

BURNOUT, STRESS AND COPING IN THE SOUTH AFRICAN POLICE SERVICE IN THE FREE STATE

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Mini-dissertation submitted in partial fulfilment of the requirements for the degree Magister
Artium in Industrial Psychology at the Potchefstroomse Universiteit vir Christelike Hoër
Onderwys

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Potchefstroom

November 2003

REMARKS

The reader is reminded of the following:

- The reference and editorial style as prescribed by the *Publication Manual (4th edition)* of the American Psychological Association (APA) were followed in this thesis. This practice is in line with the policy of the Programme in Industrial Psychology of the PU for CHE to use APA style in all scientific documents as from January 1999.
- The mini-dissertation is submitted in the 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, but the APA-guidelines were followed in constructing tables.

ACKNOWLEDGEMENTS

I wish to extend my gratitude to various individuals who, at various stages during the writing of this mini-dissertation, were prepared to help, guide and support me to complete this research successfully.

- I am deeply grateful to my Creator, Lord and Saviour, who gave me the talent, opportunity and strength to complete this research.
- I owe a special debt of gratitude to Dr. Karina Storm, my supervisor, for her painstaking and competent guidance as well as her motivation, patience and insight.
- I owe a special debt of gratitude to my parents, André and Mariana Kloppe, and to my siblings, Eugene and Marlene, for their continuous prayers, love and support through all these years.
- Thank you to Dr. K. Storm for the careful work she did in preparing my statistical processing.
- A special word of thanks to all the police members in the Free State who completed the questionnaires, for their precious time and co-operation.
- I extend my grateful appreciation to Prof. A.L. Combrink for the professional manner in which she conducted the language editing.
- I also wish to extend my deepest gratitude to all my friends, for their love and support.

The financial assistance of the National Research Foundation (NRF) towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at are those of the author and are not necessarily to be attributed to the National Research Foundation.

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SUMMARY

Title: Burnout, stress and coping in the South African Police Service in the Free State

Key terms: Burnout, police, job stress, coping

Tracking and addressing police members' effectiveness in areas that could impact on the standard of their services are important. Burnout, job stress and ways to cope are specific focus areas in this regard. Previous research indicates relationships between burnout, job stress and coping while such relationships in the SAPS in the Free State have not yet been investigated.

The objectives of this research were to determine the reliability and validity of the MBI-GS for SAPS members in the Free State, and secondly to determine the relationship between job stress and burnout, and thirdly to determine whether coping strategies can moderate or mediate the relationship between job stress and burnout. A stratified random sample of 332 police personnel in the Free State was taken. The Maslach Burnout Inventory – General Survey (MBI-GS), Police Stress Inventory (PSI) and the Cope Questionnaire (COPE) were used as measuring instruments. Cronbach alpha coefficients, inter-item correlation coefficients, Pearson-product correlation coefficients and canonical correlation coefficients were used to analyse the data. Structural equation modelling (SEM) methods were used to construct coping models of burnout.

Structural equation modelling confirmed a 3-factor model of burnout. All three factors showed acceptable internal consistencies. Job stress was associated with exhaustion, which led to cynicism. Job stress was independently related to lower levels of professional efficacy. Active coping and seeking emotional support moderate the relationship between job stress and professional efficacy. Avoidance moderates the relationship between job stress and exhaustion and mediates the relationship between job stress and cynicism.

Recommendations for future research were made.

OPSOMMING

Onderwerp: Uitbranding, stres en coping in die Suid-Afrikaanse Polisie Diens in die Vrystaat

Sleuteltermes: Uitbranding, polisie, stres, coping, betroubaarheid, geldigheid

Dit is belangrik om polisielede se effektiwiteit na te vors en daarmee te handel in areas wat 'n uitwerking het op die standaard van hulle dienste. Spesifieke fokusareas in hierdie verband is uitbranding, werkstres en coping. Vorige navorsing het verbande tussen uitbranding, werkstres en coping getoon, terwyl sulke verbande in die SAPS in die Vrystaat nog nie ondersoek is nie.

Die doelstellings van hierdie navorsing was om die betroubaarheid en geldigheid van die MBI-GS vir lede van die SAPD in die Vrystaat te bepaal, tweedens om die verhouding tussen werkstres en uitbranding te bepaal en derdens om te bepaal of coping-strategieë die verhouding tussen werkstres en uitbranding kan modereer of medieër. 'n Gestratifiseerde ewekansige steekproef van 332 polisie-personeellede in die Vrystaat is geneem.

Die Maslach Uitbrandingsvraelys-Algemene Opname (MBI-GS), Polisiestres-Inventaris (PSI) en COPE-vraelys is as meetinstrumente gebruik. Cronbach alfa koëffisiënte, inter-item korrelasie-koëffisiënte, Pearson-produktmoment korrelasie-koëffisiënte en kanoniese korrelasie-koëffisiënte is gebruik om die data te analiseer. Strukturele vergelykingsmodellering (SEM) is gebruik om coping modelle van uitbranding te konstrueer.

Strukturele vergelykingsmodellering het 'n 3-faktormodel van uitbranding bevestig. Al drie faktore het aanvaarbare interne konsekwentheid. Die resultate het aangetoon dat uitputting en professionele bekwaamheid voorspel word deur werkstres. Aktiewe coping en 'n soeke na emosionele ondersteuning modereer die verhouding tussen werkstres en professionele bekwaamheid. Vermydning modereer die verhouding tussen werkstres en uitputting en medieër die verhouding tussen werkstres en sinisme.

Aanbevelings vir toekomstige navorsing is aan die hand gedoen.

CHAPTER 1

INTRODUCTION

This mini-dissertation is about burnout, job stress and coping in the South African Police Service in the Free State.

In this chapter the problem statement is discussed. This is followed by the research objective and specific objectives. The research method is explained and the division of chapters given.

Problem statement

Due to the increasing amount of time people spend at work, the field of Psychology is increasingly shifting its focus to the workplace. Industrial Psychology proposes that a satisfying worker-workplace relationship is an imperative for high productivity and the well-being of the worker. The reverse is also true. Unsatisfying worker conditions lead to a decrease in productivity, ill health and a deterioration in psychological well-being.

This is also true for police officers. In comparison with other occupations, police work has been identified as a particularly stressful occupation (Goodman, 1990; Gulle, Tredoux & Foster, 1998; Kroes, 1976; Reiser, 1974) – probably one of the most stressful occupations world-wide (Anshel, 2000). This is even more so in South Africa. Studies investigating the extent of Post Traumatic Stress Disorder (PTSD) in the South African Police Service (SAPS) have indicated that 36% of the riot police and 41% of Black police officers suffered from PTSD (Burgers, 1994). More evidence for the increasing distress of the SAPS can be found in the alarming rise in suicide statistics: an incidence of 60 out of every 100 000 police officers, compared to an incidence of 5 out of every 100 000 for the general public in 1991 (Nel & Burgers, 1998). There has also been a dramatic increase in medical boarding – particularly for psychological reasons – as well as in divorce statistics, and alcohol and drug abuse (Gulle et al., 1998). Gulle et al. (1998) also found that the SAPS experiences a greater degree of stress than a police sample from the United States of America.

Kopel and Friedman (1999) state that police officers experience their circumstances as stressful and traumatic due to the continuous exposure to violence and retirement due to stress-related psychological disorders. It is therefore necessary to research areas that could possibly impact on the standard of police officers' services, one area being burnout of the police force in South Africa and more specifically in the Free State.

Maslach (1982) conceptualised burnout as a syndrome consisting of three essential characteristics, namely exhaustion, depersonalisation, and reduced personal accomplishment. However, Schaufeli and Enzmann (1998, p. 36) give a better "working" definition of burnout and define it 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 behaviours at work".

Burnout is not only related to negative outcomes for the individual, but also to negative outcomes for the organisation. According to Levert, Lucas and Ortlepp (2000), burned-out workers show a lack of commitment and are less capable of providing adequate services, especially along dimensions of decision-making and initiating involvement with clients (Maslach, 1982). They are also too depleted to give of themselves in a creative, co-operative fashion (Sammur, 1997).

Within the human services occupations, burnout is predominantly researched in the health (33,8%) and teaching (26,6%) professions. However, law enforcement constitutes only 3,4% of all burnout research on occupations (Schaufeli & Enzmann, 1998). Since the 1980s, however, there has been a growing interest world-wide in the police forces (Stearns & Moore, 1993). According to Ainsworth (1995) barely a day goes by without the media having at least one story about crime and the police, causing police officers to increasingly be in the spotlight and their actions increasingly being scrutinised by an ever more demanding public. Police forces around the world are being asked to respond to an ever-growing list of new demands and responsibilities, and to become more efficient and effective.

Although it is not possible to accurately estimate the prevalence of burnout, a relative comparison between levels of burnout across various occupational fields and professions revealed high levels of depersonalisation and reduced personal accomplishment in law enforcement (Schaufeli & Enzmann, 1998). The study holds that this profile is consistent across nations.

The term burnout was traditionally only used with reference to people working in the human services (Maslach, Schaufeli & Leiter, 2001; Van Dierendonck, Schaufeli & Buunk, 1998). These workers experience extreme pressure from within themselves, from the community outside and possibly from an administrator to give of themselves (Freudenberger, 1974). They work intensively for long hours with minimum financial compensation. Although other instruments were also developed to measure burnout for these individuals, the Maslach Burnout Inventory- Human Services Survey (MBI-HSS) was designed for use with people working in the human services or health care. Given the increasing interest in burnout within occupations that are not so clearly people-orientated, the Maslach Burnout Inventory-General Survey (MBI-GS) (Schaufeli, Leiter, Maslach & Jackson, 1996) was developed. Thus the concept of burnout and its measurement was broadened to include all employees and not only those who do "people work" (Maslach & Leiter, 1997). However, the internal consistency and construct validity of the MBI-GS were never tested in a sample of police officers in the Free State and as such, specific attention should be given to the testing of the reliability and factor structure of the MBI-GS in the SAPS in the Free State.

According to Burke (1994) there exists considerable evidence that the work setting, particularly work stressors, influences the psychological burnout levels of police officers. Brill (1984) refers to stress as a temporary adaptation process that is accompanied by mental and physical symptoms. However, an individual who experienced stress must be able to return to his/her normal level of functioning again (adaptation has successfully been performed). Schaufeli and Enzmann (1998) consider burnout as a particular kind of prolonged job stress. Burnout therefore refers to a breakdown in adaptation accompanied by chronic malfunctioning at work.

Nel (1999) and Koortzen (1996) distinguish between internal and external causes of stress in police officers. Internal causes include those at organisational, unit or station and at personal level, while external causes include the public, social and law enforcement areas in which the police work. Within the internal causes, Koortzen (1996) distinguishes between internal working conditions and the individual self, resulting in three categories.

According to Koortzen (1996), the inherent nature of the work relates to both internal and external causes. Other theorists view inherent stressors (caused by the nature of police work itself) as apart from organisational stressors (caused by the bureaucratic nature of police organisations) (Alexander, Walker, Innes & Irving, 1993; Biggam, Power, MacDonald & Carcary, 1997; Brown & Campbell, 1990, 1994; Van Rooyen, 1987; Violanti & Aron, 1994). Furthermore, some authors suggest that organisational stressors have a greater effect on police members than inherent stressors (Brown & Campbell, 1990, 1994; Kop, Euwema & Schaufeli, 1999; Violanti & Aron, 1994).

According to Schaufeli and Enzmann (1998), organisational stressors can be divided into two groups, namely job demands and a lack of job resources. This is also true regarding organisational stressors in police work. A factor analysis of the "Job Stress Survey" (Spielberger & Vagg, 1999) in a sample of police officers showed that the factor "Administrative and Organisational Pressures" can be subdivided into two components: job pressure and lack of organisational support. Pienaar and Rothmann (2003) found similar results in a sample of police officers in the SAPS. Factor analysis with a varimax rotation of the items of the "Police Stress Inventory" identified three underlying factors: job demands, lack of resources and inherent police stressors.

Job demands refer to those aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001a). Job resources refer to those aspects of the job that may be functional in achieving work goals, reduce job demands at the associated physiological and psychological costs, and stimulate personal growth and development (Demerouti et al., 2001).

To test the relationship of job demands and resources with burnout, the Job Demands-Resources (JD-R) model of burnout was developed by Demerouti et al. (2001a) and predicted that these two categories of working conditions seem to play a role in the burnout process. Their findings suggest that the development of burnout symptoms is determined by a specific constellation of working conditions that are differently related to exhaustion and disengagement. A study conducted by Demerouti, Bakker, Vardakou and Kantas (2001b) suggests that disengagement closely resembles cynicism as measured by the MBI-GS. When job demands are high, Demerouti et al. (2001b) predict that employees will experience increased exhaustion (but not disengagement). When job resources are lacking, they predict high levels of disengagement (but not exhaustion). In jobs with both high demands and at the same time, limited resources, they predict that employees develop both exhaustion and disengagement. This state, where both exhaustion and disengagement are simultaneously present, represents the burnout syndrome.

Job stress, as experienced by police officers as inherent police stressors, job demands and a lack of resources, could possibly lead to higher levels of exhaustion, cynicism and lower levels of professional efficacy. The predicted increase in urban unrest and terrorism, increased workloads due to reductions in social services and health spending, pressures for internal management rearrangements with devolved financial budgeting, the implementation of equal-opportunities policies and continued progress in information technology, are likely to present the police service with a continuation of existing job stressors and to introduce some new sources of job stress (Ainsworth, 1995).

Some researchers have suggested that individual coping strategies may also be important in moderating or mediating psychological burnout (Alsoofi, Al-Heeti, & Alwashli, 2000; Anshel, 2000; Golembiewski & Munzenrider, 1988). Coping refers to the cognitive and behavioural strategies that individuals use to manage both a stressful situation and the negative emotional reactions elicited by that event (Folkman, Lazarus, Gruen, & DeLongis, 1986).

Two major coping strategies can be identified: problem-focused coping includes strategies focused on dealing with the stressor itself, while emotion-focused coping refers to efforts to deal with the emotional response to a stressor (Bouchard & Sabourin, 1997). The third strategy is a

mixed function of the other two and is related to seeking social support (Piko, 2001). Beehr, Johnson and Nieva (1995) showed that problem-focused coping strategies were negatively related to strains (somatic complaints, emotional exhaustion, depersonalisation and thoughts of suicide) among police officers. Emotion-focused coping strategies were related to every police strain, except the abuse of alcohol. When a successful coping strategy is followed goals are achieved, professional efficacy is enhanced and a sense of existential significance is fostered (Schaufeli & Enzmann, 1998). By contrast, when a poor coping strategy is adopted, burnout is likely to develop.

