting both the respondents' demographics and the military demographics will be discussed in subsequent paragraphs.

##### **4.4.15.1 Demographic profile of respondents**

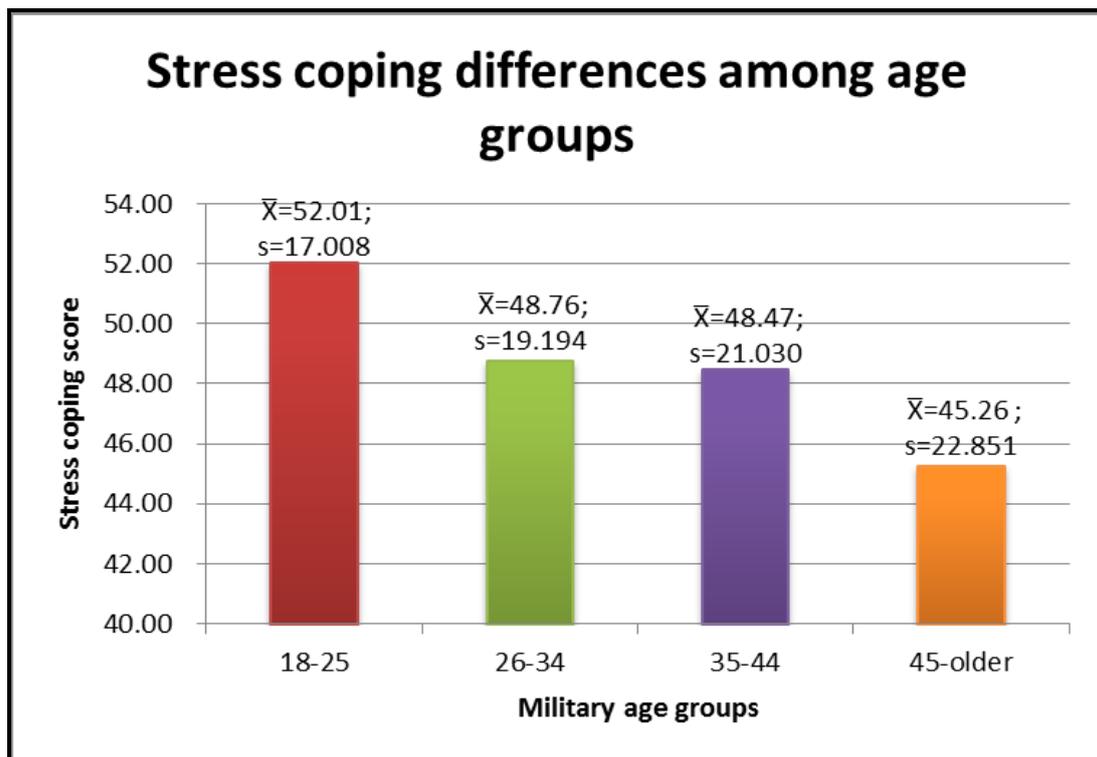
Stress coping was tested against respondents' age groups, level of education, spirituality and religion. The findings will be discussed individually.

#### 4.4.15.1.1 Stress coping and differences among age groups

Studies conducted by Bartone (2005), Hourani, Williams and Kress (2006) and Nash (2007) reported that younger soldiers were more vulnerable or prone to stress in comparison with more senior soldiers. None of the literature referred to how different age groups coped with stress in a military context. The researcher therefore postulated that no difference existed between BDF members from different age groups and coping with stress. An ANOVA was used to compare respondents' stress coping scores with their age groups. The results indicated a significant difference between stress coping scores and the age groups of the respondents ( $F=2.618$ ;  $p=0.05$ ), as  $p=0.05$ . It could be deduced from the results that a difference existed in the way younger BDF members coped with stress in comparison with more senior members.

The Least Significant Difference test was conducted, making a multiple comparison of the pairwise differences of stress coping scores with the different age groups. Results of the Least Significant Difference test concluded that the stress coping scores for respondents aged 18-25 were significantly different from the scores for those aged 26-34 ( $p=0.039$ ), 35-44 ( $p=0.045$ ) and 44 or older ( $p=0.032$ ), with  $p \leq 0.05$ . From the results obtained it could be deduced that young soldiers aged 18-25 coped differently with stress in comparison to more senior military staff. Results in Figure 4.4 (p. 280) further revealed that BDF members aged 18-25 ( $\bar{X}=52.01$ ;  $s=17.008$ ) had significantly higher coping scores in relation to the other age groups. It was therefore deduced that military members cope

differently with stress based on their age. This was a new contribution to the literature on stress coping in military occupations and should be further investigated to determine whether similar trends occur in other military units internationally.



**Figure 4. 4: Stress coping scores as it relates to different age groups of Botswana Defence Force members**

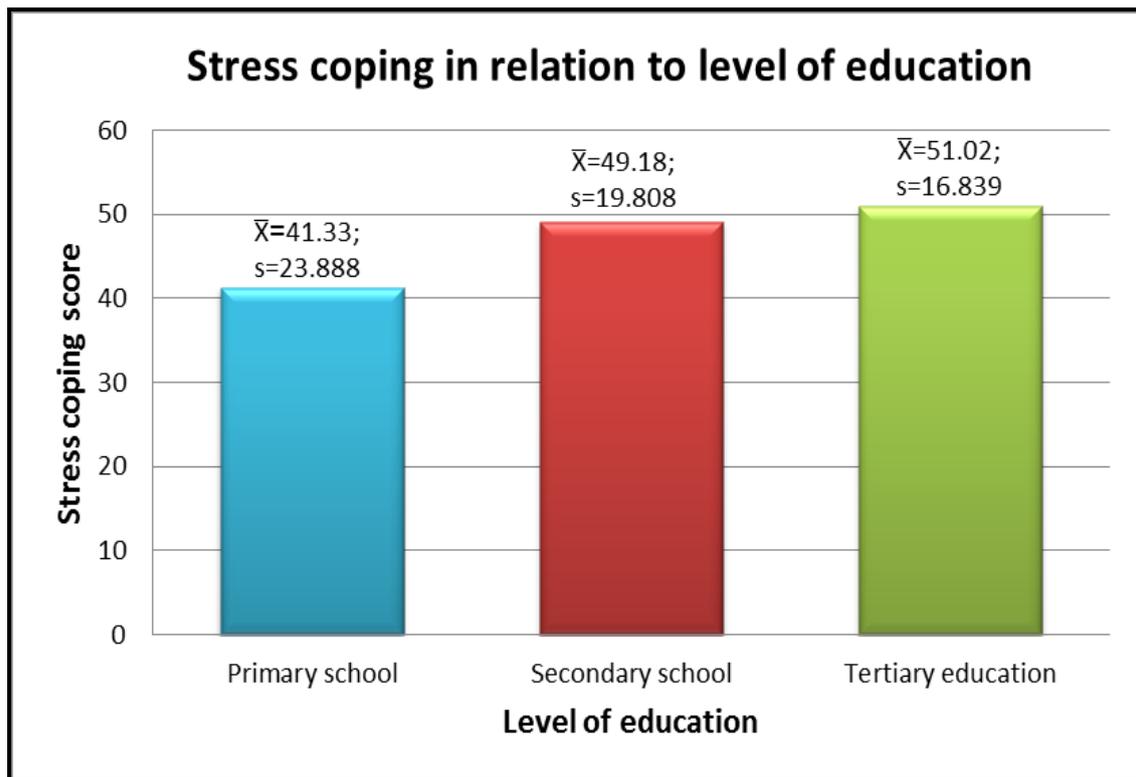
#### 4.4.15.1.2 Stress coping and level of education

Education level is recognized as a treatment modality within therapeutic recreation (McGhee, Groff & Russoniello, 2005). Sutherland and Cooper (2000) specified that the level of education or training reflects on the actual cognitive

ability of the individual to interpret, treat or cope with stress. In this study it was postulated that there were no differences in coping with stress among different levels of education of BDF members. ANOVA was used to compare respondents' stress coping scores with their level of education. There was a significant difference in the stress coping scores and the level of education of the respondents ( $F=3.636$ ;  $p=0.027$ ) with  $p \leq 0.05$ . The postulation above is therefore rejected.

An independent sample t-test was then administered to compare the differences in stress coping scores as it relates to different levels of education. The t-test revealed that respondents with primary school education had a significantly lower coping score ( $\bar{X}=41.33$ ;  $s=23.888$ ) than those with secondary school education ( $\bar{X}=49.18$ ;  $s=19.808$ ) and tertiary education ( $\bar{X}=51.02$ ;  $s=16.839$ ) as displayed in Figure 4.5 (p. 282). The difference was significant between stress coping scores of BDF members with a primary school education and secondary school education ( $t=-2.088$ ;  $p=0.037$ ) as well as tertiary education ( $t=-2.834$ ;  $p=0.005$ ) with  $p \leq 0.05$ . No significant difference was revealed between stress coping scores of those respondents with secondary school education and tertiary education ( $t=-1.286$ ;  $p=0.199$ ) as  $p \leq 0.05$ . It was therefore deduced that more educated military staff cope better with stress. This correlates with findings of Sutherland and Cooper (2000), who noted that education played a role in how military staff coped with stress. In the light of these results, education could be seen as a useful tool to incorporate in the proposed Therapeutic Recreation Stress

Management Intervention Model, and would support the studies of Stander and Rothman (2009), proposing that empowerment of BDF members would enhance both their job performance and satisfaction, and their ability to cope with stress.



**Figure 4. 5: Stress coping as it relates to the different levels of education**

#### **4.4.15.1.3 Stress coping and spirituality and religion**

Spirituality and religion, as a spiritual practice, are related to leisure and have the potential to act as a coping method, healing the wounds of war or other traumatic experiences related to military operations (Ross & Aston-Sheaffer, 2009; Drescher, Smith, & Foy, 2007). Spirituality is classified as a military stressor by Nash (2007). Conversely, according to Drescher, Smith and Foy (2007), it also

has the potential to be used as a coping method in healing the wounds of war. Heintzman and Mannell (2003) maintain that spirituality is embedded in military tradition through the provision of religious services. Religion then becomes a coping strategy through spiritual support from other church members or from those sharing the same beliefs.

Spirituality and religion were regrouped as two separate variables postulating that people could be spiritual and/or religious as results in 4.2.1 (p. 205) indicated and it was therefore suggested that responses would be different for each of these variables. An independent-samples t-test was conducted to compare the relationship between stress coping scores and spirituality and religion. There was no significant difference in BDF members' stress coping scores and spirituality ( $t=-0.481$ ;  $p=0.631$ ) or religion ( $t=-0.170$ ;  $p=0.865$ ) with  $p\leq 0.05$  in both instances.

The results suggested that no relationship existed between the stress coping scores and spirituality or religion. The findings of this study do not corroborate findings of other studies on spirituality and religion as coping strategies in the military environment. A possible reason for this might be that the military operations and traumatic life events experienced by BDF members are not directly related to war as such, but rather to daily occupational duties in which spirituality and religion do not play an important role. Spiritual and religious practices would thus not be ranked as important in coping with stress, compared to social, financial or professional support. However, spirituality is not just a

military stressor but is also a dimension of optimal wellness. Botswana Defence Force members should therefore be informed of the role of spirituality and religious practices in maintaining wellness and as a value system needed to cope with stress.

#### **4.4.15.2 Military demographics**

Stress coping was related to the military demographics as it pertained to the different base camps, military types, military ranks and deployments. The findings are discussed in the following paragraphs.

