BURNOUT, ENGAGEMENT, COPING AND LOCUS OF CONTROL OF POSTGRADUATE STUDENTS

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NOTES

- The method of representing references, as well as the editorial style prescribed by the *Publication Manual* of the American Psychological Association (APA), were followed in this dissertation. The practice is in line with the policy of the Programme in Industrial Psychology of the PU for CHE to use the APA style in all scientific documents.

- The mini-dissertation is submitted in the form of a research article. The editorial style specified by *the South African Journal of Industrial Psychology* is used, but the APA guidelines were followed in preparing the tables.

ACKNOWLEDGEMENTS

OPSOMMING

Onderwerp: Uitbranding, begeestering, coping en lokus van kontrole van nagraadse studente

Sleutelterme: Uitbranding, Begeestering, Coping, Lokus van Kontrole, Nagraadse Studente, Werkstres

Uitbranding as verskynsel was oorspronklik waargeneem by individue wat in hulpverlenings beroepe gestaan het, soos byvoorbeeld verpleegsters. Vandag word dit erken dat individue in enige beroep uitbranding kan ontwikkel. Dit is om hierdie rede dat navorsing oor die verband tussen uitbranding, begeestering, coping en lokus van kontrole van nagraadse studente toepaslik en noodsaaklik is, aangesien hulle die toekomstige werknemers van Suid Afrika is. Die doel van die navorsing is om die verband tussen uitbranding, begeestering, coping en lokus van kontrole van werkende nagraadse studente en nie-werkende nagraadse studente te bepaal.

'n Opname-ontwerp is gebruik vir die navorsing. Die ondersoekgroep het bestaan uit (n=40) nagraadse studente in die Ingenieursfakulteit asook (n=50) nagraadse studente in die MBA klas van die Besigheidskool. Vier vraelyste is in hierdie empiriese navorsing gebruik, naamlik die Maslach Uitbrandingsvraelys - Algemene Opname (MBI-GS), die Utrech Work Engagement-Skaal (UWES), die COPE-Vraelys (COPE) en die Lokus van Kontrole-Inventaris (LOC). Beskrywende statistiek is gebruik om die data te analiseer.

Die resultate van die ondersoek dui daarop dat nagraadese studente 'n risiko loop vir uitbranding. Die resultate wys verder daarop dat die meeste nagraadse studente intern gemotiveer word en gebruik maak van aktiewe coping-strategieë om stres van die akademiese lewe te kan hanteer. Die resultate dui verder ook daarop dat 'n eksterne lokus van kontrole verband hou met hoë uitbrandingsimptome en passiewe coping-strategieë. Verdere aanduidings is dat hoë uitputting met 'n eksterne lokus van kontrole en hoë vlakke van sinisme korreleer. Toewyding en lewenskrag korreleer positief met interne lokus van kontrole en outonomie, en voorspel ook lae vlakke van uitputting en sinisme.

Aanbevelings vir verdere navorsing is aan die hand gedoen.

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CHAPTER 1

INTRODUCTION

This mini-dissertation deals with the relationship between burnout, engagement, coping, and locus of control of working and non-working postgraduate students at a higher education institution.

In this chapter the motivation for the research is discussed as part of the problem statement. Subsequently the research objectives of the study are presented, followed by the research methodology. Finally a chapter summary is given.

1.1.   PROBLEM STATEMENT

Research investigating both the causes of work-related stress and effective means of coping with stress is of interest not only to scientists, but also to students, employees and employers alike. The influence of prolonged stress on the coping strategies of students in a higher education institution is also of interest because these individuals are the employees of tomorrow. According to Snelgar (1990), stress can be defined as individuals' reactions to those characteristics of the work environment, which appear threatening. Stress points to a perceived poor fit between the individual's capabilities and his/her work environment, in which either excessive demands are made upon the individual or the individual is not fully equipped to handle particular work situations (Snelgar, 1990).

Research suggests that students confront many challenges in pursuit of their educational goals. When such experiences are perceived as negative, they can have and adverse effect on students' motivation and performance (Struthers, Perry & Menec, 2000). These individuals' quality of life is dependent upon their ability to adjust to and cope with a wide range of demands. Failure to do so may result in the impairment of behaviour and health. Individuals not coping effectively with these demands seem to suffer first from behavioural problems including rage, anger, withdrawal and depression. If these stressors are not dealt with and it is prolonged, the individual who is suffering will develop serious health problems including

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headaches, depression, and other health problems such as influenza, sore throat, and backache (Westen, 1995). People under stress tend to drink more alcohol, smoke more, sleep less, and exercise less than their peers (Maslach & Jackson, 1982).

The result of prolonged stress is burnout. Many definitions of burnout exist, but according to Pines and Maslach's definition, burnout is "a syndrome of emotional exhaustion involving the development of a negative self-concept, negative job attitudes and loss of concern and feeling for clients" (Pines & Maslach, 1978). Client as described in this definition can be seen as any person who has any form of contact with the burnt-out individual.

Burnout, a widely studied syndrome, has further been described as comprising of three factorially distinct symptoms, namely emotional exhaustion, decreased sense of professional efficacy, and cynicism (Barnett, Brennan & Gareis, 1999). Burnout is a risk factor for personal dysfunction and negative work-related attitudes (Barnett et al., 1999). The negative work-related attitudes include feelings that one has nothing more to give to one's work, judging people as somehow deserving of their troubles, and thinking your own accomplishments fall short of your own expectations, leading to negative self-evaluation of performance (Barnett et al., 1999).

Measuring burnout can be seen from different perspectives. From the salutogenic paradigm (Antonovsky, 1987) the focus would be on the origins of health in terms of an ease/disease continuum. From the fortigenic paradigm (Strümpfer, 1995) the focus would be on the strengths of the non-burnt-out employees and the enhancement of these strengths. The causes of burnout are somewhat complex and are associated with two separate factors: the work environment and the individual. A stressful work environment, for instance, that offers little or no opportunity for personal growth, which has an overwhelming workload, and which offers little or no support, can lead to burnout (Micklevitz, 2001).

In the workplace burnout can lead to serious consequences for professionals, their clients and the larger settings in which they interact (Barnett et al., 1999). Burnout has been related to turnover, absenteeism, and low morale of employees (Barnett et al., 1999). Burnout influences students' academic performance and could place their academic futures in jeopardy (Struthers et al., 2000). Burnout therefore is a costly phenomenon, which no

company or higher education institution can ignore. Burnout affects an employee's job satisfaction, self-esteem, social life and morale. Burnout further affects students' ability to perform well at an academic level and therefore puts more pressure on their social support (Gottlieb, 1997). Oftentimes it is the young idealistic professional who is ready to "tame the world" who becomes crippled by the negative effects of burnout (Micklevitz, 2001). Further conclusions according to Micklevitz (2001) are that these professionals may become frustrated when they do not achieve their unrealistic expectations or may not yet have developed coping strategies that teach them to tolerate stress. This, in turn, may lead to apathy towards their job and eventual burnout.

Recent development in burnout research is the shift towards it's opposite: engagement. This is seen as part of a more general emerging trend towards a 'positive psychology' that focuses on human strengths and optimal functioning rather than on weaknesses and malfunctioning as seen according to the fortigenic paradigm (Strümpfer, 1995).

Research on the engagement concept has taken two different but related paths. Maslach and Leiter (1997) defined burnout as an erosion of engagement with the job. Work that started out as important, meaningful and challenging becomes unpleasant, unfulfilling and meaningless. According to Maslach and Leiter (1997) engagement is characterised by energy, involvement and efficacy, which are considered the direct opposites of the three burnout dimensions, namely exhaustion, cynicism and lack of professional efficacy respectively. They also assess work engagement by the opposite pattern of scores on the three Maslach Burnout Inventory (MBI) dimensions – low scores on exhaustion and cynicism, and high scores on efficacy are indicative of engagement.

Schaufeli, Martìnez, Pinto, Salanova and Bakker (2002) agree with Maslach and Leiter's (1997) description, but take a different perspective and define and operationalise engagement in its own right. Schaufeli et al. (2002) consider burnout and engagement to be opposite concepts that should be measured independently with different instruments. According to this framework, burnout is characterised by a combination of exhaustion (low activation) and cynicism (low identification), whereas engagement is characterised by vigour (high activation) and dedication (high identification). Schaufeli et al. (2002) define engagement as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication,

and absorption. Engagement refers to a more persistent and pervasive cognitive state that is not focused on any particular object, event, individual, or behaviour (Schaufeli et al., 2002).

The dimensions of engagement are described as follows: Vigour is characterized by high levels of energy and mental resilience while working, together with the willingness and ability to invest effort in their work (Schaufeli et al., 2002). The next dimension of engagement, namely absorption, is characterized by individuals being fully concentrated in their work and as time passes they quickly feel carried away by their jobs. Being fully absorbed in their work, goes beyond merely feeling efficacious. The last dimension in engagement is dedication, being characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge. Dedication refers to a particularly strong involvement that goes one step further than the usual level of identification. Engagement is a more pervasive and persistent state of mind (Schaufeli et al., 2002).

Working and non-working postgraduate students tend to differ in their responses to stressful situations. Personality traits seem to be one of the biggest influences when determining the responses to stressful situations. To account for the discrepancy in working and non-working postgraduate students' responses to stressful events we turn to locus of control, which refers to the manner in which an individual deals with certain situations (Struthers et al., 2000).