Therefore, high levels of burnout are associated with ineffective (Rowe, 1997) or withdrawal coping strategies and low degrees of burnout with constructive coping strategies (Maslach & Jackson, 1982). Maladaptive coping strategies, such as alcohol and drug use, anger and withdrawal were found in police officers by Burke (1993). According to Violanti, Marshall and Howe (1985) police officers are typically “symptomatic drinkers”, who use alcohol for the relief of psychological strain. Violanti (1992) found the coping strategies of distancing and plan-ful problem solving significantly reduced distress, while escape/avoidance and self-control coping did not work in the police situation. Burnout is a self-perpetuating process not only because it impedes the attainment of professional goals, but also because it depletes coping resources. It is therefore necessary to investigate which coping strategies could moderate or mediate the negative effects of job stress (consisting of police-specific stressors, job demands and a lack of job resources) on something like burnout.

It is clear from the above-mentioned discussion that job stressors and coping strategies might be related to the burnout levels of police officers in the SAPS. However, no studies including these factors in a causal model of burnout of police officers in the Free State were found in the literature.

From the problem statement the following research questions emerge:

- What are the construct validity and internal consistency of the MBI-GS for SAPS members in the Free State?

- What is the relationship between job stress (consisting of police-specific stressors, job demands and a lack of resources) and burnout?
- Can coping strategies moderate or mediate the relationship between job stress and burnout?
- What recommendations could be made to prevent and/or manage burnout of SAPS members in the Free State?
- What recommendations could be made regarding burnout for future research?

This research will make the following contributions to the subject of Industrial Psychology and the practice thereof in organisations:

- A valid and reliable instrument will be available to measure burnout of police officers in the SAPS in the Free State.
- A causal model of burnout will exist that demonstrates the relationship between job stress and burnout and the moderating or mediating effect of coping in the relationship between job stress and burnout.

Through this investigation a better understanding of the well-being of the SAPS will be gained, which could lead to the South African community showing more empathy and putting less pressure on police officers. The organisation will benefit from this through the reduced costs on the health and well-being of police officers. The community, as the clients receiving the protection service, will benefit through the greater effectiveness of the SAPS.

1.1 Research objectives

The research objectives consist of a general aim and specific objectives.

1.1.1 General objective

With reference to the above formulation of the problem, the general aim of the current study is to investigate the relationship between burnout, job stress and coping within the South African Police Services in the Free State.

1.1.2 Specific objectives

- To determine the construct validity and internal consistency of the MBI-GS for SAPS members in the Free State.
- To determine the relationship between job stress (consisting of police-specific stressors, job demands and a lack of resources) and burnout.
- To determine whether coping strategies can moderate or mediate the relationship between job stress and burnout.
- To make recommendations to prevent and/or manage burnout of SAPS members in the Free State.
- To make recommendations for future research.

1.2 Research method

The research method consists of a literature review and an empirical study. The results obtained from the research are presented in article format. Because separate chapters are not targeted for literature reviews, this paragraph focuses on aspects relevant to the empirical study that is conducted. The reader should note that a short literature review is conducted for the purpose of the article.

1.3.1 Research design

A survey design is used to reach the research objectives. The specific design is the cross-sectional design, whereby a sample was drawn from a population at one time (Shaughnessy & Zechmeister, 1997). Information collected is used to describe the population at that time. This design can be used also to assess interrelationships among variables within a population. According to Shaughnessy and Zechmeister (1997) this design is ideally suited when the aim of the study is descriptive and predictive in nature.

1.3.2 Study population

A stratified random sample ($n=332$) is taken from police personnel in the Free State. The police stations are divided into small (fewer than 25 staff members), medium (25-100 staff members) and large (more than 100 staff members) stations. All police members at randomly identified small and medium stations in each of the areas are asked to complete the questionnaires. In the large stations stratified random samples are taken according to sex and race.

1.3.3 Measuring instruments

Three questionnaires are utilised in the empirical study, namely the Maslach Burnout Inventory-General Survey (MBI-GS) (Schaufeli et al., 1996), the Police Stress Inventory (PSI) (Pienaar & Rothmann, 2003) and the COPE Questionnaire (COPE) (Carver, Scheier & Weintraub, 1989).

The *Maslach Burnout Inventory-General Survey* (MBI-GS) (Schaufeli et al., 1996) is used to measure burnout. The MBI-GS has three sub-scales: Exhaustion (Ex), Cynicism (Cy) and Professional Efficacy (PE). Internal consistencies (Cronbach coefficient alphas) reported by Schaufeli et al. (1996) varied from 0,87 to 0,89 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) (Schaufeli et al., 1996). All items are scored on a 7-point frequency rating scale ranging from 0 ("never") to 6 ("daily"). High scores on Ex and Cy, and low scores on PE are indicative of burnout. Storm and Rothmann (2003) confirmed the 3-factor structure of the MBI-GS in a sample of 2 396 SAPS members, but recommended that Item 13 should be dropped from the questionnaire. They also 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 & Rothmann, 2003).

The *Police Stress Inventory* (PSI) is used to measure job stress. Pienaar and Rothmann (2003) constructed the PSI for police officers in the SAPS based on the findings of several investigations regarding stressors specific to the policing environment. The PSI is scored on a

nine-point frequency and intensity rating scale, varying from 0 ("low") to 9 ("high"). Factor analysis with a varimax rotation of the items identified three underlying factors, namely job demands, lack of resources and inherent police stressors. Pienaar and Rothmann (2003) found acceptable internal consistencies for the PSI (Job Demands: $\alpha = 0,92$; Lack of Resources: $\alpha = 0,92$; Police Stressors: $\alpha = 0,89$).

The *COPE Questionnaire* (COPE) is used to measure participants' coping strategies. The COPE is a multi-dimensional 53-item coping questionnaire that indicates the different ways in which people cope in different circumstances (Carver et al., 1989). Although the original questionnaire measures 13 different coping strategies, Pienaar and Rothmann (2003) subjected the COPE to a principal components factor analysis with a varimax rotation. Three internally consistent factors were extracted, namely Active Coping (16 items), Avoidance (13 items), Seeking Emotional Support (7 items) and Turning to Religion (3 items). The alpha coefficients of the three scales are 0,92, 0,86, 0,80 and 0,83 respectively. All these values are acceptable ($\alpha > 0,70$, Nunnally & Bernstein, 1994), and thus indicate the internal consistency of the factors of the COPE. Test-retest reliability varies from 0,46 to 0,86 and from 0,42 tot 0,89 (applied after two weeks).

1.3.4 Statistical analysis

The statistical analysis is carried out with the help of the SAS program (SAS Institute, 2000). Principal factor extraction with varimax rotation is performed through SAS FACTOR on the items of the MBI-GS, PSI and COPE before performing structural equation modelling. Principal components extraction is used prior to principal factors extraction to estimate the number of factors, presence of outliers and factorability of the correlation matrices. Furthermore, the oblique method with a promax rotation is used to determine the interfactor correlation of each measuring instrument. If a correlation higher than 0,30 is found, this method is used to extract the factor structure.

Cronbach alpha coefficients and inter-item correlations are used to assess the internal consistency of the measuring instruments (Clark & Watson, 1995). Coefficient alpha conveys important information regarding the proportion of error variance contained in a scale. According

to Clark and Watson (1995), the average inter-item correlation coefficient (which is a straightforward measure of internal consistency) is a useful index to supplement information supplied by coefficient alpha. However, uni-dimensionality of a scale cannot be ensured simply by focusing on the mean inter-item correlation – it is necessary to examine the range and distribution of these correlations as well.

The level of statistical significance is set at $p \leq 0,05$. Effect sizes are used to decide on the significance of the findings. Pearson product-moment correlation coefficients are used to specify the relationships between the variables. A cut-off point of 0,30 (medium effect, Cohen, 1988) is set for the practical significance of correlation coefficients.

Canonical correlation is used to determine the relationships between the dimensions of burnout, job stress and coping. The goal of canonical correlation is to analyse the relationship between two sets of variables (Tabachnick & Fidell, 2001). Canonical correlation is considered a descriptive technique rather than a hypothesis-testing procedure.

Structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 1997) are used to construct a causal model of burnout. SEM is a statistical methodology that takes a confirmatory (i.e. hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). A structural equations approach allows a model to be stipulated in advance of the data being examined. The model may then be tested for its goodness of fit to the covariance matrix of the measured variables, using a number of testing procedures. Competing models may also be tested, and decisions made about the model that is most appropriate for the data set (Deary, Blenkin, Agius, Endler, Zealley, & Wood, 1996).

The following goodness-of-fit indices were used to summarise the degree of correspondence between the implied and observed covariance matrices:

Hypothesised relationships are tested empirically for goodness of fit with the sample data. The χ^2 statistic and several other goodness-of-fit indices summarise the degree of correspondence between the implied and observed covariance matrices. Jöreskog and Sörbom (1993) suggest that

the χ^2 value may be considered more appropriately as a badness-of-fit rather than as a goodness-of-fit measure in the sense that a small χ^2 value is indicative of good fit. However, because the χ^2 statistic equals $(N - 1)F_{\min}$, this value tends to be substantial when the model does not hold and the sample size is large (Byrne, 2001).

The Goodness-of-Fit-Index (GFI) indicates the relative amount of the variances/co-variances in the sample predicted by the estimates of the population. It usually varies between 0 and 1 and a result of 0,90 or above indicates a good model fit.

In addition, the Adjusted Goodness-of-Fit Index (AGFI) is given. The AGFI is a measure of the relative amount of variance accounted for by the model, corrected for the degrees of freedom in the model relative to the number of variables. The GFI and AGFI can be classified as absolute indices of fit because they basically compare the hypothesised model with no model at all (Hu & Bentler, 1995). Although both indices range from zero to 1,00, the distribution of the AGFI is unknown, therefore no statistical test or critical value is available (Jöreskog & Sörbom, 1986).

The Parsimony Goodness-of-Fit Index (PGFI) addresses the issue of parsimony in SEM (Mulaik, James, Van Alstine, Bennett, Lind, & Stillwell, 1989). The PGFI takes into account the complexity (i.e., number of estimated parameters) of the hypothesised model in the assessment of overall model fit and provides a more realistic evaluation of the hypothesised model. Mulaik et al. (1989) suggested that indices in the 0,90s accompanied by PGFIs in the 0,50s are not unexpected, however, values $> 0,80$ are considered to be more appropriate (Byrne, 2001).

The Normed Fit Index (NFI) is used to assess global model fit. The NFI represents the point at which the model being evaluated falls on a scale running from a null model to perfect fit. This index is normed to fall on a 0 to 1 continuum.

The Comparative Fit Index (CFI) represents the class of incremental fit indices in that it is derived from the comparison of a restricted model (or null) model (one in which all correlations among variables are zero) in the determination of goodness-of-fit.

The Tucker-Lewis Index (TLI) (Tucker & Lewis, 1973) is a relative measure of covariation explained by the model that is specifically developed to assess factor models. For these fit indices (NFI, CFI and TLI), it is more or less generally accepted that a value less than 0,90 indicates that the fit of the model can be improved (Hoyle, 1995).

The RMSEA estimates the overall amount of error; it is a function of the fitting-function value relative to the degrees of freedom. The RMSEA point estimate should be 0,05 or less and the upper limit of the confidence interval should not exceed 0,08 (Hu & Bentler (1999) suggested a value of 0,06 to be indicative of good fit between the hypothesised model and the observed data).

1.4 Overview of chapters

Chapter 2 deals with burnout in the police and the construct validity and internal consistency of the MBI-GS as well as the relationship between burnout, job stress and coping. A discussion and recommendations follow in Chapter 3.

1.5 Chapter summary

This chapter discussed the problem statement and research objectives. The measuring instruments and research methods that are used in this research were explained, followed by a brief overview of the chapters that follow.

REFERENCES

- Ainsworth, P.B. (1995). *Psychology and policing in a changing world*. Chichester, UK: John Wiley & Sons.
- Alexander, D.A., Walker, L.G., Innes, G., & Irving, B.L. (1993). *Police stress at work*. London: Police foundation.
- Alsoofi, M.A., Al-Heeti, K.N., & Alwashli, A. (2000). *Burnout and its relationship with job stress and coping with stress for Yemeni teachers*. Paper presented at the 28th International Congress of Psychology, Stockholm, Sweden.
- Anshel, M.H. (2000, June). A conceptual model and implications for coping with stressful events in police work. *Criminal Justice and Behavior*, 27, 375-400.
- Arbuckle J.L. (1997). *Amos users' guide version 4.0*. Chicago, IL: Smallwaters Corporation.
- Beehr, T.A., Johnson, L.B., & Nieva, R. (1995). Occupational stress: Coping of police and their spouses. *Journal of Organizational Behavior*, 16, 3-25.
- Biggam, F.H., Power, K.G., MacDonald, R.R., Carcary, W.B., & Moodie, E. (1997). Self-perceived occupational distress in a Scottish police force. *Work and Stress*, 11, 118-133.
- Bouchard, G., & Sabourin, S. (1997). Testing the theoretical models underlying the ways of coping questionnaire with couples. *Journal of Marriage and Family*, 59(2), 409.
- Brill, P.L. (1984). The need for an operational definition of burnout. *Family and Community Health*, 6, 12-24.
- Brown, J.M., & Campbell, E.A. (1990). Sources of occupational stress in the police. *Work & Stress*, 4, 305-318.
- Brown, J.M., & Campbell, E.A. (1994). *Stress and policing: Sources and strategies*. Chichester, UK: John Wiley & Sons.
- Burgers, T.J. (1994). Facing the enemy. *Indicator South Africa*, 12, 5-8.
- Burke, R.J. (1993). Toward an understanding of psychological burnout among police officers. *Journal of Social Behavior and Personality*, 8, 425-438.
- Burke, R.J. (1994). Stressful events, work-family conflict, coping, psychological burnout, and well-being among police officers. *Psychological Reports*, 75, 787-800.
- Byrne, B.M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications and programming*. Mahwah, NJ: Erlbaum.