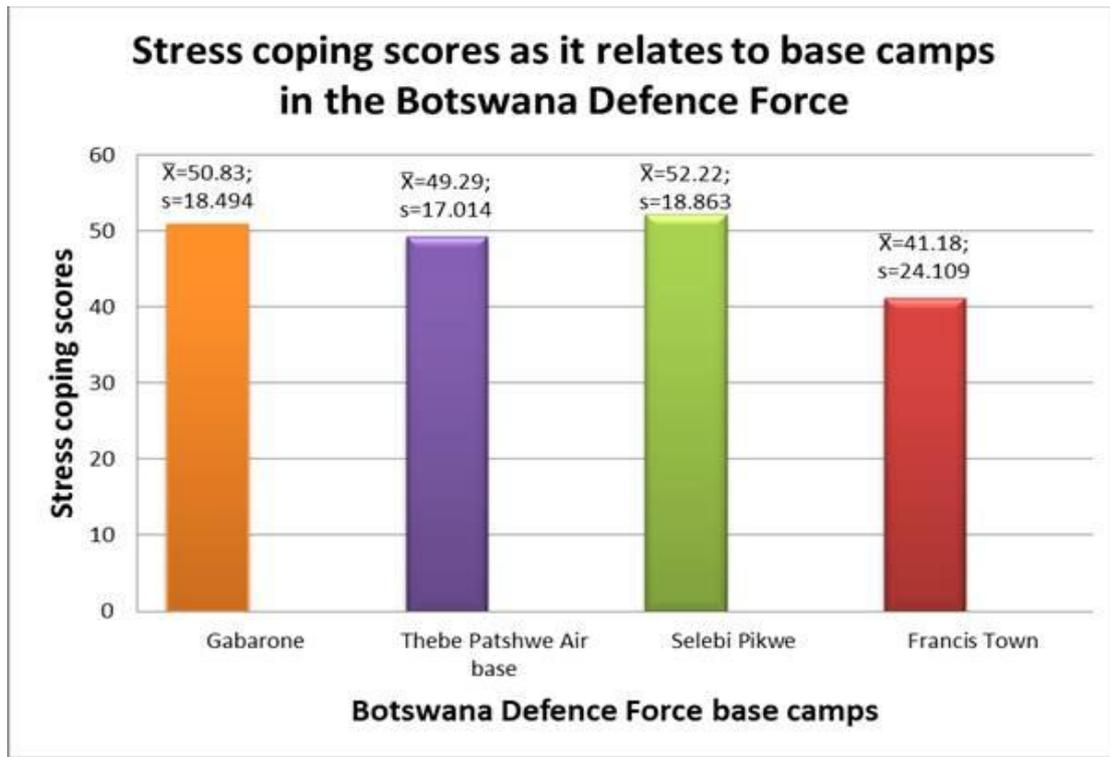
##### **4.4.15.2.1 Stress coping at different base camps**

Literature on stress coping in the military does not explore how soldiers cope with stress in the context of their locations, more specifically the base camps in which they reside when not deployed. The researcher therefore postulated that no difference existed in the way BDF members coped with stress at the different base camps where they were stationed. An ANOVA was used to test difference between respondents' stress coping scores and different base camps. A highly significant difference was observed in the stress coping scores of the respondents at different base camps in the BDF ( $F=9.010$ ;  $p=0.000$ ) with  $p \leq 0.05$ .

An independent-samples t-test was then administered to compare the differences in stress coping scores as it relates to different base camps of deployment in the Botswana Defence Force. The t-test revealed that BDF members based at

Francis Town had a significantly lower coping score ( $\bar{X}=41.18$ ;  $s=24.109$ ) than members based at Gaborone ( $\bar{X}=50.83$ ;  $s=18.494$ ); Thebe Patshwe Air base ( $\bar{X}=49.29$ ;  $s=17.014$ ) and Selebi Pikwe base ( $\bar{X}=52.22$ ;  $s=18.863$ ) as displayed in Figure 4.6 (p.286). Members from Selebi Pikwe base had the highest coping score amongst the different base camps. The difference was significant between scores of respondents from Francis Town base and those based at Gaborone ( $t=4.432$ ;  $p=0.000$ ), Thebe Patshwe Air base ( $t=3.565$ ;  $p=0.000$ ), and Selebi Pikwe base ( $t=4.404$ ;  $p=0.000$ ) at  $p\leq 0.05$  in all instances.

It was therefore deduced that the base camp of deployment affects military staff's ability to cope with stress possibly posting a new contribution to stress coping literature as it relates to the military. Taking in consideration the size of the different base camps, it was postulated that Francis Town base as the smallest base of the BDF ( $n=113$ ;  $13.2\%$ ) would promote closer interrelationships between peers and superiors providing better support structures to cope with stress. Stress coping at the different sized BDF base camps should therefore be further investigated outside the scope of this study to see what coping methods are used at the different camps, and further to determine if a similar trend is found in other military contexts.



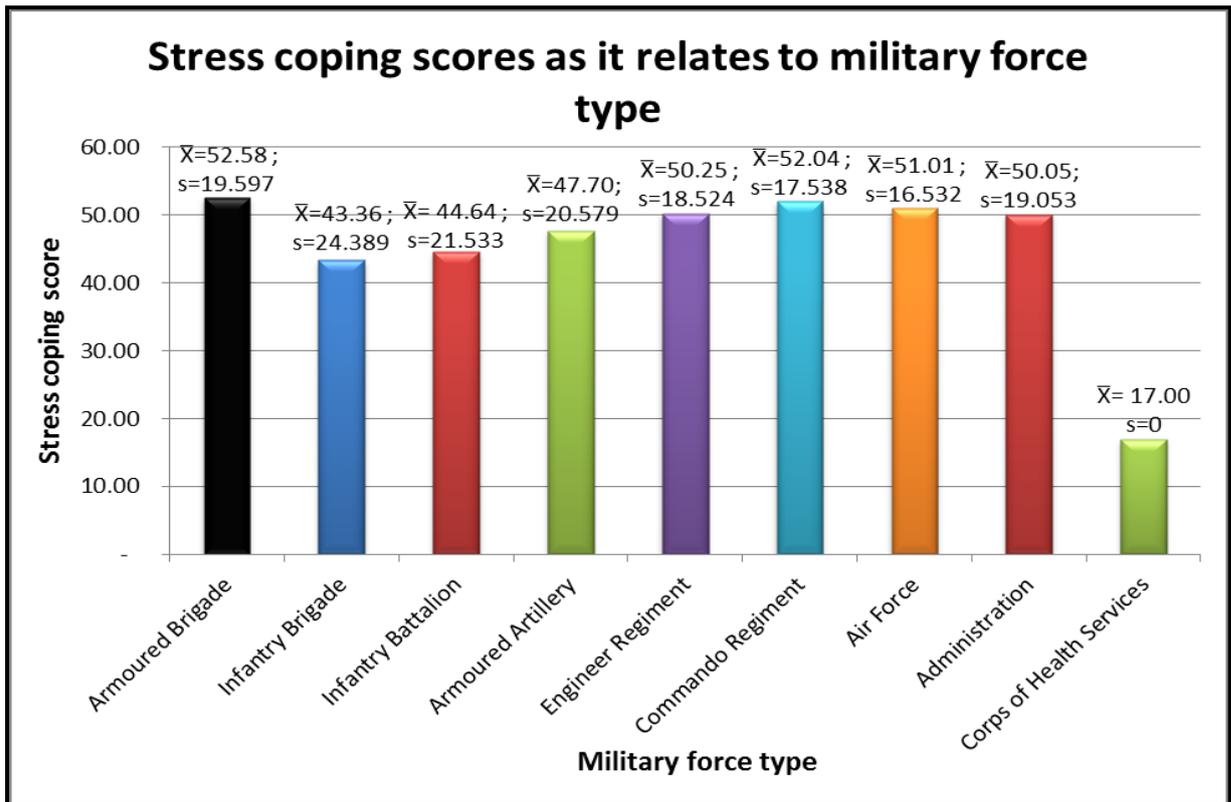
**Figure 4. 6: Stress coping scores in relation to the military base camps of Botswana Defence Force**

#### 4.4.15.2.2 Stress coping and military type

Literature discussed in Chapter Two, does not discriminate between stress coping among different military types. It is therefore postulated that no differences exist in the stress coping responses of BDF members and their military types. An ANOVA was conducted to compare respondents' stress coping scores with their military types. An interesting finding emerged in stress coping scores of respondents from different military types indicating that military staff cope differently based on their military type ( $F=2.214$ ;  $p=0.031$ ) with  $p \leq 0.05$ . It was therefore accepted that a difference existed between the stress coping scores of BDF members and their military types.

A Least Significant Difference test was then administered on the pairwise differences of stress coping scores as it relates to different military types of the Botswana Defence Force. Results of the Least Significant Difference test revealed that BDF members from the armoured brigades' stress coping scores were significantly different from those of the infantry brigade ( $p=0.040$ ) and the infantry battalion ( $p=0.002$ ) with  $p\leq 0.05$ . A further significant difference was seen between the infantry battalion and the engineering corps ( $p=0.011$ ); air force ( $p=0.003$ ) and administration ( $p=0.047$ ) with  $p\leq 0.05$  in all instances. Results (Figure 4.7, p.288) further revealed that BDF members from the armoured brigade ( $\bar{X}=52.58$ ;  $s=19.597$ ) and commando regiment ( $\bar{X}=52.04$ ;  $s=17.538$ ) had significantly higher stress coping scores in relation to other military types. The infantry brigade ( $\bar{X}=43.36$ ;  $s=24.389$ ) and corps of health ( $\bar{X}=17.00$ ;  $s=0$ ) had significantly lower stress coping scores in relation to other military types. The low stress coping score of the corps of health was expected with only one respondent from this corps. It was therefore deduced that military members cope differently with stress based on their military type, postulating that the occupational environment in which these military types operate could be the influential factor.

Results post a new contribution to stress coping literature related to the military as it indicates that BDF members cope differently with stress based on their military type. Further investigation outside the scope of this study is needed to explore stress coping amongst the different military types in the BDF, and further to determine if a similar trend is found in other military contexts.



**Figure 4. 7: Stress coping as it relates to the military force type of the Botswana Defence Force**

#### 4.4.15.2.3 Stress coping and military rank

Dolan and Endler (2008) noted that lower-ranked junior-enlisted soldiers reported higher levels of passive coping, whilst more senior soldiers adopted a more active coping which buffered them against the physical, psychological and behavioural symptoms of stress, contributing to military hardiness. Findings from Dolan and Endler (2008) thus indicate that a difference exists in how junior and senior ranked officers cope with stress. It was however, postulated that no difference exists in stress coping scores of BDF members' as it relates to their military ranks. An ANOVA was used to test this postulation. It was found that no

significant difference exists between stress coping scores of respondents and their military ranks ( $F=1.395$ ;  $p=0.186$ ) with  $p \leq 0.05$ .

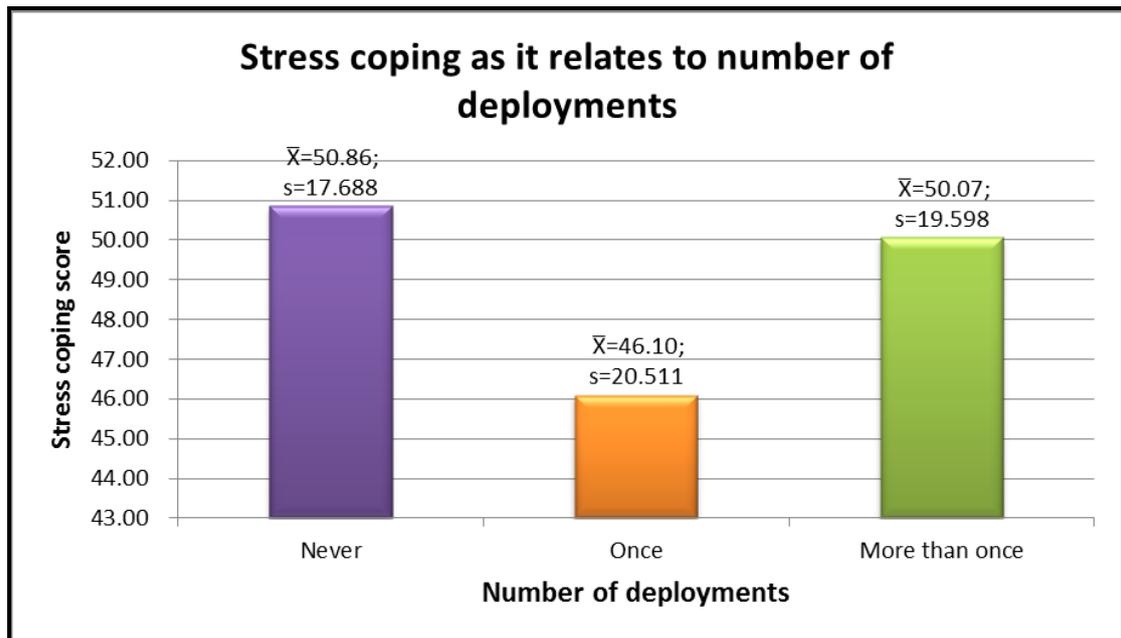
The results confirmed that no differences existed between the stress coping responses of the BDF members and their military ranks contradicting the findings of Dolan and Endler (2008). Botswana Defence Force members who took part in this study were mainly from junior and middle ranks, with few responses from higher ranked officers. This may have influenced the findings, suggesting that leadership responsibilities are not that different among lower and middle ranked officers and therefore no stress coping differences are experienced at this level of leadership. Additional research is needed to include participants from all ranks, in order to test if differences exist in stress coping between military ranks. Current findings cannot be generalized to other military forces internationally.

