OCCUPATIONAL STRESS AND ILL HEALTH OF CORRECTIONAL SERVICE WORKERS

By

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COMMENTS

The reader is reminded of the following:

- References and the editorial style as prescribed by the Publication Manual (5th *edition*) of the American Psychological Association (APA) were followed in this mini-dissertation. This is in line with the policy of the Programme in Industrial Psychology of the North-West University, to use the APA-style in all scientific documents as from January 1999.

- The mini-dissertation is submitted in a form of a research article. The editorial style specified by the South African Journal of Industrial Psychology (which agrees largely with the APA style) is used. However, the APA guidelines were followed with the construction of the tables.

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SUMMARY

Title: Occupational stress and ill health among Correctional Services officials.

Key terms: Occupational stress, ill health, burnout, engagement and Correctional Service official.

Occupational stress is considered to be a rising concern in many organisations in South Africa; it is, moreover, a pervasive problem in our communities in general. The consequences of high-stress environments are typically a, reduction in the quality and quantity of job performance, high levels of absenteeism, an increase in turnover, an increased number of grievances and increased frequency of accidents. Correctional Services has been reported to be the most challenging and frustrating component of the criminal justice system. Factors such as having a high level of responsibility, genuine threats to personal safety, rotating shifts, meagre salaries and unpleasant surroundings, all add to the stress of Correctional Service Officials. The results of uncontrolled stress are costly to both the individual and the organisation. It is thus important for both the organisation and employees to learn or acquire ways of coping with stress.

The empirical objective of this study was to investigate relationships between occupational stress and ill health among employees of Correctional Services in the Vereeniging Management Area, in order to contribute towards an understanding of the interaction between these variables, and the implication thereof for the management of occupational stress and ill health in the specific setting.

A cross-sectional design was used to collect data and to attain the research objectives.
The study population included the entire population consisting of (n=197) employees of Correctional Services in the Vereeniging Management area. Management and production levels were fully represented. The Correctional Official Stress Inventory, General Health Questionnaire, Maslach Burnout Inventory and the Utrecht Work Engagement Scale were used as measuring instruments.

The reliability and validity of all questionnaires were found to be acceptable. The findings revealed that increased levels of occupational stress lead to increased levels of exhaustion and this may in turn lead to increased experience of somatic symptoms, anxiety and insomnia, social dysfunction and severe depression. Higher levels of exhaustion and cynicism were associated with higher levels of somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression.

The findings again revealed that an increase in the frequency of stress might lead to an increase in the experience of exhaustion, somatic symptoms, anxiety and insomnia, social dysfunction and severe depression. It was also found that stress could have some predictive value with regard to burnout, work engagement and health.

It is recommended that more awareness need to be created about the symptoms and effects of occupational stress and burnout on individuals as well as organisations. This study was conducted in a small correctional institution, as a result the study population was too small, which made it difficult to generalise beyond the study population.

OPSOMMING

Titel: Beroepstres en swak gesondheid by Korrektiewe Dienste amptenare

Sleutelwoorde: Beroepstres, swak gesondheid, uitbranding, betrokkenheid en Korrektiewe Dienste-amptenare

Beroepsverwante stress, as 'n beskou toenemende bron van kommer by verskeie organisasies in Suid-Afrika; dit is verder ook 'n deurlopende probleem in ons gemeenskappe. Die gevolge van 'n hoë-stres omgewing in die algemeen is veral die volgende: 'n afname ten opsigte van kwaliteit en kwantiteit van werkverrigting, hoë voorkoms van afwesigheid, 'n toename in omset, groeiende aantal griewe en verhoogde voorkoms van ongelukke. Die aanduidings is dat Korrektiewe Dienste die mees uit-dagende en frusterende komponent van die kriminele regstelsel is. Faktore soos hoë vlakke van verantwoordelikheid, 'n reële gevaar ten opsigte van persoonlike veiligheid, roterende skofte, karige salarisse en onplesierigomstandighede dra alles by tot die stresvlakke, van die Korrektiewe Dienste se personeel. Die gevolge van spanning wat nie behoorlik bestuur word nie kom die individu sowel as die organisasie duur te staan. Dit is dus belangrik vir beide die organisasie en die betrokke werknemers om maniere aan te leer of te kweek wat van hulp kan wees met die hantering van spanning en stress.

Die empiriese doelwit van hierdie studie was om 'n ondersoek te loods na die aard van die verhoudings tussen beroepstres en gesondheid van werknemers by Korrektiewe Dienste aan die Vereenigingse Bestuurs area, met die doel om 'n bydrae te maak aangaande die begrip van die interaksie tussen genoemde veranderlikes, asook die implikasies hiervan ten opsigte van die bestuur van beroepspaaning en swak gesondheid binne die gegewe omstandighede.

'n Kruisdeursnee-ontwerp is gebruik om inligting te bekom met die oog daarop om die navorsingsdoelwitte te bereik. Die studie-populasie het totale werknemerskorps van 197 by, Korrektiewe Dienste in die Vereenigingse Bestuurs Area ingesluit. Bestuurs- en

produksievlakke is ten volle verteenwoordig. Die Korrektiewe Beroepstresinventaris, die Algemene Gesondheids vraelys, die Maslach-uitbrandingsinventaris en die Utrechts-Werksbegeesteingskraal is as meetinstrumente gebruik.

Daar is gevind dat alle vraelyste aanvaarbaar was met betrekking tot hulle betroubaarheid en geldigheid. 'n Positiewe verband tussen die vlak van werkstres en uitputting is gevind. Daar is verder aangetoon dat die laasgenoemde verband aanleiding tot die verhoogde ervaring van somatiese simptome, angs en slapeloosheid, sosiale disfunksie en erge depressie. Hoër vlakke van uitputting en sinisme was geassosieër met hoër vlakke van somatiese simptome, angs en slapeloosheid, sosiale disfunksie, en erge depressie.

Daar is voorts bepaal dat 'n verhoging in die belewins van stress, aanleiding lei tot 'n verhoogde ervaring van uitputting, somatiese simptome, angs en slapeloosheid, sosiale disfunksie en erge depressie. Dit was verder bevind dat stres 'n bepaalde voorspellingswaarde ten opsigte van uitbranding, werkbetrokkenheid en gesondheid het.

Dit word aanbeveel dat meer bewustheid oor die simptome en effek van werkstres en uitbranding op beide individue en organisasie geskep word. Die studie is geloots in 'n klein korrektiewe instituut, en gevolglik is die studie populasie relatief klein. Daarom is dit moeilik om die resultate wyer as die studie populasie te veralgemeen.

CHAPTER ONE

INTRODUCTION

This study investigates possible relationships between levels of occupational stress, general health, burnout and engagement among correctional officials.

In this chapter the problem statement will be discussed. Thereafter the research objectives, which consist of a general objective and specific objectives, are presented. The research methods, including the research design, study population, measuring battery and statistical analysis, are explained and, finally, the division of chapters is set out.

1.1 PROBLEM STATEMENT

According to Alighieri (2005), Correctional Services is believed to be the most challenging and frustrating component of criminal justice by many experts; there are the challenges of managing the inmates daily as well as the frustrations of inevitable mismanagement at attempting to accomplish multiple goals. New challenges present themselves daily. In a very real sense, employees in a correctional system are doing time the same as the inmates are doing time. (Ben-David, Silfen & Cohen, 1996).

Correcting Corrections (October, 1998) reported that numerous studies have confirmed that the psychosocial working climate in custodial institutions is highly stressful and can be traumatic. Much of the stress that correctional officials experience is related to different aspects of the job. The Correcting Corrections Article (1998) maintains that a correctional official is locked up with offenders' day in and day out. The possibility of serious injury, even death from the hands of inmates is an every day danger. The relationship between inmates and staff is always problematic and usually one of mutual distrust. More often than not, the correctional officers describe themselves as 'buffers' caught between management and offenders, with conflicting demands facing them. (Correcting Corrections, October 1998).

Ben-David, Silfen and Cohen (1996) states that correctional officers are often victimised, bribed and intimidated by inmates if they do not adhere to their wishes, which often include delivery of drugs and helping with escapes. Ben-David et al. (1996) further states that the poor salaries, which correctional officials receive, make them vulnerable to bribes by inmates. All this culminates in the corruption of correctional officers; the high number of corruption incident reports is evidence of this (Chaka, 1998).

The researcher is of the opinion that factors such as decrease of overtime payment, introduction of day offs for Saturday worked, poor communication, decrease in housing subsidy and introduction of payments for medical aids which was free, all of which are recent changes that have been introduced in the department, can be described as great sources of dissatisfaction, as well as stress for the correctional services employees which may result in a highly dangerous, stressful and unhealthy environment to work in.

Despite the necessity of these changes as mentioned above, within Correctional Services, Lord and Hartley (1998) state that employees may feel threatened since some might not see the need for change, others might fear the unknown, especially for their job and financial security. It seems with all these changes that are taking place within the Department, correctional officials will feel more demotivated and stressed in their jobs.

Ill health and sickness absence due to psychosocial stressor in the work environment are a serious and increasing problem in contemporary working life (Levi, Sauter, & Shimomitsu, 1999). Botha (2003) states that the seriousness of the physical and psychological effects of stress on the correctional official is becoming more and more important to the Correctional Services on an international level. He further mentions that a high level of absenteeism is a huge concern in this Department. According to the Irishhealth (2005) stress is the result of any emotional, physical, social, economic or other factors that require a response or change. It is generally believed that some stress is okay (sometimes referred to as "challenge" or "positive stress") but when stress occurs in excessive amounts, both mental and physical changes may occur (Irishhealth, 2005).

According to Pousette and Hanse (2002) theories that make predictions about antecedents to ill-health and sickness absence often make the assumption that the relationships are the same in different occupational types. These authors further state that the literature is somewhat contradictory to this statement, some authors suggest that relationships may vary according to the occupation that is studied and argue in favour of using occupation-specific models (Bacharach and Bamberger, 1992; Narayanan, Menon & Spector, 1999; Sparks & Cooper, 1999; Van der Doef & Maes, 1999).

Taris, Schreurs and Van Iersel-Van Silfhout (2001) state that the effects of job stress may be studied with regard to a wide range of outcome variables, for example: health complaints, burnout, etc. They further state that there is no comprehensive conceptual framework that allows for the specification of general hypotheses on the differential effects of occupational stress on different sets of outcome variables.

This study of Correctional officials in the Correctional Services distinguishes between two sets based on the ideas of Lazarus and Folkmann (1984), discerning between health outcomes (strain) and outcomes directed at reducing the effects of occupational stress by withdrawing oneself psychologically from one's job (Lee & Ashforth, 1996).

According to Schaufeli and Enzmann (1998) an individual experiences job stress when the demands of the workplace exceed his or her adaptive responses. Chaka (1998) described the demands and stressors of correctional officials as having a high degree of responsibility for people, genuine threats to personal safety, rotating shifts and unpleasant physical surroundings. According to Spielberg and Vagg (1999) other stressors can include organisational factors, inherent factors, shortage of resources and stressful working conditions. The researcher is of the opinion that Correctional Services environment is harsh, factors like long working hours, work pressure, overtime and the changes that are continually being introduced add to the stress of the Correctional Services Officials.

According to Jagdish (1996) stress is defined as the nonspecific response of the body to any demand. Because these responses include endocrinal as well as psychological and physical

reactivity to demands, they can, if intense enough or repeated frequently enough, upset the homeostasis of the body (its state of natural balance) (Jagdish, 1996). In such cases, the individual is said to have become hyper-reactive to stress, a condition, which has been associated with decreased performance on a range of physical and psychological task, and with illness and diseases via prolonged arousal of the sympathetic nervous system and its endocrinal and psychophysiological sequelae. (Jagdish, 1996).

According to Botha (2003), the Person-Environment Fit Theory states that stress in a work setting is attributed to the interaction of the individual with his or her work environment. National Occupational Safety and Health Council (2000) indicate that individuals and work groups can both show they are experiencing unmanageable levels of stress through a range of symptoms. These symptoms can include absenteeism, high or increased accident rate increased drinking and smoking, poor work performance and poor interpersonal relations in the workplace.