- Carver, C.S., Scheier, M.R., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Clark, L.A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (Rev. ed.). Orlando, CA: Academic Press.
- Deary, I.J., Blenkin, H., Agius, R.M., Endler, N.S., Zealley, H., & Wood, R. (1996, February). Models of job-related stress and personal achievement among consultant doctors. *British Journal of Psychology*, 87, 3-29.
- Demerouti, E., Bakker, A.B., Nachreiner, F., & Schaufeli, W.B. (2001a). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86, 499-512.
- Demerouti, E., Bakker, A.B., Vardakou, I., & Kantas, A. (2001b). *The convergent validity of two burnout measurement instruments in a Greek population*. Manuscript submitted for publication.
- Folkman, S., Lazarus, R.S., Gruen, R.J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology*, 50, 571-579.
- Freudenberger, H.J. (1974). Staff burn-out. *Journal of Social Issues*, 30(1), 159-165.
- Golembiewski, R.T., & Muzenrider, R.F. (1988). *Phases of burnout: Developments in concepts and applications*. New York: Preager.
- Goodman, A.M. (1990). A model for police officer burnout. *Journal of Business and Psychology*, 5(1), 85-99.
- Gulle, G., Tredoux, C., & Foster, D. (1998). Inherent and organisational stress in the SAPS: An empirical survey in the Western Cape. *South African Journal of Psychology*, 28, 29-34.
- Hoyle, R.H. (1995). The structural equation modeling approach: Basic concepts and fundamental issues. In R.H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 1-15). Thousand Oaks, CA: Sage.
- Hu, L.-T., & Bentler, P.M. (1995). Evaluating model fit. In R.H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 76-99). Thousand Oaks, CA: Sage.
- Jöreskog, K.G., & Sörbom, D. (1986). *LISREL user guide version VI* (4th ed.). Mooresville, IL: Scientific Software International.

- Jöreskog, K.G., & Sörbom, D. (1993). *LISREL 8: Structural equation modeling with the SIMPLIS command language*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Koortzen, P. (1996). Die dimensionaliteit van polisie-stressore. *Acta Criminologica*, 9(2), 55-63.
- Kop, N., Euwema, M., & Schaufeli, W. (1999). Burnout, job stress and violent behavior among Dutch police. *Work and Stress*, 13, 326-340.
- Kopel, H. & Friedman, M. (1999). Effects of exposure to violence in South African Police. In J.M. Violanti & D. Paton. *Police trauma: Psychological aftermath of civilian combat* (pp. 99-112). Springfield, IL: Charles, C. Thomas.
- Kroes, W.H. (1976). *Society's victim, the policeman: An analysis of job stress in policing*. Springfield, IL: Thomas.
- Levert, T., Lucas, M., & Ortlepp, K. (2000). Burnout in psychiatric nurses: Contributions of the work environment and a sense of coherence. *South African Journal of Psychology*, 30, 36-43.
- Maslach, C. (1982). Understanding burnout: Definitional issues in analysing a complex phenomenon. In W.S. Paine (Ed.), *Job stress and burnout: Research, theory and intervention* (pp.29-40). Beverly Hills, CA: Sage.
- Maslach, C., & Jackson, S.E. (1982). Burnout in health professions: A social psychological analysis. In G. Sanders & J. Suls (Eds.), *Social psychology of health and illness*. Hillsdale, NJ: Erlbaum.
- Maslach, C. & Leiter, M.P. (1997). *The truth about burnout*. San Francisco, CA: Jossey-Bass.
- Maslach, C., Schaufeli, W.B., & Leiter, M.P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397-422.
- Mulaik, S.A., James, L.R., Van Alstine, J., Bennett, N., Lind, S., & Stillwell, C.D. (1989). Evaluation of goodness-of-fit indices for structural equation models. *Psychological Bulletin*, 105, 430-445.
- Nel, J., & Burgers, T. (1998). Stress and trauma in the work environment: The South African Police Service. *Unisa Psychologia*, 25(2), 17-25.
- Nel, J. (1999). Police officials as victims of trauma and crises. *Unisa Psychologia*, 26(1&2), 32-42.
- Nunnally, J.C., & Bernstein, I.H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.

- Pienaar, J., & Rothmann, S. (2003, September). *Reliability and validity of the Police Stress Inventory in the South African Police Service*. Paper presented at the 15th Annual Conference of the South African Institute for Management Scientists, Potchefstroom.
- Piko, B. (2001). Gender differences and similarities in adolescents' ways of coping. *Psychological Record*, 51(2), 223.
- Reiser, M. (1974). Some organizational stress on policemen. *Journal of Police Science and Administration*, 2, 156-159.
- Rowe, M. (1997). Hardiness, stress, temperament, coping, and burnout in health professionals. *American Journal of Health behaviour*, 21(3), 163-171.
- Sammur, R.G. (1997). Psychiatric nurses' satisfaction: The effect closure of a hospital. *Journal of Advanced Nursing*, 26, 20-24.
- SAS Institute. (2000). *The SAS System for Windows: Release 8.01*. Cary, NC: SAS Institute Inc.
- Schaufeli, W.B., Leiter, M.P., Maslach, C., & Jackson, S.E. (1996). MBI-General Survey. In C. Maslach, S.E. Jackson, & M.P. Leiter (Eds.), *Maslach Burnout Inventory Manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Schaufeli, W.B., & Enzmann, D. (1998). *The burnout companion to study and practice: A critical analysis*. London: Taylor & Francis.
- Shaughnessy, J.J., & Zechmeister, E.B. (1997). *Research methods in psychology* (4th ed.). New York: McGraw-Hill.
- Spielberger, C.D., & Vagg, P.R. (1999). *Job Stress Survey. Professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Stearns, G.M., & Moore, R.J. (1993). The physical and psychological correlates of job burnout in the Royal Canadian mounted police. *Canadian Journal of Criminology*, 35, 127-148.
- Storm, K. & Rothmann, S. (2003). A psychometric analysis of the Maslach Burnout Inventory – General Survey in the South African Police Service. *South African Journal of Psychology*.
- Tabachnick, B.G., & Fidell, L.S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn & Bacon.
- Tucker, L.R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38, 1-10.

- Van Dierendonck, D., Schaufeli, W.B., & Buunk, A.P. (1998). The evaluation of an individual burnout intervention program: The role of inequity and social support. *Journal of Applied Psychology*, 83, 392-407.
- Van Rooyen, G.J.B. (1987). Beroepspanning onder politie beambtes. *Munisipale & Openbare Dienste*, 6(8), 55-61.
- Violanti, J.M. (1992). Coping strategies among police recruits in a high-stress training environment. *Journal of Social Psychology*, 132(6), 717-729.
- Violanti, J.M., & Aron, F. (1994). Ranking police stressors. *Psychological Reports*, 75, 824-826.
- Violanti, J.M., Marshall, J.R., & Howe, B. (1985). Stress, coping, and alcohol use: The police connection. *Journal of Police Science and Administration*, 13(2), 106-110.

BURNOUT, JOB STRESS AND COPING IN THE SOUTH AFRICAN POLICE SERVICE IN THE FREE STATE*

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ABSTRACT

The objectives of this research were to determine the validity and reliability of the Maslach Burnout Inventory-General Survey (MBI-GS) and to test a causal model of burnout in the South African Police Service. A cross-sectional survey design was used. Stratified random samples ($n=332$) were taken of police members in the Free State. The MBI-GS, Police Stress Inventory and COPE questionnaires were administered. Structural equation modelling confirmed a 3-factor model of burnout. All three factors showed acceptable internal consistencies. The results showed that job stress influence exhaustion and professional efficacy. Active coping and seeking emotional support moderate the relationship between job stress and professional efficacy. Avoidance moderates the relationship between job stress and exhaustion and mediates the relationship between job stress and cynicism.

OPSOMMING

Die doelstellings van hierdie navorsing was om die geldigheid en betroubaarheid van die Maslach Uitbrandingsvraelys-Algemene Opname (MBI-GS) te bepaal en om 'n oorsaaklike model van uitbranding te toets in die Suid-Afrikaanse Polisiediens. 'n Dwaarsnee-ontwerp is gebruik. Gestratifiseerde ewekansige steekproewe ($n=332$) is geneem van polisieledes in die Vrystaat. Die MBI-GS, Polisie-stres-inventaris en COPE vraelyste is afgeneem. Strukturele vergelykings-modellering het 'n 3-faktormodel van uitbranding bevestig. Al drie faktore het aanvaarbare interne konsistensie. Die resultate het aangetoon dat uitputting en professionele bekwaamheid voorspel word deur werkstres. Aktiewe coping en 'n soeke na emosionele ondersteuning modereer die verhouding tussen werkstres en professionele bekwaamheid. Vermydning modereer die verhouding tussen werkstres en uitputting en mediaër die verhouding tussen werkstres en sinsisme.

* The financial assistance of the National Research Foundation (NRF) towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at, are those of the authors and are not necessarily to be attributed to the NRF.

In comparison with other occupations, police work has been identified as one of society's most stressful occupations (Alexander, 1999; Anshel, 2000; Paton & Violanti, 1999). This is particularly true for South African circumstances, where high levels of crime and violence are prevalent (Gulle, Tredoux & Foster, 1998; Marks, 1995; Nel & Burgers, 1996). Kopel and Friedman (1999) state that police officers in South Africa experience their circumstances as stressful and traumatic due to the continuous exposure to violence and retirement due to stress-related psychological disorders. Studies investigating the extent of Post Traumatic Stress Disorder (PTSD) in the South African Police Service (SAPS) indicated that 36% of the riot police and 41% of Black police officers suffered from PTSD (Nel & Burgers, 1996). More evidence for the increasing distress of the SAPS can be found in the alarming rise in suicide statistics: an incidence of 60 out of every 100 000 police officers, compared to an incidence of 5 out of every 100 000 for the general public in 1991 (Nel & Burgers, 1996). Gulle et al. (1998) also found that the police officers in the SAPS experience a greater degree of stress than a police sample from the United States of America. Because a healthy and motivated police force is so important for a country like South Africa, it is necessary to do research in areas that could possibly impact on the standard of police officers' services, one area being burnout and the factors that could possibly influence the experience thereof.

Burnout is a metaphor that is commonly used to describe a state or process of mental exhaustion (Schaufeli & Enzmann, 1998). Burnout first emerged as a social problem, not as a scholarly construct. Unlike other research on the workplace, which used a top-down approach derived from a scholarly theory, burnout research initially used a "bottom-up" approach derived from people's workplace experiences (Maslach, Schaufeli & Leiter, 2001). After this pioneering research phase, a more empirical and scientific approach emerged. Larger study samples were used and the focus shifted to the assessment of burnout, utilising questionnaire and survey methodology (Maslach et al., 2001).

Burnout has been recognised as a serious problem, particularly for human service professionals (Maslach, 1982, 1993). The Maslach Burnout Inventory- Human Services Survey (MBI-HSS) was designed for use with people working in the human services or health care. Given the increasing interest in burnout within occupations that are not so clearly people-orientated, the

Maslach Burnout Inventory-General Survey (MBI-GS) (Schaufeli, Leiter, Maslach & Jackson, 1996) was developed. Thus the concept of burnout and its measurement was broadened to include all employees and not only those who do "people work" (Maslach & Leiter, 1997). However, very little information is available on the validity and reliability of the MBI-GS of police officers in the Free State and as such specific attention should be paid to the testing of the construct validity and internal consistency of the MBI-GS.

A great deal of research has been devoted to the understanding of factors contributing to burnout (Schaufeli & Greenglass, 2001). According to Cordes and Dougherty (1993) and Schaufeli and Enzmann (1998), burnout develops as a reaction to particular job stressors that occur among individuals. Some of these job stressors include job demands and a lack of job resources such as work overload, poor collegial support, role conflict, role ambiguity and lack of feedback (Schaufeli & Enzmann, 1998). Because these job stressors will also have an impact on the occurrence of burnout in the SAPS, it is important to investigate the relationship between job stress and burnout. More specifically, it is necessary to investigate the influence stress has on the different dimensions of burnout, and to identify those stressors that are responsible for the greatest amount of stress for police members in the Free State.

Progressive unsuccessful attempts to cope with a variety of stressful conditions result in burnout (Schaufeli & Enzmann, 1998). Coping refers to perceptual, cognitive or behavioural responses that are used to manage, avoid or control situations that could be regarded as difficult (Folkman & Lazarus, 1991). Folkman and Lazarus (1980) distinguish between problem-focused and emotion-focused coping. When poor coping strategies are adopted, burnout can develop (Brill, 1984; Schaufeli & Enzmann, 1998). It therefore seems that the coping strategies an individual uses can moderate or mediate the effect of job stress on burnout.

The first objective of this research was to determine the construct validity and internal consistency of the MBI-GS. The second objective was to develop a causal model of burnout in order to determine the influence of job stress on burnout and to test whether coping strategies used by police members can moderate or mediate the effect of job stress on burnout.

Burnout, job stress and coping

During the past 25 years, the negative work-related psychological state called burnout has been intensively studied. However, despite extensive research on job stress experienced by police officers, burnout in the police profession has rarely been investigated (Kop, Euwema & Schaufeli, 1999). Burnout could be defined as “a persistent, negative, work-related state of mind in ‘normal’ individuals that is primarily characterised by exhaustion, accompanied by distress, a sense of reduced effectiveness, decreased motivation and the development of dysfunctional attitudes and behaviours at work” (Schaufeli & Enzmann, 1998, p. 36). According to Schaufeli et al. (1996), burnout is a multi-dimensional syndrome that incorporates the following three dimensions (as measured by the MBI-GS):

- *Exhaustion* refers to feelings of being overextended and depleted of one’s emotional and physical resources.
- *Cynicism* refers to interpersonal dimensions of burnout and results in a negative, callous or excessively detached response to various aspects of the job.
- *Professional efficacy* refers to the self-evaluation dimension of burnout and is a feeling of competence, productivity and achievement at work.

Shirom (1993) refers to the first dimension, namely exhaustion, as the key dimension of burnout. However, Leiter (1988) states that all three these dimensions are essential for correctly defining the presence of burnout. According to Schaufeli and Enzmann (1998), symptoms experienced by the individual include increased tension, anxiety, aggression, difficulty in dealing with complex tasks, restlessness, chronic fatigue, headaches, insomnia and loss of motivation. All these factors could have a negative prolonged effect on both the individual as well as on the organisation in terms of lowered productivity, increased absenteeism and labour turnover.

The importance of a reliable and valid instrument for the measurement of burnout is evident not only for the purpose of empirical research, but also ultimately for individual assessment. Since the development of the MBI, a large body of empirical literature has indicated that the inventory provides a psychometrically sound tool for measuring burnout and provides strong evidence supporting its reliability and validity.

The MBI-GS has evidenced relatively high internal consistency, ranging from 0,73 (Cynicism) to 0,91 (Exhaustion) (Leiter & Schaufeli, 1996). Reliability analyses showed that the Exhaustion and Professional Efficacy sub-scales were sufficiently internally consistent, but that one Cynicism item (Item 13) should be removed in order to increase the internal consistency beyond the criterion of 0,70 (Leiter & Schaufeli, 1996; Schaufeli, Leiter & Kalimo, 1995; Schutte, Toppinen, Kalimo & Schaufeli, 2000). Using the MBI-GS for the first time in South Africa, Storm and Rothmann (2003) confirmed the 3-factor structure of the MBI-GS in a sample of 2 396 SAPS members, and also recommended that Item 13 should be dropped from the questionnaire. These results were confirmed by other researchers using the MBI-GS in South Africa (Jackson & Rothmann, 2003; Joubert & Storm, in press; Nortje & Storm, in press). The following Cronbach alpha coefficients were obtained for the MBI-GS: Exhaustion: 0,88; Cynicism: 0,79; Professional Efficacy: 0,78 (Storm & Rothmann, 2003).