#### **4.4.15.2.4 Stress coping and deployment**

No literature was found addressing the differences in stress coping and number of deployments military staff experienced. It was therefore postulated that there would be no difference in how BDF members coped with stress in relation to the number of deployments. An ANOVA was conducted to test this postulation. A significant difference was noted in the stress coping scores and deployments ( $F=3.142$ ;  $p=0.044$ ) was  $p \leq 0.05$ . It was therefore accepted that a difference existed between stress coping and military deployments. Since an ANOVA does not indicate specific differences, further analysis was conducted to explore these

differences making use of the Least Significant Difference test.

The Least Significant Difference test focuses on a multiple comparison testing the pairwise differences of stress coping scores with the number of deployments. On the basis of the results of the Least Significant Difference test, it was concluded that stress coping scores of respondents who had experienced one deployment were significantly different from the stress coping scores of those who had not been deployed ( $p=0.014$ ) and those who had been deployed more than once ( $p=0.040$ ) with  $p\leq 0.05$  in both instances. Results (Figure 4.8, p.291) further revealed that BDF members that experienced one deployment ( $\bar{X}=46.10$ ;  $s=20.511$ ) had significantly lower stress coping scores in relation to members that never experienced any deployments ( $\bar{X}=50.86$ ;  $s=17.688$ ) and those that experienced more than one deployment ( $\bar{X}=50.07$ ;  $s=19.598$ ). It was therefore deduced that military members cope differently with stress based on the number of deployments they experience. Deployment is a military stressor and no relationship was expected between deployment and stress coping. Findings in 4.4.6.2 (p. 241) however, indicated a difference between stress experiences and the number of deployments. It should have been anticipated that members experiencing one deployment would cope better with stress in comparison with those experiencing no deployments or more than one deployment. No literature supports deployment as it relates to coping with stress, resulting in a new possible contribution to stress in military contexts and warrants further research.



**Figure 4. 8: Stress coping scores as it relates to the number of deployments experienced by Botswana Defence Force members**

#### 4.4.16. Stress coping and traumatic life experiences

Borders and Kennedy (2006) found that simulations of traumatic events during military training prepared soldiers to be resilient to stressful events. Killion, Bury, De Pontbraind and Belanich (2009) stated that military training better prepare soldiers for changing circumstances, ensuring that their work would be less demanding and stressful. It was therefore postulated that no relationship would exist between stress coping and traumatic life experiences.

Actual stress coping scores were regrouped into those who experienced stress and those who did not experience stress (section 4.4.14, p. 273) for analysis purposes. An independent-samples t-test was conducted to compare the

relationship between grouped stress coping and traumatic life experiences. No significant difference was found in the grouped stress coping scores and traumatic life experiences ( $t=-1.315$ ;  $p=0.189$ ) with  $p\leq 0.05$ . The results indicated that there was no difference in how BDF members coped with stress in relation to traumatic life events they experienced. Findings of this study seem to contradict findings of Borders and Kennedy (2006). Findings of this study however, emphasised that stress coping strategies or the skills to cope with traumatic life experiences in the BDF were not sufficiently dealt with during military training. The military training provided by the BDF focus on preparing soldiers for combat and to keep soldiers fit as a military requirement but not to cope with stress during non-operational duties. The content of the training program should therefore be explored, and suggestions should be made for its improvement.

#### **4.4.17. Stress coping and social support**

Bartone (2005) and Dolan and Ender (2008) found that social and emotional support enhance a sense of belonging and self-efficiency and are useful stress coping strategies. Nash (2007) indicated that emotional support and care from other people could assist in coping with stress. Soldiers need to be able to take care of themselves, to develop satisfying relationships both with other soldiers and with their military leaders, both for social support and to help them adapt to the military environment. The relationship between stress coping and the social support BDF members received was therefore further explored. An independent-samples t-test was conducted to compare the relationship between stress coping

scores and social support that Botswana Defence Force members had from their family members and friends. No significant difference was found in the stress coping scores and social support ( $t=0.439$ ;  $p=0.661$ ) with  $p \leq 0.05$ .

It seems as if BDF members do not receive support from their family and friends to help them cope with stress. Nor do they receive the necessary social support to foster a sense of belonging and self-efficiency, as emphasised by Bartone (2005) and Dolan and Ender (2008), or to help make stress more bearable, as indicated by Nash (2007). Many BDF members were based far from their families who often lived in small settlements, such as in the Kalahari Desert, and therefore could not provide social support (Mokgwathi, 1999). Since military job requirements are strenuous and BDF staff members do not get the necessary emotional support from their family members and friends, the extent to which the BDF provides such social and emotional support to their staff members through leadership, in order to assist them in making stress more bearable, should be investigated.

#### **4.4.18. Stress coping ability and actual stress**

Coping is a conscious effort to solve personal and interpersonal problems, and to minimize stress (Smith, 2011). Soldiers' training is designed to provide strategies for survival and to develop resilience (Borders & Kennedy, 2006). Apart from basic military training, BDF members also acquire survival skills and knowledge to administer first-aid, make use of natural resources, and cope with stressors

when deployed to remote areas (Mophuting, 2007). It is assumed that the training BDF members received would be sufficient to lay a foundation for healthy and successful coping strategies, resulting in increased resistance to the effects of potential traumatic stress (Borders & Kennedy, 2006). The researcher therefore postulated that there would be no relationship between BDF members' actual stress and stress coping ability.

The Pearson product-moment correlation coefficient was administered to test this postulation (Table 4.18, p.295). A moderate positive correlation between the variables of actual stress and stress coping ( $r=0.369$ ;  $p=0.000$ ) was found. It was accepted that stress scores were related to stress coping. Coping mechanisms in the military however, are weak, as BDF members only coped moderately with stress. Findings of this study suggest that military training given by the BDF, as indicated by Mophuting (2007), was not sufficient to help them cope with stress. A possible reason could be that the types of stressors experienced by BDF members were not related to direct war circumstances but more to daily operational and personal stressors not addressed in the training. This reinforced the need to explore military training in the BDF, to determine the content of their training program, and to offer suggestions for enhancing members' ability to cope with stress. The proposed Therapeutic Recreation Stress Management Intervention Model could also serve as a useful tool, making use of leisure as a means to enhance stress coping.

**Table 4. 18: Correlation between actual stress scores and stress coping**

		Stress coping
<b>Actual stress score</b>	Pearson correlation	.369**
	Sig. (2-tailed)	.000
	N	857

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### 4.5 CHAPTER CONCLUSION

In this chapter the results of the study were analysed extensively through different statistical tests. Multi-layered analysis of results explored elements of the questionnaire administered to respondents in the Botswana Defence Force. Results were presented and discussed according to the structure of the questionnaire. Results presented in this chapter focussed on the first two objectives of this study: to determine BDF members' sport and recreation participation behaviour; and to determine BDF members' actual and perceived stress levels, overall psychological well-being, and any dysfunctional behaviours resulting from stress.

Demographic results indicated that the Botswana Defence Force was a male-dominated institution, recruiting soldiers between the ages of 18 and 44, most of whom had some level of education. Most of the staff members came from the lower ranks and had experienced one or more deployment since being recruited into the military. Findings corroborate with previous studies of Republic of Botswana, (2008), Osei-Hwedie, Ntseane and Jacques (2006) and Henk (2004)

emphasising gender equity as a social phenomenon and education as an important factor contributing to human development in Botswana and the Botswana Defence Force. Results further corroborated with previous studies related to deployment emphasising that BDF members are deployed to border posts and other areas where their services are required.

Results indicate that the first objective of this study was achieved, confirming that BDF staff members participated in sport and recreation activities, showing an active and healthy lifestyle with satisfactory levels of involvement. Activities were not exclusively offered to BDF members engaging at competitive level in contrast with previous studies. Staff members were clearly satisfied with the facilities and instruction provided. They felt safe when taking part in activities at the base camp facilities. Findings further corroborated with previous studies related to sport and recreation participation in military context. The use of sport and recreation activities as part of the proposed Therapeutic Recreation Stress Management Intervention Model could thus be useful to implement, as military staff are aware that participation in physical activity improves their health and well-being. The therapeutic use of physical activities could be stressed in leisure education workshops, so that military staff can appreciate the contribution of sport and recreation activities to holistic well-being.

Military work is regarded as society's most stressful occupation. Results related to stress in the BDF indicated that objective two of this study was achieved.

Results revealed that BDF members experience stress and that stressors experienced were not just related to operational and non-operational military stressors but also personal stressors as a result of social, financial and emotional conditions. Members of the BDF did not receive the necessary social support from family members and friends to cope with these stressors as most family members resided in settlements far away from their base of deployment. Stress levels were not affected by age or level of education in contradicting findings of previous studies. Military rank however, affect how members experienced stress that was expected based on responsibilities related to leadership. Botswana Defence Force members also experienced stress differently based on the number of deployments contradicting literature on military deployments indicating that all deployments are equally stressful.

Stress in relation to sport and recreation participation revealed that BDF members were intrinsically motivated to follow healthy lifestyles contributing to lower levels of stress. The latter could even lead to the reduction of stress. The studies of Williams (2008), Daly and Kustler (2006), Freeman (2006) and Bhoodram (2001) supports this finding indicating that participation in physical activities and living healthy lifestyles, might lead to a decrease in stress levels. Frequency in participation however, should be emphasised as an important factor in a recreation intervention program to gain optimal health and well-being as well as reduce levels of stress.

Results on stress coping measures used by BDF members revealed that recreation activities were deliberately used to cope with stress. Although physical exercise was used as a cope with stress, sedentary recreation activities were more prevalent amongst BDF members. Positive stress coping measures was adopted by respondents contrary to previous studies indicating that military staff adopt dysfunctional behaviour (i.e. excessive drinking) as coping measure that forms part of the military culture. Age and education affects the coping ability of BDF members implying that empowerment of military staff would enhance their ability to cope with stress. Stress coping abilities of BDF members also differed in terms of base of deployment, military type, military rank and number of deployments that were not supported by previous studies, posting a new contribution to military literature. Results further revealed that BDF members were not sufficiently skilled in stress coping during military training. The proposed Therapeutic Recreation Intervention Model could thus serve the purpose of providing additional skills to BDF members during and after military training providing them with the necessary skills to cope with military and personal stress.

Chapter five will conclude the study providing recommendations for further studies and possible suggestions to BDF for better practices as a means to prepare soldiers better to cope with stress.

## CHAPTER 5

### CONCLUSION AND RECOMMENDATIONS

#### 5.1 INTRODUCTION

Literature indicated that military staff are frequently exposed to stressful experiences as part of their military duties (Philpot, 2006; .Uhaň, Kovač, Muhvič-Urek, Kovačević, Frančišković & Šimunović-Šoškić, 2006; Gallimore, 2002). These experiences often leave emotional and physical scars and, if not managed correctly, can lead to post-traumatic stress syndrome. Recreational pursuits, including relaxation activities and exercise, are recognized as measures to reduce, control or treat stress (Nel, 2006; Botha, 2005; Bhoodram, 2001; Kantor 1994). In military settings, however, recreational activities are mainly focused on the promotion and maintenance of military efficiency and morale (Phillips, 2006; US Army MWR, 2003).