The Conservation of Resources Theory (Hobfoll, 1989) and the Appraisal Theory (Lazarus & Folkman, 1984) have provided a theoretical background for this study. According to the COR theory people strive to obtain and maintain that which they value (resources). Negative outcomes, such as health complaints and burnout, are likely to occur when valued resources are threatened or lost, are inadequate to meet demands, or do not reap the anticipated level of return (Taris, et al., 2001). Major work demands include role ambiguity, work load and work pressure, whereas major resources include control, participation in decision making and job autonomy (Lee & Ashforth, 1996). Some of the central manifestations of organisational burnout that were found among Correctional Officials are: withdrawal and detachment and literalism and paranoia (Tracy, 2003).

This research considers work demands and resources as potential sources of stress (Taris et al., 2001). Hobfoll and Freedy (1993) have mentioned that job demands threaten one's resources and therefore, triggers stress. According to Taris, et al. (2001) prolonged exposure to such job demands will result in strain in the form of emotional exhaustion. These authors further state that people who are confronted with stress are expected to strive to minimise net

loss of resources, that is, they will attempt to cope with the job demands in such a way that resource loss is minimised. This reasoning implies that those who have few resources are vulnerable to resource loss and therefore strain (Hobfoll, 1989).

According to Lee and Ashforth (1996) resources help to overcome the need for defensive coping behaviour. This implies that while the threat of resources loss may lead to the use of coping strategies, such as depersonalisation, i.e. having a distant and cynical attitude towards the people one is working with professionally, those who have many resources at their disposal have a lower need for such coping strategies than others. A study conducted by Rossouw (1997), found that most of the respondents in the study were exposed to gang related activities and controlling riots, as a consequence Correctional Officials found themselves having to resort to making amendments in their lives (both professionally and personally) some of which might have lethal implications.

The Job Demands-Control-Support Model (Van Doef & Maes, 1999) considers three psychosocial factors to be important in health and well-being of workers, namely, job demands, job resources and social support. Job demands are conceptualised as stressors present in the work environment, for example, high pressure of time, high working pace, difficult and mentally exacting work. (Shimazu & Shimazu, 2004). Botha (2003) found that lack of resources and job demands were more severe factors in Correctional Services because of the frequent exposure and the intensity of the experience for a Correctional Official.

Schaufeli and Bakker (2004), refer to job resources as those physical, psychological, social or organisational aspects of the job that either or reduce job demands and the associated physiological and psychological costs, are functional in achieving work goals, and stimulate personal growth, learning and development. Demerouti, Bakker, Nachreiner and Schaufeli (2001) successfully tested the Job Demand-Resource model that posits that job demands (i.e. physical demands, time pressure, shift work) are associated with exhaustion, whereas lacking job resources (i.e. performance feedback, job control, participation in decision making, social support) are associated with disengagement. (Schaufeli & Bakker, 2004)

According to Bakker, Demerouti, and Verbeke (2004), this implies that when people become exhausted under the influence of environmental demands, they will not be able to perform well because their energetical resources are diminished. Factors such as communication break down with superiors, potential dangerous inmates, lack of standardised policies in dealing with inmates, legal liability, the constant vigilance necessary in prisons and meager salaries were identified as continuous stressors on correctional officials. (Cheek & Miller, 1983).

Anson, Johnson and Anson (1997) found little difference between police officers and prison guards, and showed them to have high levels of chronic stress, depersonalisation, tedium and physical, mental or emotional exhaustion. They further point out that correctional officials have more instances of sickness, ulcers, hypertension and heart disease than the compared sample of police officers. According to Irishhealth (2005), measured on a scale of one to ten, correctional officials' occupation rated high on stress.

As mentioned above many studies have shown that occupational stressors can result in mental, physical and behavioral stress reaction, such as burnout, depression and psychosomatic diseases (Houkes, Janssen, de Jonge & Nijhuis, 2001). Unsuccessful attempts to cope with a variety of negative stress conditions can result in a multidimensional chronic stress reaction: burnout (Basson & Rothmann, 2002). Taris et al. (2001) states that if this line of reasoning is correct, one would expect job demands to be especially strongly related to exhaustion and less to depersonalisation, whereas job resources should be related to both and perhaps most strongly to depersonalisation. These ideas were tested in Lee and Ashforth's (1996) meta- analysis on the relations between the subscales of Masclach and Jackson's (1986) and Masclach Burnout Inventory and other variables. According to Taris et al. (2001), their results confirmed their expectation that exhaustion would be strongly associated with the demand correlates whereas the correlations with job resources would be somewhat lower. Depersonalisation was correlated with both resources and demands (Taris et al., 2001).

Burnout has been defined by Schaufeli and Enzmann (1998) as a persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviors at work. Rothmann, Malan and Rothmann, (2001) regard burnout as a particular kind of prolonged job stress. In other words a particular, multidimensional chronic stress reaction that goes beyond the experience of mere exhaustion. Maslach, Schaufeli and Leiter (2001) define burnout as a prolonged response to chronic, emotional and interpersonal stressors, which is characterised by exhaustion, cynicism and inefficacy. Maslach et al. (1996) refers to *exhaustion* as the feeling of being overextended and depleted of emotional and physical resources. *Cynicism* reflects indifference or a distant attitude towards work. It is seen as a negative, callous or detached response to various aspects of the job (Maslach et al., 1996). For the purpose of this study, only the exhaustion and cynicism components of burnout will be used.

Research over the last twenty years indicate that burnout is not only related to negative outcomes for the individual (including depression, a sense of failure, fatigue and loss of motivation), but also to negative outcomes for the organisation (including absenteeism, turnover rates and lowered productivity (Schaufeli & Enzmann, 1998). According to Chaka (1998) high rate of turnover, absenteeism and impaired job performance as a result of passivity, disinterest, negativity and displayed hostility in the Correctional services, do not only culminate in soaring organisational costs, but also in threaten custodial control, with increasing frequency of violent incidents.

According to Maslach, Shaufeli and Leiter (2001), the concept of burnout has been experienced and enlarged in recent years by the positive antithesis of job engagement that allowed for the study of the full spectrum of worker well-being, ranging from the negative (burnout) to the positive (engagement) states. Accordingly engagement is characterised by energy, involvement and efficacy. Engagement is a more persistent and pervasive affective-cognitive state that is not focused on a particular object, event, individual or behavior that is characterised by vigour, dedication and absorption (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002).

Vigour reflects the willingness and the ability of the individual to invest efforts in his/her job. This implies the presence of high levels of energy and mental resilience. **Dedication** refers to a sense of significance, enthusiasm and absorption, whereas **Absorption** reflects the full concentration and happiness of being engrossed in one's work (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002).

As compared to the COR theory, the Appraisal Theory (Lazarus & Folkman, 1984) maintains that strain occurs when individuals perceive themselves as unable to meet environmental demands (appraisals). If strain occurs, people will try to deal with either the stressor itself or the negative effects of this stressor (coping). Thus appraisal theory heavily emphasises the cognitive processes linking environmental demands to outcomes. In support of this theory, Leiter and Maslach (1988) argued that emotional exhaustion (strain) arises first in response to an overly demanding work environment, as workers feel overwhelmed by the demands of a job. Increased exhaustion in turn brings about depersonalisation as workers attempt to gain emotional distance from their job as a way of coping with the exhaustion (Taris et al., 2001).

Brodsky (1998) looks at psychological well-being as a complex construct consists of various dimensions. According to Brodsky (1998) psychological well-being has four specific characteristics, which are: it is subjective and emotional, is a state as opposed to a continuous part of who we are, is a product of personal endeavor and is more than the absence of negative affect and personal conflict, but comes from moving towards desired life goals. Five antecedents of psychological well-being are stress, physical health, work and career paths and work environment (Brodsky, 1988). For the purposes of this research general health have been conceptualised by the theory of Goldberg and Hillier (1979) looking at somatic symptoms, anxiety and insomnia, social dysfunction and severe depression.

Esmeraldo (1997) states that a high level of absenteeism is described as a huge concern for the department of Correctional services. Botha (2003) in his article states that prison violence is also seen as one of the major challenges authorities have to deal with. Such a holistic

picture of stressors in the department leaves much room for one's imagination concerning the experiences of correctional officials in South African prisons (Botha, 2003).

The present study assumes that many of the outcomes variables that have been studied in relation to occupational stress.

Having mentioned all that, the author is of the opinion that it will then be proper to conclude that with the environment in which correctional officials work in and all these changes occurring in the Department, correctional officials are subject to experience occupational stress and ill heath. In a study conducted by Botha (2003) at Groenpunt Management area on psychological strengths, stress and suicide ideation of correctional official it was found that stressors inherent to nature of the job were less prominent than both a lack of resources and job demands. Lack of resources showed highest severity and the second most prominent stressor was job demands. The author is of the opinion that the study of the relationship between occupational stress and ill health may assist in the understanding of the well being of correctional officials in Vereeniging Management Area within the Department of Correctional Service. It will also assist in bringing to light factors that contribute in the correctional official's stress and ill health.

The objective of this study is to investigate the relationships between occupational stress and ill health among employees in the Correctional Services at Vereeniging Management Area.

From the problem statement the following research questions emerged:

- How are occupational stress and ill health conceptualised in the literature?

- What is the relationship between occupational stress and ill health of correctional services employees?

- Are there any differences between demographical groups such as, age, gender, race, social status and the experience of occupational stress?

- Can occupational stress be used to predict ill health?

2. AIM OF RESEARCH

The aim of this research can be divided into general and specific aims.

2.1 General aim

The general aim of this research is to investigate relationships between occupational stress and ill health of employees in the Correctional Services at Vereeniging Management Area, in order to contribute to an understanding of the interaction between these variables, and the implication thereof for the management of job-stress and ill health in the specific setting.

2.2 Specific aims

The specific aims of the research are:

- To conceptualise the relationship between occupational stress and ill health from the literature.

- To determine the relationship between the variables that form ill health and occupational stress.

- To determine whether there are any differences between demographical groups such as, age, gender, race, social status and the experience of occupational stress?

- To determine whether occupational stress can be used to predict ill health of correctional service workers.

3. RESEARCH METHOD

The research method consists of a literature review and empirical study.

3.1 Literature review

The literature review focuses on occupational stress and ill health. The results are used to determine the relationship between occupational stress and ill health.

3.2 Empirical study

3.2.1 Research design

A cross sectional design will be used, by means of which a sample is randomly drawn from a population at a particular point in time (Shaughnessy & Zechmeister, 1997). This survey design will be used to collect data and attain the research objectives. This design can be used to assess interrelationships among variables within a population. According to Shaughnessy and Zechmeister (1997), this design is ideally suited to the descriptive and predictive functions associated with correlation research.

3.2.2 Study population

The study will use as participants employees of Correctional Services at Vereeniging Management Area. Employees from all levels at the prison setting will be selected; all occupational groups will be represented. In other words the study will include the whole population consisting of (n: 197), employees of correctional services in Vereeniging Management area. Management and production levels will be fully represented.

3.2.3 Measuring battery

The following measuring instruments will be used in this study:

- *The Correctional Officer Stress Inventory* (COSI) (Botha, 2003) - This measure is composed of subscales assessing three components: Job demands, lack of resources and correctional stressors. An example of job demands will be "Dealing with crisis situations"; for lack of resources will be "Lack of support from supervisor" and for correctional stressors it will be "Danger and possibility of physical attacks". It consists of 94 items developed to measure the levels of job stress of Correctional employees. It addresses both the severity and frequency of stressors. Firstly participants rate each of the 47 items regarding the intensity of stress on a 9-point scale. Secondly, the frequency part of the questionnaire asks "how many times in the last six months" the source of stress has been experienced. An understanding of the severity of the stressor is gauged as the product of intensity and frequency. Botha (2003) found the following Cronbach alpha coefficients for the Correctional Officer Stress Inventory, Job demands, 0,79; Lack of resources, 0,84; and Correctional stressors, 0,83.