Brown and Campbell (1990) state that continuous stressors result in burnout. Two categories of potential job stressors in police work are often distinguished (Alexander, Walker, Innes & Irving, 1993; Biggam, Power, MacDonald, Carcary & Moodie, 1997; Brown & Campbell, 1990, 1994; Evans & Coman, 1993). These are firstly, various aspects of the very nature of police work, or *police-specific stressors* and secondly, stress as a result of certain characteristics of the police organisation, or so-called *organisational stressors*. According to Schaufeli and Enzmann (1998), *organisational stressors* can be divided into two groups, namely job demands and a lack of job resources. Job demands refer to those aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs. Job resources refer to those aspects of the job that may be functional in achieving work goals, reduce job demands at the associated physiological and psychological costs, and stimulate personal growth and development (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). In a sample of police officers in the SAPS, Pienaar and Rothmann (2003a) also identified three underlying factors of the "Police Stress Inventory" namely inherent police stressors, job demands and lack of resources. It therefore seems that the job stress that police officers experience consists of police-specific stressors (e.g. physical threat, violence, exposure to danger, crime and facing the unknown), job demands (e.g. meeting deadlines, shift work, working overtime, excessive paper

work and handling crises situations) and a lack of resources (e.g. inadequate equipment, poor supervision, an inadequate salary, lack of recognition and lack of sufficient personnel).

Regarding the *police-specific stressors*, Burke (1993, 1997) found that police officers reporting less stimulation (fewer work stressors) in their jobs also reported greater depersonalisation and lesser feelings of personal accomplishment. Also, officers reporting a greater number of stressful work events reported greater feelings of personal accomplishment. However, Burke (1994) states that considerable evidence exists to indicate that specific work-stressors influence psychological burnout.

To test the relationship of job demands and resources with burnout, Demerouti et al. (2001) developed the Job Demands-Resources (JD-R) model of burnout. Their findings suggest that high job demands will lead to the experience of increased exhaustion. When job resources are lacking, they predict high levels of disengagement (that closely resemble cynicism as measured by the MBI-GS). However, Storm (2002) found that a lack of resources experienced by police officers in the SAPS could also lead to exhaustion. Therefore, job demands and a lack of job resources could both lead to the experience of exhaustion.

Joubert and Storm (in press) found that job stress leads to the experience of exhaustion. When the person feels exhausted, feelings of cynicism developed that then resulted in lowered levels of professional efficacy. However, Storm (2002) and Nortjé and Storm (in press) found that exhaustion leads to cynicism, but feelings of cynicism did not lead to lower professional efficacy. This is consistent with Leiter (1993) who suggested that professional efficacy develops independently of exhaustion and cynicism. Leiter and Maslach (1988) also suggested that exhaustion should appear first as chronic excessive work demands drain individuals' emotional resources. As a coping strategy, cynicism develops because individuals limit their involvement with others and their work. It therefore seems that job stress would lead to feelings of exhaustion, which will again lead to the development of cynicism.

Anshel (2000) is of the opinion that the severity of work-related stressors has a definite impact on the result of those stressors on the individual. It is therefore necessary to establish which job

stressors, or more specifically, which job demands, lack of resources and police-specific stressors have the highest severity in the SAPS in order to develop programmes and interventions to effectively address those stressors. Pienaar (2003a) found that the job demands with the highest severity experienced by police officers in the SAPS were a lack of personal time, too much personal responsibility, the unpleasant nature of administrative tasks and the time spent at work. Lack of resources that were the most stressful for officers were a lack of sufficient equipment, opportunities for advancement, poor salaries, lack of co-operation and motivation as well as a lack of staff. The most severe police-specific stressors included death (of either a civilian or fellow officer), having to deal with violent or potentially violent situations, and having to handle conflict.

Various moderators or mediators exist that may possibly influence the relationship between job stress and burnout, one of them being coping. Lazarus and Folkman (1984) define coping as both an intra-personal and action-oriented effort to manage internal demands and environmental conflicts and demands among them, which exceed or tax the individual's resources. Cherniss (1980) states that burnout is an indication of a failure to cope adequately with stress.

Carver, Scheier and Weintraub (1989) developed the COPE, a coping instrument that measures fourteen different coping strategies. However, since the origin of the COPE more than a decade ago, factor analyses of the items have resulted in varying underlying structures (Pienaar, 2003b). In his study of coping strategies used by police officers in the SAPS, Pienaar (2003b) suggested a four-factor structure underlying the questionnaire, consisting of active coping, avoidance, seeking emotional support and turning to religion.

Active coping refers to approaching the problem, redefining it as something positive or a learning experience, and accepting that it has happened. When a successful coping strategy is followed (e.g. active problem solving), goals are achieved, professional efficacy is enhanced, and a sense of existential significance is fostered (Schaufeli & Enzmann, 1998). Storm (2002) found a relationship between active coping and all three dimensions of burnout. However, Joubert and Storm (in press), Nortjé and Storm (in press) and Wiese, Rothmann and Storm (2003) showed that active coping is only associated with professional efficacy.

The use of an avoidance-coping strategy, such as daydreaming and ignoring the facts, seems to be associated with higher levels of burnout. Anderson (2000) found that workers who used avoidance-coping strategies showed an increase in exhaustion. Chan and Hui (1995) observed that the use of avoidance coping was associated with all three dimensions of burnout. Storm (2002) and Joubert and Storm (in press) found a relationship between avoidance and all three dimensions of burnout, while Nortjé and Storm (in press) indicated that avoidance coping are associated with exhaustion and professional efficacy.

Although emotion-focused coping strategies are often considered as ineffective (Chwalisz, Altmaier & Russel, 1992; Patterson, 1999), Zellars and Perrewé (2001) argue that emotion-focused strategies are multi-dimensional and have suffered from a negative reputation primarily as a result of their measurement. Their results provide empirical support for the valuable effect of emotional support as an aid against all three dimensions. Storm (2002), Nortjé and Storm (in press) and Wiese et al. (2003) found that seeking emotional support could buffer the negative effect of job stress against exhaustion. Joubert and Storm (in press) found that seeking emotional support leads to the use of active coping strategies that leads to higher levels of professional efficacy.

Turning to religion has been mentioned occasionally in previous research as a potential coping strategy (Beehr, Johnson & Nieva, 1995). However, it has largely been ignored in coping with occupational stress. Some studies found a relationship between turning to religion and burnout (Hammons, 2000; Luton, 2000; Shaddock, Hill & Van Limbeek, 1998; Turnipseed, 1994). However, research done in the SAPS showed that there is no relationship between turning to religion and burnout (Joubert & Storm, in press; Nortjé & Storm, in press; Storm, 2002, Wiese et al., 2003).

The above discussion leads to the following hypotheses:

- H1: Burnout, as measured by the MBI-GS, is a three-dimensional construct and shows high internal consistency.

H2: Job stress (consisting of job demands, a lack of resources and police-specific stressors) will lead to exhaustion, which in turn will lead to cynicism. Various coping strategies (active coping, avoidance, seeking emotional support and turning to religion) will moderate or mediate the relationship between job stress and burnout.

METHOD

Research design

A survey design was used to reach the research objectives. The specific design is the cross-sectional design, whereby a sample is drawn from a population at one time (Shaughnessy & Zechmeister, 1997).

Study population

A stratified random sample ($n = 332$) was taken from police personnel in the Free State. Stations were divided into small (fewer than 25 staff members), medium (25–100 staff members) and large stations (more than 100 staff members). All police members at randomly-identified small and medium stations in each of the provinces were asked to complete the questionnaires. In the large stations stratified random samples were taken according to sex and race. Table 1 presents some of the characteristics of the participants.

Table 1

Characteristics of the Participants

Item	Category	Percentage
Race	White	39,76
	Black	46,99
	Coloured	9,04
	Indian	0,30
	Other	3,92
Rank	Constable	10,54
	Sergeant	41,27
	Inspector	6,93
	Captain	40,66
	Superintendent	0,60
Education	Grade 10	15,06
	Grade 11	10,84
	Grade 12	56,33
	Technical College Diploma	3,31
	Technicon Diploma	11,45
	University Degree	0,90
Sex	Male	86,14
	Female	13,86
Marital Status	Single	20,78
	Married	54,22
	Divorced	20,48
	Separated	2,71
	Remarried	1,81
Language	Afrikaans	43,07
	English	3,01
	Sepedi	0,30
	Sesotho	43,67
	Setswana	5,12
	IsiXhosa	3,61
	IsiZulu	1,20

According to Table 1, most participants were black (46,99%) and have the educational level of Grade 12 (56,33%). Male participants constituted 86,14% of participants and the majority of the participants were married (54,22%). A total of 43,67% of respondents were Sesotho-speaking and 43,07% were Afrikaans-speaking. English-speaking respondents constituted only 3,01%.

Measuring battery

The following questionnaires were used in the empirical study:

The *Maslach Burnout Inventory-General Survey* (MBI-GS) (Schaufeli et al., 1996) was used to measure burnout. The MBI-GS has three sub-scales: Exhaustion (Ex), Cynicism (Cy) and Professional Efficacy (PE). Internal consistencies (Cronbach coefficient alphas) reported by Schaufeli et al. (1996) varied from 0,87 to 0,89 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) (Schaufeli et al., 1996). All items are scored on a 7-point frequency rating scale ranging from 0 ("never") to 6 ("daily"). High scores on Ex and Cy, and low scores on PE are indicative of burnout. Storm and Rothmann (2003) confirmed the 3-factor structure of the MBI-GS in a sample of 2 396 SAPS members, but recommended that Item 13 should be dropped from the questionnaire. They also 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 & Rothmann, 2003).

The *Police Stress Inventory* (PSI) (Pienaar & Rothmann, 2003a) was used to measure job stress. Pienaar and Rothmann (2003a) constructed the PSI for police officers in the SAPS based on the findings of several investigations regarding stressors specific to the policing environment. The PSI is scored on a nine-point frequency and intensity rating scale, varying from 0 ("low") to 9 ("high"). Factor analysis with a varimax rotation of the items identified three underlying factors, namely job demands, lack of resources and inherent police stressors. Pienaar and Rothmann (2003a) found acceptable internal consistencies for the PSI (Job Demands: $\alpha = 0,92$; Lack of Resources: $\alpha = 0,92$; Police Stressors: $\alpha = 0,89$).

The *COPE Questionnaire* (COPE) was used to measure participants' coping strategies. The COPE is a multi-dimensional 53-item coping questionnaire that indicates the different ways in which people cope in different circumstances (Carver et al., 1989). Although the original questionnaire measures 13 different coping strategies, Pienaar and Rothmann (2003b) subjected

the COPE to a principal components factor analysis with a varimax rotation. Three internally-consistent factors were extracted, namely Active Coping (16 items), Avoidance (13 items), Seeking Emotional Support (7 items) and Turning to Religion (3 items). The alpha coefficients of the three scales are 0,92, 0,86, 0,80 and 0,83 respectively. All these values are acceptable ($\alpha > 0,70$, Nunnally & Bernstein, 1994), and thus indicate the internal consistency of the factors of the COPE. Test-retest reliability varies from 0,46 to 0,86 and from 0,42 tot 0,89 (applied after two weeks).

Statistical analysis

The statistical analysis was carried out with the help of the SAS program (SAS Institute, 2000). Principal factor extraction with varimax rotation was performed through SAS FACTOR on the items of the MBI-GS, PSI and COPE before performing structural equation modelling. Principal components extraction was used prior to principal factors extraction to estimate the number of factors, presence of outliers and factorability of the correlation matrices. Furthermore, the oblique method with a promax rotation was used to determine the interfactor correlation of each measuring instrument. If a correlation higher than 0,30 was found, this method was used to extract the factor structure.

Cronbach alpha coefficients and inter-item correlations were used to assess the internal consistency of the measuring instruments (Clark & Watson, 1995). Coefficient alpha conveys important information regarding the proportion of error variance contained in a scale. According to Clark and Watson (1995), the average inter-item correlation coefficient (which is a straightforward measure of internal consistency) is a useful index to supplement information supplied by coefficient alpha. However, uni-dimensionality of a scale cannot be ensured simply by focusing on the mean inter-item correlation – it is necessary to examine the range and distribution of these correlations as well.

The level of statistical significance was set at $p \leq 0,05$. Effect sizes were used to decide on the significance of the findings. Pearson product-moment correlation coefficients were used to specify the relationships between the variables. A cut-off point of 0,30 (medium effect, Cohen,

1988) was set for the practical significance of correlation coefficients.

Canonical correlation was used to determine the relationships between the dimensions of burnout, job stress and coping. The goal of canonical correlation is to analyse the relationship between two sets of variables (Tabachnick & Fidell, 2001). Canonical correlation is considered a descriptive technique rather than a hypothesis-testing procedure.

Structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 1997) were used to construct a causal model of burnout. SEM is a statistical methodology that takes a confirmatory (i.e. hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). A structural equations approach allows a model to be stipulated in advance of the data being examined. The model may then be tested for its goodness of fit to the covariance matrix of the measured variables, using a number of testing procedures. Competing models may also be tested, and decisions made about the model that is most appropriate for the data set (Deary, Agius, Endler, Zealley, Blenkin, & Wood, 1996). The goodness-of-fit indices that were used to summarise the degree of correspondence between the implied and observed covariance matrices included the χ^2 goodness-of-fit statistic, χ^2 / degrees of freedom ratio (CMIN/DF), Goodness of Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Parsimony Goodness-of-Fit index (PGFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA).

RESULTS

Structural equation modelling (SEM) methods as implemented by AMOS (Arbuckle, 1997) were used to test the factorial model for the MBI-GS. Before performing SEM, the frequency distribution of the items of the MBI-GS was checked in order to assess deviations from normality and multivariate outliers were removed.

Data analyses proceeded as follows: Firstly, a quick overview of model fit was done by looking at the overall χ^2 -value, together with its degrees of freedom and probability value. Global assessments of model fit were based on several goodness-of-fit statistics (χ^2 , χ^2 /df, GFI, AGFI,

PGFI, NFI, TLI, CFI and RMSEA); secondly, given findings of an ill-fitting initially hypothesised model, analyses proceeded in an exploratory mode. Possible mis-specifications as suggested by the so-called modification indices were looked for, and eventually a revised, re-specified model was fitted to the data.

Hypothesised model

The full-hypothesised 3-factor model consisting of all 16 items was tested. Table 2 presents fit statistics for the test of the original and consequent models.