Insufficient evidence exists on the use of recreation as a way of treating or preventing stress in the military, and even more so in military forces in Africa (Correira, 2007; Jenoure, 2007; Mophuting, 2007). More specific evidence has shown that Botswana Defence Force (BDF) members are exposed to stressful life experiences, but that they lack the knowledge or resources to make use of recreation-related coping strategies to reduce stress (TUT, 2006; Henk, 2004). The main purpose of this study was to determine the use of sport and recreation

activities in the BDF, and to see if they used these activities as a form of therapy to reduce and manage their stress.

An empirical research design was followed, using a quantitative survey in the form of a questionnaire to determine the sport and recreation participation behaviour of the soldiers and to measure their perceived and actual levels of stress. The questionnaire further determined the perceived symptoms of physical, psychological and behavioural reactions to stress among BDF members, as well as their stress coping measures. Eight hundred and fifty seven BDF soldiers took part in the study. Descriptive and inferential statistical analysis methods were used to explore the nature of the data collected from the target population and to draw conclusions from the data. The research question for this study was formulated as:

***‘Do the staff members of the Botswana Defence Force value participation in sport and recreation activities in military settings as therapy in order to reduce or manage stress?’***

Following the research question, the main goal of this study was formulated as:

***‘To determine the use of sport and recreation activities in a military setting as therapy to reduce and manage stress.’***

In order to achieve the goal of the study, the following objectives were identified in chapter one:

1. To determine the Botswana Defence Force staff members' sport and recreation participation behaviour.
2. To determine Botswana Defence Force staff members' possible stress levels and overall psychological well-being, as well as dysfunctional behaviours (e.g. alcohol abuse, drug or other mood-altering drugs, aggressiveness, sleeplessness) as a result thereof.
3. To develop a Therapeutic Recreation Stress Management Model as a possible recreation intervention which could lead to stress reduction and contribute to the psychological well-being of the Botswana Defence Force staff members.

Based on the problem statement, research aim and objectives, the following hypotheses were formulated:

***H<sub>0</sub> (1): Botswana Defence Force members do not participate in physical activities for recreational purposes, either to reduce stress or to cope with stress.***

***H<sub>0</sub> (2): Botswana Defence Force members do not experience stress and there is therefore no relationship between their actual and perceived stress scores, nor does a relationship exist between stress and demographics, life factors contributing to stress and coping with stress (i.e. life satisfaction, social support, traumatic***

***life experiences), sport and recreation participation, work environment, or symptoms of physical, psychological or behavioural reactions to stress.***

Insight was gained into the research question and the hypotheses of the study by testing the significance between variables. The findings were presented and discussed in Chapter Four.

Final conclusions and recommendations will subsequently be presented according to the above aims.

## **5.2 CONCLUSIONS**

As far as could be established from the relevant literature this study is the first to describe stress levels in the military in Africa and to suggest possible therapeutic recreation interventions. The Botswana Defence Force is a reputable but fairly young defence force, established after independence in 1966. Its main activities focus primarily on anti-poaching operations in the game-rich northern areas of the country, disaster-preparations and foreign peacekeeping. These activities can be stressful for soldiers, resulting in the problems that are the focus of this study.

Conclusions of the results will be presented in the following paragraphs as it relates to each hypothesis.

### 5.2.1. H<sub>0</sub> (1):

**Botswana Defence Force members do not participate in physical activities for recreational purposes, either to reduce stress or to cope with stress**

The H<sub>0</sub> (1) postulated that BDF members did not participate in physical activities for recreational purposes, either to reduce or to cope with stress. The researcher partially rejected H<sub>0</sub> (1), as the results proved that BDF members did participate in sport and recreational activities, both for recreation and to cope with stress. H<sub>0</sub> (1) was partially supported however, since BDF members did not participate in sport and recreation activities solely as treatment to reduce stress.

- Botswana Defence Force members participated in 41 sport and recreation activities (25 individual and 16 team activities), mainly at their various base camps. An increased interest in individual activities was observed. Nonetheless, team sport and recreational activities were still more popular than individual pursuits, corresponding to findings of TUT (2006). Potential for sport and recreation as interventions to reduce stress was established.
- Botswana Defence Force members frequently participate in sport and recreation activities indicating that they have regular access to these activities and programs offered at their base camps. Recreation programs in military settings therefore provide constructive programs to off-duty soldiers and their family members promoting mental, physical and social well-being corroborating with findings of Temple and Ogilvie (2006).

- Sport and recreation programs and activities were found not to be exclusive to those members who competed at a more professional level as indicated by Mophuting (2007), but were offered to the larger military community, promoting mass participation that is in line with the Military Welfare and Recreation program (US Army MWR, 2003).
- Botswana Defence Force engage in sport and recreation activities mainly at a recreational level, citing firstly health and wellness and secondly leisure and relaxation as their main reasons for participation. Results demonstrates that BDF members aimed at having healthy lifestyles corroborating with findings of Daly and Kunstler (2006), Caldwell (2005), and Haworth and Lewis (2005), but did not value these activities specifically as treatment to reduce stress. From this finding it is concluded that BDF members demonstrate a lack of understanding of the treatment modalities sport and recreation activities uphold.
- The status of facilities, services and level of instruction available in the BDF were perceived as satisfactory. This fostered a feeling of safety, corroborating with findings of Randolfi (2004) indicating that workplace safety contributes to stress reduction. Botswana Defence Force members are therefore motivated to participate in sport and recreation activities that could contribute to the reduction of stress. Botswana Defence Force strives to provide a hazard and stress free environment for staff members to participate in physical activities.
- Botswana Defence Force members used regular physical exercise amongst other recreation activities to cope with stress. Sedentary (passive)

recreational activities as coping measures however, were more prevalent, possibly as a result of physical exercise being related to military training. Participation in sport and recreation activities alone was therefore not deemed sufficient to cope with stress. The findings stressed the need for intervention programs to educate soldiers on the use of sport and recreation activities in relation to the wellness dimensions, as a way to treat stress fostering holistic well-being.

#### 5.2.2. $H_0$ (2):

**Botswana Defence Force members do not experience stress and there is therefore no relationship between their actual and perceived stress scores, nor does a relationship exist between stress and demographics, life factors contributing to stress and coping with stress (i.e. life satisfaction, social support, traumatic life experiences), sport and recreation participation, work environment, or symptoms of physical, psychological or behavioural reactions to stress**

Results of this study reject the  $H_0$  (2) in all instances except for age, education, spirituality and religion, base camps, military force type, frequency in participation and social support as no relationship was found between stress and these variables. Results conclude the following:

- Botswana Defence Force is no different from other military forces globally as members experience similar operational and non-operational stressors confirming findings of Nash (2007), Bartone (2006) and Bartone (2005) implying that military stressors are multi-dimensional. Members of the BDF however, also experience personal stressors as a result of social, financial and emotional conditions that are overseen as contributor to stress in the military environment. Stress related to personal experiences could distract a soldier and affect their ability to perform basic military tasks. The current finding adds to a growing body of literature on stress in military context.
- Social support from family members and friends is important to deal with traumatic life experiences and every day stressors. Members of the BDF however, do not get the necessary social support from their family members and friends as they mostly reside in settlements far away from where the soldiers are based. This could be traumatic and stressful to a soldier, especially if traumatic experiences were personal and directly involved their families. Botswana Defence Force members would therefore have to rely on the social support of their military supervisors and peers.
- Botswana Defence Force members were found to be satisfied with life and it was therefore postulated that they were psychologically well and have a high morale leading to job satisfaction and the ability to cope with stress (Miller & Foster, 2012; Rego & Cunha, 2008; Bagne-Walsh, 2008; Evans, 2003).
- Stress is based on how a person perceives or experience stress. Results confirmed that a difference exists in how BDF members perceive stress and

experience stress. Stress can thus not just be measured based on perceptions and experiences of military staff but should be thoroughly assessed in order to determine how soldiers understand the stress, the stressors experienced and the context causing the stress in order to address soldier's health, well-being and job effectiveness.

- Individual demographic characteristics of BDF members and stress:
  - Contrary to literature indicating that younger soldiers shown to be more vulnerable to stress in relation to more experienced soldiers (Nash, 2007; Bartone; 2005), no relationship was found between stress and age of BDF members. Findings of this study suggest that stressors experienced by BDF members are therefore similar for all members irrespective of age.
  - Marital status is one of the most stressful life events identified by Rahe, Mahan and Arthur (1970) and could affect how a person experience stress, especially when separated, divorced or widowed. This is no different for BDF military staff members showing higher levels of stress when separated, divorced or widowed. A healthy relationship between married couples therefore contributes to lower stress.
  - Education is a recognized factor to be considered in stress experiences of individuals and how stress is perceived. Members of the BDF were literate with 30 (3.6%) attending school up to primary school level, 538 (65%) attending school up to secondary school level and 260 (31.4%) in possession of a tertiary qualification. No differences existed in stress responses of BDF members in relation to their level of education suggesting

that BDF members have the cognitive ability to manage stress.

- Spiritual and religious practices contribute to the holistic wellbeing of an individual and aid in developing personal beliefs about meaning and purpose in life. In times of combat, some cultural groups make use of spiritual and religious practices to override anxiety about death or making people believe they act serving a bigger purpose. Although BDF members were involved in spiritual and religious practices, findings suggested that it has no effect on how BDF members experience and implies that they do not depend on these practices during military operational or non-operational duties. Findings enhance our understanding of spiritual and religious practices in military contexts noting that it is not used by all military groups. Spirituality and religion practices in relation to stress should therefore be assessed in context of the culture as it relates to different military forces.
- Military demographic profile of the BDF and stress:
  - Botswana Defence Force base camps are spread across various areas in Botswana. Although each base camp has a different command and of a different size, results suggest that BDF members experience similar stressors irrespective of their base of deployment.
  - Botswana Defence Force has nine different military force types operating under three main military commands, the Ground Forces, Defence Logistics and Air Arm (Republic of Botswana, 2008; Dutch Aviation Society, 2006; Henk, 2004). Each force type has different responsibilities but do not influence the stress experiences of BDF members suggesting that stress

experiences for BDF members are similar.

- Responsibilities of military leaders change with the change in rank causing an increase in stress experiences among BDF members.
- Deployment is a recognized as a workload military stressor. The number of deployments experienced by BDF members affects how stress is experienced contradicting studies of Bartone (2006). The current finding enhances our understanding of deployment as a military stressor and adds to the growing body of literature on stress in military context.
- Botswana Defence Force members that are satisfied with their level of physical activity have lower levels of stress indicating that soldiers that are intrinsically motivated and are living a healthy lifestyle perceive stress differently. This could protect soldiers against experiencing stress or even lead to the decrease in stress levels corroborating with findings of Bhoodram (2001). Measurement of satisfaction with physical activity could be useful in the evaluation of a therapeutic recreation intervention determining whether stress reduction was evident.
- Frequency in participation in sport and recreation activities does not seem to be important to BDF members. This raises a concern as frequency in participation in sport and recreation activities is seminal to the success of a recreation intervention to foster a lifelong satisfying leisure lifestyle contributing to stress reduction (Miller, *et al.*, 2009; Daly & Kunstler, 2006).
- Botswana Defence Force members' experience of stress, irrespective of perceived stress or actual levels of stress, was directly influenced by the

experienced traumatic life events. These events are related to operational and non-operational military and personal traumas experienced and could cause psychological injury, negatively impacting employee wellness and job satisfaction if soldiers fail to manage these traumas.

