

CHAPTER 2

PHYSICAL ACTIVITY AND STRESS

2.1 PHYSICAL ACTIVITY AS A MEANS OF REDUCING STRESS

Physical activity and hard labour have been an integral part of life of the majority of mankind. Only the privileged did not engage in physical activity and lived a pampered life. Technology and mechanisation have ensured that man has moved from a physically active life to an extremely well protected but caged existence. **This transition in both lifestyle and existence could not have taken place without an influence on the human body.** The muscles in particular play an important function that has a direct or indirect influence on blood circulation, metabolism, endocrine balance and immunity. Something, which is not commonly known about our musculature, is firstly, that it serves as a storage and outlet for our emotions, and secondly that it is the means by which we react and respond to stimuli and emotional stresses. (Paffenberger et al.1994)

2.2 INTERFACE BETWEEN HUMAN MOVEMENT STUDIES AND STRESS

Work is becoming increasingly stressful and the pressure and demands for performance are on the increase. Employees do not have to succumb to these pressures. Both organisations and individuals need to be aware of the variety of organised programmes available. Individuals can be taught ways to manage work stress and organisations can create a workplace where stress is minimised. O'Donnell, (1994) states that the ultimate goal is to create living, working and community environments that allow people to live and work together in ways that optimize their health,

well-being, creativity and productivity. There has been an increased acceptance of employee health fitness programmes and most modern health promotion programmes have fitness programmes as their genesis.

A reduction in stress is likely to reduce many adverse health behaviours because the individual "feels better". Drugs have also been used to treat stress disorders and these focus on the symptoms and not on the causes and the development of health. Exercise would seem as a natural recommendation for both the prevention and the treatment of stress.

Four large population studies in the US and Canada have shown that general health and well-being is greater in those who do exercise compared to those who do little exercise (Morgan and Goldston, 1987). Regular exercise seems to reduce the effect stress has on illness. Roth and Holmes (1987) found that students who are fit did not become ill as easily when buffeted by stressful events as those with low fitness levels. The US National Institute of Mental Health made the following statements:

- ***Physical fitness is associated with mental health and well-being***
- ***Exercise is associated with reduced levels of stress-related emotions such as anxiety.***
- ***Appropriate exercise programmes lead to reductions in various stress indices such as neuro-muscular tension, resting heart rate and the secretion of stress hormones (Morgan and Goldston, 1987).***

Fodor and Gerson (1975) subjected a questionnaire on generally experienced stress to 35 young men and 12 young women. Inactive people showed higher stress levels than those who took part in physical