Table 2

The Goodness-of Fit statistics for the hypothesised MBI-GS model

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Model 1	535,69	5,30	0,83	0,77	0,61	0,83	0,83	0,85	0,11
Model 2	375,50	4,32	0,87	0,82	0,63	0,87	0,88	0,90	0,10
Model 3	277,55	3,75	0,89	0,85	0,63	0,90	0,90	0,92	0,09
Model 4	223,48	3,61	0,91	0,87	0,62	0,91	0,92	0,93	0,09

The statistically significant χ^2 value of 535,69 ($df = 101$; $p = 0,00$) for the first model revealed a poor overall fit of the originally hypothesised MBI-GS model. The PGFI value lower than 0,80, NFI, TLI and CFI values lower than 0,95 and RMSEA value higher than 0,05 are indicative of failure to confirm the hypothesised model. Thus it is apparent that some modification in specification is needed in order to determine a model that better represents the sample data. To pinpoint possible areas of misfit, modification indices were examined. Looking at the regression weights, one parameter, which represents the cross-loading of Item 13 on the Professional Efficacy factor, stood apart from the rest and accounts for substantial mis-specification of the hypothesised factor loading.

Post hoc analysis

Based on the regression weights and standardised residual covariance, Model 1 was re-estimated with Item 13 removed, as was also suggested by Storm and Rothmann (2003). The subsequent analyses are therefore now based on the 15-item revision, which is labelled here as Model 2. After testing Model 2, however, the χ^2 value of 375,50 ($df = 87$; $p = 0,00$) and goodness-of-fit indices still indicate a failure to confirm model fit to the data. Looking at the modification indices, Item 14 represented a cross-loading on the Professional Efficacy factor and accounts for substantial mis-specification. Model 3 was therefore constructed with Item 14 omitted. After testing model 3, the χ^2 value of 277, 55 ($df = 74$; $p = 0,00$) was considerably lower, but the goodness-of-fit indices still indicated poor model fit. After careful consideration of the regression weights and standardised residual covariance, Item 11 was also problematic and was omitted.

The results related to the final model (Model 4) are shown in Table 2. The fit statistics indicate a good fit for the re-specified model. Although the χ^2 value of 223,48 ($df = 62$; $p = 0,00$) is still high, it is considerably lower than in Model 1. All the other fit statistics, with the exception of the RMSEA value of 0,09, indicate an acceptable fit of the model to the data. Since this model fit was satisfactory, no further modifications of the model were deemed necessary. The correlations among the three burnout dimensions are as follows: Exhaustion and Cynicism show the highest correlation of 0,86, followed by Exhaustion and Professional Efficacy with a correlation of 0,27, and Cynicism and Professional Efficacy with a correlation of 0,13, respectively. As a result of the SEM analysis, all consequent data will be processed and reported using the final 13-factor MBI-GS model.

Based on these results, support was found for Hypothesis 1.

Table 3 shows the descriptive statistics, the Cronbach alpha coefficients and the mean inter-item correlation coefficients of the MBI-GS, PSI and COPE.

Table 3

Descriptive Statistics, Alpha Coefficients and Inter-Item Correlation of the MBI-GS, PSI and COPE

Item	Mean	SD	Skewness	Kurtosis	$r(\text{Mean})$	α
MBI						
Exhaustion (Ex)	12,34	8,01	0,22	-0,94	0,64	0,90
Cynicism (Cy)	6,67	5,20	0,38	-0,91	0,63	0,83
Professional Efficacy (PE)	20,08	7,66	-0,82	0,14	0,52	0,84
PSI						
Job Demands	57,58	21,70	-0,06	-0,80	0,53	0,93
Lack of Job Resources	58,56	20,23	-0,37	-0,51	0,52	0,92
Police-Specific Stressors	30,73	13,80	-0,11	-1,18	0,69	0,93
COPE						
Active Coping	19,76	5,13	-0,70	0,07	0,52	0,88
Avoidance Coping	16,68	5,43	0,21	-0,81	0,49	0,87
Seeking Emotional Support	11,20	3,34	-0,59	-0,54	0,56	0,84
Turning to Religion	8,79	2,58	-0,63	-0,52	0,64	0,84

The scores on the MBI-GS, PSI and COPE are normally distributed. The Cronbach alpha coefficients of all the measuring instruments are considered to be acceptable compared to the guideline of $\alpha > 0,70$ (Nunnally & Bernstein, 1994) varying from 0,83 to 0,93. Furthermore, with few exceptions, the inter-item correlations are considered acceptable compared to the guideline of $0,15 < r < 0,50$ (Clark & Watson, 1995). It appears that the MBI-GS, PSI and COPE have acceptable levels of internal consistency.

The intensity and frequency of Job Demands, Lack of Resources and Police Stressors are shown in Table 4.

Table 4

The Intensity and Frequency of Job Demands, Lack of Resources and Police Stressors

Factor and Items	Intensity	Frequency	Severity
Job Demands			
Changing frequently from boring to demanding activities	4,63	3,91	18,10
Being assigned more responsibility	4,90	4,42	21,66
Meeting deadlines	4,92	4,48	22,04
Having to make critical on-the-spot decisions	4,64	4,09	18,98
Having to deal with crisis situations	5,11	4,00	20,44
Being assigned new or unfamiliar duties	4,70	3,74	11,58
Not having sufficient personal time	4,80	4,08	19,58
Having to work shift-work	4,58	3,84	17,59
Having to go to court	4,42	3,76	16,62
Having to attend domestic violence incidences	4,77	3,94	18,79
Having to work overtime	4,92	4,60	22,63
More paperwork than you can handle	5,20	4,90	25,48
Lack of Resources			
Lack of officers to handle specific tasks	5,45	4,85	26,43
Inadequate or poor quality equipment	5,52	4,89	26,99
Lack of recognition for work well done	5,54	4,44	24,60
Other officers not doing their job	5,85	4,90	28,67
Inadequate salary	5,52	4,73	26,11
Supervision is poor or inadequate	4,95	3,62	17,92
Other officers poorly motivated	5,24	4,94	25,89
Experiencing negative attitudes towards the organisation	5,07	4,33	21,95
Inadequate support by supervisor	5,31	3,93	20,87
Lack of opportunity for advancement	5,16	4,09	21,10
Lack of participation in policy-making decisions	4,97	3,80	18,89
Police-Specific Stressors			
Fellow officer killed in the line of duty	5,33	2,75	14,66
Killing someone in the line of duty	4,90	2,55	12,50
A forced arrest or being physically attacked	4,96	3,15	15,62
Having to handle a large crowd/mass demonstration	4,80	3,02	14,50
Racial conflict	5,09	3,45	17,56
Seeing criminals go free	5,69	4,08	23,22

Table 4 shows that Lack of Resources can be identified as the stressor with the highest intensity and frequency. Other officers not doing their job, inadequate or poor quality equipment, a lack of

officers to handle a specific task and inadequate salary can be seen as stressors with a high intensity and a relatively high frequency. With reference to stressors associated with Job Demands, more paperwork you can handle, having to work overtime and meeting deadlines were found to be the stressors with the highest intensity and frequency. Seeing criminals go free and racial conflict are the Police-specific stressors with high intensities and frequency.

The product-moment correlation coefficients between the MBI-GS, PSI and COPE are reported in Table 5.

Table 5

Product-moment Correlation Coefficients between the MBI, the PSI and the COPE

Item	1	2	3	4	5	6	7	8	9
1. Exhaustion	-	-	-	-	-	-	-	-	-
2. Cynicism	0,76**	-	-	-	-	-	-	-	-
3. Professional Efficacy	0,26	0,14	-	-	-	-	-	-	-
4. Job Demands	0,51**	0,36*	0,29	-	-	-	-	-	-
5. Lack of Resources	0,41*	0,27	0,42*	0,78**	-	-	-	-	-
6. Police-Specific Stressors	0,26	0,13	0,31*	0,61**	0,72**	-	-	-	-
7. Active Coping	0,06	0,02	0,25	0,16	0,26	0,26	-	-	-
8. Avoidance Coping	0,33*	0,38*	-0,02	0,28	0,12	0,05	0,53**	-	-
9. Emotional Support	0,04	0,05	0,15	0,13	0,13	0,16	0,74**	0,52**	-
10. Turning to Religion	0,03	-0,01	0,15	0,14	0,20	0,15	0,69**	0,47*	0,57**

* Correlation is practically significant $r > 0,30$ (medium effect)

** Correlation is practically significant $r > 0,50$ (large effect)

As can be seen in Table 5, Exhaustion correlates practically significantly (medium effect) with Lack of Resources and Avoidance Coping, and practically significantly (large effect) with Job Demands. Cynicism is significantly related to Job Demands, (practically significant, medium effect) and Avoidance Coping (medium effect). Table 5 also shows that Job Demands correlates significantly (large effect) with Lack of Resources and Police-Specific Stressors. Lack of Resources is practically related to Police-Specific Stressors (large effect). Active Coping

correlates practically significantly (large effect) with Avoidance Coping, Emotional Support and Turning to Religion. Avoidance Coping correlates significantly with Emotional Support (large effect) and with Turning to Religion (medium effect). There is a practically significant correlation between Turning to Religion and Emotional Support (large effect).

Canonical correlation using SAS CANCORR was performed between a set of job stressors, coping strategies and burnout. Shown in Table 6 are the correlations between the variables and canonical variates, standardised canonical variate coefficients, within-set variance accounted for by the canonical variates (percent of variance), redundancies and canonical correlations.

The results of the canonical analysis of job stressors, coping strategies and burnout are shown in Table 6. The first set included Job Stress (Job Demands, Lack of Resources and Police-Specific Stressors) and coping strategies (Active Coping, Avoidance Coping, Seeking Emotional Support and Turning to Religion). The second set included Exhaustion, Cynicism and Professional Efficacy.

Table 6

Results of the Canonical Analysis: Job Stress, Coping and Burnout

	First Canonical Variate		Second Canonical Variate	
	Correlation	Coefficient	Correlation	Coefficient
Set 1: Stress and Coping				
Job Demands	0,84	0,46	0,38	0,11
Lack of Resources	0,68	0,43	0,67	0,50
Police-Specific Stressors	0,41	-0,11	0,55	-0,04
Active Coping	0,11	-0,17	0,48	0,68
Avoidance Coping	0,60	0,68	-0,33	-0,85
Seeking Emotional Support	0,09	-0,11	0,25	0,07
Turning to Religion	0,05	-0,21	0,30	0,08
Percent of variance	0,25		0,20	Total = 0,45
Redundancy	0,09		0,05	Total = 0,14
Set 2: Burnout				
Exhaustion	0,98	0,76	0,05	0,28
Cynicism	0,86	0,28	-0,28	-0,61
Professional Efficacy	0,29	0,05	0,90	0,91
Percent of variance	0,60		0,30	Total = 0,90
Redundancy	0,21		0,07	Total = 0,28
Canonical correlation	0,60		0,49	

The first canonical correlation was 0,60 (36% overlapping variance); the second was 0,49 (24% overlapping variance). With both canonical correlations included, $F(21, 925) = 13,10$, $p < 0,000$ for the first canonical correlation and $F(12, 646) = 8,95$, $p < 0,000$ for the second canonical correlation. Data on both the canonical variates appear in Table 6. Total percentage of variance and total redundancy indicate that the first and second pair of canonical variates were moderately related.

With a cut-off correlation of 0,30 the variables in the job stress and coping set that correlated with the first canonical variate were Job Demands, Lack of Resources, Police-Specific Stressors

and Avoidance Coping. Among the burnout variables, Exhaustion and Cynicism correlated with the first canonical variate. The first pair of canonical variates shows that job demands (0,84), lack of resources (0,68), police-specific stressors (0,41) and avoidance coping (0,60) are associated with exhaustion (0,98) and cynicism (0,86).

Variables in the job stress and coping set that correlated with the second canonical variate were Job Demands, Lack of Resources, Police-Specific Stressors, Active Coping, Avoidance Coping and Turning to Religion. Among the burnout variables, Professional Efficacy correlated with the second canonical variate. The second pair of canonical variates indicates that job demands (0,38), lack of resources (0,67), police-specific stressors (0,55), active coping (0,48), Avoidance Coping (-0,33) and Turning to Religion (0,30) are associated with professional efficacy (0,90).

A more comprehensive test of the hypothesised relationships can be accomplished with SEM methods as implemented by AMOS (Arbuckle, 1997). Data analyses proceeded as follows: Based on the results of the canonical correlations, the relationship between job stress and the three dimensions of burnout was tested as well as the moderating or mediating effects of three coping strategies. A model was constructed based upon the results of the canonical correlations and the consensus of findings from a review of the burnout literature, as it bears on the police profession. Therefore, turning to religion was omitted from the SEM analyses.

The fit of the hypothesised models for different coping strategies (Active coping, Avoidance and Emotional Support) was assessed by 1) a quick overview of the overall χ^2 value, together with its degrees of freedom and probability value; 2) global assessments of model fit based on several goodness-of-fit statistics (GFI, AGFI, PGFI, NFI, TLI, CFI and RMSEA). Given findings of an ill-fitting initially hypothesised model, possible mis-specifications as suggested by the so-called modification indices were looked for and eventually a revised, re-specified model was fitted to the data. Selected goodness-of-fit statistics related to the models are presented in Table 7.

Table 7

Goodness-of-Fit Statistics for the SEM Models

Coping strategy	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	TLI	CFI	RMSEA
Active coping									
Model 1	106,03	7,57	0,92	0,84	0,46	0,90	0,87	0,91	0,14
Model 2	58,52	4,50	0,95	0,90	0,44	0,95	0,93	0,96	0,10
Model 3	26,84	2,24	0,98	0,95	0,42	0,98	0,98	0,99	0,06
Avoidance coping									
Model 1	131,06	10,92	0,90	0,78	0,39	0,88	0,81	0,90	0,17
Model 2	68,99	6,27	0,95	0,87	0,37	0,94	0,90	0,95	0,13
Model 3	52,15	5,22	0,96	0,89	0,34	0,95	0,91	0,96	0,11
Model 4	39,98	3,64	0,97	0,92	0,38	0,96	0,95	0,97	0,09
Emotional support									
Model 1	55,31	4,25	0,96	0,91	0,44	0,95	0,93	0,96	0,10
Model 2	24,54	2,05	0,98	0,95	0,42	0,98	0,98	0,99	0,06

The structural equation model for Active Coping

In order to test the relationship between job stress and burnout and the moderating effect of active coping on this relationship, a model was constructed with paths from Job Stress to Exhaustion and Active Coping, and a path between Exhaustion and Cynicism. After testing this hypothesised model, the results in Table 7 show that the overall statistical χ^2 value ($df = 14$; $p = 0,00$) is 106,03. The PGFI value lower than 0,50, NFI, TLI and CFI values lower than 0,95 and RMSEA value higher than 0,08 are indicative of failure to confirm the hypothesised model. It is apparent that some modification in specification is needed in order to determine a model that better represents the sample data. Taking the regression weights into account, a path was added between Job Stress and Professional Efficacy, and Model 2 was constructed. After Model 2 was tested, the χ^2 value of 58,52 ($df = 13$; $p = 0,00$) was statistically lower ($\Delta\chi^2_{(1)} = 47,51$) and the goodness-of-fit indices showed acceptable fit. However, the RMSEA value was still very high.