- Stress affects a persons' mental health and a relationship exists between mental health and life satisfaction (Miller and Foster, 2010). Botswana Defence Force members perceiving to be satisfied with life showed lower levels of stress and therefore display good mental health.
- Stress causes symptoms of physical, psychological and behavioural reactions to stress. Dysfunctional behaviour is a sub-group formed from behavioural reaction to stress. Botswana Defence Force members do not fall in the high-risk occupational group for any of these stress reaction symptoms. This study confirms that a significant relationship exists between stress and these stress reaction symptoms and dysfunctional behaviour. An increase in stress levels will result in the increase in stress reaction symptoms or dysfunctional behaviour as a result of poor management or failure to prevent increased levels of stress.
- Symptoms of physical, psychological and behavioural reaction to stress are interrelated. Botswana Defence Force members could experience more symptoms of stress reactions should they experience an increase in one of these stress reaction domains if not treated appropriately.
- Botswana Defence Force members made use of various positive stress coping strategies including regular exercise and other forms or recreation

activities (watching television, movies, listening to music, reading and playing chess) and not dysfunctional behaviour (alcohol abuse, illegal substance abuse or aggressiveness) to cope with stress. Alcohol abuse as stress coping measure in military settings could therefore not be generalised to all military forces.

- Demographic characteristics of BDF members and stress coping
  - A difference exists in stress coping measures amongst military members of the BDF. Younger soldiers cope better with stress in relation to more experienced soldiers that significantly contributes to the growing body of knowledge on military stress.
  - More educated BDF members cope better with stress in relation to other members indicating that education play a role in how military staff copes with stress (Sutherland & Cooper, 2000). Education as a developmental tool is used in therapeutic recreation services and based on findings in this study, should be considered as a focus area of an intervention program.
  - Spirituality and religion, as spiritual practice, is one of the dimensions contributing to optimal wellness. Botswana Defence force members lack the skills and knowledge of the value of spirituality as coping measure contributing to optimal wellness mainly because they do not rely on spiritual and religious practices to cope with stress.
- Military demographics and stress coping
  - Botswana Defence Force members' ability to cope with stress is related to the base camp of deployment adding to the growing body of stress coping

literature in military context.

- Military members cope differently with stress based on their military type but not their military rank. The occupational environment in that military types operate is regarded as the main influencing factor affecting stress coping abilities of BDF members.
- No literature supports deployment as it relates to coping with stress in military context. Botswana Defence Force staff members however, found to cope differently with stress based on the number of deployments experienced. The reason for this difference in stress coping ability of military staff is unknown. The study has gone some way enhancing our understanding of deployment as military stressor making a noteworthy contribution to a growing body of stress coping literature in military context.
- Stress coping strategies or the skills to cope with traumatic life experiences in the Botswana Defence Force were not sufficiently dealt with during military training. The content of the training program should be explored to address the shortcomings of the military training program
- Social and emotional support enhances a sense of belonging and self-efficiency that are useful in coping with stress. Botswana Defence Force members could not rely on the social support from families and friends who often lived in small settlements and rely on social support through leadership in the Defence Force to assist them coping with stress.
- A relationship exist between stress and stress coping. Coping mechanisms in the military however, are weak, as BDF members only coped moderately with

stress suggesting that military training given by the Defence Force is not sufficient to help them cope with stress.

On the basis of these findings, objective one and two of this study was reached. The empirical findings in this study provide a new understanding of stress in the Botswana Defence Force and add substantially to the growing body of knowledge on stress in military contexts. This study is the first study related to stress in the military in Africa, specifically as it relates to sport and recreation as stress coping measures in military context. Not all results were supported by current literature indicating that stress in each military force should be assessed based on their own merit.

The above findings contributed to achieving the third objective namely developing and proposing for a Therapeutic Recreation Stress Management Intervention Model (TRSMIM), designed to reduce stress and promote the psychological well-being of the BDF members.

Limitations experienced by the researcher as it relates to the study will be discussed in subsequent paragraphs.

### 5.3 LIMITATIONS TO THE CURRENT STUDY

This study gathered valuable information on the stress levels of BDF staff members, as well as their behavior when taking part in sport and recreation. It further provided valuable information on how therapeutic recreation could be used as a tool to manage stress. There were, however, limitations to the study that should be taken in consideration. The following limitations were identified:

- Communication with the BDF was only possible through e-mail or normal postage, that prolonged the process of getting permission to conduct the study and making arrangements as to when it could be carried out, as the researcher had to rely on times and dates decided by BDF.
- The first limitation led to further limitations, in that the pilot study questionnaires were not sent back in time to make the necessary corrections or to test for reliability before being sent for printing. Changes had to be made in Section C about the type of responses required to the statements, and these changes had to be verbally explained at each of the bases where the survey was completed, since it was not possible to reprint 2000 questionnaires on arrival in Botswana.
- The study made provision for members of the BDF from all ranks to complete the questionnaire. The staff members participating in the study were mainly from middle and lower ranks, with only a few from higher ranks. This may have placed some limitations on the outcome of the results, as the intention was to identify whether the staff members showed signs of stress and whether such stress was militarily-induced, but this might not necessarily have

been the case. The findings therefore had to take into consideration that these soldiers might have entered the military already suffering from civilian traumas and stresses, and that these might have had an impact on their performance and their ability to adapt to the military.

- The BDF comprised of only male soldiers at the time of data collection making the findings gender biased.
- The questionnaire used was a self-reported questionnaire and the researcher had to rely on the soldiers to be truthful in their responses that pose a limitation to the study. It could not be accepted that soldiers were truthful in their responses at all times.
- The questionnaire was developed from international sources and was not tested for reliability and validity in cultural context.
- One should further take into consideration that being new in the military can also be stressful. This was not taken into account with the design of the questions on the stressors of adaptation to new circumstances and to military discipline. This was a further limitation of the study, as the researcher assumed that the respondents would be well-adapted military members from all ranks with some degree of exposure to military operations.
- The length of the questionnaire may also have limited the number of responses, as some of the questionnaires were not completed in full and some were even handed in blank. This may have been due to problems with the schedule of the respondents, giving them limited time to complete the questionnaire.

- Language barriers could have placed limitations on the study when the respondents did not understand English fully or felt uncomfortable asking the Tswana fieldworker for assistance in interpreting some of the questions. This may have led to some questions remaining unanswered or to incomplete questionnaires being returned.

In the following paragraphs recommendations are presented based upon findings and conclusions on the study.

#### **5.4 RECOMMENDATIONS FOR FURTHER RESEARCH**

- This study was gender biased with only males participating in the study as female cadets were only recruited into the BDF after the survey was conducted. This study could be repeated with female cadets only to compare results with findings of the current study.
- A lack in responses from higher ranked officers limited the results to reflect on sport and recreation participation behaviour and stress as it relates to the BDF. This study could be repeated to only include high ranked officers and to explore if a relationship exists with the findings of the current study.
- Sport and recreation interests change with new members recruited into the BDF. A needs assessment should be conducted at least every three to five years to determine the sport and recreation interests and needs, changing programs accordingly. Qualitative and quantitative tools could be used to measure desired participant outcomes, including skills acquisition, social

interactions, and changes in the attitudes of peers towards those with disabilities, increase in self-concept and improvement in the overall quality of life. Researchers at universities could assist in this regard.

- The impact of sport and recreation programs should be explored to determine if the desired outcomes were achieved in the recreation programs that were organized for the staff.
- Military stressors addressed in the literature only refer to operational and non-operational stressors. Personal life stressors that originate outside the military environment and the spill-over effect on performance of military staff and are not addressed adequately. Further investigation exploring stress in the military and the effect of outside stressors influencing military performance is recommended.
- The findings revealed a difference exists in stress responses of BDF members from different age groups and ranks. Literature supporting these findings is limited and should be further explored to determine the possible causes for the difference in stress responses in relation to age and military rank.
- Results indicate that a difference exists in stress experiences of BDF members in relation to the number of deployments. More specific stress increased with the increase in the number of deployments undergone by BDF members. More research is suggested to explore the reasons for soldiers experience stress differently during their first deployment compared to when they have been deployed more than once.

- The social and emotional support given by supervisor's military environments should be further investigated specifically in African contexts.
- Younger military staff members of the BDF cope better with stress in relation to other age groups. Stress coping in relation to age should be further explored in military contexts.
- Education does not appear to have an effect on the stress experiences of soldiers. The findings however, did suggest that a level of education affected soldiers' stress coping abilities. The recommendation is that education as a treatment modality for stress in military environments should be further explored.
- Spirituality and religion as stress coping tools in the military should be explored.
- Further investigation is needed to examine how soldiers at different base camps in the BDF cope with stress based on the findings of this study. Francis Town as military base camp of the BDF should be investigated specifically as findings indicate that BDF members based there did not cope that well with stress than in other bases.
- The stress coping measures of military staff in the different regiments need further exploration.
- Deployment as a military stressor should be further investigated, as the findings indicated differences in soldiers' stress experiences and stress coping abilities.
- Basic military training in the BDF should be explored in terms of its content in

order to address how such training could enhance stress coping.

## 5.5 RECOMMENDATIONS FOR PRACTICE

- Sport and recreation activities as interventions to reduce stress should be emphasised during military training. Botswana Defence Force members have regular access to activities and programs on base camps. Leadership should therefore remind soldiers frequently on the importance and benefits of sport and recreation participation and promote participation to take place frequently throughout the year. This might include the provision of sport and recreation programs during military deployment.
- Therapeutic potential of physical activities should be emphasized through workshops educating BDF members from all ranks and all military basis on leisure and well-being.
- The value of therapeutic recreation and leisure experiences should be articulated to staff, focusing on positive psychology, building on the strengths of staff rather than their weaknesses, in order to improve their mental and physical health.
- The Botswana Defence Force could adapt the Commission for Accreditation of Parks and Recreation Agencies (CAPRA) Army accreditation standards to improve sport and leisure participation and to promote the quality of life of its military staff. These standards address leadership criteria, organizational activities, inclusion criteria, program standard criteria and facility standard criteria in military context.

- Botswana Defence Force members should be provided with adequate military training preparing them to respond and recover from military and personal challenges to continue functioning and build resilience and military hardiness. This would ensure better performance in the workplace.
- Stress cannot be measured simply on the basis of perceptions and experiences. Thorough assessment is needed to determine stress levels of military staff in order to provide the necessary treatment or stress coping training.
- Education does not seem to affect the stress experiences of BDF soldiers, however, education is an important development tool used in therapeutic recreation services to assist people with illnesses, mental or physical disabilities or other problems to enhance their health, functional abilities, independence and well-being. Education should therefore be a key focus area in the development of a recreation intervention.
- The potential of spirituality as a wellness dimension should be communicated to BDF members as one of the ways of coping with every day and operational stress.
- Botswana Defence Force members are satisfied with their physical lifestyles leading to improved health, wellness and a reduction in stress. Satisfaction with physical activity would therefore be a useful measurement evaluating stress reduction through the implementation of a recreation intervention.
- The organizational structure of the BDF should be developed to include therapeutic recreation services as a support system for BDF staff and their

families. These services should be formalised in a model to institutionalise recreation services to BDF members.

- The recommended intervention model (Therapeutic Recreation Stress management Intervention model) should be tested and implemented as a structured method facilitating the reduction of stress levels of staff, especially those newly recruited to the BDF, developing and maintaining an increased participation in sport and recreation as a way of enhancing the quality of life and overall well-being of staff members.