According to Bothma and Schepers (1997) the concept of locus of control stems from the attribution theory. The attribution theory is mainly concerned with the attribution processes by which individuals interpret behaviour as being due to certain aspects of the environment (Bothma & Schepers, 1997). The attribution theory therefore is a theory of relationships between people and internal behaviour. The construct of locus of control relates to the expectancy regarding the outcome of actions rather than the actions themselves (Bothma & Schepers, 1997). Locus of control is defined as a generalised expectancy concerning the extent to which reinforcements are under internal or external control (Bothma & Schepers, 1997). Individuals' behaviour therefore will be determined by the discrepancy in their perception of internal attributes and of external attributes (Bothma & Schepers, 1997). Snelgar (1990) proposed that stress in organisations originate from the behaviour settings, tasks, and roles as well as from the person's physiological and psychological make-up.

Coping with these different stressors can be an easy task if some education is given on how to identify stressors and how to cope with them before burnout is set in motion (Golembiewski & Munzenrider, 1988). Knowledge of one's coping strategy could make it easier to cope with different stressful situations.

Working postgraduate students in particular have to cope with the demands that arise from fulfilling the roles of student and employee at the same time. Non-working postgraduate students have to learn the rules of being an adult, have to change their personality to fit into the working environment and the changes of not being a child at home anymore. All these factors impact their coping ability (Marais & Kirsten, 1999). Keenan and Newton (1984) believe that "institutional climate, role-stress, and the absence of social support all contribute to the level of environmental frustrations." The three role problems that have been identified and empirically researched as the main contributors to the environmental facet of stress include role conflict, role ambiguity, and role overload (Snelgar, 1990). When individuals make deliberate attempts to master these problem situations, they can be said to be coping. "Coping" represents either an adjustment to a situation or an adjustment of a situation. Although coping is an organised activity, it often follows from the most minimal and biased processing of information, and therefore cannot be assumed to be rational or to reflect extensive information processing (Mallach, 1996). Coping therefore is seen as a stabilising factor, which helps individuals to stay adaptive in a stressful event. It contains cognitive behaviour components that decrease stressful situations and emotional stress (Adendorff, 1998). In struggling through a crisis or stressful event the person can develop new coping strategies, which in turn can be used in a new crisis or event. It is vital that all postgraduate students develop constructive coping behaviour, and that universities and organisations play an active role in applying this behaviour to prevent burnout at an early stage of the individual's career (Snelgar, 1990).

Results of Marais and Kirsten (1999) indicated that students suffer from feelings of depression, headaches and despair due to being behind in academic work, lack of necessary funds and poor academic achievement. With this research an effort will be made to assess the extent of burnout among the postgraduate students of a higher education institution and the coping strategies they employ to minimise the stress. The research will further investigate the influence of locus of control and engagement on the existence of burnout.

The question that will be addressed by this study is: "Do locus of control and coping strategies make it possible for postgraduate students to experience less burnout and more engagement?"

Research into the existence of burnout, engagement, locus of control, and coping strategies; and the differences between working and non-working postgraduate students; and their experience and coping with work-related stress (physical and emotional) will be of great value to such students, as well as to human resource practitioners and employing organisations, in that it will facilitate greater understanding of the following:

- The differences in burnout, engagement, locus of control, and coping with regard to the different stressors involved in working and studying,
- The differences in burnout, engagement, locus of control and coping with regard to the stressors of a full-time academic experience,
- The prediction of burnout by applying certain coping strategies and locus of control,
- The differences in coping strategies of working and non-working postgraduate students if any exist,
- The prevention of burnout by using engagement, coping strategies and locus of control.

An enhanced understanding of these issues will lead to the formulation and implementation of effective stress management strategies and programmes, which in turn will result in improved psychological and physical health, and hence increased productivity and improved performance among these working and non-working postgraduate students.

1.2. RESEARCH OBJECTIVES

1.2.1. General objectives

The general objective of this research is to establish the relationship between burnout, engagement, locus of control, and coping of postgraduate students at a higher education institution.

1.2.2. Specific objectives

The specific research objectives are to:

- conceptualise burnout, engagement, locus of control, and coping, and the relationships between these constructs from the literature;
- determine the relationships between burnout, engagement, coping and locus of control of postgraduate students;
- determine whether locus of control and coping strategies can predict burnout and engagement of postgraduate students.

1.3.   RESEARCH METHOD

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

1.3.1. Literature review

The literature review focuses on burnout, engagement, locus of control and coping, and the possible relationships between these constructs.

1.3.1.1.   Research design

A survey design is used to achieve the research objectives. The specific design is the cross-sectional design, whereby a sample is drawn from a population, all at once (Adendorff, 1998). Information collected is used to describe the population at that time. This design can also be used to assess interrelationships among variables within a population. The design is ideally suited to the descriptive and predictive functions associated with correlational research (Huysamen, 1993). The survey design is an effective way to measure the relationship between two or more variables without the interference of the researcher (Huysamen, 1993).

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1.3.1.2. Study population

For the purpose of this study the total population of postgraduate engineering students in a Faculty of Engineering is used ($n=40$) as well as a sample of students currently in the MBA class of a Business School ($n=50$). The total respondents for this study ($n=90$).

1.3.1.3. Measuring battery

Four questionnaires are used in this empirical study, namely the Maslach Burnout Inventory-General survey (MBI-GS) (Maslach, Jackson & Leiter, 1996), the Utrecht Work Engagement Scale (Schaufeli & Bakker, 1999), the COPE questionnaire (COPE) (Carver, Scheier & Weintraub, 1989) and the Locus of Control Inventory (LCI) (Bothma & Schepers, 1997).

The *Maslach Burnout Inventory-General Survey* (MBI-GS) is used to determine participants' level of burnout. The MBI-GS consists of three sub-scales that parallel those of the original MBI, namely Exhaustion (Ex), Cynicism (Cy) and Professional Efficacy (PE) (Schutte, Toppinen, Kalimo & Schaufeli, 2000). The exhaustion component in the MBI-GS is generic but without direct reference to people as the source of those feelings as in the MBI-emotional exhaustion sub-scale (Schutte et al., 2000; Taris, Schreurs & Schaufeli, 1999). In a similar vein, cynicism reflects indifference or a distant attitude towards one's work in general, rather than towards recipients of one's services. Professional Efficacy covers a broader scope than personal efficacy because social and non-social aspects of occupational accomplishments are included (Schutte et al., 2000). Schutte et al. (2000) reported Cronbach alpha coefficients varying from 0,75 to 0,86. The scales are sufficiently internally consistent since Cronbach alpha meets the criterion of 0,70. The findings of Schutte et al. (2000) conclude that the MBI-GS's factorial validity across nations and occupational groups is confirmed. Based on their results they argue that the MBI-GS is a suitable instrument for measuring burnout across various occupational groups and nations.

The *Utrecht Work Engagement Scale - Student Version* (UWES-S) (Schaufeli & Bakker, 1999) is used to measure engagement. Work engagement is a concept that includes three

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dimensions: vigour, dedication, and absorption. Engaged workers are characterized by high levels of vigour and dedication, and they are immersed in their jobs. Engagement is considered to be counterpart of burnout. The UWES is scored on a seven-point frequency rating scale, varying from 0 'never' to 6 'always'. Engagement is assessed with the 17-item Utrecht Engagement Scale (UWES) (Schaufeli & Bakker, 1999) that includes three sub-scales: Vigour (VI; 6 items), Dedication (DE; 5 items), and Absorption (AB; 6 items). 'Studies' or 'class' have replaced items of the UWES that refer to 'work' or 'job'. Items of the resulting UWES-S are scored similarly to those of the MBI-SS (MBI-Student Survey). Storm (2001) obtained alpha coefficients for the UWES varying between 0,78 and 0,89. An English version of the UWES (Schaufeli & Bakker, 1999) is available.

The *COPE Questionnaire* (COPE) is used to measure participants' coping strategies. The COPE is a multidimensional 53-item coping questionnaire that indicates the different ways in which people cope in different circumstances (Carver et al., 1989). It measures 13 different coping strategies. Five sub-scales (4 items each) measure different aspects of problem-focused coping: Active Coping (AC), Planning (P), Suppression of Competing Activities (SCA), Restraint Coping (RC) and Seeking Social Support for Instrumental Reasons (SSSIR). Five sub-scales (4 items each) measure aspects of emotion focused coping: Seeking Social Support for Emotional Reasons (SSSER), Positive Reinterpretation and Growth (PR & G), Acceptance (A), Denial (D), Turning to Religion (TTR). Four sub-scales indicate coping responses that are used less: Focus on and Venting of Emotions (F & VE), Behavioural Disengagement (BD), Mental Disengagement (MD) and Alcohol-drug Disengagement (ADD) (Carver et al., 1989). Carver et al. (1989) reported Cronbach alpha coefficients varying from 0,45 to 0,92. All the sub-scales have sufficient levels of reliability except for Mental Disengagement (MD), which measures lower than 0,60. Test-retest reliability varies from 0,46 to 0,86 and 0,42 tot 0,89 (applied after two weeks) (Carver et al., 1989).