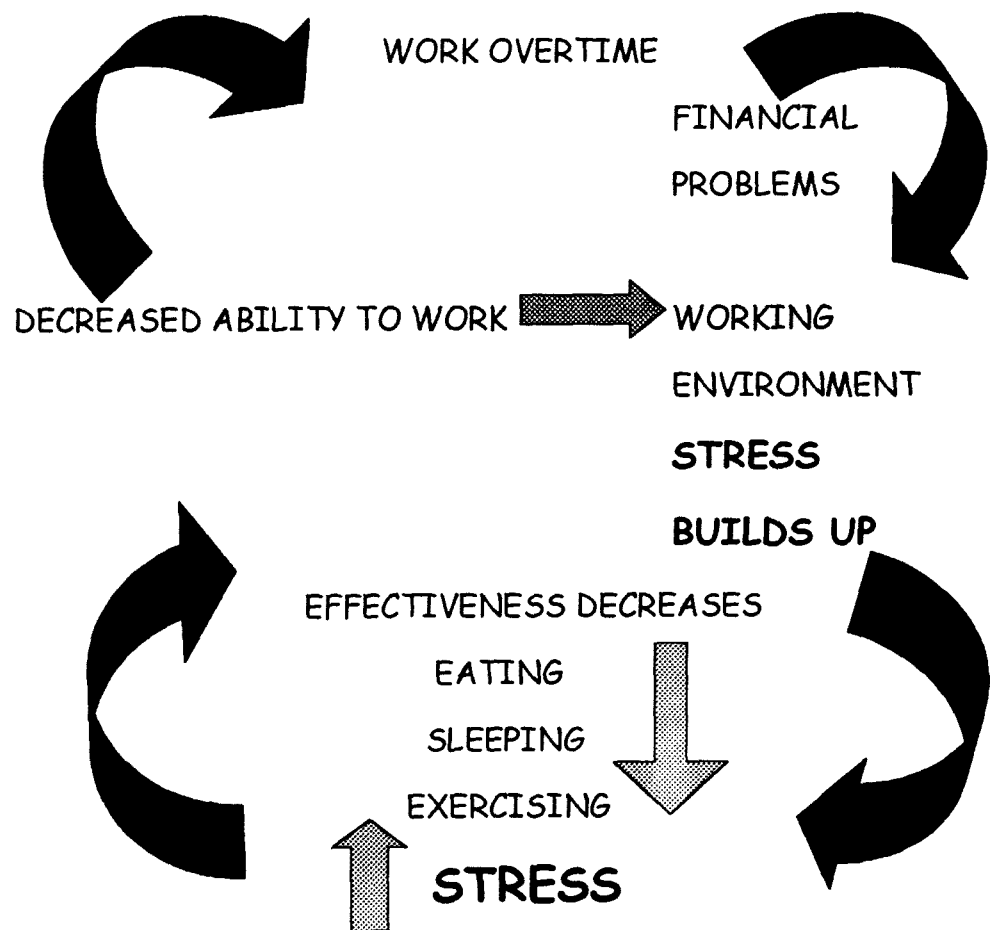
training. Michael (1975) found evidence to support the view that prolonged exercise resulted in a condition that allowed subjects to tolerate stress more easily. Sime (1977) concluded that mild exercise, and in some cases meditation, can be effective in reducing the physiological signs of stress and anxiety. Morgan (1971) reviewed experiments dealing with the use of physical activity as a method of reducing anxiety and concluded that physical activity was useful in coping with stress.

Thomas (1987) indicated that a healthy outlet for over-stressed workers is exercise. He further stated that jogging, aerobic dance or regular workout sessions help balance the cerebral nature of modern work by providing employees with the chance to get physical and release tension through their bodies. He also states that opportunities to engage in physical activity through employee programmes work as preventive medicine for a potentially unhealthy and over-stressed work force.

2.3 STRESS WITHIN THE DEPARTMENT OF CORRECTIONAL SERVICES

Within the Department of Correctional Services, employees are caught up in a vicious cycle of work pressures and demands. This is represented in the following schematic illustration adapted from Folp (1983):