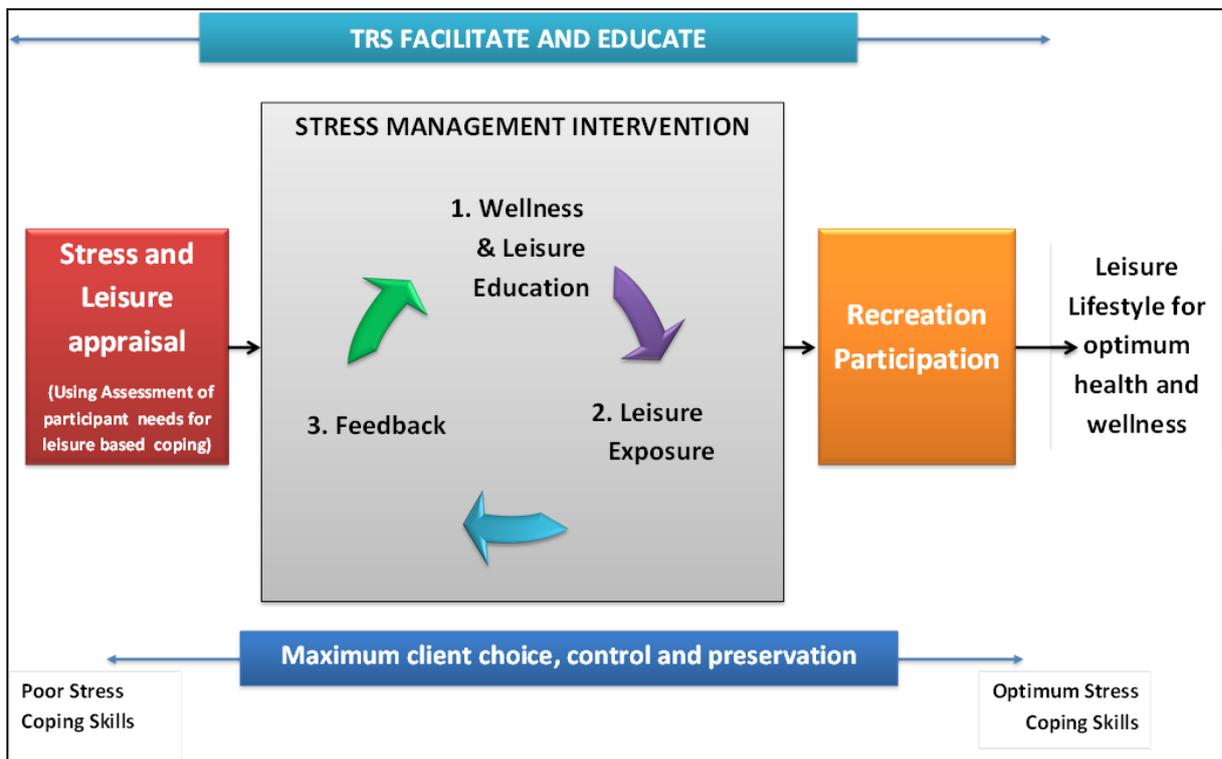
## **5.6 SPECIFIC RECOMMENDATION**

A Therapeutic Recreation Stress Management Intervention Model (TRSMIM) is recommended as a way forward providing the necessary skills and ability for Botswana Defence Force members to cope with stress.

Findings highlighted the need to assist soldiers in coping with stress. This goes beyond the training they receive during basic military training, that is focused on preparing them for military stressors and developing military hardiness. This section addresses the last objective of this study, introducing a Therapeutic Recreation Stress Management Intervention Model as a possible recreation intervention, one that could lead to stress reduction and contribute to the psychological well-being of the Botswana Defence Force staff members. Both the literature and the findings of this study contributed to the development of a model that addresses the main aspects of traditional Therapeutic Recreation

Models. The difference in this model is that the intervention will be stress-specific, making use of the wellness dimensions as identified by Miller and Foster (2010) (physical, emotional/psychological, social, intellectual, spiritual, occupational, environmental, cultural, economic, and climatic wellbeing), as they relate to the military workplace. A Therapeutic Recreation specialist will serve as a facilitator along the continuum, aiming to assist the client or military staff member to reach an optimal stress-coping leisure lifestyle. Figure 5.1 (p.322) gives a graphic depiction of the proposed Therapeutic Recreation Stress Management Intervention Model.

The proposed Therapeutic Recreation Stress Management Intervention Model could follow a multi-disciplinary approach to facilitating treatment programs for those suffering from depression, stress addiction and other mental or physical disabilities. A multi-disciplinary centre could be developed for this purpose at the main base camp in Gaborone. Specific disciplines could be included, with therapeutic groups offering individualized treatment, delivered by occupational therapists, recreation therapists, social workers, case managers, rehabilitation nurses, rehabilitation technicians, psychologists, psychiatrists, exercise scientists, etc. The transition of well-being concepts into interventions, however, offers a challenge. This model attempts to include leisure as an intervention to create pleasure and maximize the hedonic experience, with happiness as a significant health outcome of the intervention. The inclusion of volunteerism, mentoring and creative activities could offer avenues to valued forms of leisure involvement.



**Figure 5.1: Proposed Therapeutic Recreation Stress Management Intervention Model**

Findings from this study indicated that military staff members did make use of physical activities for recreational purposes, mainly for the benefit of their own personal health and wellbeing, for leisure and relaxation, and to cope with stress. Sedentary recreational activities used as stress coping measures were more prevalent among BDF members than physical activities. The findings further showed that, although these soldiers participated in these activities, they had high levels of stress related to the military environment, as well as personal life stressors originating beyond the military environment. These stressors were not adequately addressed in the training they received, nor was social support in

evidence. The use of recreational activities as a treatment modality to reduce stress was therefore suggested as an alternative measure. This could be done through the development of structured programs in which soldiers could participate and in which they could be monitored to evaluate whether their stress levels had been reduced. However, the programs in themselves would not be sufficient. Education plays a key role in the development of military staff, and could serve as a valuable tool, introducing them to the use of leisure and recreation activities as a way of treating stress and providing them with the experience of different activities before they entered into the structured programs. The Therapeutic Recreation Stress Management Intervention Model could be used for this purpose, as other therapeutic models do not include all the wellness dimensions as factors in reducing stress. This differentiates the Therapeutic Recreation Stress Management Intervention Model from other therapeutic recreation models.

The main aims of this intervention model will be:

- To assess the soldiers' stress and leisure involvement,
- To educate soldiers about health and well-being and the benefits of leisure as a stress coping mechanism, both in their personal lives and in the military,
- To develop a leisure-coping strategy to treat and/or prevent stress, and
- To facilitate the development, maintenance and expression of an appropriate leisure lifestyle for soldiers.

The outcome of the intervention is in line with the ultimate outcomes of the Therapeutic Recreation Services, with the main focus being on:

***Improved health, well-being, and quality of life through psychological, physical, social and other benefits received from an appropriate leisure lifestyle in order to manage everyday life stressors.***

The population for this intervention would be soldiers of the Botswana Defence Force or any other military environment in which soldiers have been subjected both to operational and non-operational stressors and to personal/civilian stressors that might hinder them from performing their military duties. The setting for the intervention differs from the traditional Therapeutic Recreation setting, steering away from residential and community-based health and human service centres/institutionalized services and recreation service providers towards a confined *organizational setting*, more specifically a *military setting*, and focusing on employee wellness.

The proposed model operates on a continuum, taking an individual from poor stress-coping strategies to the development of optimum stress-coping strategies. The role of the therapeutic recreation specialist will only be that of facilitator, as the subject will have full control of his or her engagement in each of the stages. Subjects will provide their input in developing goals and selecting activities, allowing them to feel in control of their lives, rather than being controlled by an outsider or feeling that engagement was compulsory. Voluntary participation is of

great importance in contributing to the success of such a program. The assumption made is that the participating soldiers would not be incapacitated and would not need a specialist to control them or aid them in becoming functional. Interconnectedness however, with and involvement of other professions, such as psychologists and biokineticists, would add value to the application of the model.

The model is based on three components:

1. Stress and leisure appraisal
2. Stress management intervention
3. Recreation participation

The process to be followed is an interrelated one that is outcomes-driven. Each component of the proposed model will now be discussed.

### **1. Stress and leisure appraisal**

Hutchinson, Bland and Kleiber (2008) note that Iwasaki and Mannell developed the Leisure Coping Beliefs and Leisure Coping Strategies scales in 2002 to assess leisure-based coping. Figure 3.1 in Chapter Three showed a schematic approach to the decision making that should take place when assessing and developing leisure-based coping Interventions. Table 3.2 (Chapter Three) gave a summary of the distinctions relevant to this purpose.

Individual assessments of the stress levels, both of new military recruits and current military staff, should be conducted in collaboration with a military

psychologist to detect levels of stress and the causes of stress. Soldiers need to be assessed in terms of:

11. Their stress levels, as determined through psychological testing,
12. Their coping strategies and the effectiveness thereof
13. Their knowledge of leisure,
14. Their leisure ability and functionality (physical; cognitive; emotional; social),  
and
15. Current leisure practices and the activities they prefer taking part in.

Soldiers who are identified as having special needs should be offered the opportunity to undergo professional counselling with the assistance of a specialist. This could include individual consultations (referrals/on request), family/marriage counselling, health counselling, and/or a family communication network.

Therapeutic Recreation Assessment Instruments that could be considered could be divided into the following categories:

- a) Leisure attitudes and barriers
- b) Functional abilities
- c) Leisure activity skills
- d) Leisure interests and participation

## 2. Stress management intervention

The main purpose of the stress management intervention is to educate soldiers on holistic well-being and how to make use of leisure as a tool to promote such well-being and to manage stress. The intervention makes use of three steps towards optimum stress management:

Step 1. Leisure and wellness education

Step 2. Leisure exposure

Step 3. Feedback

**Step 1:** The findings in this study emphasized the importance of education and how it can affect a soldier's experience of stress and stress coping. Leisure education was discussed in depth in Chapter Three. The main purpose of such education is to develop leisure-related attitudes, to understand the importance of leisure, gain the knowledge and skills needed to make informed choices, and learn how to participate in leisure successfully (Stumbo & Peterson, 1998; Williams, 2008; Ross & Aston-Sheaffer, 2009). Further, as indicated by Searle, Mahon, Iso-Ahola, Sdrolias and Van Dyck (1998) as well as Hutchinson, Bland and Kleiber (2008), leisure education enhances a sense of independence, and of self-control, competence and well-being. Wellness education could be fitted into this educational framework by developing educational workshops around the nine dimensions of well-being (physical, emotional/psychological, social, intellectual, spiritual, occupational, environmental, cultural, economic, and climatic), and including nutrition as a tenth dimension of holistic well-being. Applying

biophysical principles to addressing holistic well-being could be done through focus group discussions and larger group sessions, that could include:

- Health and wellbeing workshops
- Stress and stress management seminars
- Discussions of coping activities to deal with stress
- Workshops on the power of positive thinking
- Emotional intelligence seminars
- Financial management workshops
- Time management workshops
- Nutrition information workshops
- Awareness campaigns run once a year for the whole military to refresh their memories and to remind them of the importance of dealing with their stress levels

Leisure education is subdivided into four components: leisure awareness, social skills, leisure activity skills and leisure resources. These offer many opportunities to support leisure-based coping, with participants experiencing a sense of solidarity in structured programs that facilitate meaningful connections (Hutchinson, Bland & Kleiber, 2008). Leisure education would be used to develop an awareness of leisure and its benefits, as well as making recreational resources available at the military base camps through workshops and focus group sessions. Leisure activities (indoor, outdoor and adventure recreational activities) as they relate to the ten wellness dimensions will be explored and

assessed to determine the therapeutic value of each activity and the resources needed to take part in them. Emphasis should be placed on the importance of frequent participation to making the program successful. Soldiers would also be taught how to set individual goals for leisure aimed at optimum health and wellbeing, stress coping and the development of a leisure lifestyle.

**Step 2:** Systematic interventions are needed both to teach and to practice leisure coping skills and to increase the competence of the soldiers in the sub-functions of self-regulation and in applying these to a variety of situations. This step, leisure exposure, would focus on the systematic introduction of various leisure activities, the skills required for the execution of such activities, and the expected outcomes in terms of the ten wellness dimensions. Participants would have the opportunity to experience each activity over a period of time, determined by the therapeutic recreation facilitator, in the context of their working conditions. Leisure involvement should be developed into a leisure lifestyle, but this can only take place through frequent participation. Frequency of participation should therefore be emphasized.

**Step 3:** Feedback is needed to determine how participants perceived the information received in the workshop and the leisure activities experienced related to each wellness dimension. It would also be necessary to determine whether these activities were valued as useful stress coping activities. This stage would thus be used to evaluate both the participants and the therapeutic

recreation facilitator. Feedback could be done through surveys, individual interviews or group discussions.