The *Locus of Control Inventory* (LCI) is an instrument that can be used for inter-individual comparisons, as this is a normative instrument. A factor analysis of the scale yielded three factors, namely internal locus of control, autonomy, and external locus of control. The locus of control inventory consists of 80 items, each in the form of a seven-point scale. The reliabilities of the scales were determined by means of Cronbach's coefficient alpha (Bothma & Schepers, 1997):

Scale 1:   The internal locus of control scale - 25 items and an alpha coefficient = 0,85

Scale 2:   The external locus of control scale - 31 items and an alpha coefficient = 0,86

Scale 3:   The autonomy scale – 24 items and an alpha coefficient = 0,86

1.3.1.4.   Statistical analysis

The statistical analysis is carried out by means of the SAS-program (SAS Institute, 2000). Cronbach alpha coefficients, inter-item correlation coefficients and confirmatory factor analysis will be used to assess the reliability and validity of the measuring instruments. Descriptive statistics (means, standard deviations) are used to analyse the data.

As a non-probability sample is used in this research, effect sizes will be used to decide on the significance of the findings. Pearson's correlation coefficients will be used to specify the relationships between the variables. A cut-off point of 0,30 (medium effect, Cohen, 1988) will be set for the practical significance of correlation coefficients.

Analysis of variance is used to determine the differences between burnout, engagement, coping and locus of control of different demographic groups. The following formula is used to compute the effect sizes (d) of these differences (Steyn, 1999):

$$\frac{M_A - M_B}{\sqrt{MSE}}$$

Where

M_A = Mean of the construct in one demographic group

M_B = Mean of the construct in the other demographic group

MSE = Mean square error

A cut-off point of 0,80 (large effect, Cohen, 1988) is set for the practical significance of differences.

Canonical correlation was performed between a set of locus of control, coping strategies and burnout; locus of control, coping strategies and engagement using SAS CANCORR (SAS

Institute, 2000). Shown in the tables are 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.

1.4. DIVISION OF CHAPTERS

The chapters are divided as follows:

Chapter 1: Introduction.

Chapter 2: Research Article.

Chapter 3: Conclusions, limitations and recommendations.

1.5. CHAPTER SUMMARY

This chapter discussed the problem statement and research objectives. The measuring instruments and research method that will be used in this research were explained, followed by a division of the chapters.

A research article on burnout, engagement, coping and locus of control of postgraduate students in a higher education institution will be presented in Chapter 2.

CHAPTER 2

RESEARCH ARTICLE

BURNOUT, ENGAGEMENT, COPING AND LOCUS OF CONTROL IN POSTGRADUATE STUDENTS

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ABSTRACT

The objective of this study was to determine the relationship between burnout, engagement, coping and locus of control of postgraduate students. A cross-sectional survey design was used. The study population consisted of 90 postgraduate students at a higher education institution. The Maslach Burnout Inventory - General Survey, Utrecht Work Engagement Scale, COPE Questionnaire and the Locus of Control Questionnaire were administered. The results indicated that postgraduate students are at risk for burnout. The results showed that an external locus of control is related to higher burnout and avoidance coping strategies. Dedication and vigour correlated positively with internal locus of control and autonomy and predict low levels of exhaustion and cynicism. The dimensions of burnout and engagement were significantly related.

OPSOMMING

Die doelstelling van hierdie studie was om te bepaal of daar 'n verband tussen uitbranding, begeestering, coping en lokus van kontrole in werkende en nie werkende nagraadse studente bestaan. 'n Opname-ontwerp is gebruik vir die navorsing. Die studiepopulasie het uit 90 nagraadse studente van 'n tersiêre instelling bestaan. Vier vraelyste is gebruik, naamlik die Maslach Uitbrandingsvraelys - Algemene Opname, die Utrech Work Engagement Skaal, die COPE - Vraelys en die Lokus van Kontrole Vraelys. Die resultate dui daarop dat nagraadse studente die risiko loop van uitbranding. Die resultate dui verder aan dat 'n eksterne lokus van kontrole verband hou met verhoogde uitbrandingsimptome en vermydings-coping-strategieë. Toewyding en lewenskrag korreleer positief met interne lokus van kontrole en outonomie en voorspel lae vlakke van uitputting en sinisme. Die dimensies van uitbranding en begeestering het betekenisvol gekorreleer.

Research investigating both the causes of work-related stress and effective means of coping with stress is of interest not only to scientists, but also to students, employees and employers alike. The influence of prolonged stress on the coping strategies of students in a higher education institution is also of interest because these individuals are the employees of tomorrow. According to Snelgar (1990), stress can be defined as individuals' reactions to those characteristics of the work environment, which appear threatening. Stress points to a perceived poor fit between the individual's capabilities and his/her work environment in which either excessive demands are made upon the individual or the individual is not fully equipped to handle particular work situations (Snelgar, 1990).

Research suggests that students are confronted by many challenges in pursuit of their educational goals. When such experiences are perceived as negative, they can have an adverse effect on students' motivation and performance (Struthers, Perry & Menec, 2000). These individuals' quality of life is dependent upon their ability to adjust to and cope with a wide range of demands. Failure to do so may result in the impairment of behaviour and health. Individuals not coping effectively with these demands seem to suffer first from behavioural problems including rage, anger, withdrawal and depression. If these stressors are not dealt with and it is prolonged, the individual who is suffering will develop serious health problems including headaches, depression, and other health problems such as influenza, sore throat, and backache (Westen, 1995). People under stress tend to drink more alcohol, smoke more, sleep less, and exercise less than their peers (Maslach & Jackson, 1982).

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Measuring burnout can be seen from different perspectives. From the salutogenic paradigm (Antonovsky, 1987) the focus would be on the origins of health in terms of an ease/disease continuum. From the fortigenic paradigm (Strümpfer, 1995) the focus would be on the strengths of the non-burnt-out employees and the enhancement of these strengths. The causes of burnout are somewhat complex and are associated with two separate factors: the work

environment and the individual. For example, a stressful work environment that offers little or no opportunity for personal growth, which has an overwhelming workload, and which offers little or no support, can lead to burnout (Micklevitz, 2001).

In the workplace burnout can lead to serious consequences for professionals, their clients and the larger settings in which they interact (Barnett, Brennan & Gareis, 1999). Burnout affects students' ability to perform well at an academic level and therefore puts more pressure on their social support (Gottlieb, 1997). Oftentimes it is the young idealistic professional who is ready to "tame the world" who becomes crippled by the negative effects of burnout (Micklevitz, 2001). Further conclusions according to Micklevitz (2001) are that these professionals may become frustrated when they do not achieve their unrealistic expectations or might not yet have developed coping mechanisms that teach them to tolerate stress. This, in turn, may lead to apathy towards their job and eventual burnout.

Recent development in burnout research is the shift towards it's opposite: engagement. This is seen as part of a more general emerging trend towards a 'positive psychology' that focuses on human strengths and optimal functioning rather than on weaknesses and malfunctioning as seen according to the fortigenic paradigm (Strümpfer, 1995). According to Schaufeli, Martinez, Pinto, Salanova and Bakker (2002), engagement is characterized by vigour, absorption and dedication. Engaged individuals have a sense of energy and effective connection with their work activities and they see themselves as completely able to deal with the demands of their job. Engagement refers to a more persistent and pervasive cognitive state that is not focused on any particular object, event, individual, or behaviour (Schaufeli et al., 2002).

Working and non-working postgraduate students tend to differ in their responses to stressful situations. Coping strategies seem to be one of the biggest influences when determining the responses to stressful situations. To account for the discrepancy in working and non-working postgraduate students' responses to stressful events, we turn to locus of control, which refers to the manner in which an individual deals with certain situations.

The construct of locus of control relates to the expectancy regarding the outcome of actions rather than the actions themselves (Bothma & Schepers, 1997). Locus of control is defined as

a generalised expectancy concerning the extent to which reinforcements are under internal or external control (Bothma & Schepers, 1997). People's behaviour therefore will be determined by the discrepancy in their perception of internal attributes and of external attributes (Bothma & Schepers, 1997). Snelgar (1990) proposed that stress in organisations originate from the behaviour settings, tasks, and roles as well as from the person's physiological and psychological make-up. Postgraduate students' stress originates from having to confront reaching emotional maturity, preparing for a new career, preparing for marriage and a family and the development of their own ethical system (Marais & Kirsten, 1999).

Working postgraduate students in particular have to cope with the demands that arise from fulfilling the roles of student and employee at the same time. Keenan and Newton (1984) believe that "institutional climate, role-stress, and the absence of social support all contribute to the level of environmental frustrations." The three role problems that have been identified and empirically researched as the main contributors to the environmental facet of stress include role conflict, role ambiguity, and role overload (Snelgar, 1990). When individuals make deliberate attempts to master these problem situations, they can be said to be coping. "Coping" represents either an adjustment to a situation or an adjustment of a situation. Although coping is an organised activity, it often follows from the most minimal and biased processing of information, and therefore cannot be assumed to be rational or to reflect extensive information processing (Mallach, 1996). Coping is thus seen as a stabilising factor, which helps individuals to stay adaptive in a stressful event. It contains cognitive behaviour components that decrease stressful situations and emotional stress (Adendorff, 1998). In struggling through a crisis or stressful event the person can develop new coping strategies, which in turn can be used in a new crisis or event. It is vital that working postgraduate students develop constructive coping behaviour, and that universities and organisations play an active role in applying this behaviour to prevent burnout at an early stage of the individual's career (Snelgar, 1990).