- *The General Health Questionnaire* (GHQ) (Goldberg & Hillier, 1979), will be used to measure the levels of health of Correctional employees. It provides important information on current levels of physical health, psychological well-being and organisational commitment. The questionnaire focuses on the individual's health, aimed at specific outcomes of stress, and includes questions relating to both physical and psychological health. For the purpose of this study the 28 item version will be used. Responses will be given on a 4-point Likert-type scale, with the total scale ranging from 28 to 112. The measure is composed of subscales assessing four components namely: Somatic symptoms for example: "Been feeling run down and out of sorts", anxiety and insomnia, for example: "Lost much sleep over worry", social dysfunction, for example: "Felt on the whole you were doing things well" and severe depression, for example: "Felt that life is entirely hopeless". A high value on the GHQ is indicative of a high level of psychological distress, whereas a low score implies a low level of psychological distress, indicating a high level of psychological well-being. Goldberg and Hillier (1979) reported internal consistency co-efficiency of 0, 69 to 0,90. Goldberg, Grater,

Sartorius, Usten, Piccinelli, Gureje and Rutter (1997) report good reliability and validity indices for the GHQ across different cultures. In South Africa, Isaksson and Johansson (2000), obtained a Cronbach alpha co-efficient of 0,86, Oosthuizen (2000) found the following Cronbach alpha coefficients for the GHQ, somatic symptoms (0,76), anxiety and insomnia (0,83), social dysfunction (0,73), severe depression (0,78) and Oosthuizen (2001) obtained reliability co-efficient of 0,89 for the GHQ, which means the instrument can be used in South Africa.

- *The Maslach Burnout Inventory-General Survey* (MBI-GS) (Maslach et al., 1996) is used to measure burnout. The MBI-GS has three subscales: Exhaustion, Cynicism and Professional efficacy. Together the subscales of the MBI-GS provide a three-dimensional perspective on burnout. Internal consistencies varied from 0,87 for exhaustion, 0,73 to 0,84 for Cynicism and 0,76 to 0,84 for Professional efficacy. Test-retest reliabilities after one year were 0,65, exhaustion, 0,60 cynicism and 0,67 professional efficacy. All items are scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (daily). In this study, only exhaustion and cynicism were measured.

  High scores on Exhaustion and Cynicism, and low scores on Professional efficacy are indicative of burnout. Storm (2002) confirmed the three-factor structure of the MBI-GS in a sample of 2396 members of the South African Police Services, but recommended that item 13 should be dropped from the questionnaire. She confirmed the structural equivalence of the MBI-GS for different race groups in the SAPS. The following Cronbach alpha coefficients were obtained for the MBI-GS: Exhaustion 0, 88, Cynicism 0, 79, Professional efficacy 0, 78 (Storm, 2002). Naude (2003) reported a Cronbach alpha coefficient of 0, 79 for the Exhaustion dimension, a 0, 68 for the depersonalisation dimension and a 0, 78 for the personal accomplishment dimension. Because of the focus on ill-heath the study will only concentrate on exhaustion and cynicism.

- *The Utrecht Work Engagement Scale* (UWES) (Schaufeli et al., 2002) is used to measure the levels of engagement of the participants. The UWES includes three dimensions, namely vigor, dedication and absorption, which is conceptually seen as the opposite of burnout and is

scored on a 7-point frequency rating scale, varying from 0 (never) to 6 (everyday). The questionnaire consist of 17 questions and includes questions like "I am bursting with energy everyday in my work", "My job inspires me", and "To me my work is challenging". The alpha coefficients for the three subscales varied between 0,68 and 0,91. The alpha coefficient could be improved by eliminating a few items without substantially decreasing the scales' internal consistency. Storm (2002) in a sample of 2396 South African Police Service obtained the following alpha coefficients: Vigor, 0,78; Dedication, 0,89; Absorption, 0,78. Naude (2003) reported a Cronbach alpha coefficient of 0,70 for Vigor, 0,83 for Dedication, and 0,67 for Absorption.

3.2.4 Statistical analysis

The SPSS-program (2003) and SAS Institute (2000) will be used to carry out statistical analysis. Descriptive statistics (means, standard deviation, and kurtosis) was used to analyse the data. A confirmatory factor analysis was used to test for construct validity.

Cronbach alpha coefficients and inter-item correlations will be used to assess the internal consistency of the measuring instruments. Cronbach alpha Coefficient conveys important information regarding the proportion of error variance contained in a scale (Clark & Watson, 1995). The Pearson Product Moment Correlation will be determined to indicate the extent to which one variable is related to another.

MANOVA and ANOVA tests will be used to determine the relationship between the different groups.

A multiple regression analysis will be conducted to determine the percentage of the variance in the dependant variable that is predicted by the independent variable. Effect sizes (Cohen, 1988) will be used to decide on a practical significance of the findings. According to Steyn, (1999) effect sizes indicate whether obtained results are important while statistical significance may often show results that are of little practical relevance.

4. RESEARCH PROCEDURE

The measuring battery will be compiled and a letter attached with the proposal will be sent to the Department of Correctional Services requesting to conduct the mini dissertation in Vereeniging Prison. With regard to the research, ethical procedures will be discussed with the participants.

5. DIVISION OF CHAPTERS

Chapters will be divided as follows:

Chapter 1: Introduction, Problem statement, and Research objectives

Chapter 2: Research article

Chapter 3: Conclusions, shortcomings and recommendations.

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OCCUPATIONAL STRESS AND ILL HEALTH AMONG CORRECTIONAL SERVICES OFFICIALS

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ABSTRACT

The primary objective of this research was to investigate the relationship between occupational stress and ill health among employees of Correctional Services in the Vereeniging Management Area. The measuring instruments that were used were the COSI, the MBI-GS, the UWES and the GHQ. A cross-sectional survey design was conducted among 197 employees at the Vereeniging Management Area. A response of (n=134) completed questionnaires was obtained. The results demonstrated a practically significance relationship between stress and work engagement and also between stress and general health. It also demonstrated a practically significance relationship between stress, exhaustion and the cynicism subscales. The regression analysis indicated that stress has some predictive value over exhaustion, cynicism, somatic symptoms, anxiety and insomnia, social dysfunction, severe depression and engagement.

OPSOMMING

Die primêre oogmerk van hierdie navorsing was om die verhoudinge tussen beroepstres en swak gesondheid by werknemers van Korrektiewe Dienste in die Vereenigingse Bestuursarea te ondersoek. Die meetinstrumente wat gebruik is, is die COSI, die UWES en die GHQ. 'n Kruisdeursnee-ontwerp is gedoen oor 197 werknemers by die Vereenigingse Bestuursarea. 'n Respons van (n=134) voltooide vraelyste is ontvang. Die resultate toon 'n praktiese beduidendheid verhouding tussen stress en werkbetrokkenheid, en ook tussen stress en algemene gesondheid. Daar is ook gevind dat 'n praktiese beduidendheid bestaan tussen die stres-, uitputtings- en sinisme-subskale. Die regressie-analise het getoon dat stress 'nmate van voorspellende waarde het met betrekking tot uitputting, sinisme, somatiese simptome, angs en slaaploosheid, sosiale wanfunksionering, erge depressie en betrokkenheid.

According to Grobler, Wärnich, Carrell, Elbert and Hatfield (2002), occupational stress is considered to be a rising concern within many organisations in South Africa. Levi, Sauter and Shimomitsu (1999) state that ill health and sickness absence due to psychosocial stress in the work environment constitute a serious and increasingly prevalent problem in contemporary work life. The possible causes of these problems include increased domestic and foreign competition, which has led to a substantial increase in the frequency of downsizing, lay-offs and merger activities, rapidly changing technology, tension among diverse groups of employees, and increased demands for higher quality products and service (Grobler et.al., 2002).

According to Bergh (1997), South African prisons are facing a crisis; a situation where it is feared that professionals might leave their jobs because of increasing job demands and continuous stress. Another reason for concern over job stress is that stress-related workers' compensation claims have risen dramatically (Grobler et. al., 2002). The authors further state that this is especially the case with members of the South African Police Services, who tend to retire early because of stress. The abovementioned statement is supported by a study conducted by Anson, Johnson, and Anson (1997) that found little difference between police officers and Correctional officials, and showed that both groups experienced high levels of chronic stress, depersonalisation and, tedium as well as physical, mental or emotional exhaustion. Furthermore, they further point out that Correctional officials exhibited more instances of sickness, ulcers, hypertension and heart disease than the compared sample of police officers.

Because of the daily challenges of managing inmates as well as the frustrations of inevitable mismanagement in attempting to accomplish multiple goals (Alighier, 2005), the researcher is of the opinion that Correctional officials are subject to severe stress and, as a consequence will tend to experience ill health. Criminal justice research paints a picture of Correctional officials as being hardened, cynical, stressed, ritualistic and alienated (Tracy, 2003). These problems have been linked to Correctional officials' high levels of turnover, job dissatisfaction, psychological distress and a relatively short life expectancy of 59 years (Tracy, 2003).

According to Irishhealth (2005), measured on a scale of one to ten, Correctional officials' occupation rated high on stress. Because of these reported problems it seems that the seriousness of the physical and psychological effects of stress on the Correctional official is becoming increasingly important to this type of organisation and also on an international level (Botha, 2003).

The Conservation of Resources Theory (COR) (Hobfoll, 1989) and the Appraisal Theory (Lazarus & Folkman, 1984) have provided a theoretical background for this study. According to the COR theory (Hobfoll, 1989) people strive to retain, protect and build resources, and any threats towards the person presents a potential or actual loss of their valued resources. Negative outcomes such as health complaints and burnout are likely to occur when valued resources are threatened or lost, are inadequate to meet demands, or do not reap the anticipated level of return (Taris, et al., 2001). Major work demands include role ambiguity, work-load and work pressure, whereas major resources include control, participation in decision-making and job autonomy (Lee & Ashforth, 1996).

According to Botha (2003), factors such as job demands in Correctional Services environment can be associated with realities such as the demands of prisoners, crisis situations and personal responsibility, the unpleasant nature of administrative tasks and transformation and re-organisation within the environment. Lack of resources can be related to lack of organisational support, lack of opportunities for advancement, poor pay, lack of staff and lack of co-operation and motivation. Factors such as exposure to body fluids and faeces, inhalation of unpleasant odours and dealing with contagious diseases are some of the stressors inherent in the Correctional Services environment (Botha, 2003).

The COR framework focuses on the effects of job demands and resources on burnout. It views job demands and resources as potential sources of stress. Hobfoll and Freedy (1993) state that when demands threaten resources stress is triggered and therefore prolonged exposure to such demands may result in strain in the form of emotional exhaustion (burnout). As a result people who are confronted with stress are expected to strive to minimise the net loss of resources. People will then use whatever resources they have to limit resource loss and the adverse effects

thereof. This implies that people with less resources are vulnerable to resource loss and therefore to strain (Hobfoll, 1989). Karasek (1979) supports this statement by stating that jobs that combine high levels of demand with low levels of autonomy, control or decision latitude are the most stressful.

Chaka, (1998) describes the demands and stressors of Correctional officials as a high degree of responsibility for people, genuine threats to personal safety, rotating shifts and unpleasant physical surroundings. An observation study conducted by Tracy (2003) in a prison found that stress and burnout among Correctional officials was evidenced through manifestations of literalism, withdrawal and paranoia and that these behaviours were associated with contradictory tensions inherent in the Correctional officials' work. The researcher is of the opinion that the manifestation of these behaviours is a result of the demands and stressors that the Correctional officials experience. For instance, Correctional officials are expected to listen to, interact with and nurture inmates; however, they are also expected to be 'tough' and detached. Through physical training sessions and other activities, they are taught how to be physically and mentally tenacious. Therefore, officials must carefully walk a tightrope in balancing the tension of nurture versus discipline (Tracy, 2003).