### **3. Recreation participation**

Recreation participation as a therapeutic modality was discussed in Chapter Three. Recreation in the military context is deemed important for military readiness, but also has various related health benefits. Botswana Defence Force members take part in physical activities mainly for recreational reasons, using more sedentary activities to cope with stress. While soldiers should not feel they are being forced to take part in recreational activities, they should have a better understanding of the benefits of engaging in these activities at this level.

The main purpose of this last phase of the model is for soldiers to develop a habit of lifelong participation in leisure, offering the benefit of a healthy life-style as well as managing their levels of stress. Leisure programs should be identified at the military base camps to see if they address the needs of the soldiers. If they do not address such needs, new and more sustainable programs would have to be developed. These programs should allow the participants to practice and apply their learned skills in phase two and should focus on employee wellness within the military. They could assist in normalizing the military routine by implementing an orientation program for new recruits, introducing programs focusing on problem solving, and dealing with military discipline and hierarchy. The soldiers would thus be able to achieve a leisure lifestyle, one that should include:

- Monitoring participation in the leisure programs over a period of at least three months
- Debriefing sessions to determine outcomes and assess experience
- Frequent feedback on progress

Continuous evaluation throughout the program is essential to determine whether application of the model has been successful and to see whether participants have adopted a lifestyle of lifelong leisure participation for health, relaxation and the management of stress. Satisfaction with physical activity and frequency of participation could be used as measurements, along with other psychological measuring tools, both to see if the soldiers have adopted a leisure lifestyle and to measure reduction of stress.

Note that this model has not as yet been tested. The outcome of the intervention is thus not known and should therefore be implemented with caution. The researcher suggests that the model be tested with a few soldiers, before being implemented in a larger military environment.

## **5.7 STUDY CONCLUSION**

This study attempted to explore the use of sport and recreation activities in military settings as a means to reduce and manage stress. Employee wellness and stress within a military context was investigated through extensive review of literature. Stress was found to affect military readiness affecting a soldier's health

and wellness and more specific psychological wellbeing. Botswana Defence Force has shown to be no different from other military forces being exposed to operational and non-operational stress as well as personal stress that could affect their ability to perform military tasks. Findings from this study made several contributions to the current literature as it relates to stress in the military. Specific contributions were related to the demographic profile of BDF members, military demographics, traumatic experiences, stress, social support, stress coping and sport and recreation participation behaviour.

Recreation participation and the use of recreation in the military were investigated. Botswana Defence Force members' sport and recreation participation behaviour was explored and a relationship between sport and recreation behaviour and their stress responses were drawn to determine the extent of sport and recreation used to cope with stress. A theoretical framework was established investigating various therapeutic recreation models and the use thereof in military context. Findings of the study were used to develop a Therapeutic Recreation Stress Management Intervention Model for the BDF build on the content established in the theoretical framework. It has to be stressed again that this model has not been tested and should be implemented with caution till such time that the model has proved to be successful.

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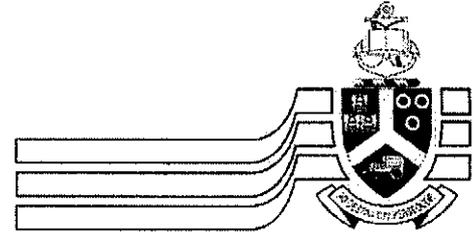
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## **ANNEXURES**

### **INFORMATION SHEET, CONSENT FORM AND QUESTIONNAIRE**



University of Pretoria

Pretoria 0002 Republic of South Africa  
<http://www.up.ac.za>

**FACULTY OF HUMANITIES**

Dept Biokinetics, Sport and Leisure Sciences  
Tel: 012- 420-6040 Fax: 012-420-6099  
[www.bsl.up.ac.za](http://www.bsl.up.ac.za)

2007-09-18

Dear Respondent

**RESEARCH PROJECT:- STRESS MANAGEMENT THROUGH THERAPEUTIC  
RECREATION IN THE BOTSWANA DEFENCE FORCE**

Military personnel are repeatedly exposed to stressful and unpleasant traumatic life events that cause psychological injury that produces mental and emotional stress. Mental and emotional stress often disables people to cope when they return to civilian life.

Military readiness is an important factor within military forces and is a function of the ability of a person to perform his or her full duty. It is important to keep in mind that the soldier and support staff are able to focus more on the tasks at hand if their needs are met. This includes the need to be able to relax or attend to activities that can assist with relaxation under stressful circumstances. This implies that a staff member should be fully equipped and motivated to perform tasks. Sport and recreation are used as vehicles to create military readiness and to achieve relaxation as it puts the personnel in other realities when participating.

The purpose of this study is to determine Botswana Defence Force personnel stress levels and behavioural changes as a result of stress, their sport and recreation participation behaviour and to simultaneously develop a Therapeutic Recreation Stress Management Model for the Botswana Defence Force to enhance stress management skills.

The Botswana Defence Force granted permission for the study to be conducted and can provide important information to benefit military personnel in coping with their stress levels through participation in sport and recreation activities. Please find attached an informed consent form to be signed by the person within your organisation responsible for completing the questionnaire.

Your co-operation in this regard will be appreciated.

Kind regards

Mrs. MEM Young  
Researcher

Prof. Dr AE Goslin  
Supervisor

Mrs. MEM Young  
Private Bag X680  
Pretoria  
South Africa

Dear Mrs. Young

## LETTER OF CONSENT

I hereby agree to participate in the investigation entitled ***Stress Management through Therapeutic Recreation in the Botswana Defence Force*** conducted by the researcher through the Department of Biokinetics, Sport and Leisure Sciences at the University of Pretoria, South Africa and consent to the researcher approaching me.

I understand the purpose of this research for the purpose of a D Phil (HMS) degree is to determine Botswana Defence Force personnel stress levels and behavioral changes as a result of stress, their sport and recreation participation behaviour and to develop a Therapeutic Recreation Stress Management Model for the Botswana Defence Force to enhance stress management skills.

I have read and retained a copy of the Letter of Information, and the purpose and benefits of this study have been explained to my satisfaction and that there are no risks involved to me personally or my organization.

All questions, if any, were answered to my satisfaction.

I understand that, upon request, I may have full description of the results of the study after its completion.

I understand the researcher intends to publish the findings of the study and results will only be reported as a collective and my anonymity is guaranteed. I also understand that the data will be stored electronically for 15 years.

I understand participation is voluntary, and that I am free to withdraw from this study at any time without negative consequences.

**I HAVE READ AND UNDERSTOOD THIS CONSENT FORM. I AGREE TO PARTICIPATE IN THE STUDY.**

Name and Surname (Please Print): \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_ Contact number: \_\_\_\_\_

Email address: \_\_\_\_\_

Questionnaire Number

**QUESTIONNAIRE  
BOTSWANA DEFENCE FORCE (BDF)  
STRESS AND LEISURE BEHAVIOUR INVENTORY**

**Participants**

This is a comprehensive questionnaire developed to measure your perception on your current stress levels and your sport and leisure behaviour. This information will be used to develop a Therapeutic Recreation Stress Management Model for the BDF. You will not be forced to participate in the research as your voluntary consent is requested. Your privacy will be respected at all times by not requesting you to reveal your identity. The information will be treated with the utmost confidentiality and will only be used for the purpose of this study and be reported on collectively.

The questionnaire is divided into three sections. The first section focuses on the personal demographic information and personal traumatic experiences experienced in your lifetime. The second section measures your perceptions on the sport and recreation programme demographics to determine your participation behaviour. The third section measures your internal perceptions on your stress levels, physical and psychological symptoms, related behaviour and the cause thereof by means of generically formulated questions. The first and second sections include open- and close ended questions and the third section makes use of close-ended questions only by asking your level of agreement on a 5-point scale.

Your participation in this study would be appreciated. If you agree to the participation in this study, please sign the letter of consent provided.

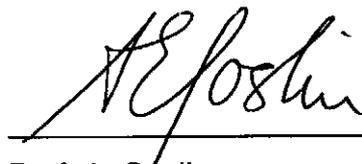
Yours in Health



---

Mrs. MEM Young

Researcher



---

Prof. A. Goslin

Supervisor

Please answer all questions by ticking the appropriate block provided or by filling in the answer in the space provided.

Examples:

1. Gender: (if you are male)

Male	X
Female	

What sport activity do you participate in?

Soccer \_\_\_\_\_

**A.: DEMOGRAPHIC INFORMATION**

**For office use only**

1. Gender:

Male	
Female	

V1

2. Age in years:

15-17	
18-25	
26-34	
35-44	
44-older	

V2

3. Marital status

Single	
Common Law	
Married	
Separated	
Divorced	
Widowed	

V3

4. Education Level

Primary School	
Secondary School	
Post secondary School	

V4

If selected Post Secondary School, please indicate highest qualification: \_\_\_\_\_

V5

5. Please indicate if your are spiritually (personal belief system that may have a strong social component e.g. meditation or contemplation) and/or religiously (universal social institution providing an anchor of identity to human beings giving meaning to life e.g. Christianity, Islamic or Judaism) inclined:

Not Spiritual - Not Religious	
Not Spiritual - Religious	
Spiritual - Not Religious	
Spiritual - Religious	

V6

6. Military Force Status

Permanent	
Reserve	

V7

**7. Military Force Type**

Armoured Brigade	
Infantry Brigade	
Infantry Battalion	
Armoured Artillery	
Engineer Regiment	
Commando Regiment	
Air Force	
Administrative	

V8

**8. Military Rank**

Soldier	
Corporal	
Staff Sergeant	
1st /2nd Sergeant Major	
Sergeant Major	
Warrent Officer	
1st/ 2nd Lieutenant	
Captain	
Major	
Lieutenant Colonel	
Colonel	
Brigadier General	
Major General	
Lieutenant General	
General	
Commander	
Non-commissioned personnel	

V9

**9. How many deployments have you experienced over the past 2 years?**

None	
One	
More than one	

V10

**10. Have you ever experienced any traumas in your lifetime?**

Yes	
No	

V11

**11. If answered Yes, list the cumulative lifetime trauma/s experienced and indicate if it was related to war zone or civilian traumas:**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

V12	
-----	--

**12. Have you experienced any social support from your friends and family members during the trauma/s experienced?**

Yes	
No	

V13	
-----	--

**13. In general, how would you describe your feelings on your life during the past 2-6 months?**

Delighted, extremely satisfied	
Very satisfied	
Satisfied	
Mixed	
Dissatisfied	
Very dissatisfied	
Unhappy, extremely dissatisfied	

V14	
-----	--

**14. Over the past 2-6 months, how have you been feeling about your physical activity in your life?**

Delighted, extremely satisfied	
Very satisfied	
Satisfied	
Mixed	
Dissatisfied	
Very dissatisfied	
Unhappy, extremely dissatisfied	

V15	
-----	--

## B. Sport and Recreation Programme Demographics

1. Do you participate in any of the following individual sport and recreation activities? (Please indicate if participating in more than one)

Aerobics	
Athletics	
Badminton	
Body building/ weightlifting	
Boxing	
Chess	
Computer Chess	
Cycling	
Darts	
Endurance racing	
Gym	
Gymnastics	
Karate/other martial arts	
Music	
Obstacle training	
Pool	
Religion	
Running	
Shooting	
Swimming	
Table tennis	
Tennis	
Wrestling	
Other:	

V16	
V17	
V18	
V19	
V20	
V21	
V22	
V23	
V24	
V25	
V26	
V27	
V28	
V29	
V30	
V31	
V32	
V33	
V34	
V35	
V36	
V37	
V38	
V39	

If chosen 'Other', please indicate which activity(ies):

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

V40	
-----	--

2. Do you participate in any of the following team sport and recreation activities? (Please indicate if participating in more than one)