Results of Marais and Kirsten (1999) indicated that students suffer from feelings of depression, headaches and despair due to being behind in academic work, lack of necessary funds and poor academic achievement. With this research an effort will be made to assess the extent of burnout among the postgraduate students of a higher education institution and the

coping strategies they employ to minimise the stress. The research will further investigate the influence of locus of control and engagement on the existence of burnout.

The question that was addressed by this study is: "Do locus of control and coping strategies make it possible for postgraduate students to experience less burnout and more engagement?"

An enhanced understanding of these issues will lead to the formulation and implementation of effective stress management strategies and programs, which in turn will result in improved psychological and physical health, and hence increased productivity and improved performance among these working and non-working postgraduate students.

Burnout

Burnout first emerged as a social problem, not as a scholarly construct. Thus the initial conception of burnout was shaped by pragmatic rather than academic concerns (Maslach & Leiter, 1997; Schaufeli, Maslach & Marek, 1993). In this pioneering phase of conceptual development, the focus was on clinical descriptions of burnout. Later on, there was a second phase in which the emphasis shifted to systematic research on burnout and in particular to the assessment of the phenomenon. Throughout these two phases there has been increasing theoretical development in which the concern has been to integrate the evolving notion of burnout with other conceptual frameworks (Schaufeli et al., 1993; Schaufeli & Buunk, 2002).

Initially, the academic world had a somewhat negative reaction to the concept of burnout. Because there was no early emphasis on developing theories of burnout, there was no conceptual framework for integrating and evaluating the various findings and proposed solutions. The lack of theory reflected the newness of the phenomenon – much had to be discovered about its parameters before a model could be developed (Maslach & Leiter, 1997; Schaufeli et al., 1993; Schaufeli & Buunk, 2002).

Burnout can only be distinguished relatively from other related concepts. There are no sharp boundaries, and trying to establish such divisions could be very artificial. However, a relative distinction between burnout and "stress" can be made with respect to time, and between burnout and both "depression" and "satisfaction" with respect to domain. Burnout can be

considered to be prolonged job stress. This longer time perspective is also implied in the terminology: burning out (depleting one's resources) as a long-term process. Stress and burnout can therefore not be distinguished on the basis of their symptoms, but only on the basis of the process (Schaufeli & Buunk, 2002).

Warr (1987) distinguished between two types of affective well-being, depression is considered to be "context-free" whereas burnout is regarded as "job-related". Other scientists described different versions of what all seem to be similar to the burnout syndrome. Thus, on a conceptual level, there seems to be some agreement about the specificity of burnout as a job-related syndrome.

Burnout is not necessarily restricted to the human services professions. Because burnout appears to be specific to the work domain, in the sense that its origins lie in the job situation, the phenomenon might be found in other types of occupations. According to some critics (Golembiewski & Munzenrider, 1988) the term burnout takes on a different meaning when it is applied to these different occupations outside that of a job in the human services. However, given that the basic conceptual framework of burnout is based on the social relationship between provider and recipient, it could be argued that such a concept could be applied in meaningful ways to other types of relationships (Schaufeli et al., 1993).

The most widely used definition of burnout comes from Maslach and Jackson (1986) "Burnout is a syndrome of emotional exhaustion, depersonalisation and reduced professional efficacy that can occur among individuals who do 'people work' of some kind ... burnout can lead to a deterioration in the quality of care or service provided ... it appears to be a factor in job turnover, absenteeism, and low morale ... it seems to be correlated with various self-reported indices of personal dysfunction, including physical exhaustion, insomnia, increased use of alcohol and drugs, and marital and family problems".

Burnout has been conceptualised in many ways, for instance Pines and Aronson (1988, p. 9) defines burnout as "a state of physical, emotional, and mental exhaustion caused by long-term involvement in situations that are emotionally demanding". Cherniss (1980, p. 5) defines burnout as "a process in which the professionals' attitudes and behaviour change in negative ways in response to job strain". However, the most cited definition is that which

describes burnout as " a syndrome of emotional exhaustion, depersonalisation of others, and a feeling of reduced personal accomplishment" (Lee & Ashforth, 1990, p. 743). In the third edition of the MBI test manual (Maslach, Jackson & Leiter, 1996) the concept of burnout is broadened and defined as a crisis in one's relationship with work in general and not necessarily as a crisis in one's relationship with people at work. As a consequence, the three original burnout dimensions are redefined. Exhaustion now refers to fatigue irrespective of its cause. Cynicism reflects an indifferent or distant attitude towards work instead of towards other people. Lastly, lack of professional efficacy encompasses both social and non-social aspects of occupational accomplishment.

Although the definitions of burnout differ in scope and precision, they share at least some common elements; they are symptoms such as mental or emotional exhaustion, fatigue and depression. The accent is also on mental and behavioural symptoms rather than physical symptoms. All burnout symptoms seem to be work-related. The symptoms seem to manifest themselves in normal persons who have not suffered from any psychopathology before. Decreased effectiveness and work performance occur because of negative attitudes and behaviour (Schaufeli et al., 1993).

Burnout is a type of stress response most commonly displayed by individuals who have intense contact and involvement with others during the course of their normal workday (Maru, 2002). Traditionally burnout was seen as occurring solely within the "helping" professions. However, it is now seen as a widespread issue. According to Verhage and Jordaan (2002, p. 2) "burnout is not the prerogative of any particular occupation or profession and no occupation or profession is immune to corporate environmental changes that exacerbate stress that lead to burnout."

The first dimension of burnout is exhaustion (Maslach et al., 1996; Maslach & Leiter, 1997). This dimension is characterised by a lack of energy and a feeling that the individuals' emotional resources are used up. This may coexist with a feeling of frustration and tension (Cordes & Dougherty, 1993). This exhaustion can manifest itself in physical characteristics such as waking up just as tired as when going to bed or lacking the required energy to take on another task or face-to-face encounter (Maslach & Leiter, 1997).

The second dimension of burnout is cynicism. (Maslach et al., 1996; Maslach & Leiter, 1997; Schaufeli & Buunk, 2002). This dimension of burnout typically occurs after exhaustion and tends to be a direct response to the stressors of the job (Maru, 2002). Cynicism refers to an individual's personal detachment from work. Cynicism is characterised by a detached and emotional callousness (Cordes & Dougherty, 1993). Employees in the cynicism dimension of burnout will take a cool, distant attitude toward work and the people on the job (Maslach & Leiter, 1997). According to Cordes and Dougherty (1993) cynicism is viewed as a type of coping, which is an acceptable and professional response to the stressful situation.

The final dimension of burnout is reduced professional efficacy, which can be seen as a decline in one's feelings of competence and successful achievement (Maslach et al., 1996). Individuals in this dimension of burnout view themselves negatively in terms of both their ability to perform the job and their ability to have personal interactions (Cordes & Dougherty, 1993). According to Maslach and Leiter (1997), individuals experiencing diminished professional efficacy trivialize the things that they are successful at and no longer feel they are able to make a difference through their work or personal interactions. These feelings of inadequacy directly affect an individual's self-efficacy.

Cherniss (1980) was one of the first to propose a definition of burnout as a process: "Burnout refers to a process in which the professionals' attitudes and behaviour change in negative ways in response to job strain". A more accurate explanation is that the first stage involves an imbalance between resources and demands (stress). The second stage is the immediate, short-term emotional tension, fatigue, and exhaustion (strain). The third stage consists of a number of changes in attitude and behaviour, such as a tendency to treat clients in a detached mechanical fashion, or a cynical preoccupation with gratification of one's own needs (defensive coping).

An important new element is introduced by Cherniss in the third stage: the individual way of coping with stress. Although Cherniss considers excessive job demands as the root cause of burnout, a defensive coping strategy characterized by avoidance and withdrawal, fosters its development (Storm, 2001).

According to Freudenberger and Richelson (1990), burnout is the cost of high achievement. When describing people who are prone to burning out, they say " initially, they enter the job market full of good intentions: idealistic, hopeful and somewhat naïve. They give their all and more, in order to attain the hoped-for good sense of self".

To conclude, most definitions of burnout maintain that burnout starts out with stress, which that results from the discrepancy between the individual's expectations and ideals and the harsh reality of everyday occupational life. The individual may consciously observe this stress or it may remain unnoticed for a long time. Gradually, the individual starts feeling emotionally strained, and begins to change his or her attitudes towards the job and the people he or she interacts with, finally resulting in burnout. The way in which the individual copes with stress is in most definitions considered crucial for the development of burnout.

Engagement

The most recent development in burnout research is the shift towards it's opposite, namely engagement. Work engagement is a concept that includes three dimensions: vigour, dedication, and absorption (Schaufeli et al., 2002). Engaged individuals are characterised by high levels of vigour and dedication, and they are immersed in their work. Engagement is considered to be the counterpart of burnout (Schaufeli et al., 2002). It is in question whether engagement and burnout are two different concepts or whether they are exact opposites on the same line. This is seen as part of a more general emerging trend towards a 'positive psychology' or fortitude that focuses on human strengths and optimal functioning rather than on weaknesses and malfunctioning (Strümpfer, 1995).