After a careful review of the Modification Indices, errors were allowed to correlate between Job Demands and Exhaustion and Model 3 was constructed. The fit of Model 3 was excellent, as can be seen by the statistically lower χ^2 value of 26,84 ($\Delta\chi^2_{(2)} = 32,12$) and goodness-of-fit indices. No MIs associated with structural paths were present in the output, only MIs related to covariances were present, but no values suggestive of model misfit. Taking these factors into account, no further consideration was given to the inclusion of additional parameters. The final model for Active Coping is shown in Figure 1.

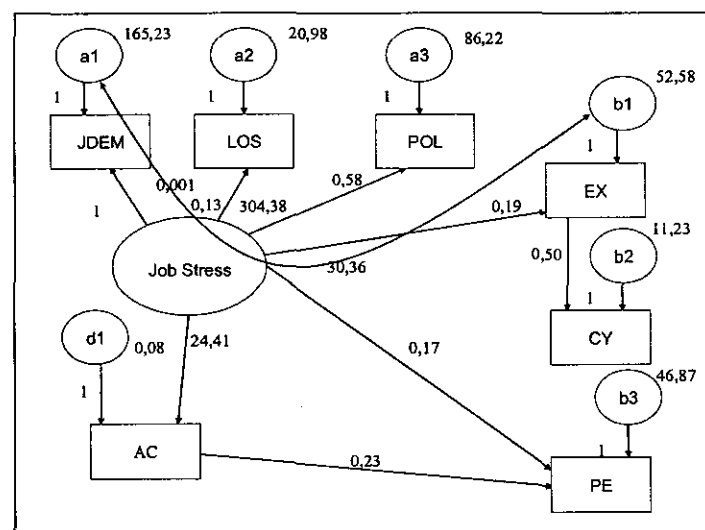


Figure 1. The final model for Active Coping

Figure 1 shows that Job Stress (consisting of Job Demands, Lack of Resources and Police-Specific Stressors) influences Exhaustion and Professional Efficacy. However, the use of an active coping strategy could moderate the influence of Job Stress on Professional Efficacy. According to the Squared Multiple Correlations (SMCs), Job Stress accounts for 17,8% of the variance of Exhaustion; Exhaustion accounts for 58,4% of the variance in Cynicism; Job Stress and Active Coping account for 19,8% of the variance in Professional Efficacy.

The structural equation model for Avoidance

In order to test for moderating or mediating effects of Avoidance on Burnout, the first hypothesised model was constructed with paths allowed between Job Stress and Exhaustion and

Job Stress and Avoidance. Paths were also added between Avoidance and Exhaustion, Cynicism and Professional Efficacy. A path was allowed between Exhaustion and Cynicism. Selected goodness-of-fit statistics related to the tested models of Avoidance are presented in Table 7. After testing the first hypothesised model, the overall statistical χ^2 value of 131,06 ($df = 12$; $p = 0,00$) and the goodness-of-fit statistics are indicative of failure to confirm the hypothesised model. After reviewing the regression weights as part of the modification indices, a path was added between Job Stress and Professional Efficacy and Model 2 was constructed. After Model 2 was tested, the χ^2 value of 68,99 ($df = 11$; $p = 0,00$) was statistically lower ($\Delta\chi^2_{(1)} = 62,07$), but several goodness-of-fit indices indicated that there are still problems in model fit. After a careful review of the Modification Indices, or more specifically the covariance, errors were allowed to correlate between Job Demands and Avoidance and Model 3 was tested. The χ^2 value of 52,15 ($df = 10$; $p = 0,00$) was statistically lower ($\Delta\chi^2_{(2)} = 16,84$). The goodness-of-fit statistics are good, although there are some indications of misfit.

Thus far, model fit has considered only the addition of parameters to the model. However, it is also necessary to examine the extent to which certain initially hypothesised paths may be irrelevant to the model. One way of determining such irrelevancy is to examine the statistical significance of all structural parameter estimates. In reviewing these estimates for Model 3, there is one parameter that is non-significant and represents the path from Avoidance to Professional Efficacy (C.R. = -1,59). In the interest of parsimony, a final model was estimated with this structural path deleted from the model. The χ^2 value of 39,98 ($df = 11$; $p = 0,00$) was statistically lower ($\Delta\chi^2_{(3)} = 12,17$) and all the other statistics indicated excellent model fit. The final model of Avoidance is shown in Figure 2.

Figure 2 shows that Job Stress (consisting of Job Demands, Lack of Resources and Police-Specific Stressors) influences Exhaustion and Professional Efficacy. However, the use of an avoidance coping strategy could moderate the influence of Job Stress on Exhaustion and mediate the relationship between Job Stress and Cynicism. According to the SMCs, Job Stress and Avoidance account for 28,5% of the variance of Exhaustion; Exhaustion and Avoidance accounts for 60,3% of the variance in Cynicism; Job Stress accounts for 18,1% of the variance in Professional Efficacy.

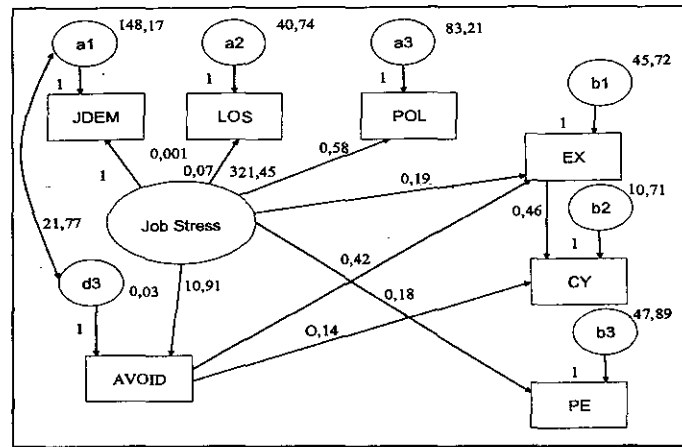


Figure 2. The final model for Avoidance Coping

The structural equation model for Emotional Support

In order to test the moderating or mediating effects of Emotional Support on burnout, the hypothesised model was constructed with paths allowed between Job Stress and Exhaustion, Professional Efficacy and Emotional Support. Paths were also allowed between Emotional Support and Professional Efficacy and between Exhaustion and Cynicism. Table 7 indicates that Model 1 reports an overall statistical χ^2 value of 55,31 ($df = 13$; $p = 0,00$). However, the PGFI value lower than 0,05, TLI value lower than 0,95 and RMSEA higher than 0,08 indicate that some specification is needed, and Model 2 was constructed with errors allowed between Job Demands and Exhaustion. The fit of Model 2 was excellent, as can be seen by the statistically lower χ^2 value of 24,54 ($\Delta\chi^2_{(2)} = 30,77$) and goodness-of-fit indices. No MIs associated with structural paths were present, thus no further consideration was given to the inclusion of additional parameters. The final model for Emotional Support is shown in Figure 3.

Figure 3 shows that Job Stress (consisting of Job Demands, Lack of Resources and Police-Specific Stressors) influences Exhaustion and Professional Efficacy. However, the use of emotional support could moderate the influence of Job Stress on Professional Efficacy. According to the SMCs, Job Stress accounts for 17,8% of the variance of Exhaustion; Exhaustion accounts for 58,4% of the variance in Cynicism; Job Stress and Emotional Support

account for 18,6% of the variance in Professional Efficacy. The results indicate support for Hypothesis 2.

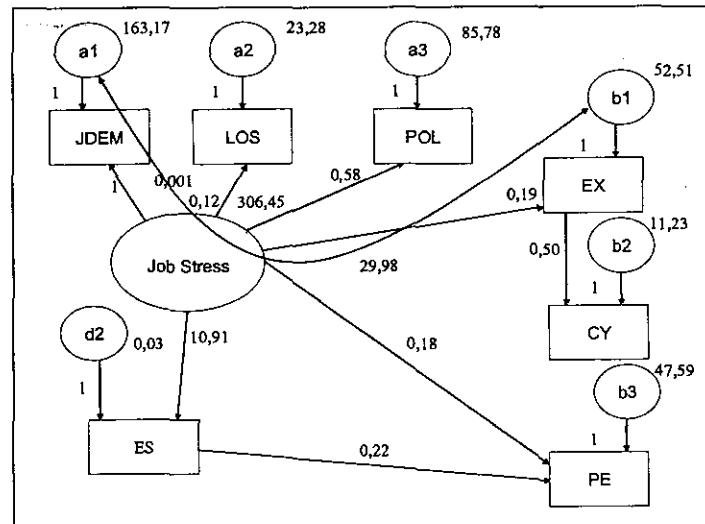


Figure 3. The final model for Emotional Support

DISCUSSION

The first objective of this study was to determine the construct validity and internal consistency of the MBI-GS for SAPS members in the Free State. The results obtained using the structural equation modelling approach supported a three-dimensional factor structure. However, based on both conceptual and empirical grounds, items 13, 14 and 11 were eliminated from the original MBI-GS, resulting in a 13-item scale. It seems as if the problems with item 13 might be caused by the ambivalent nature of the item. Item 14, an item that is supposed to load on the cynicism factor, also loaded on the professional efficacy factor. Item 11, identified as part of the professional efficacy factor, loaded on the cynicism and exhaustion factors. A possible explanation for the cross-loading of items might be related to the issue of language. Since the MBI-GS is a questionnaire developed in the English language, it could be expected that the high number of Afrikaans and Sesotho-speaking SAPS members in the Free State had difficulty with the translation and interpretation of the questions. Only 3,01% of the participants in the sample

were English first-language users. Reliability analyses revealed that all three sub-scales were sufficiently internally consistent.

The second objective was to develop a causal model of burnout in order to determine the influence of job stress on burnout and to test if coping strategies used by police members can moderate or mediate the effect of job stress on burnout. Regarding the relationship between job stress and burnout, the results showed definite relationships between burnout and job stress. The product-moment correlations showed relationships between exhaustion and two of the components of job stress namely job demands and a lack of resources. Cynicism was correlated to job demands. Exhaustion was also correlated with cynicism, which could indicate the possibility of cynicism being pre-empted by exhaustion. However, professional efficacy was correlated with police-specific stressors.

The results of the first canonical variate indicated that high job demands, a lack of resources and high police-specific stressors are associated with higher levels of exhaustion and cynicism. The second canonical variate indicated that low job demands, sufficient resources and fewer police-specific stressors are associated with higher levels of professional efficacy.

The structural equation analysis showed that job stress, consisting of job demands, a lack of resources and police-specific stressors, will lead to higher feelings of exhaustion, which in turn will lead to higher levels of cynicism. Job stress will lead independently to lower levels of professional efficacy. This is consistent with the development sequence model of the three dimensions as proposed by Leiter and Maslach (1988). They suggest that exhaustion should appear first as chronic excessive work demands drain individuals' emotional resources. As a coping strategy, cynicism develops because individuals limit their involvement with others and their work. Also, in the SEM no path was allowed between cynicism and professional efficacy. This is also consistent with Leiter (1993), who believes that professional efficacy develops largely independently of exhaustion and cynicism. Therefore, it could be argued that police officers experiencing high job demands (e.g. excessive paperwork, working overtime and meeting deadlines), a lack of resources (e.g. inadequate or poor quality equipment, a lack of officers to handle a specific task and an inadequate salary) and police-specific stressors (e.g.

seeing criminals go free and racial conflict) will experience higher levels of exhaustion and lower levels of professional efficacy. High levels of exhaustion will again lead to higher levels of cynicism.

Regarding coping strategies, the results of the first canonical variate indicated that avoidance leads to higher levels of exhaustion and cynicism. The results of the second canonical variate indicated that the use of avoidance leads to lower levels of professional efficacy, but that the use of an active coping strategy will lead to higher levels of professional efficacy.

As mentioned before, the SEM analysis showed that police officers who experience high job stress experienced higher exhaustion. However, when police officers used active coping strategies they showed an increase in professional efficacy. This could possibly be explained by the moderating effect of active coping between job stress and professional efficacy. When they experienced high job stress, the levels of professional efficacy experienced by police officers could therefore be moderated through the use of active coping strategies. It is important to note that active coping strategies only moderated a higher level of professional efficacy and could not establish a buffering effect against exhaustion or cynicism. This is consistent with findings from previous research (see Nortje & Storm, in press).

Avoidance coping strategies were associated with exhaustion and cynicism. The SEM analysis revealed that the use of an avoidance coping strategy leads to increased levels of exhaustion. A moderating effect could be identified between job stress, avoidance and exhaustion. Therefore, when an officer would use an avoidance coping strategy, levels of exhaustion would increase even more. This would lead to higher feelings of cynicism, which will be mediated by the use of an avoidance coping strategy. This partly supports findings by Storm (2002) who associated avoidance with all three dimensions of burnout. Wiese et al. (in press) and Rowe (1997) also associated avoidance with exhaustion and cynicism, however, Nortjé and Storm (in press) associated avoidance with exhaustion and professional efficacy.

Regarding emotional support, the structural equation analysis revealed a moderating effect between job stress, emotional support and professional efficacy. It could therefore be argued that

although the respondents in the Free State experienced high job stress, an increase in the levels of professional efficacy was moderated with the use of emotional support coping strategies. Emotional support by friends, family and colleagues therefore buffered the effect of job stress on the levels of professional efficacy experienced by the respondents. There seems to be some inconsistency in previous research. Nortjé and Storm (in press), Wiese et al. (2003) and Storm (2002) associated emotional support with only exhaustion. Joubert and Storm (in press) found that emotional support would lead to the use of active coping strategies, which will in turn lead to higher levels of professional efficacy. It seems that more research is needed to determine the exact association of emotional support as a coping strategy with the three dimensions of burnout.

In conclusion, job stress leads to higher levels of exhaustion and cynicism, and lower levels of professional efficacy. This supports the findings of Leiter (1991, 1993), Taris, Schreurs and Schaufeli (1999) and Schaufeli and Enzmann (1998). The use of active coping strategies leads to higher feelings of professional efficacy. However, no buffering effect could be established between active coping and feelings of exhaustion and cynicism. When officers used avoidance coping, higher feelings of exhaustion were experienced. This led to higher feelings of cynicism. The use of emotional support as a coping strategy led to increased feelings of professional efficacy.