Lee and Ashforth (1996), argue that resources help to overcome the need for 'defensive coping'. That is, while the threat of resource loss may lead to the use of coping strategies, such as depersonalisation, the second important dimension of burnout, i.e. having a distant and cynical attitude towards the people one is working with professionally. Those who have many resources at their disposal have a lower need for such coping strategies than others. These authors further state that one would then expect job demands to be especially strongly related to exhaustion and less to depersonalisation, whereas job resources should be related to both and perhaps most strongly to depersonalisation. These ideas were tested by Lee and Ashforth (1996) and their results confirmed their expectation that exhaustion would be strongly associated with the demands correlates, whereas the correlations with job resources would be somewhat lower. Depersonalisation, was correlated with both resources and demands. In their analyses of various studies Schaufeli and Enzmann (1998) found that job demands correlate most strongly with exhaustion. It will then be assumed that job demands such as, the demands of prisoners, crisis

situations and personal responsibility, unpleasant nature of administrative tasks and so forth, will be strongly associated with exhaustion. These job demands together with lack of resources such as, poor pay, lack of opportunities for advancement, lack of staff and so forth, can be associated with cynicism in the Correctional Services. It is therefore the researcher's opinion that prolonged exposure of Correctional officials to these demands and lack of resources may result in strain in a form of burnout.

In a study conducted by Rothmann, Malan and Rothmann (2001), burnout is regarded as a particular kind of prolonged stress. Rothmann, et al. (2001) view burnout as a multidimensional chronic stress reaction that goes beyond the experience of mere exhaustion. These authors propounds that unsuccessful attempts to cope with a variety of negative stress conditions can result in a multidimensional stress reaction, that is, burnout (Basson & Rothmann, 2002).

Schaufeli and Enzmann (1998) define **burnout** as a "persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation and the development of dysfunctional attitudes and behaviour at work". Furthermore, Schaufeli and Enzmann (1998) associate burnout with the unsuccessful progression of continued attempts to buffer the impact of environment stressors, resulting in a general breakdown of resources, and ultimately in the inception of burnout. Schaufeli (2003) argues that from a theoretical point of view exhaustion and cynicism constitute the two key aspects of burnout, with exhaustion referring to the fact that the employee is incapable of performing because all energy has been drained, and cynicism indicating that the employee is no longer willing to perform because of increased intolerance of any effort.

Maslach et al. (2001) state that the **exhaustion** component of burnout relates to the basic individual stress aspect of burnout, referring to feelings of being overextended and depleted of one's emotional and physical resources. The **cynicism** or depersonalisation component represent the interpersonal context dimension of burnout, referring to negative, callous or excessively detached responses to various aspects of the job. Visible signs of cynicism include the use of abstract language, intellectualisation of the situation and strict compartmentalisation of

professional lives (Maslach et. al, 2001). Since this study will focus on ill-health only exhaustion and cynicism components of burnout will be used.

Empirical studies reveal that some individuals, regardless of high job demands and a lack of job resources, do not experience burnout, but rather seem to find pleasure in hard work and in dealing with job demands (Schaufeli & Bakker, 2002). This gave rise to the concept of engagement, theoretically viewed as an antithesis of the burnout construct as set forth by MBI-GS (Maslach & Leiter, 1997). Accordingly, engagement is characterised by energy, involvement and efficacy (Maslach & Leiter, 1997). **Work Engagement** is thus a more persistent and pervasive affective-cognitive state that is not focused on a particular object, event, individual or behaviour and is characterised by vigour, dedication and absorption (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002).

Vigour reflects the willingness and ability of the individual to invest efforts in his/her job. This implies the presence of high levels of energy and mental resilience. **Dedication** refers to a sense of significance, enthusiasm and absorption; whereas **absorption** reflects the full concentration and happiness of being engrossed in one's work (Schaufeli, et al., 2002).

According to Nel, Gerber, Van Wyk, Haasbroek, Schultz, Sono and Werner (2001), a modest amount of stress may encourage a person to perform better, however, when stress turns into distress it leads to negative consequences. Stress is a transaction between the individual and the environment (Cooper, Dewey & O'Driscoll, 2001). It arises when the demands of a particular encounter are appraised by the individual as exceeding the resources available, thereby threatening one's well-being (Lazarus, 1991) and may result in bringing about changes in the person's psychological condition in order to cope with the encounter (Cooper et al., 2001). In support of this statement, Schaufeli and Enzmann (1998) divided occupational stressors into job demands and a lack of resources. Taking the abovementioned discussions into consideration, the researcher then assumes that prolonged exposure to exhaustion may lead to increased feelings of cynicism and less engagement and may in turn lead to occupational stress.

Occupational stress is seen as the harmful physical and emotional responses that can occur when there is a conflict between job demands on the employee and the amount of control an employee has over meeting these demands (Clark, 2005). Absenteeism, illness, alcoholism, petty internal politics, poor or snappy decisions, indifference and apathy, lack of motivation or creativity are all products of an overstressed workplace (Clark, 2005).

Jagdish (1996) propounds that occupational stress contributes to heart-attacks, strokes and death, as well as medical disorders in general. Furthermore, it has been reported for nearly 20 years that at least 50 per cent of cases reported to industrial physicians are related to occupational stress (Jagdish, 1996). Factors such as potentially dangerous inmates, meagre salaries and communication breakdowns have been identified as continuous stressors among Correctional officials (Cheek & Miller, 1983). In general, a combination of high demands in a job and a low degree of control over the situation can lead to the greatest amount of stress. Fear of job redundancy, lay-offs' due to an uncertain economy, and increased demands for overtime due to staff cutbacks all act as negative stressors (Clark, 2005).

Burnout has also been linked with mental and physical health problems (Viljoen, Buitendach, & Bosman, 2004). Burke and Deszca (1986) and Masclach and Pines (1977) found that the measure of psychosomatic symptoms was positively related to burnout. Deterioration of mental health is characterised by decreased feelings of self-esteem, depression, irritability, helplessness or anxiety (Jackson & Maslach, 1982; Kahill, 1988).

General health can be regarded as the balance of positive and negative feelings in recent experience (Kamman & Flett, 1983). Research indicates that high levels of negative feelings increase susceptibility to the experience of psychological strain and other negative outcomes of stress, whereas positive feelings are associated with high generalised self-efficacy, subjective well-being and positive social relationships (Church, 1994; Spielberger, Gorsuch & Lushene, 1970). For the purposes of this research, general health has been conceptualised by the theory of Goldberg and Hillier (1979) looking at somatic symptoms, anxiety and insomnia, social dysfunction and severe depression. There is a substantial body of research literature that implicates psychosocial factors at work in the aetiology of musculoskeletal symptoms, mental

strain and general health problems. High demands and low job control have been reported in connection with comparatively high indices of physical and psychological symptoms (Larsson & Setterlind, 1990).

The psychosocial work environment is assumed to be an important predictor of ill health and sickness absence (Pousette et al., 2002). A definition of **ill health** as given by Google (2005) states that ill health can be a synonym of disease, or it can be a perception of having poor health. Disease is an actual physical, pathophysiological process, which can cause an abnormal condition of the body or mind (Google, 2005).

From the all the information given above it can be deducted that Correctional officials are subject to increased job demands such as a high degree of responsibility for people, genuine threats to personal safety, rotating shifts and unpleasant physical surroundings and work contradictions. They also experience lack of resources, such as poor pay, lack of opportunities for advancement and so forth. As a result Correctional officials tend to manifest behaviours such as withdrawal, literalism, and paranoia. Thus, these conditions can be regarded as chronic stressors and it is stated that being in a stressful environment together with the experience of stressful work-related situations might give rise to burnout, decreased engagement and ill health among Correctional officials hence, the study.

The objective of this study is to investigate the relationships between occupational stress and ill health among employees in the Correctional Services in the Vereeniging Management Area with a view to provide insight into the experiences of stress and burnout.

The discussion above leads to the following hypotheses:

H1: There is a practically significant relationship between occupational stress and general health.

H2: There is a practically significant relationship between occupational stress and burnout.

H3: There is a practically significant relationship between occupational stress and work engagement.

H4: Occupational stress holds a predictive value with regard to ill health as measured by burnout and general health.

H5: Occupational stress holds a predictive value with regard to ill health as measured by engagement.

AIM OF THE STUDY

The general aim of this research is to investigate relationships between occupational stress and ill health among employees of Correctional Services in the Vereeniging Management Area, in order to contribute towards an understanding of the interaction between these variables, and the implication thereof for the management of occupational stress and ill health in the specific setting.

METHOD

Research design

A cross-sectional design will be used, by means of which a sample is randomly drawn from a population at a particular point in time (Shaughnessy & Zechmeister, 1997). This survey design will be used to collect data and to attain the research objectives. This design can be used to assess interrelationships among variables within a population. According to Shaughnessy and Zechmeister (1997), this design is ideally suited to the descriptive and predictive functions associated with correlation research.

Study Population

The total population of (n = 197) Correctional officials in Vereeniging was used, although a response of only (n = 134) participants was obtained. The entire prison population was included in the study. Officials from different categories, according to the nature of their jobs, were represented in the sample. These categories included officials conducting internal and external

custody, those working as administrative personnel as well as artisans and professionals. Descriptive information of the sample is indicated in Table 1.

Table 1 indicates that 65% of the study population were males, 31% fell within the 0-35 age bracket. The majority of participants were black (69, 4%). A large percentage (19, 6 %) belonged to the CO111 rank, which is the lowest production rank. Regarding tenure, it is illustrated that 21 % of the respondents have tenure of about 6-10 years in the Department. Most of the respondents (38%) were from the internal custody section and the majority of them have taken their sick leaves over a period of 6 months from 1-5 days. This implies that most of the participants, which is more that half of the Correctional officials working at Vereeniging Management Area may be suffering from ill health. Possible causes of this may be that they experience more stress at work and may tend to be sick.

Table 1

Characteristics of the Participants

Item	Category	Frequency	Percentage
Gender (n=134)	Male	87	65,0
	Female	34	25,3
	Missing	13	9,7
Age (n=134)	0-35	67	30,5
	36-45	47	21,4
	46-56yrs and older	16	7,3
	Missing	4	40,8
Race (n=134)	Black	93	69,4
	White	30	22,3
	Missing	11	8,2
Rank (n=134)	CO1	40	18,2
	CO11	36	16,4
	CO111	43	19,6
	Missing	15	45,8
Tenure (n=134)	Between 1 yr-5 yrs	31	14,1
	6-10 yrs	47	21,4
	11-15 yrs	27	12,3
	16 yrs and longer	25	11,4
	Missing	4	40,8
Section (n=134)	Internal custody	51	38,0
	Artisan/Professional	19	14,1
	Administrative	22	16,4
	External custody	33	24,6
	Missing	9	6,9
Absenteeism (n=134)	0 days	14	10,4
	1-5 days	55	41,0
	6-10 days	30	22,3
	11-15 days	16	11,9
	Over 15 days	15	11,1
	Missing	4	3,3

The following measuring instruments will be used in this study:

- *The Correctional Officer Stress Inventory* (COSI) (Botha, 2003) - This measure is composed of subscales assessing three components: job demands, lack of resources and correctional stressors. An example of job demands will be "Dealing with crisis situations"; for lack of resources, an example will be "Lack of support from supervisor" and for correctional stressors it will be "Danger and possibility of physical attacks". The inventory consists of 94 items developed to measure the levels of job stress of Correctional employees. It addresses both the severity and frequency of stressors. Firstly, participants rated each of the 47 items regarding the intensity of stress on a 9-point scale. Secondly, the frequency part of the questionnaire asks: "how many times over the last six months" the source of stress has been experienced. An understanding of the severity of the stressor is gauged as the product of intensity and frequency. Botha (2003) found the following Cronbach alpha coefficients for the COSI: job demands, 0,79; lack of resources, 0,84, and correctional stressors, 0,83.