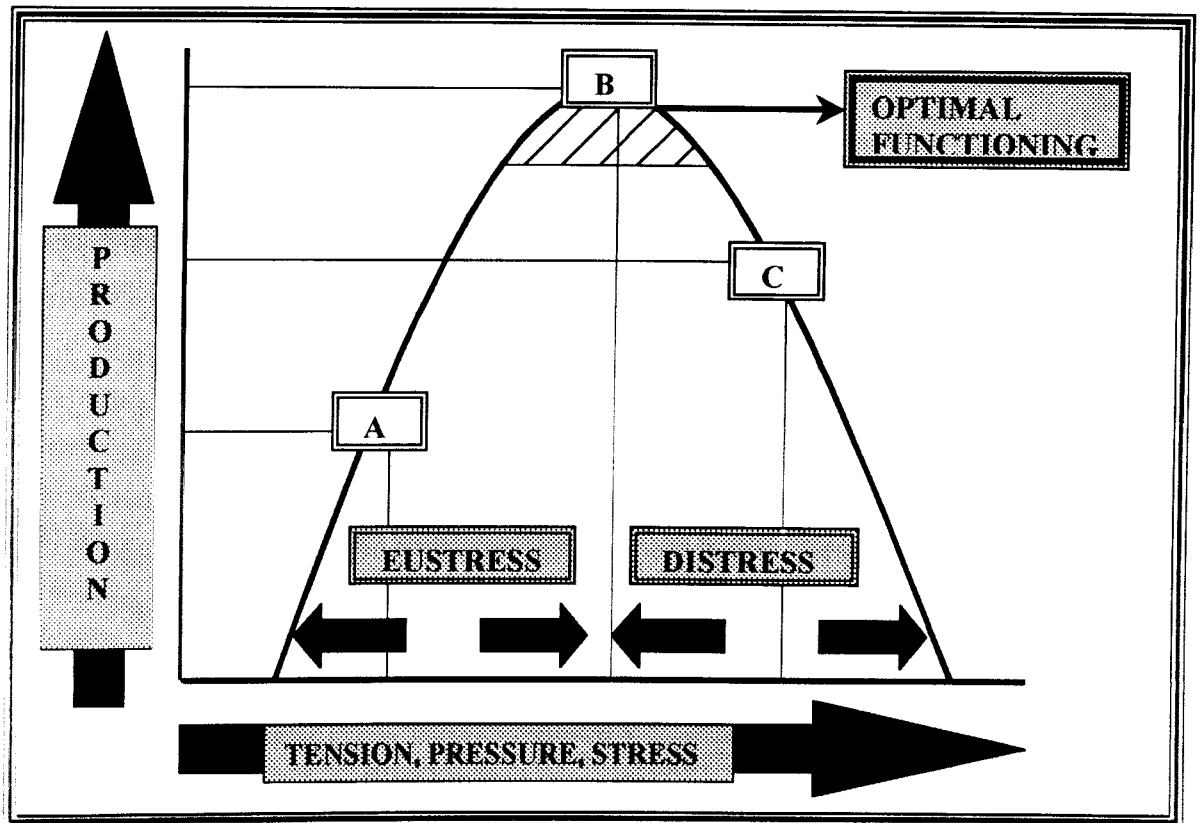
DIAGRAM 1: WORK PRESSURE CYCLE



The Correctional Services employee is not only faced with hostile inmates but also a working environment that contributes to his levels of stress. He/she often finds himself/herself working overtime to make ends meet. As a result the worker may cut on time spent on various things eating, sleeping, relaxation, time spent with family and most often has **no time for exercise**. *This vicious cycle causes the body to decrease the bodies' capacity to work and enters a weaker loop of this detrimental cycle, with a lowered capacity and lesser chance to succeed in handling the demands and challenges of the job.*

In this discussion it is appropriate to realise that not all stress is bad. In order to function optimally we need some level of stress. When the critical level is reached, more stress will be harmful and unproductive. Selye has termed this – the good (eustress) and the bad (distress). The following figure provides a schematic presentation of the relationship between productivity and stress adapted from Benson and Allen (1980).