RECOMMENDATIONS

Given the pervasive nature of burnout, the police organisation should design and implement planned interventions. Although it is important to assist individual police officers whose psychological well-being is affected by their work, an organisational rather than an individual approach is more likely to be effective, as most stressors were found to be at an organisational level. This could be accomplished through well-developed educational pre-emptive interventions.

When considering job stress as a cause of burnout, it is recommended that certain aspects of the tasks of police members be reconsidered (e.g. excessive paperwork, working overtime, inadequate salaries and poor quality equipment).

Furthermore, it is important to focus on police officers' coping strategies. The assessments of coping strategies might be efficaciously incorporated into personnel selection procedures and individual stress coping training might be beneficial. However, a more desirable strategy is to make the organisation inherently less stressful. Since job stress plays a central role in burnout, it is necessary to implement preventive organisationally based strategies to tackle high job demands and a lack of resources. The ongoing knowledge and supervision of active coping strategies and the availability of emotional support could lead to higher feelings of professional efficacy. However, when officers use avoidance, it could increase the exhaustion and cynicism levels.

Several suggestions for future research are derived from the present findings. In conjunction with studying the obvious factors that are believed to be related to burnout in police officers, it is also necessary to include personality variables in future research. Future research needs to explore the underlying mechanisms of personality that produce different coping patterns and preferences, and also develop instruments for assessing burnout, job stress and coping in languages other than English.

REFERENCES

- Alexander, C. (1999). Police psychological burnout and trauma. In J.M. Violanti & D. Paton (Eds.), *Police trauma: Psychological aftermath of civilian combat* (pp. 54-64). Springfield, IL: Charles C. Thomas.
- Alexander, D.A., Walker, L.G., Innes, G., & Irving, B.L. (1993). *Police stress at work*. London: Police Foundation.
- Anderson, D.G. (2000). Coping strategies and burnout among veteran child protection workers. *Child Abuse and Neglect*, 24, 839-848.
- Anshel, M.H. (2000, June). A conceptual model and implications for coping with stressful events in police work. *Criminal Justice and Behavior*, 27, 375-400.
- Arbuckle J.L. (1997). *Amos users' guide version 4.0*. Chicago, IL: Smallwaters Corporation.
- Beehr, T.A., Johnson, L.B. & Nieva, R. (1995). Occupational stress: Coping of police and their spouses. *Journal of Organizational Behavior*, 16, 3-25.
- Biggam, F.H., Power, K.G., MacDonald, R.R., Carcary, W.B. & Moodie, E. (1997). Self-perceived occupational stress distress in a Scottish police force. *Work and Stress*, 11, 118-133.
- Brill, P.L. (1984). The need for an operational definition of burnout. *Family and Community Health*, 6, 12-24.
- Brown, J.M. & Campbell, E.A. (1990). Sources of occupational stress in the police. *Work & Stress*, 4, 305-318.
- Brown, J.M. & Campbell, E.A. (1994). *Stress and policing: Sources and strategies*. Chichester: John Wiley & Sons.
- Burke, R.J. (1993). Toward an understanding of psychological burnout among police officers. *Journal of Social Behavior and Personality*, 8, 425-438.
- Burke, R.J. (1994). Stressful events, work-family conflict, coping, psychological burnout, and well-being among police officers. *Psychological Reports*, 75, 787-800.
- Burke, R.J. (1997). Toward an understanding of psychological burnout among police officers. *International Journal of Stress Management*, 4, 3-27.
- Byrne, B.M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications and programming*. Mahwah, NJ: Erlbaum.

- Carver, C.S., Scheier, M.R. & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Chan, D.W. & Hui, E.K.P. (1995, March). Burnout and coping among Chinese secondary school teachers in Hong Kong. *British Journal of Educational Psychology*, 65, 15-25.
- Cherniss, C. (1980). *Staff burnout*. Beverly Hills, CA: Sage.
- Chwalisz, K., Altmaier, E.M. & Russell, D.W. (1992). Causal attributions, self-efficacy, cognitions and coping with stress. *Journal of Social and Clinical Psychology*, 11, 377-400.
- Clark, L.A. & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (Rev. ed.). Orlando, CA: Academic Press.
- Cordes, C.L., & Dougherty, T.W. (1993). A review and integration of research in job burnout. *Academy of Management Review*, 18, 621-656.
- Deary, I.J., Blenkin, H., Agius, R.M., Endler, N.S., Zealley, H. & Wood, R. (1996, February). Models of job-related stress and personal achievement among consultant doctors. *British Journal of Psychology*, 87, 3-29.
- Demerouti, E., Bakker, A.B., Nachreiner, F. & Schaufeli, W.B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86, 499-512.
- Evans, B.J. & Coman, G.J. (1992). General versus specific measures of occupational stress: An Australian police survey. *Stress Medicine*, 9, 11-20.
- Folkman, S. & Lazarus, R.S. (1991). Coping and emotion. In A. Monat & R.S. Lazarus (Eds.), *Stress and coping: An anthology* (pp. 207-227). New York: Columbia Univer Press.
- Gulle, G., Tredoux, C. & Foster, D. (1998). Inherent and organisational stress in the SAPS: An empirical survey in the Western Cape. *South African Journal of Psychology*, 28, 29-34.
- Hammons, K.H. (2000). An analysis of social factors which mitigate burnout in hospital social workers who work with terminally ill inpatient populations. *Dissertation Abstracts International: Section A: Humanities and Social Sciences*, 60(9-A), 3527.
- Jackson, L.T.B. & Rothmann, S. (2003, June 26-27). *Burnout of teachers in the North-West Province*. Paper presented at the 6th Annual Conference of the Society for Industrial and Organisational Psychology, Johannesburg.

- Joubert, A. F. & Storm, K. (in press). *Uitbranding in die Suid-Afrikaanse Polisiediens in die Wes-Kaap*. Paper submitted for publication.
- Kop, N., Euwema, M. & Schaufeli, W. (1999). Burnout, job stress and violent behavior among Dutch police. *Work and Stress*, 13, 326-340.
- Kopel, H. & Friedman, M. (1999). Effects of exposure to violence in South African Police. In J.M. Violanti & D. Paton. (Eds.), *Police trauma: Psychological aftermath of civilian combat* (p. 99-112). Springfield, IL: Charles, C. Thomas.
- Lazarus, R.S. & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.
- Leiter, M.P. (1988). Burnout as a function of communication patterns. *Group and Organisational Studies*, 13, 111-128.
- Leiter, M.P. (1991). Coping patterns as predictors of burnout: The function of control and escapist coping patterns. *Journal of Organizational Behavior*, 12, 123-144.
- Leiter, M.P. (1993). Burnout as a developmental process: Consideration of models. In W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 237-250). Washington, DC: Taylor & Francis.
- Leiter, M.P. & Maslach, C. (1988). The impact of interpersonal environment on burnout and organizational commitment. *Journal of Organizational Behavior*, 9, 297-308.
- Leiter, M.P. & Schaufeli, W.B. (1996). Consistency of the burnout construct across occupations. *Anxiety, Stress, and Coping*, 9, 229-243.
- Luton, J.W. (2000). Effects of religious orientation and perceptions of communication competence and apprehension on burnout potential. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 61(2-A), 648.
- Marks, M. (1995, June). *Stresses in the South African Police Service*. Paper presented to Stress Management Self Help Group for Police in Soweto, Protea Police Station.
- Maslach, C. (1982). Understanding burnout: Definitional issues in analysing a complex phenomenon. In W.S. Paine (Ed.), *Job stress and burnout: Research, theory and intervention* (pp.29-40). Beverly Hills, CA: Sage.
- Maslach, C. (1993). Burnout: A multidimensional perspective. In W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 19-32). Washington, DC: Taylor & Francis.
- Maslach, C. & Leiter, M.P. (1997). *The truth about burnout*. San Francisco: Jossey-Bass.

- Maslach, C., Schaufeli, W.B. & Leiter, M.P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397-422.
- Nel, J. & Burgers, T. (1996, March). The South African Police Service: "Symptom bearer" of the new South Africa? *Track Two*, 17-20.
- Nortjé, C.F. & Storm, K. (in press). *Burnout job stress, and coping in the South African Police Service in the Limpopo Province*. Paper submitted for publication.
- Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Paton, D. & Violanti, J.M. (1999). Trauma stress in policing: Issues for future consideration. In J.M. Violanti & D. Paton. (Eds.), *Police trauma: Psychological aftermath of civilian combat* (p. 293-297). Springfield, IL: Charles, C. Thomas.
- Patterson, G.T. (2000). Demographic factors as predictors of coping strategies among police officers. *Psychological Reports*, 87, 275-283.
- Pienaar, J. & Rothmann, S. (2003a, September 29-30). *Job stress in the South African Police Services*. Paper presented at the 15th Conference of the South African Institute for Management Scientists, Potchefstroom.
- Pienaar, J. & Rothmann, S. (2003b). Coping strategies in the South African Police Service. *South African Journal of Industrial Psychology*, 29(4), 81-90.
- SAS Institute. (2000). *The SAS System for Windows: Release 8.01*. Cary, NC: SAS Institute Inc.
- Schaufeli, W.B., Leiter, M.P. & Kalimo, R. (1995, September). *The General Burnout Questionnaire: Cross-national development and validation*. Paper presented at the APA/NIOSH Congress Work, Stress and Health, Creating Healthier Workplaces, Washington, DC.
- Schaufeli, W.B., Leiter, M.P., Maslach, C. & Jackson, S.E. (1996). MBI-General Survey. In C. Maslach, S.E. Jackson, & M.P. Leiter (Eds.), *Maslach Burnout Inventory Manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Schaufeli, W.B. & Enzmann, D. (1998). *The burnout companion to study and practice: A critical analysis*. London: Taylor & Francis.
- Schaufeli, W.B. & Greenglass, E.R. (2001). Introduction to special issue on burnout and health. *Psychology & Health*, 16, 501-510.

- Schutte, N., Toppinen, S., Kalimo, R. & Schaufeli, W.B. (2000, March). The factorial validity of the Maslach Burnout Inventory-General Survey (MBI-GS) across occupational groups and nations. *Journal of Occupational and Organizational Psychology*, 73, 53-66.
- Shaddock, A.J., Hill, M. & Van Limbeek, C.A.H. (1998). Factors associated with burnout in workers in residential facilities for people with an intellectual disability. *Journal of Intellectual and Developmental Disability*, 23, 309-318.
- Shaughnessy, J.J. & Zechmeister, E.B. (1997). *Research methods in psychology* (4th ed.). New York: McGraw-Hill.
- Shirom, A. (1993). Burnout in work organisations. In W.B. Shuffe, C. Maslach, & T. Marck (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 25-48). Washington, DC: Taylor & Francis.
- Storm, K. (2002). *Burnout and work engagement in the South African Police Service*. Unpublished doctoral thesis, PU for CHE, Potchefstroom.
- Storm, K. & Rothmann, S. (2003). A psychometric analysis of the Maslach Burnout Inventory – General Survey in the South African Police Service. *South African Journal of Psychology*.
- Tabachnick, B.G. & Fidell, L.S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn & Bacon.
- Taris, T.W., Schreurs, P.J.G. & Schaufeli, W.B. (1999). Construct validity of the Maslach Burnout Inventory – General Survey: A two-sample examination of its factor structure and correlates. *Work and Stress*, 13, 223-237.
- Turnipseed, D.L. (1994). An analysis of the influence of work environment variables and moderators on the burnout syndrome. *Journal of Applied Social Psychology*, 24, 782-800.
- Wiese, L., Rothmann, S. & Storm, K. (2003). Coping, stress and burnout in the South African Police Service in Kwazulu-Natal. *South African Journal of Industrial Psychology*, 29(4), 71-80.
- Zellars, K.L. & Perrewe, P.L. (2001, June). Affective personality and the content of emotional social support: Coping in organizations. *Journal of Applied Psychology*, 86, 459-467.

CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

In this chapter, conclusions are drawn regarding the specific objectives of this study. The limitations of the research are discussed, followed by recommendations for the organisation and future research.

3.1 Conclusions

The first objective of this study was to determine the construct validity and internal consistency of the MBI-GS for SAPS members in the Free State. The results obtained using the structural equation modelling approach supported a three-dimensional factor structure. However, based on both conceptual and empirical grounds, items 13, 14 and 11 were eliminated from the original MBI-GS, resulting in a 13-item scale. It seems as if the problems with item 13 might be caused by the ambivalent nature of the item. Item 14, an item that is supposed to load on the cynicism factor, also loaded on the professional efficacy factor. Item 11, identified as part of the professional efficacy factor, loaded on the cynicism and exhaustion factors. A possible explanation for the cross-loading of items might be related to the issue of language. Since the MBI-GS is a questionnaire developed in the English language, it could be expected that the high number of Afrikaans and Sesotho speaking SAPS members in the Free State had difficulty with the translation and interpretation of the questions. Only 3,01% of the participants in the sample were English first language users. Reliability analyses revealed that all three sub-scales were sufficiently internally consistent.

The second objective was to determine the relationship between job stress (consisting of job demands, a lack of resources and police-specific stressors) and burnout. The results of this research showed definite relationships between burnout and job stress. The product-moment correlation showed relationships between exhaustion and two of the components of job stress namely job demands and a lack of resources. Cynicism was correlated with job demands.

Exhaustion was also correlated with cynicism, which could indicate the possibility of cynicism being pre-empted by exhaustion. However, professional efficacy was correlated with police-specific stressors.

The results of the first canonical variate indicated that high job demands, a lack of resources and high police-specific stressors are associated with higher levels of exhaustion and cynicism. The second canonical variate indicated that low job demands, sufficient resources and fewer police-specific stressors are associated with higher levels of professional efficacy.

The structural equation analysis showed that job stress, consisting of job demands, a lack of resources and police-specific stressors, will lead to higher feelings of exhaustion, which in turn will lead to higher levels of cynicism. Job stress will lead independently to lower levels of professional efficacy. This is consistent with the development sequence model of the three dimensions as proposed by Leiter and Maslach (1988). They suggest that exhaustion should appear first as chronic excessive work demands drain individuals' emotional resources. As a coping strategy, cynicism develops because individuals limit their involvement with others and their work. Also, in the SEM no path was allowed between cynicism and professional efficacy. This is also consistent with Leiter (1993), who believes that professional efficacy develops largely independently of exhaustion and cynicism. Therefore, it could be argued that police officers experiencing high job demands (e.g. excessive paperwork, working overtime and meeting deadlines), a lack of resources (e.g. inadequate or poor quality equipment, a lack of officers to handle a specific task and an inadequate salary) and police-specific stressors (e.g. seeing criminals go free and racial conflict) will experience higher levels of exhaustion and lower levels of professional efficacy. High levels of exhaustion will again lead to higher levels of cynicism.