- *The General Health Questionnaire* (GHQ) (Goldberg & Hillier, 1979) will be used to measure the levels of health of Correctional employees. It provides important information regarding current levels of physical health, psychological well-being and organisational commitment. The questionnaire focuses on the individual's health, aimed at specific outcomes of stress, and includes questions relating to both physical and psychological health. For the purpose of this study, the 28-item version will be used. Responses will be given on a 4-point Likert-type scale, with the total scale ranging from 28 to 112. The measure is composed of subscales assessing four components, namely: somatic symptoms (for example: "Been feeling run down and out of sorts"); anxiety and insomnia, (for example: "Lost much sleep over worry"); social dysfunction, (for example: "Felt on the whole you were doing things well"); and severe depression, (for example: "Felt that life is entirely hopeless"). A high value on the GHQ is indicative of a high level of psychological distress, whereas a low score implies a low level of psychological distress, indicating a high level of psychological well-being. Goldberg and Hillier (1979) reported internal consistency co-efficiency of 0,69 to 0,90. Goldberg, Grater, Sartorius, Usten, Piccinelli, Gureje & Rutter (1997) reported good reliability and validity indices for the GHQ across different cultures. In South Africa, Isaksson and

Johansson (2000) obtained a Cronbach alpha co-efficient of 0,86, while Oosthuizen (2000) found the following Cronbach alpha coefficients for the GHQ: somatic symptoms (0,76), anxiety and insomnia (0,83), social dysfunction (0,73), severe depression (0,78). Oosthuizen (2001) obtained a reliability co-efficient of 0,89 for the GHQ, which means the instrument can be used in South Africa.

- *The Maslach Burnout Inventory-General Survey* (MBI-GS) (Maslach et al., 1996) was used to measure burnout. The MBI-GS has three subscales, namely: exhaustion (Ex) (5-items, for example: "I feel used up at the end of the workday"), cynicism (Cy) (5-items, for example: "I have become less enthusiastic about my work") and professional efficacy (Pe) (6-items, for example: "In my opinion I am good at my job"). Together, the subscales of the MBI-GS provide a three-dimensional perspective on burnout. Internal consistencies varied between 0,87 for exhaustion, 0,73 to 0,84 for cynicism and 0,76 to 0,84 for professional efficacy. Test-retest reliabilities after one year were 0,65, for exhaustion, 0,60 for cynicism and 0,67 for professional efficacy. All items are scored on a 7-point frequency rating scale ranging from 0 (never) to 6 (daily). In this study, only exhaustion and cynicism were measured.

High scores on exhaustion and cynicism, and low scores on professional efficacy are indicative of burnout. Storm (2002) confirmed the three-factor structure of the MBI-GS in a sample of 2 396 members of the South African Police Services, but recommended that item 13 should be dropped from the questionnaire. She confirmed the structural equivalence of the MBI-GS for different race groups in the SAPS. The following Cronbach alpha coefficients were obtained for the MBI-GS: exhaustion 0,88, cynicism 0,79, and professional efficacy 0, 78 (Storm, 2002). Naudé (2003) reported a Cronbach alpha coefficient of 0,79 for the exhaustion dimension, a 0,68 for the depersonalisation dimension and 0,78 for the personal accomplishment dimension.

- *The Utrecht Work Engagement Scale* (UWES) (Schaufeli et al., 2002) was used to measure the levels of engagement of the participants. The UWES includes three dimensions, namely vigour, dedication and absorption, which is conceptually seen as the opposite of

burnout and is scored on a 7-point frequency rating scale, varying from 0 (never) to 6 (everyday). The questionnaire consists of 17 questions and includes questions like: "I am bursting with energy everyday in my work", "My job inspires me", and "To me my work is challenging". The alpha coefficients for the three subscales varied between 0,68 and 0,91. The alpha coefficient could be improved by eliminating a few items without substantially decreasing the scales' internal consistency. Storm (2002), in a sample of 2 396 South African Police Service members, obtained the following alpha coefficients: vigor, 0,78; dedication, 0,89; and absorption, 0,78. Naudé (2003) reported a Cronbach alpha coefficient of 0,70 for vigor, 0,83 for dedication, and 0,67 for absorption.

3.2.4 Statistical analysis

The SPSS-programme (2003) and SAS Institute (2000) were used to conduct the statistical analysis. Descriptive statistics (means, standard deviation and kurtosis) was used to analyse the data. A confirmatory factor analysis was used to test for construct validity.

Cronbach alpha coefficients and inter-item correlations will be used to assess the internal consistency of the measuring instruments. Cronbach alpha coefficient convey important information regarding the proportion of error variance contained in a scale (Clark & Watson, 1995). The Pearson Product Moment Correlation will be determined to indicate the extent to which one variable is related to another.

MANOVA and ANOVA tests will be used to determine the relationship between the different groups.

A multiple regression analysis will be conducted to determine the percentage of the variance in the dependant variable that is predicted by the independent variable. Effect sizes (Cohen, 1988) will be used to establish the practical significance of the findings. According to Steyn (1999), effect sizes indicate whether results obtained are important, while statistical significance may often show results that are of little practical relevance.

RESULTS

Construct validity of the measuring instruments

The Maslach Burnout Inventory - General Survey (MBI-GS)

A simple principal components analysis was conducted on the items of the MBI-GS on the total sample of employees in the Vereeniging Management Area.

Two factors for the MBI-GS, namely exhaustion and cynicism, were extracted. The principal component analysis with a varimax rotation was then used for conducting a factor analysis. Analysis of the eigenvalues (larger than 1) and scree plot indicated that two factors which explained 64, 46 % of the variance could be extracted. This research deals specifically with ill health and therefore the subscales of exhaustion and cynicism will be used in this research.

Next, a simple principal components analysis was conducted on the 17 items of the UWES on the total sample of employees in the Vereeniging Management Area. Analysis of the eigenvalues (larger than 1) and scree plot indicated that one-factor which explained 62, 28 % of the total variance could be extracted. The results are indicated in Table 2.

Table 2

Component matrix of the UWES for the total sample

Item	
1. I am bursting with energy in my work.	**-0,57**
2. I find my work full of meaning and purpose.	**-0,78**
3. Time flies when I am working.	**-0,80**
4. I feel strong and vigorous in my job.	**-0,81**
5. I am enthusiastic about my job.	**-0,82**
6. When I am working, I forget everything else around me.	**-0,61**
7. My job inspires me.	**-0,85**
8. When I get up in the morning, I feel like going to work.	**-0,82**
9. I feel happy when I am engrossed in my work.	**-0,82**
10. I am proud of the work that I do.	**-0,83**
11. I am immersed in my work.	**-0,84**
12. In my job, I can continue working for very long periods of time.	**-0,74**
13. To me, my work is challenging.	**-0,80**
14. I get carried away by my work.	**-0,81**
15. I am very resilient, mentally, in my job.	**-0,81**
16. It is difficult to detach myself from my work.	**-0,78**
17. I always persevere at work, even when things do not go well.	**-0,77**

This one-factor model corresponds with the findings of Storm and Rothmann (2003), who found that a re-specified one-factor model fitted their data best. Inspection of Table 2 indicates that all items of the UWES (total) loaded correctly.

Next, a principal component analysis was conducted on the COSI, eigenvalues higher than 0, 1. Exploratory factor analysis was computed on 47 items. Three factors were extracted, explaining 47,47 % of the variance.

Cronbach alpha coefficients of the Correctional Official Stress Inventory, the General Health Questionnaire, the Maslach Bunout Inventory-General Survey and the Utrecht Work Engagement Survey for employees in Vereeniging Correctional Management Area are reported in Table 3. The skewness and kurtosis will also be indicated in Table 3

Table 3

Descriptive statistics of the COSI, GHQ, MBI-GS and UWES

Item	α	N	Mean	SD	Skewness	Kurtosis
Burnout						
Exhaustion	0,91	131	12,17	8,77	0,58	0,61
Cynicism	0,88	131	4,73	4,03	0,45	-1,00
General health						
Somatic symptoms	0,86	132	2,00	0,71	0,80	-0,02
Anxiety & insomnia	0,92	132	1,95	0,82	0,97	0,17
Social dysfunction	0,80	132	1,92	0,55	0,81	1,71
Severe depression	0,90	133	1,47	0,67	1,68	2,46
Engagement: Total	0,96	133	3,73	1,52	-0,63	-0,27
Occupational stress						
Job demands	0,86	128	72,81	19,52	0,06	-0,01
Lack of resources	0,86	128	66,70	17,32	-0,31	-0,21
Correctional stressors	0,91	128	110,48	33,71	0,31	0,02

The information in Table 3 indicates that the subscales of COSI, GHQ, MBI-GS and UWES are normally distributed, although social dysfunction and severe depression are somewhat positively skewed.

With regard to the internal consistency of the scales, Table 3 shows that acceptable Cronbach alpha coefficients were obtained on all the measuring scales. These findings compare favourably with the norm of a 0,70 according to the guideline set by Nunnally and Bernstein (1994). These findings are consistent with previous research conducted by Botha (2003) on stress, which obtained a Cronbach alpha of 0,79 for job demands; 0,84 for lack of resources and 0, 83 for

correctional stressors on the Correctional Stress Inventory. Oosthuizen (2000) found the following Cronbach alpha coefficients for the GHQ: somatic symptoms (0,76), anxiety and insomnia (0,83), social dysfunction (0,73), severe depression (0,78). Naudé (2003) reported a Cronbach alpha coefficient of 0,70 for vigor, 0,83 for dedication, and 0,67 for absorption and, Storm (2002) obtained the following Cronbach alpha coefficients for the MBI-GS: exhaustion 0,88, cynicism 0,79. The findings in this research are consistent with all these mentioned studies.

The Pearson Product Moment Correlation Coefficient (r) was determined in order to measure the linear relationship between burnout, health, engagement and stress in this study. The inter-correlations between these scales are reported in Table 4.

Table 4

Product-Moment Correlation Coefficient

	1	2	3	4	5	6	7	8	9
Burnout									
Exhaustion	-								
Cynicism	0,70*††	-							
General health			-						
Somatic symptoms	0,49*†	0., 37*†							
Anxiety & insomnia	0,59*††	0,46*†	0,78*††	-					
Social dysfunction	0,42*†	0,47*†	0,49*†	0,53*††	-				
Severe depression	0,42*†	0,35*†	0,64*††	0,67*††	0,45*†	-			
Engagement	-0,35*†	-0,46*†	-0,20*	-0,46*†	-0,44*†	-0,11	-		
Occupational stress									
Job demands	0,47*†	0,34*†	-0,13	0,44*†	0,46*†	0,31*†	0,38*†	-	
Lack of resources	0,43*†	0,33*†	-0,16	0,33*†	0,34*†	0,36*†	0,20*	0,79*††	-
Correctional stressors	0,45*†	0,40*†	-0,11	0,43*†	0,44*†	0,27*	0,35*†	0,78*††	0,73*††

* Statistically significant $p \leq 0, 01$

† Correlation is practically significant $r \geq 0, 30$ (medium effect)

†† Correlation is practically significant $r \geq 0, 50$ (large effect)

For the purposes of this study, *r*-values greater than 0,30 will be accepted as practically significant.

As indicated in Table 4, practically significant relationships and a statistically significant relationship of a large effect was found between cynicism and exhaustion. These findings indicate that an increased experience of cynicism lead to increased levels of exhaustion. A practically significant correlation and statistically significant relationship of a medium effect were found between somatic symptoms, exhaustion and cynicism. This indicates that the experience of high levels of somatic symptoms may lead to high levels of exhaustion and cynicism in the participant. This then, implies that because of an increase in job demands and lack of resources Correctional officials may tend to experience exhaustion and also manifest cynical behaviour, which may in turn lead to high levels of somatic symptoms.

A practically significant relationship and a statistically significant relationship of a large effect were found between anxiety, insomnia and exhaustion, indicating that the higher the experience of anxiety and insomnia, the higher the level of exhaustion. Another practically significant correlation and statistically significant relationship of a medium effect were found between anxiety, insomnia and cynicism. This indicates that increased levels of anxiety and insomnia may lead to cynicism. This may also be related to the first paragraph, that because of being cynical Correctional officials may tend to experience more anxiety and insomnia

A practically significant relationship and a statistically significant relationship of a medium effect were found between social dysfunction and exhaustion. Another practically significant relationship and statistically significant relationship of a medium effect were found between severe depression and exhaustion. This indicates that increased experience of exhaustion may lead to increased experience of social dysfunction as well as severe depression. This implies that Correctional officials who experience increased exhaustion may tend to also experience increased social dysfunction and severe depression.

A practically significant relationship and a statistically significant relation of a medium effect were again found between cynicism, social dysfunction and severe depression. This indicates that Correctional officials who experience higher levels of cynicism will tend to also experience increased levels of social dysfunction and severe depression.