People don't begin a job feeling burnt-out. At the very least they hope it will provide a steady income and some security, regardless of whether they are thrilled about the actual work itself. In the best cases people begin work by being fully engaged with their work. They feel energetic, ready to commit time and energy to the job tasks. They feel involved and find the work activities meaningful. The sense of accomplishment they gain from these activities makes them feel competent and effective (Maslach & Leiter, 1997).

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Research on the engagement concept has taken two different but related paths. Maslach and Leiter (1997) rephrased burnout as an erosion of engagement with the job. Work that started out as important, meaningful and challenging becomes unpleasant, unfulfilling and meaningless. Maslach and Leiter (1997) characterise engagement by energy, involvement and efficacy, which are considered the direct opposites of the three burnout dimensions, namely exhaustion, cynicism and lack of professional efficacy respectively. Therefore they also assess engagement by the opposite pattern of scores on the three Maslach Burnout Inventory (MBI) dimensions – low scores on exhaustion and cynicism, and high scores on efficacy are indicative of engagement (Storm & Rothmann, 2003a).

Schaufeli et al. (2002) partly agree with Maslach and Leiter's (1997) description, but take a different perspective and define and operationalise engagement in its own right. Schaufeli et al. (2002) considered burnout and engagement to be opposite concepts that should be measured independently with different instruments. Schaufeli et al. (2002) defined engagement as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption. Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual or behaviour.

Engagement consists of the following dimensions (Schaufeli et al., 2002): Vigour or energy is characterised by high levels of energy and resilience, the willingness to invest effort, not being easily fatigued, and persistence in the face of difficulties (Schaufeli et al., 2002). Dedication or involvement is characterised by a individuals deriving a sense of significance from their work, by feeling enthusiastic and proud about their job, and by feeling inspired and challenged by it (Schaufeli et al., 2002). The final dimension of engagement is absorption or efficacy. This dimension is characterized by individuals being engrossed in their work, time passes quickly and they feel carried away by their job. Absorption is a more pervasive and persistent state of mind (Schaufeli et al., 2002)

Burnout, engagement, locus of control and coping

According to Skinner (in Lefcourt, 1982), humans must believe that powers beyond their control are ruling the universe. This perception of control is what paved the way for the study

of the concept of internal and external control (Lefcourt, 1982). According to Bothma and Schepers (1997), the concept of locus of control stems from the attribution theory. This theory makes it possible to focus on the individual's method of processing information during training opportunities in order to influence his/her attributes and feeling of control. The attribution theory is a theory of the relationship between person-perception and internal behaviour. The construct of locus of control relates to the expectancy concerning the outcome of actions rather than the actions themselves. The concept of locus of control is also derived from Rotter's social learning theory (Bothma & Schepers, 1997).

Rotter's (1954) social learning theory provided the largest body of empirical data about perceived control. The theory stresses that the role of reinforcement, regard, and gratification plays a crucial role in determining behaviour. Social learning theory emanated form the view that the strengthening of behaviour leads to an increase in the expectations that the specific behaviour or a special occurrence will be followed by that strengthening of behaviour in future (Rotter, Chance & Phares, 1972).

According to Plug, Louw, Gouws and Meyer (1997) the concept of locus of control describes a personality dimension that has to do with the extent to which people feel that they themselves (internal control) or factors within the situation (external control) determine their behaviour. People's behaviour therefore will be determined by the discrepancy in their perception of internal attributes and of external attributes (Bothma & Schepers, 1997).

Marais (1997) and Raubenheimer (1998) found that there is a relationship between an external locus of control and a dysfunctional coping strategy. Moerdyk (1986) showed that a clear correlation exists between external locus of control on the one hand and passivity, slow decision-making and unrealistic expectations of the work environment on the other. Rahim (1996) found that persons with an external locus of control are not capable of managing the pressures, uncertainties and challenges of a demanding work situation. Schepers (1995) found that the construct locus of control consists of three independent factors, namely internal control, autonomy and external control.

Individuals with an internal locus of control will probably feel that they can manage situations in work context, because these are seen as being within their personal control

(Judge, Lock & Durham, 1998). Compared to individuals with an external locus of control, people with internal control will be less inclined to cope with frustrations in organisations by withdrawing or by reacting aggressively (Bothma & Schepers, 1997). Individuals with an external locus of control look at others for direction, while those with an internal locus of control depend on themselves for direction (Bothma & Schepers, 1997).

According to Rothmann (2001), high levels of perceived control are associated with high levels of job satisfaction, commitment and involvement, and low levels of stress, absenteeism and turnover. There is some preliminary evidence that an external locus of control is associated with burnout among females working in human services (Cordes & Dougherty, 1993). If individuals with internal control are compared to those with external control, it seems that the latter is more exhausted and cynical and experience reduced feelings of professional efficacy (Schaufeli & Enzmann, 1998). Jones and Page (1986) found that individuals with an internal locus of control experience less anxiety. Tubbs (1994) confirmed that individuals with an internal locus of control handle pressure better that those with an external locus of control. Lefcourt (1976) found that individuals with an external locus of control could not handle the pressure, uncertainty and challenges of a demanding work environment.

The internal-external control expectation has a huge impact on the area of behaviour, where internal control is usually seen as a product of adaptive coping. Further studies into the coping skills of individuals showed that individuals with internal locus of control would act in a way not to aggravate their circumstances. These individuals tend to be more compliant and do not show any signs of depression and are usually more actively involved in their survival than individuals with external locus of control (Cordes & Dougherty, 1993).

Autonomy is the balance between the polarities of internal and external control and the transition of an outwardly to an inwardly directed adaptation, which leads to a feeling of control over the self and the external environment (Olivier & Rothmann, 1999). Autonomy is therefore self-government of the control in one's life.

According to this an individual with a high score with regard to internal control and autonomy and a low score with regard to external control would be regarded as a well

adjusted individual, and the reverse would then also be true – an individual with such scores might be inclined to hold external factors and the environment responsible for things that go wrong – also for his own poor performance. Individuals with an internal locus of control are convinced that the reinforcement of their behaviour is dependent on their own achievements, abilities and commitment. Individuals with an external locus of control believe that contingent events, destiny and certain influential people are responsible for the reinforcement of their behaviour (Lazarus & Folkman, 1984).

Coping strategies represent the efforts, both behavioural and cognitive, that people invest in order to deal with stressful encounters (Lazarus & Folkman, 1984). Lazarus and Folkman (1984) hypothesized that the primary coping strategies can be divided into two categories namely problem focused strategies (which are directed at managing or altering stressors) and emotion focused strategies (which are directed at regulating emotional responses to the problem). Despite many years of theory and research and the development of a variety of self-report coping instruments, researchers still do not have a comprehensive understanding of coping. Theorists vary in their opinion concerning the number of coping strategies and the dimensions that these coping strategies employ (Lazarus & Folkman, 1984).

Folkman and Lazarus identified seven main types of coping:
- Problem-focused coping,
- Seeking social support,
- Minimise threat,
- Growth,
- Wishful thinking,
- Self-blame,
- Avoidance and seeking-help.

A new trend was developing scales to measure fewer but broader dimensions of coping. This, however, is not the case with the COPE inventory (Carver et al., 1989). The COPE assesses 13 coping strategies and asserted that most of the measures do not sample all the specific domains of coping that are of theoretical interest. They argue that each broad type of coping strategy may contain several distinct strategies, for instance that emotion-focused coping may include strategies such as denial, reinterpretation and seeking social support each of which

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has it's own distinct adaptation process (Carver et al., 1989). One could still argue in favour of even fewer dimensions, because some of the scales may be intercorrelated (Carver et al., 1989).

Endler and Parker (1990) suggest that a third basic strategy that may be used in coping with stress, is avoidance. Avoidance can include either person-oriented or task-oriented strategies. Avoidance differs from problem- and emotion-focused coping in that avoiding a situation actually removes the person from the stressful situation, whereas problem- and emotion-focused coping might help the person manage the stressful situation while he or she remains in it.

Coping may be viewed as a response to perceived stress and defined as constantly changing emotional, cognitive and behavioural efforts to manage specific external and internal demands appraised as exceeding and/or taxing the resources of the person (Lazarus & Folkman, 1984). Such management encompasses, mastering, tolerating, reducing, and minimizing stressful conditions (Cox, 1987). Coping behaviour is not determined by any single factor in isolation. The way in which stress is perceived, the nature of the work environment in which it occurs, and personal and situational characteristics are important factors for an individual deciding how he/she will handle stress (Keenan & Newton, 1984). It has also been stated that poor coping skills appear to be a significant factor in determining the intensity with which stress is experienced. From the literature it is obvious that certain personality traits have an influence on the way individuals deal with stressful situations. Internal resources therefore play a huge role in fulfilling the role of helping individuals cope with changing environments and the accompanying stress it entails.

An understanding of the relationship between burnout symptoms, the stresses at work and the characteristic of a burnt-out person requires knowledge about how and to what extent persons varying in degree of burnout differ in the ways they actually appraise and cope with the stresses of work (Thornton, 1992). According to Maslach and Jackson (1981) high levels of burnout are associated with ineffective coping strategies and low degrees of burnout with active coping strategies. Alsoofi, Alheeti & Alwashi (2000) found a significant correlation between ways of coping and burnout.