The third objective of this study was to determine whether coping strategies can moderate or mediate the relationship between job stress and burnout. The product-moment correlations showed that the only coping strategy associated with burnout is avoidance.

The results of the first canonical variate indicated that avoidance leads to higher levels of exhaustion and cynicism. The results of the second canonical variate indicated that the use of avoidance leads to lower levels of professional efficacy, but that the use of an active coping strategy will lead to higher levels of professional efficacy.

As mentioned before, the SEM analysis showed that police officers who experience high job stress experienced higher exhaustion. However, when police officers used active coping strategies they showed an increase in professional efficacy. This could possibly be explained by the moderating effect of active coping between job stress and professional efficacy. When they experienced high job stress, the levels of professional efficacy experienced by police officers could therefore be moderated through the use of active coping strategies. It is important to note that active coping strategies only moderated a higher level of professional efficacy and could not establish a buffering effect against exhaustion or cynicism. This is consistent with previous research findings (Nortjé & Storm, in press).

Avoidance coping strategies were associated with exhaustion and cynicism. The SEM analysis revealed that the use of an avoidance coping strategy leads to increased levels of exhaustion. A moderating effect could be identified between job stress, avoidance and exhaustion. Therefore, when an officer would use an avoidance coping strategy, levels of exhaustion would increase even more. This would lead to higher feelings of cynicism, which will be mediated by avoidance. This partly supports findings by Storm (2002) who associated avoidance with all three dimensions of burnout. Wiese, Rothmann and Storm (2003) and Rowe (1997) also associated avoidance with exhaustion and cynicism, however, Nortjé and Storm (in press) associated avoidance with exhaustion and professional efficacy.

Regarding emotional support, the structural equation analysis revealed a moderating effect between job stress, emotional support and professional efficacy. It could therefore be argued that although the respondents in the Free State experienced high job stress, an increase in the levels of professional efficacy was moderated with the use of emotional support coping strategies. Emotional support by friends, family and colleagues therefore buffered the effect of job stress on the levels of professional efficacy experienced by the respondents. There seems to be some

inconsistency in previous research. Nortjé and Storm (in press), Wiese et al. (2003) and Storm (2002) associated emotional support with only exhaustion. Joubert and Storm (in press) found that emotional support would lead to the use of active coping strategies, which will in turn lead to higher levels of professional efficacy. It seems that more research is needed to determine the exact association of emotional support as a coping strategy with the three dimensions of burnout.

In conclusion, job stress leads to higher levels of exhaustion and cynicism, and lower levels of professional efficacy. This supports the findings of Leiter (1991, 1993), Taris, Schreurs and Schaufeli (1999) and Schaufeli and Enzmann (1998). The use of active coping strategies leads to higher feelings of professional efficacy. However, no buffering effect could be established between active coping and feelings of exhaustion and cynicism. When officers used avoidance coping, higher feelings of exhaustion were experienced. This led to higher feelings of cynicism. The use of emotional support as a coping strategy led to increased feelings of professional efficacy.

3.2 Limitations of this research

The first limitation of this study is that the design is cross-sectional. As a result, no causal inferences could be drawn, despite the use of advanced structural equation modelling techniques. Therefore, the causal relationships between variables were interpreted rather than established, and more complex forms of non-recursive linkages could not be examined. Strictly speaking, it is inappropriate to speak of job stressors and coping "affecting" burnout. All that has been established is that the pattern of effects is consistent with previous theoretical findings regarding the temporal order of the various variables. It can also not be ruled out that the independent variables accompany symptoms of burnout instead of being their antecedent. However, several longitudinal studies have shown that job characteristics such as job demands had mainly causal relationships with health outcomes, in such a way that the outcomes tended to occur *after* job perceptions, rather than vice versa (see Buunk, de Jonge, Ybema & de Wolff, 1998).

To deal with the limitation of the use of a cross-sectional design, prospective longitudinal studies and quasi-experimental research designs are needed to further validate the hypothesised causal relationships between antecedents and possible consequences like burnout.

Secondly, the results were obtained solely by self-report questionnaires. This may lead to a problem commonly referred to as "method-variance" or "nuisance". However, a review by Spector (1987) found little evidence of common method variance among self-report measures of the kinds of constructs studied here. Furthermore, several authors have argued that this phenomenon is not a major threat if interactions are found (Dollard & Winefield, 1998; Wall, Jackson, Mullarkey & Parker, 1996). Another aspect to consider is that few alternative methodologies are suggested to deal with the use of self-report measures. Nonetheless, research, including more objective measures of job characteristics and/or outcomes, is still needed.

Thirdly, this research was conducted in a homogenous sample consisting of individuals of a specific profession, namely police officers in the SAPS in the Free State. This police organisation probably has some unique characteristics, such as the specific organisational culture, that could have influenced the participants' responses. The implication is that the results could not be generalised to other provinces, contexts or professions. Therefore, there is still the need for replication in other occupational groups as well as heterogeneous samples.

English being the only language used for questionnaires represents the fourth limitation. The possibility exists that the level of English language skills of respondents speaking English as their second language could have influenced the results.

Another limitation of this study was that there is a possibility that some officers who participated in this research did not totally trust the confidentiality statement set out in the covering letter accompanying the questionnaires. This could have influenced some of the results.

3.3 Recommendations

Next, recommendations for the organisation as well as for future research are made.

3.3.1 Recommendations for the organisation

The effective implementation of individual, managerial and organisational practices to deal with burnout depends on managers' and employees' clear and accurate understanding of the burnout phenomenon. Managers and employees should become aware of the causes and symptoms of burnout. This could help them become aware of their own and others' exhaustion, cynicism, and low professional efficacy, and intervene before the effects of burnout are too serious. It is also important for managers, should it be the case, to become aware of the fact that they are suffering from burnout because they may spread it to their subordinates.

Given the pervasive nature of burnout, the police organisation should design and implement planned interventions. These interventions should be designed for the long term and deal with the root cause rather than just the symptoms (Lee & Ashforth, 1996). Individual-based interventions to reduce burnout symptoms might be an avenue to pursue. These interventions include techniques such as self-monitoring, self-assessment, didactic stress management, promoting a healthy lifestyle and relaxation (see Schaufeli & Enzmann, 1998, pp. 146-168). Stress-management programmes that use a cognitive-behavioural approach are also effective in reducing stress reactions, including burnout. However, according to Schaufeli and Bakker (2002), organisation-based programmes should supplement such individual-based programmes in order to be effective in the long run. Organisational development interventions in general, as well as interventions to influence culture and values, should be implemented to contribute to healthier workplaces. Furthermore, psycho-educational programmes should be developed and presented to combat burnout.

Since job stress plays a central role in the process that might lead to burnout and health problems, reducing those stresses seems to be warranted. Many preventive organisational-based strategies exist to tackle the experience of job stress. The organisation must look specifically at high job demands (such as more paperwork you can handle, having to work overtime, meeting deadlines and being assigned more responsibility), job redesign, flexible work schedules and goal setting. Increasing job resources (such as other officers not doing their job, inadequate or poor quality equipment and a lack of officers to handle specific tasks) through participating

management, increasing social support and team building on the other hand, would eventually lead to more engagement at the job, but its direct effect on burnout is small. Hence, from a preventative point of view, decreasing job demands is to be preferred above increasing job resources. It would also be necessary to investigate the police-specific stressors that have an effect on the prevalence of burnout. Seeing criminals go free and racial conflict were the stressors with the highest severity and as such, could contribute to burnout in members of the SAPS in the Free State.

It is important to focus on police officers' coping strategies. The assessments of coping strategies might be efficaciously incorporated into personnel selection procedures and individual stress coping training might be beneficial. However, a more desirable strategy is to make the organisation inherently less stressful. Since job stress plays a central role in burnout, it is necessary to implement preventive organisational-based strategies to tackle high job demands, a lack of resources and police-specific stressors.

The most effective way to address burnout is to combine changes in managerial practice with educational interventions. Neither changing the work setting nor changing the individual is enough; effective change takes place where both these areas are developed in an integrated way (Maslach, Shaufeli & Leiter, 2001).

3.3.2 Recommendations for future research

Despite the limitations of this study, the present findings may have important implications for future research and practice. Firstly, the fact that burnout can be found within as well as outside human-service professions may stimulate future burnout research in a wide range of occupations (Schutte, Toppinen, Kalimo & Shaufeli, 2000). Future research in South Africa needs to focus on the relative prevalence of burnout in various occupations. Differences between occupational groups regarding absolute burnout scores may help identify occupations that are most at risk of burnout. Furthermore, by conducting burnout research in various other occupational groups, norms for professions, occupational groups and organisations could be developed and

comparisons of these groups could be made. It is also necessary to identify target groups for intervention research from these studies.

One of the problems in assessing the burnout levels of employees is the lack of validated cut-off points. Because of a lack of South African norms for the MBI, it is difficult to identify burnout at an early stage. Therefore, research needs to be conducted in other occupational groups that can serve as normative samples and as reference for relative burnout levels of individuals in other occupations.

A major problem with the MBI is the lack of clinically validated cut-off points. Researchers need to administer the MBI on individuals who show the clinical profile of burnout to validate the inventory. Because burnout is not included in the DSM IV classification, individuals who suffer from neurasthenia could be used to determine the cut-off points (Rothmann, 2002). Neurasthenia is a neurosis characterised by chronic exhaustion, physical complaints and a lack of concentration.

The dynamics underlying psychological strengths that could create tendencies contrary to those that produce burnout should be investigated. Causal models utilising longitudinal research designs should be used for this purpose. Research is also needed regarding the causes, effects and underlying processes of burnout. For example, the Job Demand – Resources Model could be used to test the extent to which job demands are related to the affective dimension of well-being (burnout) and job resources to the cognitive dimension (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). This could then indicate two types of processes:

- High job demands lead to a negative evaluation of work, which results in health complaints because the employee is exhausted.
- The presence of material and immaterial resources lead to stronger identification with work and better performance because the employee is motivated.

In conjunction with studying the obvious factors believed to be related to burnout in police officers, it is also necessary to include personality variables in future research. Future research

needs to explore the underlying mechanisms of personality that produce different coping patterns and preferences. Research regarding the relationship of personality traits and burnout, should be done using dispositional traits, such as the big five personality dimensions, hardiness, locus of control, self-esteem, type A behaviour and sense of coherence.

With regard to intervention research in South Africa, the following aspects need to be considered in future research:

- The effects of individual and organisational interventions should be investigated.
- Appropriate designs and acceptable sample sizes should be used when conducting research.
- Practical significance of findings should be computed in addition to statistical significance.
- Methods for defining and determining the clinical significance of treatment effects should be employed (Jacobson, Roberts, Berns & McGlinchey, 1999).
- Intervention mapping (Bartholomew, Parcel & Kok, 1998) should be used in planning, implementing and researching the effects of interventions.
- An MBI-GS should be developed and standardised for respondents who do not speak English as their first language. Specific languages identified in this study included Afrikaans and Sesotho.

References

- Bartholomew, L.K., Parcel, G.S. & Kok, G. (1998). Intervention mapping: A process for developing theory- and evidence-based health education programs. *Health Education and Behavior*, 25, 545-563.
- Buunk, B.P., de Jonge, J., Ybema, J.F., de Wolff, C.J. (1998). Psychosocial aspects of occupational stress. In P.J.D. Drenth, H. Thierry, & C.J. de Wolff (Eds.), *Handbook of work and organizational psychology: Vol.2. Work psychology* (2nd ed., pp. 145-182). Hove, UK: Psychology Press.
- Demerouti, E., Bakker, A.B., Nachreiner, F. & Schaufeli, W.B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86, 499-512.
- Dollard, M.F. & Winefield, A.H. (1998). A test of the demand-control-support model of work stress in correctional officers. *Journal of Occupational Health Psychology*, 3, 243-264.
- Jacobson, N.S., Roberts, L.J., Berns, S.B. & McGlinchey, J.B. (1999). *Journal of Consulting and Clinical Psychology*, 3, 300-307.
- Joubert, A. F. & Storm, K. (in press). *Uitbranding in die Suid-Afrikaanse Polisiediens in die Wes-Kaap*. Paper submitted for publication.
- Lee, R.T. & Ashforth, B.E. (1996). A meta-analytical examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81, 123-133.
- Leiter, M.P. (1991). Coping patterns as predictors of burnout: The function of control and escapist coping patterns. *Journal of Organizational Behavior*, 12, 123-144.
- Leiter, M.P. (1993). Burnout as a developmental process: Consideration of models. In W.B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 237-250). Washington, DC: Taylor & Francis.
- Leiter, M.P. & Maslach, C. (1988). The impact of interpersonal environment on burnout and organizational commitment. *Journal of Organizational Behavior*, 9, 297-308.
- Maslach, C., Schaufeli, W.B. & Leiter, M.P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397-422.
- Nortjé, C.F. & Storm, K. (in press). *Burnout job stress, and coping in the South African Police Service in the Limpopo Province*. Paper submitted for publication.

- Rothmann, S. (2002, March). *Burnout research in South Africa*. Paper presented at the 1st South African Conference on Burnout, Potchefstroom.
- Schaufeli, W.B. & Bakker, A.B. (2002). *Job demands, job resources and their relationship with burnout and engagement: A multi-sample study on the COBE-model*. Utrecht University: Psychology and Health.
- Schaufeli, W.B. & Enzmann, D. (1998). *The burnout companion to study and practice: A critical analysis*. London: Taylor & Francis.
- Schutte, N., Toppinen, S., Kalimo, R. & Schaufeli, W.B. (2000, March). The factorial validity of the Maslach Burnout Inventory – General Survey (MBI-GS) across occupational groups and nations. *Journal of Occupational and Organizational Psychology*, 73(1), 53-66.
- Spector, P.E. (1987). Method variance as an artifact in self-reported affect and perceptions at work: Myth or significant problem? *Journal of Applied Psychology*, 72, 438-443.
- Storm, K. (2002). *Burnout and work engagement in the South African Police Service*. Unpublished doctoral thesis, PU for CHE, Potchefstroom.
- Taris, T.W., Schreurs, P.J.G. & Schaufeli, W.B. (1999). Construct validity of the Maslach Burnout Inventory – General Survey: A two-sample examination of its factor structure and correlates. *Work and Stress*, 13, 223-237.
- Wall, T.D., Jackson, P.R., Mullarkey, S. & Parker, S.K. (1996). The demands-control model of job strain: A more specific test. *Journal of Occupational and Organizational Psychology*, 69, 153-166.
- Wiese, L., Rothmann, S. & Storm, K. (2003). Coping, stress and burnout in the South African Police Service in Kwazulu-Natal. *South African Journal of Industrial Psychology*, 29(4), 71-80.