A negative practically significant relationship of a medium effect and a statistically significant relationship were found between the engagement, exhaustion and cynicism functions. This implies that increased feelings of engagement are related to decreased feelings of exhaustion and cynicism. A statistically significant relation exists between engagement and somatic symptoms. This implies that Correctional officials who experience higher levels of engagement will tend to have lesser experience of somatic symptoms. A negative practically significant correlation of a medium effect was found between engagement, anxiety, insomnia and social dysfunction. This implies that increased feelings of engagement are related to decreased feelings of anxiety, insomnia and social dysfunction. The assumption can therefore be made that increased levels of engagement contribute to lower levels of burnout, anxiety, insomnia and social dysfunction.

Neither practically significant correlation nor statistically significant relations was found between occupational stress and engagement.

There were a positive practically significant relationship of a medium effect as well as a statistically significant relationship was between job demands, lack of resources, correctional stressors and exhaustion and cynicism. This implies that an increase in job demands, lack of resources and stressors leads to an increase in the levels of exhaustion and cynicism. Another positive practically significant relationship of a medium effect as well as a statistically significant relationship was found between job demands, lack of resources, correctional stressors, somatic symptoms, anxiety and insomnia. This means that experience of an increase in job demands, lack of resources and stressors leads to an increase in the levels of somatic symptoms, anxiety and insomnia. This implies that Correctional officials who are experiencing an increase in job demands, lack of resources and stressors will tend to experience an increase in the levels of somatic symptoms, anxiety and insomnia

There was a positive practically significant relationship of a medium effect as well as a statistically significant relationship found between job demands, lack of resources and social dysfunction. This implies that more experience of job demands and lack of resources lead to the increased experience of social dysfunction. Another positive practically significant relationship of a medium effect as well as a statistically significant relationship was found between job

demands, correctional stressors and severe depression. This means that officials who experience increased levels of job demands and correctional stressors will experience increased levels of severe depression.

A statistically significant relation was found between lack of resources and severe depression and again between correctional stressors and social dysfunction, indicating the Correctional officials who experience lack of resources will tend to experience severe depression and those who experience correctional stressors will tend to experience social dysfunction.

Next, MANOVA and ANOVA analyses followed to determine the relationship between scores of the Correctional Official's Stress Inventory and various biographical variables such as gender, race, age, tenure, rank and section.

Table 5

MANOVA of Occupational Stress as Independent Variable and Biographical Variables such as Gender, Age, Race, Rank, Tenure and Section.

Variables	F	df	p	Partial eta squared
Gender	2,03	1	0,157	0,02
Age	1,14	2	0,323	0,02
Race	0,07	1	0,783	0,02
Rank	0,19	2	0,823	0,03
Tenure	2,02	3	0,115	0,05
Section	1,03	3	0,380	0,03

*Statistically significant differences: p<0, 01

As indicated in Table 5, no statistically and practically significant differences between biographical variables were obtained.

Next, a multiple linear regression analysis (R^2) was used to determine the proportion of the total variance on one variable that is explained by another variable (Moore, 1995). The multiple linear regression analysis for this study was conducted to determine whether occupational stress could be predicted by biographical variables. The results of the multiple linear regression analysis with occupational stress as measured by job demands, lack of resources and correctional stressors, as the dependent variable and gender, age, race, rank, tenure and section as the independent variables are shown in Table 6.

Table 6

Regression analysis with Exhaustion as a dependent variable.

ANALYSIS OF VARIANCE				
Model 1: Biographical variables (exhaustion)				
R: 0,15	Source of variation	*df*	Sum of	Mean
R^2: 0,02			squares	square
Adjusted R^2: -0,03	Regression	6	187,58	31,26
Standard error: 9,12	Residual	96	7988,87	83,21
	$F = 0,37$ $p = 0,893$			
Model 2: Biographical variables on stress with exhaustion as dependent variable				
R: 0,56	Source of variation	*df*	Sum of	Mean
R^2: 0,32			squares	square
Adjusted R^2: 0,24	Regression	9	2516,41	279,60
Standard error: 7,98	Residual	83	5290,03	63,73
	F =4,38 $p = 0,000$*			

VARIABLES IN THE EQUATION					
INDEPENDENT VARIABLES	B	SEB	Beta	*t*	*p*
Gender	0,09	2,01	0,00*	0,04*	0,96
Race	3,26	2,37	0,16	1,37	0,17
Age	0,27	1,59	0,02	0,17	0,86
Tenure	-0,28	0,89	-0,04	-0,32	0,74
Rank	0,46	1,14	0,04	0,40	0,66
Section	0,20	0,75	0,02	0,27	0,78
Gender	0,88	1,93	0,04	0,45	0,64
Race	2,65	2,27	0,12	1,16	0,24
Age	0,46	1,55	0,03	0,30	0,76
Tenure	-0,27	0,83	-0,04	-0,32	0,74
Rank	0,88	0,77	0,11	1,13	0,26
Section	0,52	0,72	0,07	0,72	0,47
Job demands	0,09	0,08	0,20	1,14	0,25
Lack of resources	0,13	0,08	0,25	1,52	0,13
Correctional stressors	0,03	0,04	0,11	0,74	0,46

*Statistically significant $p \leq 0, 05$

Table 7

Regression analysis with Cynicism as a dependent variable.

ANALYSIS OF VARIANCE				
Model 1: Biographical variables (cynicism)				
R: 0,28	Source of variation	*df*	Sum of	Mean
R^2: 0,08			squares	square
Adjusted R^2: 0,02	Regression	6	132,67	22,11
Standard error: 3,97	Residual	97	1532,86	15,80
	$F = 1,39$ $p = 0,223$			
Model 2: Biographical variables on stress with cynicism as dependent variable				
R: 0,49	Source of variation	*df*	Sum of	Mean
R^2: 0,24			squares	square
Adjusted R^2: 0,16	Regression	9	364,81	40,53
Standard error: 3,71	Residual	83	1142,43	13,76
	$F = 2,94$ $p = 0,004$*			
VARIABLES IN THE EQUATION				
INDEPENDENT VARIABLES	B	SEB	Beta	*t*	*p*
Gender	0,48	0,88	0,05	0,54	0,58
Race	1,75	1,02	0,19	1,71	0,09*
Age	1,19	0,70	0,20	1,70	0,09
Tenure	-0,24	0,38	-0,08	-0,64	0,52
Rank	0,40	0,36	0,11	1,11	0,26
Section	-3,97	0,32	-0,12	-1,23	0,22
Gender	0,59	0,90	0,06	0,65	0,51
Race	1,15	1,05	0,12	1,09	0,27
Age	1,27	0,72	0,21	1,75	0,08
Tenure	-0,09	0,38	-0,03	-0,23	0,81
Rank	0,42	0,36	0,12	1,17	0,24
Section	-0,30	0,33	-0,09	-0,89	0,37
Job demands	0,01	0,03	0,06	0,33	0,73
Lack of resources	0,04	0,04	0,17	0,99	0,32
Correctional stressors	0,02	0,02	0,19	1,12	0,26

*Statistically significant $p \leq 0, 05$

Table 8

Regression analysis with Somatic Symptoms as a dependent variable.

ANALYSIS OF VARIANCE				
Model 1: Biographical variables (somatic symptoms)				
R: 0,21	Source of variation	*df*	Sum of	Mean
R^2: 0,04			squares	square
Adjusted R^2:-0,01	Regression	6	117,23	19,53
Standard error: 5,09	Residual	96	2494,86	25,98
	$F = 0,75$ $p = 0,609$			
Model 2: Biographical variables on stress with somatic symptoms as dependent variables				
R: 0,53	Source of variation	*df*	Sum of	Mean
R^2: 0,28			squares	square
Adjusted R^2: 0,20	Regression	9	696,90	77,43
Standard error: 4,60	Residual	83	1759,22	21,19
	$F = 3,65$ $p = 0,001$*			

VARIABLES IN THE EQUATION					
INDEPENDENT VARIABLES	B	SEB	Beta	*t*	*p*
Gender	-0,76	1,12	-0,06	-0,68	0,49
Race	0,25	1,31	0,02	0,19	0,84
Age	1,40	0,91	0,19	1,54	0,12
Tenure	-0,05*	0,49	-0,01*	-0,10	0,91
Rank	0,04*	0,47	0,01*	0,09	0,92
Section	0,10	0,41	0,02*	0,23	0,81
Gender	-0,70	1,11	-0,61	-0,62	0,53
Race	0,67	1,31	0,05	0,51	0,60
Age	1,31	0,90	0,17	1,46	0,14
Tenure	-0,44	0,48	-0,12	-0,92	0,35
Rank	-0,01	0,45	-0,00	-0,04	0,96
Section	0,42	0,41	0,10	1,01	0,31
Job demands	0,09	0,04	0,39	2,09	0,03
Lack of resources	-0,00	0,04	-0,00	-0,01	0,98
Correctional stressors	0,02	0,02	0,14	0,85	0,39

*Statistically significant $p \leq 0, 05$

Table 9

Regression analysis with Anxiety and Insomnia as a dependent variable.

ANALYSIS OF VARIANCE				
Model 1: Biographical variables (anxiety)				
R: 0,24	Source of variation	*df*	Sum of	Mean
R^2: 0,06			squares	square
Adjusted R^2: -----	Regression	6	270,74	45,123
Standard error: 6,63	Residual	96	4220,91	43,968
	$F = 1,02$ $p = 0,413$			
Model 2: Biographical variables on stress with Anxiety and Insomnia as dependent variables				
R: 0,60	Source of variation	*df*	Sum of	Mean
R^2: 0,36			squares	square
Adjusted R^2: 0,29*	Regression	9	1570,87	174,54
Standard error:5,70	Residual	83	2700,37	32,53
	$F = 5,36$ $p = 0,000$*			

VARIABLES IN THE EQUATION					
INDEPENDENT VARIABLES	B	SEB	Beta	*t*	*p*
Gender	-1,54	1,46	-0,05*	-1,05	0,29
Race	2,65	1,71	1,55	1,55	0,12
Age	1,18	1,18	1,00	1,00	0,31
Tenure	-0,14	0,64	-0,22	-0,22	0,82
Rank	0,31	0,61	0,50	0,50	0,61
Section	-0,10	0,54	-0,18	-0,18	0,85
Gender	-1,28	1,38	-0,08	-0,93	0,35
Race	2,99	1,62	0,19	1,84	0,06
Age	1,69	1,11	0,17	1,52	0,13
Tenure	-0,71	0,59	-0,15	-1,19	0,23
Rank	0,24	0,55	0,04	0,45	0,65
Section	0,13	0,51	0,02	0,26	0,79
Job demands	0,17	0,05	0,52	2,92	0,00
Lack of resources	-0,01	0,06	-0,02	-0,17	0,86
Correctional stressors	0,01	0,03	0,06	0,43	0,66

*Statistically significant $p \leq 0, 05$

Table 10

Regression analysis with Social Dysfunction as a dependent variable.

ANALYSIS OF VARIANCE				
Model 1: Biographical variables (social dysfunction)				
R: 0,28	Source of variation	*df*	Sum of	Mean
R^2: 0,08			squares	square
Adjusted R^2: 0,02	Regression	6	150,37	25,06
Standard error: 4,15	Residual	97	1671,16	17,22
	$F = 1,45$ $p = 0,202$			
Model 2: Biographical variables on stress with social dysfunction as dependent variable				
R: 0,51	Source of variation	*Df*	Sum of	Mean
R^2: 0,26			squares	square
Adjusted R^2: 0,18	Regression	9	453,59	50,39
Standard error: 3,88	Residual	83	1254,68	15,11
	$F = 3,33$ $p = 0,002$*			

VARIABLES IN THE EQUATION					
INDEPENDENT VARIABLES	B	SEB	Beta	*t*	*P*
Gender	-1,24	0,91	-0,13	-1,36	0,17
Race	1,41	1,06	0,15	1,32	0,18
Age	1,02	0,74	0,16	1,37	0,17
Tenure	-0,25	0,40	-0,08	-0,62	0,53
Rank	0,40	0,38	0,11	1,05	0,29
Section	-0,49	0,33	-0,15	-1,48	0,14
Gender	-1,49	0,94	-0,15	-1,57	0,11
Race	0,98	1,10	0,10	0,88	0,37
Age	1,31	0,76	0,20	1,71	0,09
Tenure	-0,33	0,41	-0,11	-0,79	0,42
Rank	0,49	0,37	0,13	1,32	0,19
Section	-0,46	0,34	-0,13	-1,32	0,18
Job demands	0,07	0,04	0,34	1,79	0,07
Lack of resources	0,04	0,04	0,20	1,16	0,24
Correctional stressors	-0,02	0,02	-0,16	-0,96	0,33

*Statistically significant $p \leq 0, 05$

Table 11

Regression analysis with Severe Depression as a dependent variable.