Individuals who are burnt-out cope with stressful events in a rather passive, defensive way, whereas individuals who use active coping strategies experience less burnout (Schaufeli & Enzmann, 1998). Violanti (1992) found that the use of emotion-focused coping strategies result in higher levels of psychological distress, while the use of problem-focused coping strategies resulted in lower levels of psychological distress.

In a vast array of studies that were designed to investigate the relation of coping efforts and burnout yielded inconsistent findings and failed to consider the role of the individual's evaluation of the stressor as related to burnout (Pines, Aronson & Kafry, 1981). Different coping strategies yielded different influences on the levels of burnout and are as such not entirely useful in the choice of a specific strategy or strategies to avoid burnout. It is thus evident that personality traits play an important role in the use of coping strategies and the management of burnout.

METHOD

Research design

A survey design was used to achieve the research objectives. The specific design is the cross-sectional design, whereby a sample is drawn from a population, all at once (Adendorff, 1998). Information collected is used to describe the population at that time. This design can also be used to assess interrelationships among variables within a population. The design is ideally suited to the descriptive and predictive functions associated with correlational research (Huysamen, 1993). The survey design is an effective way to measure the relationship between two or more variables without the interference of the researcher (Huysamen, 1993).

Study population

The population consists of 50 working MBA postgraduate students as well as 40 non-working engineering postgraduate students. For the purpose of this study the population (n=90) was divided into two categories, namely the working postgraduate students (n=50) and the non-working postgraduate students (n=40). The characteristics of the sample are shown in Table 1. A total of 96% are male and 4% are female. The age range 18-35 accounts for 80,9% of the participants. A total of 87,78% of the participants are White, 7,78% are Black and 4,44% are of other race. The married participants account for 51,11% of the study population. The participants that are currently employed are 72,22%, and 55,06% of the participants are from the North-West Province.

Table 1

Characteristics of the Participants

Characteristics	Category	Percentage: Participants	Percentage: Working Postgraduate Students	Percentage: Non-working Postgraduate Students
Gender	Male	96	51	45
	Female	4	3	1
Age	18-25 years	37,08	7,08	30
	26-35 years	43,82	31,62	12,2
	36-45 years	16,85	14,65	2,2
	46-55 years	2,25	2,25	0
	56-65 years	0	0	0
Race	White	87,78	45,58	42,2
	Black	7,78	5,58	2,2
	Asian	3,33	3,33	0
	Coloured	1,11	1,11	0
	Other	0	0	0
Marital Status	Single	46,67	8,67	38
	Married	51,11	44,11	7
	Divorced	1,11	1,11	0
	Widowed	0	0	0
	Other	1,11	1,11	0
Number of Children	0	65,65	23,45	42,2
	1	16,67	14,47	2,2
	2	16,67	16,67	0
	3	1,11	1,11	0
	4	0	0	0
Qualifications	Undergraduate	100	56	44
	Honours	83,33	52,23	31,1
	Masters	16,67	3,37	13,3
	Ph.D.	0	0	0
Employed	Yes	72,22	55,52	16,7
	No	27,78	2,22	25,56
Position	Non-Working	28,89	0	28,89
	Entry Level	15,56	13,34	2,22
	Middle Management	22,22	21,11	1,11
	Senior Management	6,67	6,67	0
	Non-Managerial	26,67	14,47	12,2
Province	Gauteng	21,35	21,35	0
	North-West	55,06	10,66	44,4
	Free-State	20,22	20,22	0
	Mpumalanga	3,37	3,37	0

Measuring battery

The *Maslach Burnout Inventory – General Survey (MBI-GS)* was used to measure burnout (Maslach, Leiter & Jackson, 1996). The MBI is almost universally used as thé instrument to assess burnout. In this study, the third edition (Maslach et al., 1996) is used to assess burnout. The MBI-GS contains three subscales that assess the different aspects of experienced burnout, namely exhaustion, cynicism and reduced professional efficacy. It has been found to be reliable, valid and easy to administer. The frequency at which respondent experiences feelings related to each subscale is assessed, using a six-point, fully anchored response format. A high degree of burnout is reflected in high scores on the Exhaustion (EX) and Cynicism (Cy) subscales and in low scores on the reduced Professional Efficacy (PE) subscale. An average degree of burnout is reflected in average scores on the three subscales. A low degree of burnout is reflected in low scores on the Exhaustion and Cynicism subscales and in high scores on the Professional Efficacy subscale. Internal consistency was estimated by Cronbach's coefficient alpha (n=1 316). The reliability coefficients for the subscales were the following: 0,90 for Exhaustion, 0,79 for Cynicism and 0,71 for Professional Efficacy. The standard error of measurement for each subscale is as follows: 3,80 for Exhaustion; 3,16 for Cynicism; and 3,73 for Professional Efficacy. The test-retest reliability coefficients for the subscales of the MBI are as follows: 0,82 (frequency) for Exhaustion 0,60 (frequency) for Cynicism, and 0,80 (frequency) for Professional Efficacy (Maslach & Jackson, 1981).

The *Utrecht Work Engagement Scale - Student Version* (UWES-S) (Schaufeli & Bakker, 1999) was used to measure engagement. Work engagement is a concept that includes three dimensions, namely vigour, dedication, and absorption. Engaged workers are characterized by high levels of vigour and dedication, and they are immersed in their work. Engagement is considered to be the counterpart of burnout. The UWES is scored on a seven-point frequency rating scale, varying from 0 'never' to 6 'always'. Engagement was assessed with the 17-item Utrecht Engagement Scale (UWES) (Schaufeli & Bakker, 1999) that includes three sub-scales: Vigour (VI; 6 items), Dedication (DE; 5 items), and Absorption (AB; 6 items). 'Studies' or 'class' have replaced items of the UWES that refer to 'work' or 'job'. Items of the resulting UWES-S are scored similarly to those of the MBI-SS (MBI-Student Survey). Storm (2001) obtained alpha coefficients for the UWES varying between 0,78 and 0,89. An English version of the UWES (Schaufeli & Bakker, 1999) was available.

The *COPE Questionnaire* (Carver et al., 1989) was used to measure coping strategies. The COPE (Carver et al., 1989) is a multidimensional coping inventory to assess the different ways people respond to stress. The final version of the COPE Inventory contains 13 scales with 4 items each. Further Caver et al. (1989) based their development of the COPE Questionnaire on the assumption that a person's coping strategies are a stable individual preference and that it is independent of exclusive situation-specific adaptation. The COPE is a multidimensional self-report coping questionnaire that contains 53 items. The questionnaire takes approximately 10 minutes to complete, but there is no time restriction. The COPE has a self-report format in which participants have to describe what they mostly do or think in stressful situations. A four-point Likert scale is used that ranges from 1 ("I usually don't do this at all"), to 4 ("I usually do this") (Carver et al., 1989). The marked scores for each subscale are added. The scales with the highest scores indicate the coping strategies used most frequently. The total score can be a minimum of 53 and a maximum of 212. In the consulted literature total scores for the COPE are not reported, since this only indicates to which degree the person uses coping strategies, and does not distinguish preferred strategies. Evidence for internal consistency of the COPE scales comes mainly from Cronbach alphas that range from 0,45 for Mental Disengagement to 0,92 for Turning to Religion (Carver et al., 1989).

The *Locus of Control (LOC) Inventory* (Schepers, 1995) was used to measure respondents' locus of control on the basis of three scales, namely External control, Internal control and Autonomy. The LOC consists of 80 items allocated to the three scales (25 to external control, 26 to internal control and 26 to autonomy) (Schepers, 1995). The LOC is a self-report measuring instrument, which is evaluated in accordance with a seven-point Likert scale from 1 (does not agree at all with the statement) to 7 (to a large extent agrees with the statement). The three scales of the LOC were subjected to item analysis. The reliability of the three scales was determined by means of the Cronbach alpha coefficient. Schepers (1995) obtained alpha coefficients for the subscales, namely External control 0,80, Internal Control 0,77 and Autonomy 0,80.

Research procedure

The following research procedure was followed:

Before starting the research the researcher scheduled meetings with the Director of a Business School and the Dean of a Faculty of Engineering for approval to conduct this research. The research proposal was discussed with management and commitment was obtained from them for this study. It was also decided that feedback would be given to management and respondents in the form of a general anonymous report. Dates were set to administer the measuring instruments.

The researcher explained to the respondents the purpose as well as the objectives of the research. The respondents were assured that all results would be highly confidential and that it would be complied with scrupulously. The researcher stipulated that the process was voluntary and if someone were uncomfortable with the process they would not be pressured to participate. A biographical questionnaire was included in the measuring battery. No time limits were set for answering the questionnaires. The respondents took the measuring battery home to complete and returned it at the next possible convenient moment. The procedure for the administering and scoring of the measuring battery was strictly followed. After the questionnaires had been completed the data were statistically analysed.

Statistical analysis

The statistical analysis was carried out with the help of the SAS-programme (SAS Institute, 2000). Because a total population was used in the research, descriptive statistics and effect sizes (rather than inferential statistics) were used to decide on the significance of the findings.

Descriptive statistics were used to analyse the data. Means, standard deviations, skewness and kurtosis are used to describe and compare results. Three main measures of central tendency are the mean, median, and mode. They are epitomes of the sets of measures from which they are calculated. They tell what sets of measures "are alike" on average, but are also compared to test relations.

As a non-probability sample is used in this research, effect sizes were used to decide on the significance of the findings. Pearson's correlation coefficients will be 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.