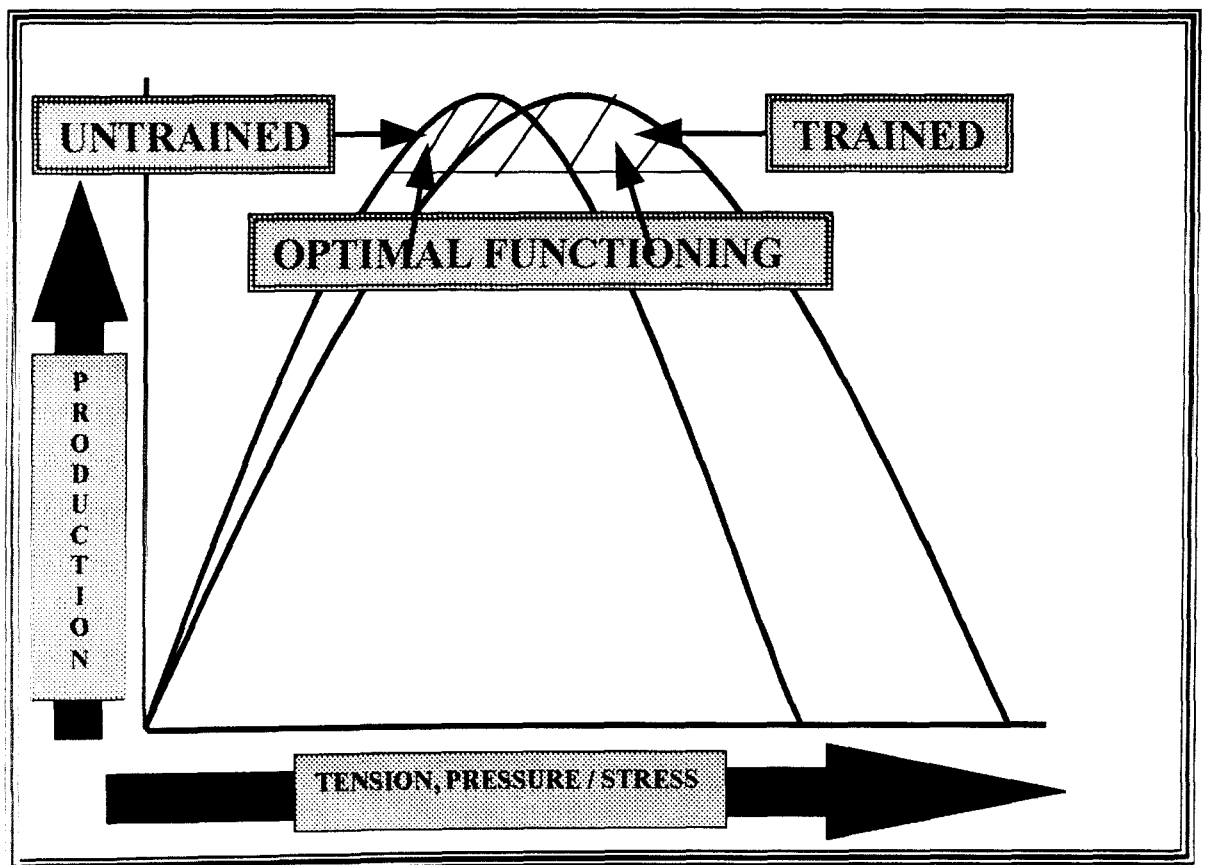
DIAGRAM 2: PRODUCTIVITY AND STRESS – OPTIMAL FUNCTIONING



When a worker experiences very little stress (A) it could be that his/her productivity is also below expectation. When the work stress and demands are too great (C), it can also cause decreased productivity. The ideal situation is for each Correctional Services employee is to find his / her point of optimal functioning to shift more to the right hand side. This

means that the Employee will be able to tolerate more work pressure and stress and the fitter the individual is, the more reserve energy he has to meet the higher demands. In the case of the untrained worker very little reserve energy is available after the normal daily expenditure. When extra demands on energy are required the employee may be unable to handle the additional stressors. The trained worker will have more reserve energy to meet greater or additional demands and will consequently cope better.

DIAGRAM 3: TRAINED VS. UNTRAINED



The diagram above has also been adapted from Benson and Allen (1980). Regular physical activity and an increased physical condition can lead to some form of resistance or protection from stress. This causes the point of optimal functioning to shift more to the right hand side. This means that

the employee will be able to tolerate more work pressure and stress. In the case of the physically unfit correctional employee very little reserve energy may be available after the “normal” daily energy expenditure. When any extra demands occur it may well happen that this person finds him/herself totally incapable of handling the “additional” stressors. In the following chapter the issues of stress and physical activity will be elaborated upon with specific reference to conditions within the Department of Correctional Services.