ANALYSIS OF VARIANCE				
Model 1: Biographical variables (severe depression)				
R: 0,29	Source of variation	*df*	Sum of	Mean
R^2: 0,08			squares	square
Adjusted R^2: 0,03	Regression	6	202,21	33,70
Standard error: 4,66	Residual	96	2087,42	21,74
	$F = 1,55$ $p = 0,170$			
Model 2: Biographical variables on stress with severe depression as dependent variable				
R: 0,58	Source of variation	*Df*	Sum of	Mean
R^2: 0,34			squares	square
Adjusted R^2: 0,27	Regression	9	722,61	80,29
Standard error: 4,04	Residual	84	1376,02	16,38
	$F = 4,90$ $p = 0,000$*			

VARIABLES IN THE EQUATION					
INDEPENDENT VARIABLES	B	SEB	Beta	*t*	*p*
Gender	0,04	1,03	0,00*	0,04*	0,96
Race	-0,14	1,21	-0,01*	-0,12	0,90
Age	1,64	0,84	0,24	1,95	0,05
Tenure	-0,17	0,45	-0,05*	-0,37	0,70
Rank	0,47	0,43	0,11	1,10	0,27
Section	0,31	0,38	0,08	0,83	0,40
Gender	-0,46	0,97	-0,04	-0,47	0,64
Race	-0,32	1,15	-0,03	-0,28	0,77
Age	1,55	0,78	0,22	1,96	0,05
Tenure	-0,35	0,42	-0,10	-0,83	0,40
Rank	0,57	0,39	0,14	1,45	0,14
Section	0,28	0,36	0,07	0,79	0,43
Job demands	0,12	0,04	0,53	2,97	0,00
Lack of resources	-0,07	0,04	-0,28	-1,69	0,09
Correctional stressors	0,03	0,02	0,22	1,45	0,15

*Statistically significant $p \leq 0, 05$

Table 12

Regression analysis with Engagement as a dependent variable.

ANALYSIS OF VARIANCE				
Model 1: Biographical variables (engagement)				
R: 0,26	Source of variation	*df*	Sum of	Mean
R^2: 0,68			squares	square
Adjusted R^2: -----	Regression	6	4619,84	769,97
Standard error: 26.92	Residual	88	63793,46	724,92
	$F = 1,06$ $p = 0,391$			
Model 2: Biographical variables on stress with engagement as dependent variable				
R: 0,34	Source of variation	*df*	Sum of	Mean
R^2: 0,11			squares	square
Adjusted R^2: 0,01	Regression	9	7548,99	838,77
Standard error: 27,15	Residual	76	56059,09	737,62
	$F = 1,13$ $p = 0,348$			
VARIABLES IN THE EQUATION				
INDEPENDENT VARIABLES	B	SEB	Beta	*t*	*p*
Gender	12,65	6,35	0,21	1,99	0,04
Race	-3,54	7,20	-0,06	-0,49	0,62
Age	-2,56	4,94	-0,06	-0,52	0,60
Tenure	2,43	2,76	0,12	0,88	0,38
Rank	0,47	2,59	0,02*	0,18	0,85
Section	2,06	2,32	0,09	0,88	0,37
Gender	9,41	7,31	0,14	1,28	0,20
Race	-1,15	7,92	-0,01	-0,14	0,88
Age	-2,28	5,45	-0,05	-0,42	0,67
Tenure	1,62	2,99	0,08	0,54	0,58
Rank	0,08	2,76	0,00	0,03	0,97
Section	2,12	2,60	0,09	0,81	0,41
Job demands	-0,37	0,28	-0,28	-1,31	0,19
Lack of resources	-0,31	0,31	-0,20	-0,99	0,32
Correctional stressors	0,26	0,14	0,33	1,77	0,08

*Statistically significant $p \leq 0, 05$

The regression analysis reflected in Table 6 indicates that the biographical variables contributed 3% towards the variance in burnout. An R-value of 0, 15 was obtained, which falls below the

practical significance cut-off point (0,30) and the model was not found to be statistically significant. Upon inclusion of stress, the adjusted R^2 increased by 21%. A practically significant R-value of large effect (0,56) was obtained, the model was then found to be statistically significant.

The regression analysis reflected in Table 7 indicates that biographical variables predicted 2% of the variance in cynicism. An R-value of 0,28 was obtained and the model was not found to be statistically significant. Upon inclusion of stress, the R^2 increased by 14%. A practically significant R-value of large effect (0,49) was obtained and the model was also found to be statistically significant.

The regression analysis reflected in Table 8 indicates that the biographical variables contributed 1% towards the variance in somatic symptoms. An R-value of 0,21 was obtained, which falls below the practical significance cut-off point (0,30) and the model was not found to be statistically significant. Upon inclusion of stress, the adjusted R^2 increased by 19%. A practically significant R-value of medium effect (0,53) was obtained and the model was found to be statistically significant.

The regression analysis as indicated in Table 9 shows that biographical variables did not predict any of the variance in anxiety and insomnia. An R-value of (0,24) was obtained, the model was not found to be statistically significant. Upon inclusion of stress, the R^2 increased by 29% and a practically significant R-value of large effect (0,60) was obtained and the model was found to be statistically significant.

The regression analysis reflected in Table 10 indicates that the biographical variables contributed towards (2%) of the variance in social dysfunction. An R-value of 0,28 was obtained, which does not fall within the practical significance cut-off point (0,30) and the model was found not to be statistically significant. Upon inclusion of stress, the adjusted R^2 increased by 16%. A practically significant R-value of large effect (0,51) was obtained, and the model was then found to be statistically significant.

The regression analysis reflected in Table 11 indicates that the biographical variables contributed towards 3% of the variance in severe depression. An R-value of 0,29 was obtained and the model was not statistically significant. Upon inclusion of stress, the adjusted R^2 increased by 24%. A practically significant R-value of large effect (0,58) was obtained and the model was found to be statistically significant.

As indicated by Table 12, biographical variables did not predict any variance in engagement. An R-value falling below the 0,30 cut-off point was obtained (0,26) and the model was not found statistically significant. Upon inclusion of stress, the R^2 increased by 14% and an R-value of medium effect (0,34) was obtained.

DISCUSSION

The aim of the study was to investigate the relationship between occupational stress and ill health among employees in the Vereeniging Correctional Management Area.

The findings revealed that with regard to the Correctional Stress Inventory, three factors could be extracted, namely job demands, lack of resources and correctional stressors. A similar structure of the three factors was confirmed by previous research done in the Department of Correctional Services (DCS) (Botha, 2003), and in the South African Police Services (SAPS) (Pienaar & Rothmann, 2003). According to the analysis conducted the three factors explained 47,47% of the total variance.

Regarding the Masclach Burnout Inventory, only two factors were extracted which were exhaustion and cynicism. From the analysis that was done these two factors explained 64, 4% of the variance namely; exhaustion and cynicism.

The UWES indicated a one-factor model, which supports the findings of Rothmann and Storm (2003). This one-factor explained 62,2% of the variance in the Work Engagement Scale. With regard to the internal consistency of the COSI, GHQ, MBI and the UWES scales, acceptable Cronbach alpha coefficients were obtained on all the measuring instruments. Furthermore, the subscales were all normally distributed, although social dysfunction and severe depression were somewhat positively skewed.

The analysis of Pearson correlations in this study showed that higher levels of exhaustion and cynicism were associated with higher levels of somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression. These findings support hypothesis 1, which states that there is a practically significant relationship between occupational stress and general health. These findings may be related to the study of Burke and Desza (1986) who found that the measure of psychosomatic symptoms was positively related to burnout. It may also be related to the theory in Viljoen et al. (2005) who propounds that burnout is linked to mental and physical health problems. In relation to that Copper et al. (2001) also contend that stress may bring about change in a person's psychological condition.

This implies that Correctional officials, who experience higher levels of exhaustion and cynicism as a result of job demands and lack of resources experienced in the Correctional Services, will experience higher levels of somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression. For them, higher levels of burnout will lead to higher levels of ill health. This may also be related to the number of Correctional officials who have taken sick leave in a period of 6 months. According to the frequencies the majority of the Correctional officials have taken between 1 – 5 days of sick leave in a period of 6 months, which indicates high levels of ill health.

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A practically significant correlation was also found between job demands, lack of resource, correctional stressors and exhaustion, cynicism, somatic symptoms, anxiety and insomnia, indicating that increased levels of job demands, lack of resource and correctional stressors leads to increased levels of exhaustion and cynicism which may in turn lead to a more experience of somatic symptoms and anxiety and insomnia. These findings are in line with hypothesis 2 of this study. These findings are supported by the study of Naudé (2003) that found the core of burnout, which is exhaustion, and cynicism, was predicted by occupational stressors. It is also stated in literature that occupational stress is related to cynicism, stress as a result of a lack of resources was also found to predict emotional exhaustion and cynicism (Demerouti et al., 2001). Therefore, it can be stated that Correctional officials experience increased levels of exhaustion and cynicism due to job demands, lack of resources and correctional stressors and this leads to increased experience of ill health by the Correctional officials.

No practically significant correlation or statistically significant relations was found between occupational stress and engagement. These findings are supported by the study of Naudé (2003) who found no significant relationship between occupational stress and engagement. Therefore, hypothesis 3 is rejected. This may indicate that most of the Correctional officials are experiencing stress such that they do not experience engagement since it has been indicated that Correctional officials do experience stress.

The assumption can therefore be made that higher levels of occupational stress can cause an individual to become exhausted and cynical, leading to lower participation and increased ill health. This means that Correctional officials who experience occupational stress tend to be exhausted and cynical, which will result in an increase in ill health. This is supported by previous research that found that the exhaustion component of burnout predicts stress-related consequences; burnout refers to feelings of being overextended and drained from one's emotional and physical resources (Maslach & Leiter, 2001). The researcher is of the opinion that the impact of this behaviour on the organisation can lead to high turnover, increased absenteeism and lower performance.

The MANOVA and ANOVA analyses were conducted to determine the relationship between different groups of the Correctional Official's Stress Inventory. Various biographical variables indicated that there were no statistically or practically significant differences between the biographical variables.

The regression analysis indicated that stress has some predictive value over exhaustion, cynicism, somatic symptoms, anxiety and insomnia, social dysfunction, severe depression and engagement. Naudé (2003) also seems to support these findings; in his study he found that occupational stressors were predicted by burnout. These findings are also confirmed by Van Zyl (2005), who found a practically significant correlation between exhaustion and general health. With regard to the two factors (exhaustion and cynicism) on the MBI-GS scale, stress can predict 21% of exhaustion and 14% of cynicism, respectively, of the total variance.

Work engagement as measured by the UWES had 14% of the variance explained by occupational stress. With regard to the four components of health, occupational stress can predict

19% of somatic symptoms, 29% of anxiety and insomnia, 16% of social dysfunction and 24% of severe depression, respectively, of the variance.

It can thus be stated that occupational stress can have some predictive value with regard to the different health components investigated in this study. As a result, hypothesis 4 is accepted.

LIMITATIONS AND RECOMMENDATIONS

A limitation of this study is its reliance on self-reports. In future research the use of qualitative methods and information from the organisational records could be combined with self-reports.

A cross-sectional design was used in this study, which is not ideal for making causal interpretations. In future research, longitudinal studies should also be considered where inferences in terms of cause and effect could be made.

The study was conducted in a small correctional institution, and as a result, the study population was too small, which made it difficult to generalise beyond the study population.