Analysis of variance was used to determine the differences between the levels of burnout and engagement, coping and locus of control of different demographic groups. The following formula was used to compute the effect sizes (d) of these differences (Steyn, 1999):

$$\frac{M_A - M_B}{\sqrt{MSE}}$$

Where

M_A = Mean of the construct in one demographic group

M_B = Mean of the construct in the other demographic group

MSE = Mean square error

A cut-off point of 0,80 (large effect, Cohen, 1988) was set for the practical significance of differences.

Canonical correlations were performed between a set of locus of control, coping strategies and burnout; locus of control, coping strategies and engagement using SAS CANCORR (SAS Institute, 2000). 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 were computed.

RESULTS

Table 2 shows the descriptive statistics, the Cronbach coefficients and the mean inter-item correlation coefficients of the MBI, UWES, COPE and Locus of Control Questionnaire.

Table 2

Descriptive Statistics, Alpha Coefficients and Inter-item Correlations of the MBI, UWES, COPE and Locus of Control Questionnaires

Item	*Mean*	*SD*	Skewness	Kurtosis	*r* (Mean)	α
MBI-GS						
Exhaustion	10,94	6,54	0,63	-0,14	0,67	0,90
Cynicism	8,0	6,34	0,60	-0,50	0,70	0,90
Professional Efficacy	27,25	6,07	-0,69	-0,03	0,48	0,84
UWES						
Vigour	23,96	6,33	-0,71	0,28	0,52	0,86
Dedication	21,21	5,90	-0,60	-0,17	0,71	0,92
Absorption	23,68	6,15	-0,61	0,32	0,43	0,81
COPE						
Active Coping (AC)	21,81	3,43	-0,37	0,21	0,40	0,82
Seeking Social Support (SSS)	21,80	5,27	0,19	-0,19	0,35	0,83
Passive Coping (denial) (PC)	11,55	3,18	0,62	0,84	0,32	0,72
Locus of Control						
Internal	147,18	14,80	-1,01	2,14	0,21	0,86
External	74,26	17,77	-0,11	-0,53	0,19	0,85
Autonomy	138,51	17,83	-1,35	2,74	0,24	0,89

The scores on the MBI-GS, UWES, COPE and Locus of Control are normally distributed with the exception of the internal locus of control and autonomy factors. 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). Furthermore, with a 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, UWES, COPE and Locus of Control have acceptable levels of internal consistency.

The product-moment correlation coefficients between the MBI-GS, UWES, COPE and Locus of Control are reported in Table 3. Internal locus of control and autonomy results were skewly distributed. For these factors the Spearman correlation coefficients are used. In all other instances Pearson correlation coefficients were computed.

Table 3

Product-moment Correlation Coefficients between the MBI, UWES, COPE and Locus of Control

Item	1	2	3	4	5	6	7	8	9	10	11
1. Autonomy	-										
2. External	-0,63*	-									
3. Internal	0,78*	-0,57*	-								
4. AC	0,45*	-0,45`	0,56*	-							
5. SSS	-0,11	-0,01	0,01	0,05	-						
6. PC	-0,29	0,29	-0,17	-0,32`	0,13	-					
7. Vigour	0,57*	-0,32`	0,44`	0,35`	0,03	-0,30`	-				
8. Dedication	0,47`	-0,28	0,37`	0,31`	0,00	-0,28	0,81*	-			
9. Absorption	0,38`	-0,20	0,31`	0,18	-0,00	-0,22	0,80*	0,83*	-		
10. EX	-0,35`	0,44`	-0,34`	-0,33`	-0,05	0,26	-0,48`	-0,49`	-0,49`	-	
11. CY	-0,38`	0,37`	-0,30`	-0,30`	0,01	0,34`	-0,60*	-0,80*	-0,80*	0,62*	-
12. PE	0,47`	-0,34`	0,33`	0,41`	-0,09	-0,39`	0,68*	0,69*	0,69*	-0,30`	-0,58*

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

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

As can be seen in Table 3, Autonomy is practically significantly related (large effect) to External Control and Internal Control as well as Vigour, Dedication and Professional Efficacy. External Control is practically significantly related to Internal Control. Active Coping is practically significantly related to Autonomy and Internal Control (large effect) and

negatively practically significant to External Control (medium effect). Passive Coping is negatively practically significantly related to Active Coping (medium effect). Exhaustion is negatively practically significantly related to Vigour, Dedication and Absorption (medium effect). Cynicism is negatively practically significantly related to Vigour, Dedication and Absorption (large effect) and positively related to Exhaustion (large effect). Professional Efficacy is practically significantly related to Vigour, Dedication and Absorption (large effect) and negatively related to Exhaustion and Cynicism.

Table 3 also shows that Exhaustion and Cynicism are practically significantly related (large effect). Dedication and Vigour as well as Absorption are practically significantly related to one another (large effect). External locus of control and Exhaustion is practically significantly related (medium effect), and Internal Control is practically significantly related to Vigour, Dedication and Absorption (medium effect). Seeking Social Support is not practically significantly related to any of the other factors.

Canonical correlations using SAS were performed between a set of coping strategies, locus of control and burnout as well as a set of coping strategies, locus of control and engagement. Shown in the table are 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 result of the canonical analysis of coping strategies, locus of control and burnout are shown in Table 4. The first set included COPE (Active Coping, Seeking Social Support and Passive Coping [Denial]) and Locus of Control (Autonomy, External control and Internal control). The second set included Exhaustion, Cynicism and Reduced Professional Efficacy.

Table 4

Results of the Canonical Analysis: Coping, Locus of Control and Burnout

| | First Canonical Variate | |
	Correlation	Coefficient
Set 1: Coping and Locus of Control		
Autonomy	0,90	0,89
External control	-0,62	-0,05
Internal control	0,64	-0,28
Active Coping	0,65	0,23
Seeking Social Support	-0,08	-0,03
Passive Coping (Denial)	-0,61	-0,29
Percent of Variance	0,41	
Redundancy	0,20	
Set 2: Burnout		
Exhaustion	-0,60	-0,32
Cynicism	-0,72	-0,04
Professional Efficacy	0,94	0,82
Percent of Variance	0,59	
Redundancy	0,28	
Canonical Correlation	0,49	

The canonical correlation was 0,70 (49% overlapping variance). All the canonical correlations included $F(18;223,93) = 4,20$ $p < 0.01$ for the first canonical correlation. Data on the canonical variates Coping, Locus of Control and Burnout appear in Table 4.

With a cut-off correlation of 0,30 the variable in the coping, locus of control and burnout set that correlated with the first canonical variates were Autonomy, External Control, Internal Control, Active coping and Passive coping (denial). Among the burnout variables, Exhaustion, Cynicism and Professional efficacy correlated with the first canonical variate. The first pair of canonical variates shows that autonomy (0,90), external control (-0,62), internal control (0,64), active coping (0,65), and passive coping [denial] (-0,61) are associated with exhaustion (-0,60), cynicism (-0,72) and professional efficacy (0,94).

The results of the canonical analysis of coping strategies, locus of control and engagement are shown in Table 5. The first set included COPE (Active Coping, Seeking Social Support and Passive Coping [Denial]) and Locus of Control (Autonomy, External Control and Internal Control). The second set included Vigour, Dedication and Absorption.

Table 5

Result of the Canonical Analysis: Coping, Locus of Control and Engagement

	First Canonical Variate	
	Correlation	Coefficient
Set 1: Coping and Locus of Control		
Autonomy	0,95	0,84
External control	-0,55	0,11
Internal control	0,77	0,05
Active Coping	0,62	0,10
Seeking Social Support	0,02	0,06
Passive Coping (Denial)	-0,53	-0,27
Percent of Variance	0,41	
Redundancy	0,17	
Set 2: Engagement		
Vigour	0,93	0,95
Dedication	0,84	0,62
Absorption	0,63	-0,65
Percent of Variance	0,66	
Redundancy	0,27	
Canonical Correlation	0,40	

The canonical correlation was 0,64 (41% overlapping variance). All the canonical correlations included $F(18; 223,93) = 2,65$ $p < 0.01$ for the second canonical correlation. Data on the variate Coping, Locus of Control and Engagement appear in Table 5.

Variables in the coping strategies, locus of control and engagement set that correlated with the first canonical variates were Autonomy, External Control, Internal Control, Active Coping and Passive Coping (Denial). Among the engagement variables, Vigour, Dedication

and Absorption correlated with the first canonical variate. The first pair of canonical variates shows that autonomy (0,95), external control (-0,55), internal control (0,77), active coping (0,62), and passive coping (-0,53) are associated with vigour (0,93), dedication (0,84) and absorption (0,63).

DISCUSSION

The analysis of the correlations in this study showed that exhaustion is negatively related to autonomy and internal locus of control and active coping. Professional efficacy is positively related to internal locus of control and autonomy. Active coping is positively related to professional efficacy. Cynicism is positively related to passive coping.

Autonomy and internal locus of control is positively related to vigour, dedication and absorption. Active coping is positively related to vigour and dedication. There seems to be no relation between passive coping and any of the other constructs with the exception of active coping, cynicism and professional efficacy. External locus of control is negatively related to vigour. There is no relation between seeking social support and any of the other factors.