Baseball	
Basketball	
Battle games	
Cricket	
Hockey	
Indoor soccer	
Netball	
Recreational games	
Rugby	
Soccer/ football	
Softball	
Traditional dancing	
Tug-of-war	
Volleyball	
Other:	

V41	
V42	
V43	
V44	
V45	
V46	
V47	
V48	
V49	
V50	
V51	
V52	
V53	
V54	
V55	
V56	

If chosen 'Other', please indicate which activity(ies):

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

V57	
-----	--

3. On what level do you participate in these activities? (You may indicate if you are participating on more than one level)

Recreational	
Club Level	
Regional Level	
National Level	

V58	
V59	
V60	
V61	

4. Indicate how frequently you participate in these activities?

Never	
Throughout the year but with breaks	
Continuously throughout the year	
Seasonally	

V62	
-----	--

5. Indicate how frequently you participate in these activities in a week?

0-1 times per week	
2-3 times per week	
More than 3 times per week	

V63	
-----	--

**6. Do you participate in these activities for one or more of the following reasons?**

Leisure and relaxation	
Personal Health and well-being	
Part of treatment to relieve stress	
To excel in the activity to become a professional athlete	

V64	
V65	
V66	
V67	

**7. How do you grade the level of service provided to these activities?**

Excellent	
Good	
Poor	
Bad	

V68	
-----	--

**8. Do these activities require a level of instruction?**

Yes	
No	

V69	
-----	--

**9. How would you grade the level of instruction provided if required?**

Excellent	
Good	
Poor	
Bad	

V70	
-----	--

**10. Where do you participate in these activities?**

Base camp	
Local Club in town	
Local Sport Fields	

V71	
V72	
V73	

**11. How would you grade the level of facilities provided on base camp?**

Excellent	
Good	
Poor	
Bad	

V74	
-----	--

### C. STRESS INVENTORY

Score the following statements according to your perception of each. The following scale would be used to score the statements:

- 1 - Never or almost never
- 2 - Seldom, occasionally
- 3 - Sometimes
- 4 - Often, frequently
- 5 - Almost always

#### 1. How often do you experience symptoms of the following physical reactions?

	<i>Never or almost never</i>	<i>Seldom, occasionally</i>	<i>Sometimes</i>	<i>Often, frequently</i>	<i>Almost always</i>
Unusual Tiredness	1	2	3	4	5
Apathy/ lack of enthusiasm	1	2	3	4	5
Breathlessness for no reason	1	2	3	4	5
Feelings that your appearance has altered for the worse	1	2	3	4	5
Difficulty in relaxing	1	2	3	4	5
Disturbing dreams / nightmares	1	2	3	4	5
High blood pressure	1	2	3	4	5
Sexual problems	1	2	3	4	5
Unexplained headaches / pain	1	2	3	4	5
Feeling faint, have dizzy spells or feeling unusually weak for no reason	1	2	3	4	5
Muscle tension	1	2	3	4	5
Feeling physically unwell	1	2	3	4	5
Unexplained nausea	1	2	3	4	5
Frequent indigestion	1	2	3	4	5
Running tummy/ diarrhoea	1	2	3	4	5
Constipation	1	2	3	4	5
Erratic bowel function	1	2	3	4	5
Excessive perspiration for no reason	1	2	3	4	5
Feeling tight-chested for no reason	1	2	3	4	5
Constant colds or other viral infections	1	2	3	4	5
Increased weight/ appetite due to anxiousness or concern	1	2	3	4	5
Decrease in weight/ appetite due to anxiousness or concern	1	2	3	4	5

V75	
V76	
V77	
V78	
V79	
V80	
V81	
V82	
V83	
V84	
V85	
V86	
V87	
V88	
V89	
V90	
V91	
V92	
V93	
V94	
V95	
V96	

2. How often do you experience symptoms of the following psychological reactions?

	<i>Never or almost never</i>	<i>Seldom, occasionally</i>	<i>Sometimes</i>	<i>Often, frequently</i>	<i>Almost always</i>		
Feelings of helplessness	1	2	3	4	5	V97	
Feelings of depression	1	2	3	4	5	V98	
Feelings that no one understands you	1	2	3	4	5	V99	
Feelings of general anxiousness i.e. in specific situations such as meeting deadlines or personal relationships with other or non-specific situations	1	2	3	4	5	V100	
Phobias (Irrational fears)	1	2	3	4	5	V101	
Awkward feelings when close to others	1	2	3	4	5	V102	
Feelings that you have failed in your role as parent, spouse, child, military staff member	1	2	3	4	5	V103	
Panicky feelings	1	2	3	4	5	V104	
Being upset by disease in others	1	2	3	4	5	V105	
Feelings of disliking yourself	1	2	3	4	5	V106	
Being afraid of disease	1	2	3	4	5	V107	
An increased in complaints about what happens to you	1	2	3	4	5	V108	
Low self-esteem / low opinion of yourself	1	2	3	4	5	V109	
Feeling of being gossiped about	1	2	3	4	5	V110	
Being over self-critical	1	2	3	4	5	V111	
Feelings that no one wants to work with you	1	2	3	4	5	V112	
Feeling tense and keyed-up	1	2	3	4	5	V113	
Persistent guilt	1	2	3	4	5	V114	
Feeling you can't cope	1	2	3	4	5	V115	
Feelings that other people dislike you	1	2	3	4	5	V116	
Feelings of confusion	1	2	3	4	5	V117	
Feelings of concern mainly for yourself	1	2	3	4	5	V118	
Feeling that you are frequent criticized	1	2	3	4	5	V119	
Feelings that you have been neglected or let down	1	2	3	4	5	V120	
Feelings of loneliness and no one to talk to	1	2	3	4	5	V121	
Lack of self-confidence	1	2	3	4	5	V122	

3. How often do you experience symptoms of the following behavioural reactions?

	<i>Never or almost never</i>	<i>Seldom, occasionally</i>	<i>Sometimes</i>	<i>Often, frequently</i>	<i>Almost always</i>	
Memory loss / forgetfulness	1	2	3	4	5	V123
Poor long-term planning	1	2	3	4	5	V124
Poor concentration	1	2	3	4	5	V125
Inconsistency	1	2	3	4	5	V126
Inability to meet deadlines	1	2	3	4	5	V127
Poor management	1	2	3	4	5	V128
Procrastination or delaying/ putting off tasks	1	2	3	4	5	V129
The need to constantly take work home	1	2	3	4	5	V130
Poor problem solving skills	1	2	3	4	5	V131
Accident-proneness	1	2	3	4	5	V132
Low interest in work	1	2	3	4	5	V133
A drop in personal standards	1	2	3	4	5	V134
Increased aggressiveness	1	2	3	4	5	V135
Difficulty in making up your mind	1	2	3	4	5	V136
Difficulty in showing/ expressing your true feelings	1	2	3	4	5	V137
Worrying	1	2	3	4	5	V138
Social withdrawal	1	2	3	4	5	V139
Making unnecessary mistakes	1	2	3	4	5	V140
The need to regularly work late	1	2	3	4	5	V141
Poor work quality	1	2	3	4	5	V142
Difficulty in completing one task before rushing on to the next	1	2	3	4	5	V143
The need to cancel leave	1	2	3	4	5	V144
Nail biting	1	2	3	4	5	V145
An excessive appetite	1	2	3	4	5	V146
Engaging in frequent criticism of others	1	2	3	4	5	V147
Frantic bursts of energy	1	2	3	4	5	V148
Little sense of humour	1	2	3	4	5	V149
Disinterest in other people	1	2	3	4	5	V150

<b>Question 3 (Continue...)</b>	<i>Never or almost never</i>	<i>Seldom, occasionally</i>	<i>Sometimes</i>	<i>Often, frequently</i>	<i>Almost always</i>		
Suppressed or unexpressed anger	1	2	3	4	5	V151	
Fearfulness	1	2	3	4	5	V152	
Poor decision making	1	2	3	4	5	V153	
Unco-operative relationships	1	2	3	4	5	V154	
Feeling disgruntled / moody / irritable	1	2	3	4	5	V155	
Emotional outbursts	1	2	3	4	5	V156	
Greater use of alcohol, caffeine, nicotine, medicines to cope	1	2	3	4	5	V157	
Fidgeting / restlessness	1	2	3	4	5	V158	
Unpredictability	1	2	3	4	5	V159	
A loss of appetite	1	2	3	4	5	V160	
The need to cry for no reason	1	2	3	4	5	V161	
Tics / nervous habits	1	2	3	4	5	V162	
Sleep Disturbances	1	2	3	4	5	V163	
Swearing or use of bad language	1	2	3	4	5	V164	

(Continue to Question 4 on pg. 11....)

4. Have you experienced any of the following situations over the past two years?

	NO	YES
Death of a spouse	1	2
Divorce	1	2
Marital separation	1	2
Jail term	1	2
Death of close family member	1	2
Personal injury or illness	1	2
Marriage	1	2
Marital reconciliation	1	2
Change in health of family member	1	2
Sex difficulties	1	2
Gain of new family member	1	2
Change in financial state	1	2
Death of a close friend	1	2
Change to different line of responsibilities	1	2
Increase in arguments with spouse	1	2
Son or daughter leaving home	1	2
Trouble with in-laws	1	2
Outstanding personal achievement	1	2
Spouse begins or stops to work	1	2
Change in living conditions	1	2
Revision of personal habits	1	2
Trouble with superiors	1	2
Change in working hours or conditions	1	2
Change in residence	1	2
Change in sport and recreation activities	1	2
Change in church activities	1	2
Change in social activities	1	2
Change in sleeping habits	1	2
Minor violations of the law	1	2
War circumstances	1	2
Acts of terrorism	1	2

V165	
V166	
V167	
V168	
V169	
V170	
V171	
V172	
V173	
V174	
V175	
V176	
V177	
V178	
V179	
V180	
V181	
V182	
V183	
V184	
V185	
V186	
V187	
V188	
V189	
V190	
V191	
V192	
V193	
V194	
V195	

5. Are you of the opinion that you currently experience stress?

Yes	
No	

V196	
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6. If your answer was 'Yes', what do you believe is the cause of your stress?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

V197	
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7.

Every person experience some kind of stress in their daily life and responds to it in a unique way. Indicate to what extend you use the following methods to manage your stress.

	<i>Never or almost never</i>	<i>Seldom, occasionally</i>	<i>Sometimes</i>	<i>Often, frequently</i>	<i>Almost always</i>
Biofeedback or meditation	1	2	3	4	5
Finding out more about the problem	1	2	3	4	5
Get professional help	1	2	3	4	5
Engage in relaxation activities	1	2	3	4	5
Taking one day at a time	1	2	3	4	5
Ignoring the problem	1	2	3	4	5
Try to look at the situation differently	1	2	3	4	5
Staying away from the source of stress	1	2	3	4	5
Using tranquilizers, sleeping pills or other mood altering drugs such as alcohol	1	2	3	4	5
Join groups or programmes that demonstrates a concern for your problem	1	2	3	4	5
Manage your time effectively	1	2	3	4	5
Use assertive methods to protect your right to say 'no' to others	1	2	3	4	5
Regularly share your feelings with others	1	2	3	4	5
Do meaningful volunteer work	1	2	3	4	5

V198	
V199	
V200	
V201	
V202	
V203	
V204	
V205	
V206	
V207	
V208	
V209	
V210	
V211	

<b>Question 7 Continue...</b>	<i>Never or almost never</i>	<i>Seldom, occasionally</i>	<i>Sometimes</i>	<i>Often, frequently</i>	<i>Almost always</i>
Eat a balanced diet with fresh fruits & vegetables	1	2	3	4	5
Engaging in regular exercise	1	2	3	4	5
Spend most of your leisure time in a place with a complete change of scenery	1	2	3	4	5
Talk to your superiors	1	2	3	4	5
Talk to your friends or family members	1	2	3	4	5
Get 6-8 hours sleep every night	1	2	3	4	5

V212	
V213	
V214	
V215	
V216	
V217	

8. Please list any other methods, if any, you use to cope with your stress.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

V218	
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**Thank you for completing this questionnaire.  
Your time and effort is dearly appreciated.**