In future research, qualitative methods and information obtained by the organisation for example, sick leaveand so forth, could be combined with self–report scales or focus groups.

Few studies regarding the relationship between occupational stress and ill health in South African Correctional institutions have been conducted, and those that have been done have focused only on few individual correctional centres. More research is needed regarding this phenomenon across different correctional centres nationally. The researcher is of the opinion that this will have a great impact on all South African correctional centres in reducing stress levels and also assisting employees to cope with issues of stress and burnout and in the process improving their general health. It will also enable Correctional Services as an employer to identify underlying issues that affect Correctional officials, especially those issues that may lead to stress and burnout with a view to finding relevant strategies to deal with these issues.

Regarding the measuring instruments used in this study, it is imperative to mention that COSI is a new instrument, and as a result it has not been used in many studies. More research is needed regarding the reliability and validity of this instrument.

Further research is required regarding interventions that can be implemented to address occupational stress during a restructuring or transformational period. The impact of the EAP/ Wellness Programmes on Correctional Officials is also another area that needs to be researched.

The study established that occupational stress does have an influence on the levels of burnout, engagement and general health experienced by workers. This is considered as valuable information for the management of occupational stress and ill health in the Correctional Services environment.

According to Berry (1998), it is true that although some stressors can be removed, it is not likely that people will ever live in a stress-free world. It is therefore necessary that people learn to cope effectively with the stress that they experience. The results of uncontrolled stress are serious and costly to the individual and the organisation (Nel, Gerber, Van Wyk, Haasbroek, Schultz, Sono & Werner (2001). It is thus important for the organisation to investigate possible interventions to reduce the levels of stress.

Recommendations are made according to the proposed 6 steps provided by Grobler et al, (2002). The authors (2002) have provided six steps by means of which a manager can mitigate the occurrence of burnout. These are discussed below.

- **Acknowledging the problem**: This refers to recognizing that burnout can occur. The manager must let the employees know, through policy, orientation, and training, that the organisation has policies in place to assist them should this occur. The researcher is of the opinion that more awareness needs to be created in Correctional Services about the symptoms and effects of burnout. This approach will contribute towards developing a better understanding of and insight into this phenomenon within the institution.

- **Training the managers**: Managers in Correctional Services need to be trained to recognise the symptoms of employee burnout and refer potential victims to counselling. Since there is a shortage of EAP practitioners in the Department, external referrals can be used to assist with critical conditions.
- **Time limits**: Time limits are a key to preventing burnout. Constant excessive overtime is a common cause of stress and burnout.
- **Recognise people's contributions**: Positive feedback helps people to refuel psychologically and to improve their self-image. Because the nature of the work of Correctional officials is according to Tracy (2003), characterised by contradictory tensions, receiving positive feedback for employees could encourage them and alleviate some of the confusions or contradictions they may be feeling. On the same note, training managers to acquire skills of giving positive feedback could enhance this process.
- **Provide emotional outlets**: Provide outlets for anger, frustration, helplessness and depression. Providing a person who can help employees to cope with such feelings can aid in avoiding burnout. There is a shortage of EAP practitioners in Correctional Services, and more qualified practitioners are needed to assist officials in dealing with their frustrations. Looking at the highly stressful environment and situations, the officials heading which Correctional officials should be involving the services of EAP practitioners as a first priority. It is said that a happy employee is a productive employee.
- **Provide retraining**: Retraining opportunities, even lateral moves for those people who feel stuck in a dead-end position, can keep valuable employees motivated and at work. This is true particularly since a range of changes have taken place in the Department. A structured retraining programme needs to be developed which will align Correctional officials to the vision and mission of the Department and will bring focus regarding the direction that is taken by the Department. A flatter organisational structure could also facilitate or allow for better communication channels between management and subordinates.

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CHAPTER THREE

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

In this chapter conclusions are reached regarding the specific objectives of this study. The limitations of this study are discussed, and recommendations for the organisation as well as future research are proposed.

3.1 CONCLUSIONS

The aim of the study was to investigate the relationship between occupational stress and ill health among employees in the Vereeniging Correctional Management Area.

3.1.1 Conclusions regarding theoretical objectives

In line with the first theoretical objective, o*ccupational stress* was described as the harmful physical and emotional responses that can occur when there is a conflict between job demands on the employee and the amount of control an employee has over meeting these demands (Clark, 2005). Absenteeism, illness, alcoholism, petty internal politics, poor or snappy decisions, indifference and apathy, lack of motivation or creativity are all products of an overstressed workplace (Clark, 2005).

Schaufeli and Enzmann (1998) define *burnout* as a "persistent, negative, work related state of mind in 'normal' individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation and the development of dysfunctional attitudes and behavior at work". Because the current study focused on ill health, only the exhaustion and cynicism subscales were used. Burnout was then defined as an experience characterised by exhaustion, and cynicism.

Work engagement, although related to burnout, is a more persistent and pervasive affective-cognitive state that is not focused on a particular object, event, individual or behaviour that is characterised by vigour, dedication and absorption (Schaufeli, et al., 2002).

General health can be regarded as the balance of positive and negative feelings in recent experience (Kamman & Flett, 1983). Research indicates that high levels of negative feelings increase susceptibility to the experience of psychological strain and other negative outcomes of stress whereas positive feelings are associated with high-generalised self-efficacy, subjective well-being and positive social relationship (Church, 1994; Spielberger, Gorsuch & Lushene, 1970). Demise in general health has been conceptualised as being characterised by somatic symptoms, anxiety and insomnia, social dysfunction and severe depression.

3.1.2 Conclusions regarding empirical objectives

Regarding the validity of the measuring instruments, the following were found: with regard to the Correctional Stress Inventory, only one factor was used and it loaded well, explaining approximately 47,47% of the variance. In relation to the MBI-GS, only two factors were used, namely exhaustion and cynicism. From the analysis conducted, it transpired that both factors loaded well explaining about 64.4 of the variance.

The Utrecht Work Engagement Scale indicated a one-factor model, which supports the findings of Rothmann and Storm (2003). As a result, only the total scores of the UWES were used. With regard to the internal consistency of the scales used, acceptable Cronbach alpha coefficients were obtained on all the measuring instruments. Furthermore acceptable levels on inter-item correlations were obtained on all factors.

With regard to the first empirical objective, the findings revealed that a practically significant correlation was found between occupational stress, exhaustion, cynicism, somatic symptoms, anxiety and insomnia, social dysfunction and severe depression, indicating that increased levels of occupational stress lead to increased levels of exhaustion and may in turn lead to increased experience of somatic symptoms, anxiety and insomnia, social dysfunction and severe depression.

In line with the second empirical objective, it was found that there were no differences between the demographic groups and there were also no relationships between the scores.

With regard to the third empirical objective, it was found that higher levels of exhaustion and cynicism were associated with higher levels of somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression.

It was also found that an increase in the frequency of stress might lead to an increase in the experience of exhaustion, somatic symptoms, anxiety and insomnia, social dysfunction and severe depression.

In line with the last empirical objective, it was found that stress could have some predictive value with regard to burnout, work engagement and health.

3.2 LIMITATIONS

Several limitations can be reported regarding this study. The data used in this study was gained by means of a self-reporting scale that places a limitation on the generality of the findings. According to Schaufeli, et al. (1993), the exclusive use of self-report measures in validation studies increases the likelihood that at least part of the shared variance between measures can be attributed to method variance.

Representation of different groups could not be ensured because of the unequal numbers of groups in the institution. As a result, some of the groups were collapsed in the frequencies.

Because participation in the study was optional a small number of officials were not interested in participating in the research.

In future research, the use of qualitative methods and information obtained by the organisation pertaining to, for example, sick leave and so forth, could be combined with self–report scales or focus groups.

3.3 RECOMMENDATIONS

It is necessary that people should learn to cope effectively with the stress that they experience. The results of uncontrolled stress are serious and costly to the individual as well as the organisation (Nel, et al., 2001). Making use of personal and organisational interventions can alleviate occupational stress. Simple common remedies such as getting more sleep, improving

one's eating habits, using relaxation techniques, changing one's job, getting counselling, planning and organising daily activities can all contribute towards the reduction of stress (Nel et al., 2001).

In the organisation, the HR professional can make use of attitude surveys to identify organisational stressors, and can ensure an effective person-job match in the selection and career planning processes; and, together with supervisors can recommend job transfers or counselling (Nel et al., 2001). This will work as a preventative measure for the organisation.

The researcher suggests the following based on Grobler et al. (2002):

- **Preventive management**: This approach refers to managers identifying potential problems that may become serious stressors and taking steps to reduce these. Surveys and employee or group interviews are important tools in this process. Refer also to the first recommendations. With reference to the first recommendations, it is important for managers in Correctional Services to be trained to recognise symptoms of burnout and also tobe educated as with regard to dealing with such symptoms. This will put them in a position of being capable to prevent burnout in employees. The importance of the EAP practitioners also comes to play in this regard. They are the people who should be able to identify potential problems among Correctional officials. Presently, with one EAP practitioner servicing more than two prisons, their impact is not visible.

- **Maintaining a productive culture**: The development of, and adherence to a mission statement that includes the maintenance of a positive organisational environment and satisfied employees will set the right direction. Following through with programmes that create and maintain a positive culture is the most important facet of stress-reduction. A structured retraining programme need to be developed which will align Correctional officials with the vision and mission of the Department and bring focus regarding the direction that is taken by the Department. A flatter organisational structure could also facilitate or allow better communication channels between management and subordinates.

- **Management by objectives**: Management by objectives identifies employees' goals, and clarifies roles and responsibilities and strengthens communication; this reduces stress by eliminating uncertainty in critical aspects of employees' jobs. In Correctional Services this will

facilitate open communication and transparency between managers and subordinates and it will eliminate work contradictory tensions that officials are sometimes subjected to.

- **Controlling the physical environment**: Reducing stress in the physical environment requires that management undertakes one or two strategies. The first strategy is to alter the physical environment (e.g. reduce noise or unpleasant smells, etc). The second strategy is to protect employees from the environment with improved safety equipment. This is very important in Correctional Services because the environment in which Correctional officials work is harsh and very stressful. Improved safety equipment that is user-friendly needs to be considered.

- **Employee fitness facilities:** Many facilities include exercise equipment, aerobics, health testing and so forth. In a place like the prison this is very important. Presently, in Vereeniging Correctional center, there are no facilities for exercise equipment or health testing. Provision of this equipment will allow Correctional officials to remain fit as their job requires and in the process, will relieve stress.

- **Meditation:** To enter a state of mental and physical relaxation, meditation can reduce anxiety and improve work performance and satisfaction.

- **Removing the cause of stress:** one need to first identify first the cause of stress and then remove or alleviate it. The EAP professional can make use of attitude surveys to identify organisational stressors, ensure an effective person-job match in the selection and career-planning processes and, together with supervisors, can recommend job transfers, or counseling (Nel et al., 2001). This will work as a preventative measure for Correctional Services.

- **Becoming a mentor:** When one has mastered one's own job, helping a junior person to learn the job and the organisation's culture can reduce excessive stress.

- **Seeking counseling:** Counselors can offer helpful insights and stress-reduction techniques.

3.4 RECOMMENDATIONS FOR FUTURE RESEARCH

Few studies regarding the relationship between occupational stress and ill health in South African Correctional institutions have been conducted, and with those that have been done, the focus has only been on few individual correctional centres. More research is needed regarding this phenomenon across different correctional centres nationally. The researcher is of the opinion that this will have a great impact on all South African correctional centres in reducing levels of stress, and helping employees to cope with issues of stress and burnout and in the process improving their general health. It will also enable Correctional Services as an employer to identify underlying issues that may lead to stress and burnout that affect Correctional officials, and then coming up with relevant strategies to deal with such issues.

Regarding the measuring instrument used in this study, it is imperative to mention that COSI is a new instrument and as a result, it has not been used in many studies. More research is needed regarding the reliability and validity of this instrument.

Further research is again required regarding interventions that can be implemented to address occupational stress during a restructuring or transformational period. The impact of the EAP/ Wellness Programmes on correctional officials is also another area that needs to be researched.

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