The results of the canonical correlations showed that high internal locus of control and autonomy and high active coping were associated with low levels of exhaustion and cynicism and high professional efficacy. Furthermore, high passive coping and high external locus of control were associated with high levels of exhaustion and cynicism. Also high professional efficacy was associated with low external locus of control.

The correlations showed that all the variables were associated with exhaustion, with the exception of seeking social support and passive coping. Postgraduate students who experience high job demands (i.e. meeting deadlines, running from class to class, making hard decisions, dealing with crisis situations) and an external locus of control (coping skills are not effective, lack of recognition and social support) experience higher exhaustion. When these students used active coping strategies and utilised their emotional support from their families and friends their level of emotional exhaustion decreased.

Cynicism in conjunction with the use of active coping strategies decreased their feelings of cynicism. As a coping strategy people develop cynicism because individuals limit their involvement with others and their work (Storm & Rothmann, 2003b). Low levels of vigour and dedication support the theory that cynicism leads to higher exhaustion.

The use of active coping strategies leads to higher feelings of professional efficacy, where the use of passive coping strategies leads to lower feelings of efficacy. Seeking social support when feeling emotionally exhausted leads to lower levels of exhaustion.

The results indicate that the postgraduate students are inclined to be internally motivated. The use of internal locus of control and autonomy leads to lower levels of burnout. This can be seen in the negative relationship between the correlation of all the burnout dimensions and internal locus of control and autonomy. The engagement dimensions showed that engaged individuals are less prone to burnout (Schaufeli et al., 2002). It seems plausible that vigorous and dedicated students, who are energetic and immersed in their studies, are successful as well.

The findings are consistent with the research of Marais (1997) and Raubenheimer (1998) where they found that there is a relationship between an external locus of control and a dysfunctional coping strategy. It would therefore appear that various researchers relate an internal locus of control to better work performance (Bothma & Schepers, 1997).

Regarding coping strategies and burnout, the results showed that all the burnout dimensions were associated with coping strategies. It was clear that a high score on active coping and a lower score on passive coping (denial) were associated with burnout. It must be kept in mind that these results were obtained from a sample of postgraduate students, which would limit the generalising of the findings. Therefore these findings need to be replicated with other samples and measuring instruments before drawing conclusions about the relationships between burnout and coping strategies in South Africa.

The relationship between coping and burnout should be interpreted carefully. Lazarus and Folkman (1984) have argued that coping is a situation-specific response rather than a personality trait. Therefore correlations between coping strategies and burnout could indicate

that burnout is related to particular situations that are perceived as being stressful, which in turn stimulate a person to cope in a particular way. Withdrawal from work or from clients, which resembles passive coping, has been regarded as a core symptom of burnout (Cherniss, 1980). Cynicism is also characterised by behaviour that includes mental or behavioural withdrawal (Maslach, 1982). Accordingly, passive coping and burnout overlap conceptually. According to Schaufeli and Enzmann (1998) individuals who use active coping strategies experience less burnout. The use of a problem-focused strategy such as active coping may trigger feelings of professional efficacy, which could explain the relationship of active coping with professional efficacy (Lee & Ashforth, 1996).

When using avoidance or passive coping strategies, the postgraduate students showed an increase in exhaustion. However, when they used active coping strategies (such as making a plan of action or concentrating their efforts on doing something about the problem) and utilised their emotional support from friends or relatives (for example discussing their feelings with someone), their level of exhaustion decreased.

Regarding cynicism, the use of active coping strategies decreased feelings of cynicism, while the use of passive coping strategies (denial) increased those feelings. As a coping strategy, cynicism develops because individuals limit their involvement with others and their work. This is also consistent with Leiter (1993), who believes that professional efficacy develops largely independently of exhaustion and cynicism. It is possible that exhaustion leads to cynicism, which in turn affects coping strategies. This supports the findings of Taris et al. (1999) and Schaufeli and Enzmann (1998). Also, the use of active coping strategies leads to higher feelings of professional efficacy, where the use of a passive (avoidance) coping strategy leads to lower feelings of accomplishment in the postgraduate students' work.

The present study also has some limitations that should be considered. The research design is cross-sectional. Therefore the causal relationships between variables were interpreted rather than established. Furthermore, self-reporting measures were exclusively relied upon.

The relationships between coping strategies and burnout are difficult to interpret. The cross-sectional design precludes the specification of coping strategies as dependent or independent variables, because it is impossible to identify which stage of the coping process has been

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measured (Storm & Rothmann, 2003b). Furthermore, self-ratings of coping strategies may not discriminate between the dual roles that coping can play.

RECOMMENDATIONS

Given the persistent nature of burnout, higher education institutions should design and implement planned interventions for postgraduate as well as under graduate students who are working full-time. The assistance on higher education level could become a useful tool for organisations to use since all the knowledge and infrastructure for these purposes are already in place. Most stressors are found to be work-related and therefore an organisational approach will more likely be effective than an individual one. The focus on an organisational approach would prepare the students for the world of work and would sustain higher levels of realism. The students' would have realistic expectations of the working environment and the chances of burnout in these individuals will be reduced. Furthermore it is important to focus on the students coping strategies. The assessment of coping strategies when these students are under-graduate might be useful in training interventions for students at all levels of university life. Training interventions that include typical engaged behaviour and the teaching of internal locus of control skills as well as active coping strategies might be useful when implemented as a preventative measure to tackle the stressors of society today.

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, it is also necessary to include personality variables in future research. This research should include the underlying mechanics of coping strategies and how locus of control is a learned response for individuals. Future studies should also include larger samples from different faculties of the university or from different universities. Future research could also include a differentiation between different cultural and ethnic groups and their experience of burnout.

It is recommended that the COPE be factor-analysed at the item level in subsequent research, because of the variations found for subscale analyses (Pienaar & Rothmann, 2003). The variability of subscales in previous research in loading on secondary factors acts only to complicate interpretation.

The content of items should guide future researchers in distinguishing coping strategies. It would also be strongly recommended that a standardised measure be made generally available, so that future studies can make use of the same version of the questionnaire.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

Chapter 3 includes conclusions reached based on the findings of the empirical study. In addition, limitations of the research are discussed. Furthermore, recommendations are made for the Faculty of Engineering and Business School. Finally, recommendations are made in terms of related future research.

3.1 CONCLUSIONS

The findings of this research will be summarised according to the objectives set for the research.

The first objective of the research was to conceptualise burnout, engagement, locus of control and coping and the relationships between these constructs from literature. The research literature revealed that a relationship between burnout, coping and locus of control does exist. Research indicated that high levels of emotional exhaustion are often linked with passive coping strategies and external locus of control. Furthermore dedication and vigour was positively linked to high internal locus of control and autonomy. According to some researchers, emotional exhaustion and cynicism can be reduced with active coping strategies and an internal locus of control (Bothma & Schepers, 1997).

The second objective of the research was to determine the relationship between burnout, engagement, coping and locus of control. The results indicated that there was a positive relationship between active coping strategies, internal locus of control, autonomy and engagement. The research further indicated a relationship between emotional exhaustion, cynicism and an external locus of control. The research showed no relationship between seeking social support as a coping strategy and any of the other constructs.

The last objective of the research was to determine whether locus of control and coping strategies could predict burnout or engagement of postgraduate students. The assumption

could be made according to the research findings that a person with passive coping strategies and an external locus of control would be more prone to burnout than a person with active coping strategies and an internal locus of control. The research also indicated that engaged individuals are less prone to burnout and tend to have an internal locus of control and autonomy. If all this is taken into consideration the assumption could be made that locus of control and coping strategies could predict proness to burnout. Further, according to the results, the sample of students used in the research displayed some burnout symptoms. Emotional exhaustion featured prominently. However, active coping measures was the strongest coping strategy reported, which, under normal circumstances counteracts the persistence of emotional exhaustion. The respondents tested are therefore coping with all the demands asked of them.

3.2   LIMITATIONS OF THE PRESENT RESEARCH

The following limitations of the research should be taken into consideration:
- The research design does no allow one to determine the direction of the relationship between variables.
- The results of the research cannot be generalised to other faculties or universities.
- The study population was too small.
- Personality characteristics that can also contribute to burnout was not taken into consideration and as such other measuring instruments should be taken into consideration.
- The COPE should be factor-analysed at the item level, because of the variations found for subscale analyses.

3.3   RECOMMENDATIONS

3.3.1   Recommendations for a higher education institution

- It is suggested that the institution should contribute to minimising the possibility of burnout by equipping the students with the necessary knowledge, skills and resources to ensure a balance in the load of the tasks they need to handle.
- The institution should take into consideration that postgraduate students mostly are not full-time students and their coping strategies are not always fully developed to cope with role overload and other causes of burnout.
- The institution should be aware of their contribution to the burnout of postgraduate students and act accordingly to minimise the risk.
- The institution should have a system in place where postgraduate students can receive counselling if they are not coping with all the stressors of academic or personal life.

3.3.2   Recommendations for future research

The following recommendations, based on the findings, should be considered and implemented:
- Further research could make use of larger samples.
- New research could include a national study of the different institutions.
- Future research could study the effects of personality preferences on the occurrence of burnout.
- Future research could also study the relationship between personality preferences and burnout and engagement.
- Future research could seek to determine the relationship between the different types of personalities and burnout, engagement, coping and locus of control.
- Future research could also differentiate between different cultural and ethnic groups and their experience of burnout.

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